

The Henry Fund

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Chubb Limited (CB)

Financial Services – Property & Casualty Insurance

October 17, 2022

Stock Rating

No Action

Investment Thesis

We have decided to issue a no-action rating on Chubb Limited. They will continue to maintain their position as a top P&C insurance company. Which allows them to capture market share in the insurance cycle and acquire other businesses. However, with the high level of competition and the maturity of the market. They are unlikely to have any significant upside for the Henry Fund as displayed through our DCF and DDM models.

Drivers of Thesis

- Ability to increase premiums faster than the total insurable value in contracts will rise. CBRE's construction cost index forecasts a year/year increase in construction costs for 2022 to be 14%. This will allow them to increase premiums even though the prices of building materials are dropping.
- Expectation that the yield curve will settle above previous historical lows after the Fed cools its rate hike cycle which can benefit their investment portfolio. The average 10-year over the last 50 years is about 6% compared to the current level.
- Demand for many commercial/personal P&C insurance products is stable as they are many times required to own property or get a loan.

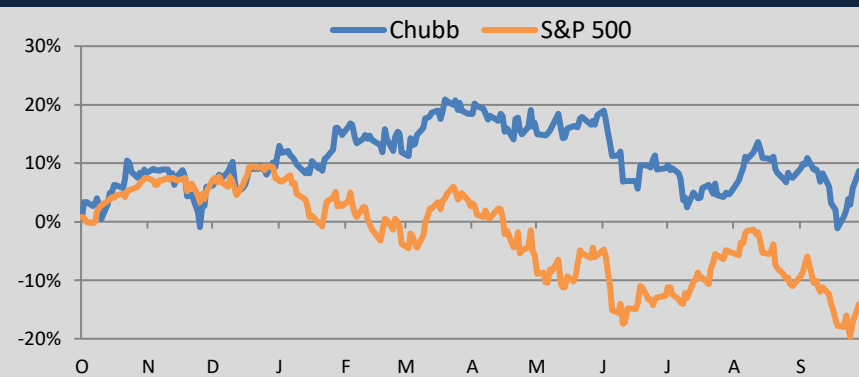
Risks to Thesis

- Inability to increase premiums in the short run due to a weak economy and a need to compete for business.
- Strictly enforced restrictions on acquisitions could slow and/or prohibit the deals from consummating. This can make acquisitions tougher than other industries due to the regulatory oversight and agreements needed.
- Mature market involved with a heavy amount of competition. Limits the upside potential of this security. Only about 28% of the total U.S. P&C market is from the top 9 players while the rest is from smaller competition.

Earnings Estimates

Year	2019	2020	2021	2022E	2023E	2024E
EPS	\$9.77	\$7.31	\$19.41	\$16.20	\$18.50	\$18.90
HF est. growth				-7.8%	8.6%	5.1%

12-Month Performance



Target Price

\$186 - 191

Henry Fund DCF	\$186.0
Henry Fund DDM	\$191.0
Relative Multiple	\$180.0

Price Data

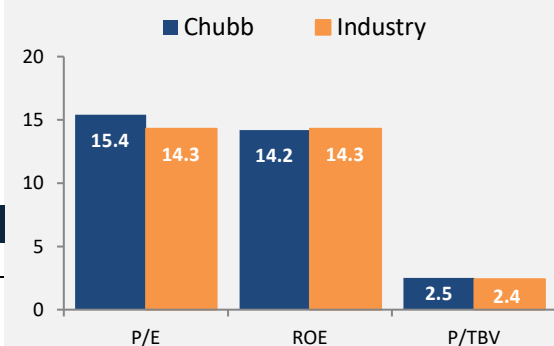
Current Price	\$189.0
52wk Range	\$173.8 – 219.0
Consensus 1yr Target	\$231.0

Key Statistics

Market Cap (B)	\$85.6
Shares Outstanding (M)	\$415.1
Institutional Ownership	89.9%
Beta	0.85
Dividend Yield	1.8%
Est. 5yr Sales Growth	27.0%
Price/Earnings (TTM)	15.4
Price/Earnings (FY1)	12.0
Price/TBV (Current)	2.5
Price/Book (Current)	1.5

Profitability

Loss Expense Ratio	63.0%
Profit Margin	23.0%
Return on Assets (TTM)	4.0%
Return on Equity (TTM)	14.0%



Company Description

Chubb Limited is a Global leader in the property and casualty insurance industry. Headquartered in Zurich, Switzerland. They strategically operate in 54 countries and territories. They offer both commercial and consumer P&C insurance, accidental supplemental health, reinsurance, and life insurance. To all sizes of companies and generally utilized brokerage services as their distribution channel. They strive to maintain high-quality underwriting practices rather than a voluminous model.

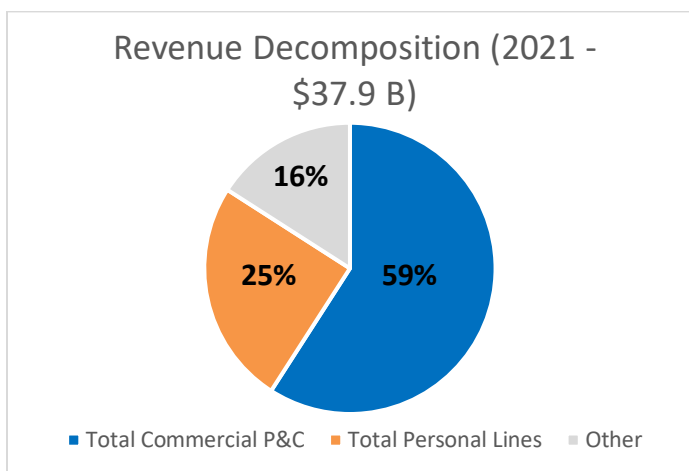
COMPANY DESCRIPTION

Chubb Limited is a global insurance company serving a wide range of clients. Having operations in 54 countries and territories. Chubb provides commercial and consumer property and casualty (P&C) insurance, accident and supplemental health insurance (A&H), reinsurance, and life insurance to a diverse group of clients. Including multinational corporations, mid-size, small businesses, and individuals. They focus on market opportunities where they can compete effectively based on service levels and product design. They also have a competitive advantage in major accounts and innovating product offerings when necessary.

In their 10-k they break operations down into geographic segmentation, so we felt it relevant to mention these categories. However, the financial accounts they report do not align with these segments to successfully extrapolate a forecast. Naturally we decided to build our forecast off their reported financial accounts which is what you will see first. Followed by additional information regarding the company's historical operations.

Net Premiums Written

Here we will see their revenue decomposition for the last fiscal year-end (FYE). A majority of their revenue at 59% comes from commercial P&C sources which is equivalent to \$22.4 billion. While 25% or \$7.1 billion is personal lines. Their other category makes up things like Global A&H, reinsurance, and life insurance.



(Source: Mergent)

Commercial Lines

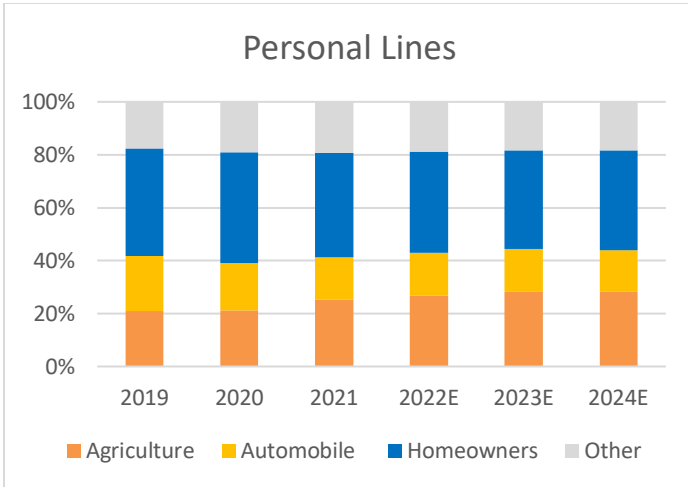
We are expecting total commercial lines to grow by about 6% in 2022. This was based on financial performance halfway through the year and extrapolated out for the rest. We do have their commercial segment slowing down some next year because of economic uncertainty before picking up steam again in 2024. With growth forecasted to be around 7%. This segment is expected to grow by a CAGR of about 4% throughout the forecast horizon. This makes sense because the market is competitive and mature, and they are unlikely to see tremendous growth opportunities. However, they have been growing some through acquisition. Such as through acquiring parts of Cigna. They should also have the ability to increase premiums moving forward. Commercial casualty makes up the highest percentage of their commercial revenue followed by property & other short-tail lines. All the commercial accounts are listed below. Short-tailed lines refer to claims that are expected to be settled quickly.

- Commercial Casualty
- Workers' Compensation
- Financial/Professional Lines
- Surety
- Commercial Multiple Peril
- Property & Other Short-Tail Lines

Their commercial casualty account has historically made up about 32% of their total commercial revenue. This is expected to continue throughout the forecast.

Personal Lines

Personal lines make up about 25% of their total premiums written in 2021. They consider this to be agriculture, personal auto, homeowner policies, and personal other. Homeowners' policies have consistently made up the highest percentage of their personal lines revenue which is expected to continue. Between the years of 2019 and 2021, this averaged 41% of total personal revenue. We forecasted this to average 38% in the forecast periods. This is because we have their commercial lines expanding by around the same growth rates on average, and since these accounts make up a higher portion of the revenue we think personal lines will fall some in comparison. Overall, their personal lines still appear strong but due to the competitive nature of auto insurance, we think growth will be hard to come by.



(Source: Mergent & HF Model)

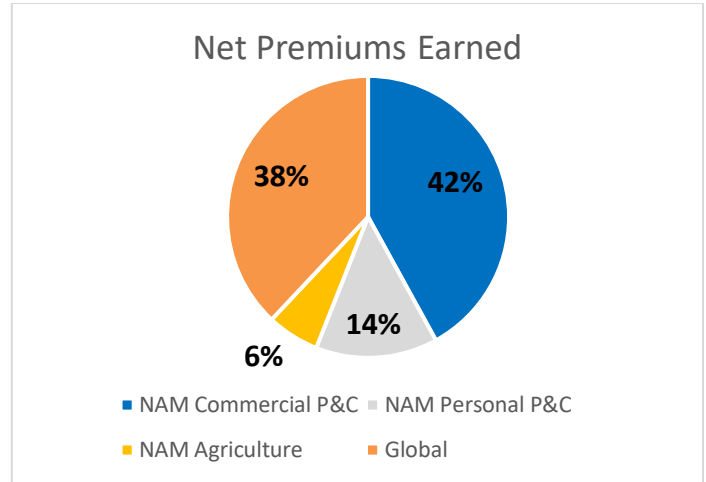
Other Revenue

Other revenue consists of things like Global A&H Lines, reinsurance, and life insurance. Their global A&H line makes up the highest amount in this category but has been experiencing the least amount of growth as of late. They lost about 2.5% of their A&H revenue in 2021. We think they have had a hard time competing in this space. However, we do think they are trying to turn this around. We are forecasting no change in 2022 while we have it growing by 5% annually from 2024 to 2027. This is because of the revenue we believe they will realize from the acquisition of Cigna’s A&H business on July 1, 2022.

Geographic Segmentation

North America

When it comes to geographic revenue. Most of their revenue at about 62% comes from the North American market. With the majority of that from commercial P&C premiums. About 79% of that total revenue is derived from large or middle-market retail sales. We think that this will most likely remain fairly stable. As their core business strategy will not change. However, they might see some inability to increase premiums depending on the severity of a prospective recession that seems inevitable.



(Source: 10-k)

Global Revenue

About thirty-eight percent of their premiums come from global markets. While twenty-nine percent of their Global premiums come from “overseas general insurance”. They maintain a presence in every major insurance market in the world and we think they will continue to penetrate foreign markets expanding revenue streams globally. This is evident with the recent acquisition of Cigna’s life insurance business in many Asian markets. Such as in Taiwan, Korea, Thailand, and Indonesia. Global revenue will continue to be important as Chubb tries to grow. Chubb increased the notional value of derivative instruments they were exposed to from about \$5.3 billion in 2020 to about \$20 billion in 2021. This is believed to be at least in part to hedge foreign exchange risk as they do try to match assets and liabilities in each country of operations. They do not specify any estimates on non-hedged exposure in 2022 though.

Investment Portfolio

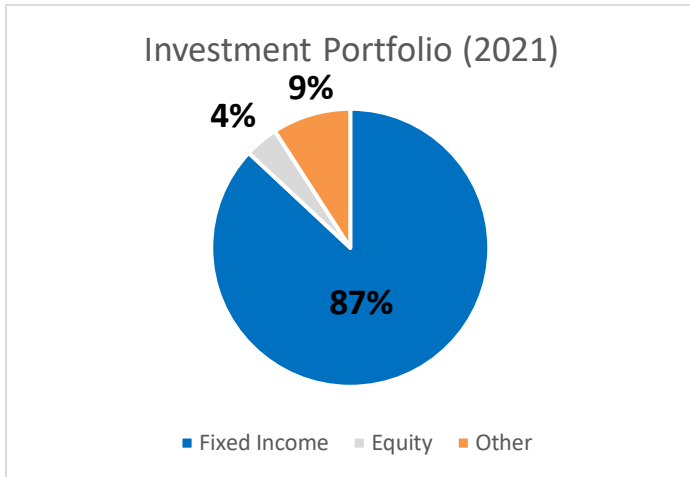
When it comes to insurance companies their investments must be analyzed to successfully capture the business model of the company. Like most insurance companies they invest a majority of their float in fixed-income securities. Next, we will analyze the types of securities they are invested in and compare this to the amounts in aggregate. The next depiction shows the individual fixed-income asset classes they invest in. Thirty-nine percent is

in corporate debt. With the most being invested in Wells Fargo, Bank of America, and JP Morgan Chase.

Fixed Income Securities		
Security Type	% of Total	Fair Value (\$M)
U.S. Treasury	3%	3458
Corporate	39%	41264
MBS	21%	22292
Municipal	9%	9650
Non-U.S.	25%	27091
Short-Term	3%	3146

(Source: 10-k)

As stated in their 10-k. Their investment strategy is to invest primarily in publicly traded, investment grade, fixed-income securities with an average credit quality of A/A, and rated by the independent investment rating agencies like S&P and Moody's. The average duration of their fixed-income securities was 4.1 years in 2021. Meaning their investment portfolio will likely be less volatile to interest rate fluctuations in the future. Now we can see that 87% of their total investments are in fixed income. While four percent is in equity. Their other investment category consists of direct investments in investment funds, and limited partnerships.

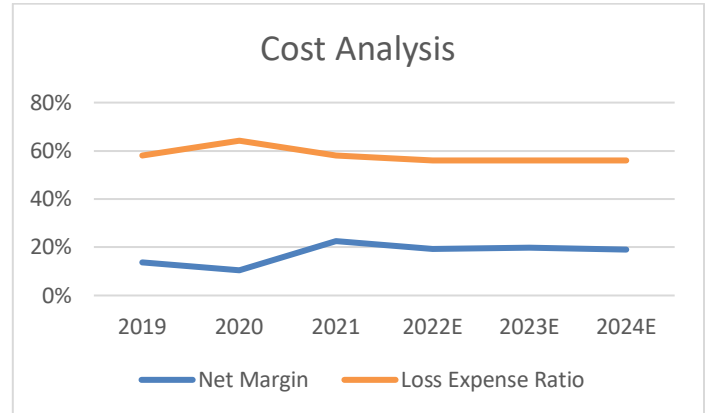


(Source: 10-k)

Cost Structure Analysis

Next, you will see a few of the most important cost trends to monitor for P&C insurance companies. The loss expense ratio is essentially the percentage of claims that were reported on their income statement to the net premiums written. As you can see in 2020 they had a lower level of profitability because of misaligned policies and claims,

with the unemployment rate shooting up. The COVID-19 pandemic was considered a catastrophe and Chubb had losses of \$925 million. We are expecting this loss ratio to maintain its level of just below 60%. At 56% throughout the forecast horizon. We have also decided to show their net margin which is forecasted to be around 19% in 2024. We think they will improve their loss expense ratio due to the inflationary environment and the ability to increase premiums. Without a significant increase in the underlying risks they have underwritten.



(Source: Mergent & HF 10-k)

We are also expecting some of their selling and administrative (SG&A) expenses to fall some over the next couple of years before becoming stable. Policy acquisition costs for example averaged about 18% over the years from 2017 to 2021. Over our forecast horizon from 2022 to 2031 this account is averaging just under 17% of net premiums written. We think this is attainable given the increased efficiency in technological operations and administrative tasks in the industry.

Reinsurance Activities

Purchased reinsurance is a very important operational tool to use for insurance companies. Chubb purchases several reinsurance contracts utilizing varying methods. The next chart is a summary of their reinsurance activities. As we can see from the written column on the left-hand side. The net number is equal to the reported net premiums written on their income statement. To derive this number, they factor in assumed and ceded reinsurance activities for the year. Assumed is the amount of reinsurance they are taking on while ceded is the amount of written premiums that they payout to other insurers. They payout just under \$9 billion in ceded premiums for reinsurance purposes. That is about 21% of their total direct premiums. They do

tend to cede more of their premiums through reinsurance than many of their peers which we will elaborate on in the peer comparison section.

Reinsurance 2021			
Written	(\$ mil)	Earned	(\$ mil)
Direct	42,811	Direct	41,138
Assumed	3,969	Assumed	3,650
Ceded	-8,912	Ceded	-8,433
Net	37,868	Net	36,355

(Source: 10-k)

They strategically diversify their reinsurance as well and have several varying categories of reinsurance companies they work with. Including, ABR Reinsurance, HDI Group, Lloyd’s of London, and Berkshire Hathaway.

Debt Maturity Analysis

Chubb currently has a credit rating of A from S&P Global who is predicting the outlook to remain stable. This is also the same rating that Progressive, and Travelers, but better than the BBB+ ratings of Hartford Financial, and American International. Chubb’s rating remains consistent with their coverage ratios. They have a debt-to-operating income ratio of 2.3 in 2021d. While one variation of the interest times ratio computes 26 times. Calculated by taking operating cash flows divided by interest expense. They have averaged a debt-to-asset ratio of 70% since 2012 and we expect them to maintain this capital structure. Therefore, they will likely refinance some of their debt as it matures due to their incentive to return strong ROE with lower stockholders’ equity. As long as they comply with regulatory thresholds, but this is something to monitor as rates rise.

Five-Year Debt Maturity Schedule

Fiscal Year	Coupon (%)	Payment (\$mil)
2022		\$1000
2023		475
2024		1432
2025		800
2026		1500
Thereafter		10,699
Total		\$15,906

(Source: FactSet)

ESG Analysis

Chubb has the following ESG rankings. They have a total ESG score of 24 which happens to be in the 39th percentile. All the numbers below are on a scale of 0 to 100 with lower numbers representing less unmanaged risk by the company. This compares to Travelers and Progressive who each have an overall ESG score of 21, and Allstate has a score of 19. Hartford Financial also had a lower score of 16. While American International is the only peer who has a worse score at 25. ⁷

Chubb has taken several ESG initiatives lately to improve these metrics. Back in 2006 Chubb started its Global Corporate Environmental Program. In their fiscal year 2021 climate-related financial disclosure. They reported a few milestones including the following. ⁶

- Chubb expects to achieve carbon neutrality in 2022
- 233,000 trees planted through its Environmental Risk business’s sponsorship of American Forests’ ReLeaf Program since 2007
- Helped save 370,000 acres of threatened lands/waters by supporting The Conservation Fund. ⁶

ESG Ratings (Sustainalytics)	Scale = 0-100, Small is Good)
Environment	1.7
Social	11.6
Governance	10.6
Total ESG Risk Score	24

(Source: Yahoo Finance)

RECENT DEVELOPMENTS

Recent Earnings Announcement

Chubb has recently performed well given the volatile markets we have seen. In their 2022 Q2 results released on July 26. They reported net premiums written expanding by 7.9% and P&C premiums up 9%. Driven by 12.1% growth in commercial lines and 8% in their consumer lines. Although they reported growth in top-line revenue. Net income did experience an adverse impact due to mark-to-market accounting. They realized a \$565 million loss after tax, principally from the impact on private and public equities and sales in fixed income. Which is believed to be mostly from the rising interest rate environment. Their P&C combined ratio excluding catastrophe losses was 83.5% compared to 85.4% the prior year. We leaned on

management’s guidance to extrapolate total 2022 results based on yearly trends. Then we considered our economic forecast in combination with these results to finish our forecast. Management continued to be bullish due driven by their commercial P&C growth and pricing. As well as higher returns on their investment income and a continued expansion globally.⁵

Acquisition of Cigna’s A&H Business

On July 1, 2022, the company completed the acquisition of Cigna’s accident and health business. They also acquired their life insurance business in Korea, Taiwan, New Zealand, Thailand, Hong Kong, and Indonesia markets. For a combined total of just over \$5 billion in cash. We think this will allow them to continue to grow in segments that have not been internally growing lately, and there has already been a positive sign of this acquisition. With life insurance premiums being up 109% in their latest quarterly release.⁶

This strategic acquisition allows Chubb to expand its presence in the Asia-Pacific region. Where they hope to experience long-term growth for the company. With the acquisition of this business, the Asia-Pacific share of Chubb’s global portfolio will be about 18% of their total premiums.⁶

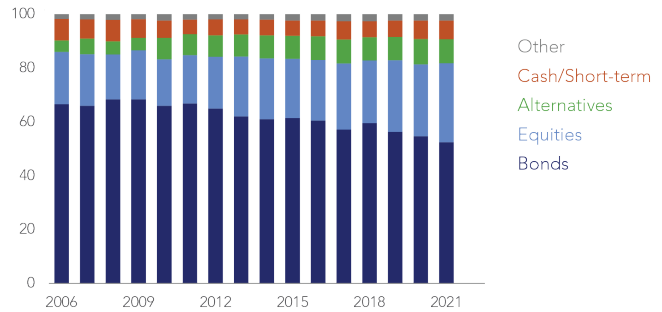
INDUSTRY TRENDS

Higher Spreads on Investment Income

Rising rates can have a number of changes to insurance investment portfolios. There has been a prolonged low-interest rate environment which has forced insurers to invest in riskier alternatives for higher returns. These investments normally have less liquidity. Small interest rate increases normally can benefit insurance companies. Property and insurance companies have increased their exposure to alternative assets over the last decade. As you can see from the next depiction the percentage of bonds in investment portfolios has shrunk. With rates rising, and most likely staying higher than there previously were.

There very well could be a trend back to a higher percentage invested in traditional bonds.¹⁵

Figure 2: Property & Casualty Insurers' Investment Portfolios (percent)



Sources: S&P Market Intelligence, Office of Financial Research

(Source: FinancialResearch.gov)

Insurtech

Insurtech has been a key buzzword within the insurance industry. In 2021 Insurtech firms raised \$15.4 billion which nearly doubled the amount seen in 2020. With a total of 566 deals completed according to CB Insights. A private equity company which has no affiliation to Chubb. Most of the investment activity happened in the P&C space. These companies believe they will offer better customer experiences and improved efficiencies. The following list shows some of the technologies that are expected to expedite change in the industry.¹³

- Artificial Intelligence
- Big Data
- Embedded Insurance
- Cloud Computing

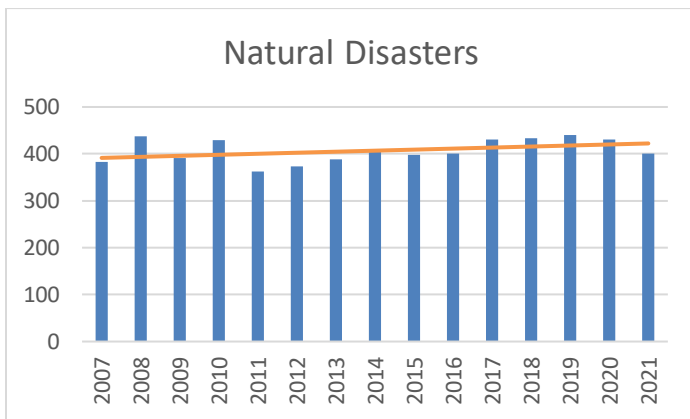
Commercial insurance companies can potentially benefit from these trends. However, it is uncertain how Chubb’s leadership feels about the “buzz” around Insurtech startups. Their CEO Evan Greenberg made the following statement at an Insurtech Connect Conference. He said, “insurtechs are more about hype than transformation” when referring to the trend. He elaborated and made the comparison between the value of insurance technology, and where it fits in the world of insurance carriers. He acknowledged the significance of technology and said the trend is important but must be put into the right context.

¹⁴

Natural Disasters

Increases in natural disasters have been a concern for insurance companies, but more importantly, they cause devastating life-changing moments for many families and businesses.

The next data was reported by AON regarding the number of total natural disasters worldwide from 2007 to 2021. In 2021 there were 401 natural disasters. While there were only 383 in 2007. It is hard to tell exactly from the corresponding graph that the number of occurrences has been increasing since 2007, so that is why we included the trendline. The average of the whole data set is 407 per year while the last five years have averaged 427 natural disasters. Whether we decide to display agnotologic behaviors or not regarding climate change. It does appear that natural disasters are occurring more frequently. Insurance companies might be able to raise premiums on insurance covering catastrophic events, but the outlays of cash is never good for insurance profitability in the short run. This has started tougher negotiations with reinsurance companies as they are requesting higher amounts by as high as 10% to 30% due to the increased risk they bear. Regarding the credibility of data. AON should be a credible source regarding this data.



(Source: Statista)

Chubb was impacted last year from Hurricane Ida, and they are expected to be impacted from Hurricane Ian as well. We do not have great estimates yet on the total claims by Chubb’s policyholders regarding Hurricane Ian,

but in 2021 they experienced the following disaster amounts from Hurricane Ida.

- \$400 million in NA Commercial P&C
- \$231 million in NA Personal P&C
- \$1 million in NA Agricultural Insurance
- \$68 million in overseas general

Natural disasters can potentially allow insurance companies to increase premiums, but Chubb has been reducing their exposure to certain high-risk catastrophe areas. Such as the Western United States and certain hurricane-prone locations. Although it is uncertain what the numbers will be from Hurricane Ian. We think it is reasonable to expect at least similar if not more catastrophe insurance claims from Ian as the hurricane paths shared similar geographic routes.^{18, 21}

MARKETS AND COMPETITION

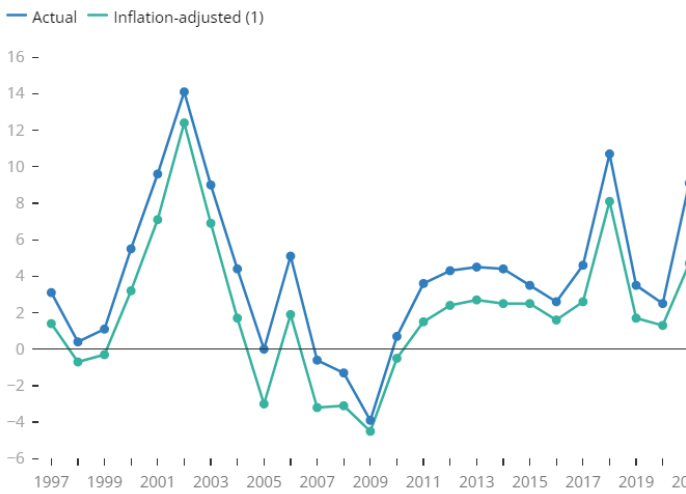
Price

The insurance industry provides very similar homogeneous products from the end-user’s perspective. This causes them to compete heavily on price. This leads consumers to place this variable as one of if not the most important aspects of competition along with relationships which we will elaborate on next.

Prices for insurance companies typically move in pricing cycles. In hard insurance markets, insurers tend to focus less on price and more on profitability. During this process it allows them to focus on winning market share by competing on price, and undercutting each other. Which eventually softens the market and starts the cycle again. This allows companies with strong financials like Chubb. To increase market share when the weaker positioned firms cannot afford to take on more risk. When claims are paid down prices tend to stay high in the long run which can increase profitability. The next chart illustrates price fluctuations for P&C insurance since 1997. There tends to be in a trend that when the economy is doing better this leads to higher premium costs in the insurance market. While more economic uncertainty will force insurance companies to bear more risk per premium dollar. That is

one conflicting piece of data that argues against prices increasing during times of rising rates.^{2, 17}

Percent Change from Prior Year, Net Premiums Written, P/C Insurance, 1997-2021



(Source: iii.org)

Brokers & Independent Agencies

The relationships that insurance providers have with insurance brokers like Marsh & McLennan is extremely important. Chubb, for example, stated most of their premiums were written through insurance and reinsurance brokers such as Marsh & McLennan. Marsh generated/placed about 12% of Chubb’s gross premiums written in 2021. No other broker accounted for more than 10% of gross premiums written. Meaning they have relationships with several other brokers. We will find this is a strong trend in the industry and it is smart to diversify your brokerage firms. This lowers the risk of a failing distribution channel. Chubb also utilized both captive and independent insurance agencies to help sell their insurance solutions. However, the direct numbers are unclear.¹

Regulation

Insurance companies are regulated heavily. They have to monitor laws and regulations in all the jurisdictions they operate. Insurance is normally regulated on a state level and can vary from one to another. However, there are normally a number of commonalities between these enacted regulations. Such as statutory capital (reserves), periodic examinations, and approvals from the date on policy rates and forms. Especially when the regulative

body feels necessary to intervene. The next chart shows some of the common regulations these large insurance companies face.

Regulations	
Statutory Capital	Approval of Policy Forms
Solvency Standards	Approval of Policy Rates
Periodic Examinations	Nature of Investments
Surplus	Acceptable Reinsurers
Liquidity	Other Regulations

(Source: 10-k)

Peer Comparisons

Chubb (CB)

As we have previously mentioned Chubb financial breaks their revenue down into four main segments with the respective revenues. This includes a North American Commercial (44%), Overseas general (28%), North American Personal (13%), and an Other segment (15%). They are labeled the largest publicly traded P&C insurance company in the world by many metrics. This is something their peers cannot say.¹

Chubb Insurance Products		
P&C Insurance	Homeowners	Marine Products
Personal A&H	Automobile	D&O Insurance
Reinsurance	Valuables	Umbrella Liability
Life Insurance	Other	

(Source: 10-k)

Progressive (PGR)

Progressive is a provider of personal and commercial auto insurance, property insurance, and many types of insurance policies. Personal lines make up 74% of total revenue followed by 15% from commercial lines.⁴ Progressive is different because of the high volume of premiums they earn from their personal lines. The largest category in this segment is auto insurance. Personal auto insurance represented approximately 94% of their total personal line premiums. We will see that they are one of the biggest players in this type of insurance as well as other vehicle-related revenue streams. Such as ATVs, RVs, watercraft, and snowmobiles.¹

Travelers (TRV)

Travelers operates in three main segments. This includes business, personal, and bond & specialty insurance. Business insurance consists 54% of their total revenue and personal makes up 36% and specialty is 10%. Travelers is one of the oldest insurance organizations in the United States. They date back as far as 1853 and earn about 36% of their total revenue from the following five states alone which we list below. While 93.5% of all written premiums in 2021 were domestically derived. We will find this is higher than most of the other peer companies. ⁴

Allstate (ALL)

Allstate is a leading property and casualty insurance company that provides insurance policies in three main segments. Their property and liability segments make up by far the most significant amount of revenue for them at 91%. They are another one of the biggest players in the personal insurance market in the fight for insuring many of the same types of vehicles that Progressive does. Protection services make up about 5% of revenue and Allstate health & Benefits make up 4%. ⁴

Hartford Financial (HIG)

Hartford Financial operates in four main segments including the following. Commercial, group benefits, personal lines, and other. Commercial lines make up 49% of their total revenue while 29% comes from group insurance and 15% from personal lines.⁴ Compared to Progressive and Allstate. Hartford Financial operates more heavily in the commercial insurance space. In 2021 33% of their total revenue was derived from workers' compensation premiums earned. That was a total of \$3.2 billion out of the \$9.5 total earned in 2021.

American International (AIG)

American International operates in three main segments. This consists of general insurance, life & retirement, and other insurance. General insurance makes up 58% of revenue while life & retirement make up 40%.⁴ They focus more on life and retirement insurance products compared to their peers, and out of the life and retirement segment, they have the following product offerings. Individual retirement products, life insurance, institutional markets, and group retirement plans.

The following chart gives a good financial comparison. One thing to note is how Progressive tends to trade at a higher

multiple than the rest. Progressive has experienced growth much higher than the industry average over the last five years. This can be seen in the chart below. We think the street is likely expecting this growth momentum to continue.

Ticker	P/E	Peer Comparison		
		EPS	Div. Yield	5-Year Sales CAGR
CB	15.4	12.56	1.80%	5.40%
PGR	28.2	3.63	0.40%	15.30%
TRV	11.2	13.94	2.40%	4.70%
ALL	8.7	13.48	2.90%	6.70%
HIG	11.2	6.15	2.40%	4.10%
AIG	11.1	5.12	2.50%	0.30%

(Source: FactSet)

Premium & Reinsurance Comparison

The next chart is a good summary of the total direct premiums written by each company and the amount of reinsurance activity each entity has. We can see that Chubb has the third-highest direct premiums written behind Progressive and Allstate. Percent assumed means the percentage of direct premiums they receive for reinsuring other companies' risk. While percent ceded is the number of their written premiums that other companies are receiving from them for bearing their insurance risk. Chubb does get about 9% of their revenue from assumed premiums. This makes sense because they do have some reinsurance operations. Another thing to note is how American international makes up 49% of their premiums from reinsurance. This is an indicator that they are heavily in the reinsurance business as they also ceded the highest amount.

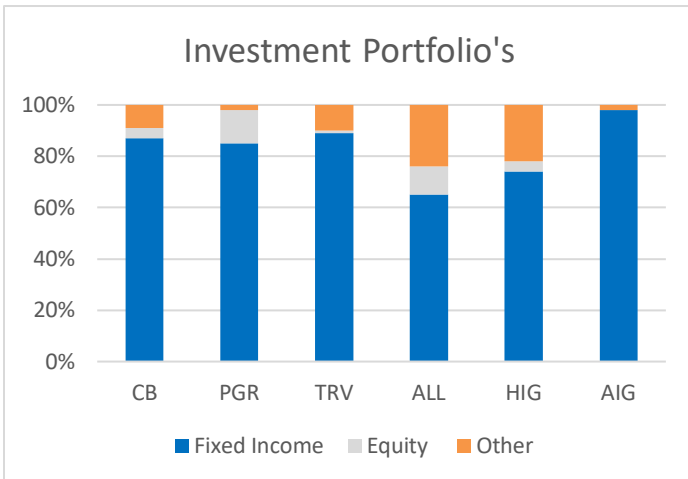
Now, the net percent of premiums in the last column is the difference between written premiums adding assumed and subtracting ceded. This is why American International has over 100%. Because they assumed more premiums than they ceded. They happen to be the only peer that is doing that.

Reinsurance Comparison				
Company	Direct (\$ mil)	% Assumed	% Ceded	% Net
Chubb	42,811	9%	21%	88%
Progressive	46,019	0%	4%	96%
Travelers	33,180	3%	7%	96%
AllState	45,523	-0.5%	4%	97%
Hartford	13,696	5%	10%	95%
American	4,596	49%	27%	123%

(Source: 10-ks)

Investment Income

As we know the investment portfolio for insurance companies is very important. Most insurance companies invest heavily in fixed-income securities for the risk profile and steady cash payments. Chubb is invested 87% in fixed-income securities which are about right in the middle. Allstate interestingly has the lowest at 65%. While they have the highest percentage invested in other asset classes. Which would tend to be things like direct investment in private equity.



(Source: 10-ks)

The next chart is an additional peer comparison. Chubb derives more revenue compared to the rest from international revenue at 38%. While Progressive and Hartland Financial completely operate within the United States. Another interesting thing to highlight is how all the insurance companies have an investment portfolio duration of between 4.1 and 4.3 which must be a proven duration level for insurance companies to match their asset and liability payments.

Additional Comparison				
2021	Domestic	International	Combined Ratio	Duration
CB	62%	38%	91	4.1
PGR	100%	0%	97	Not Stated
TRV	94%	6%	97	4.2
ALL	96%	4%	99	4.2
HIG	100%	0%	80	4.3
AIG	66%	34%	119	4.1

(Source: FactSet & 10-ks)

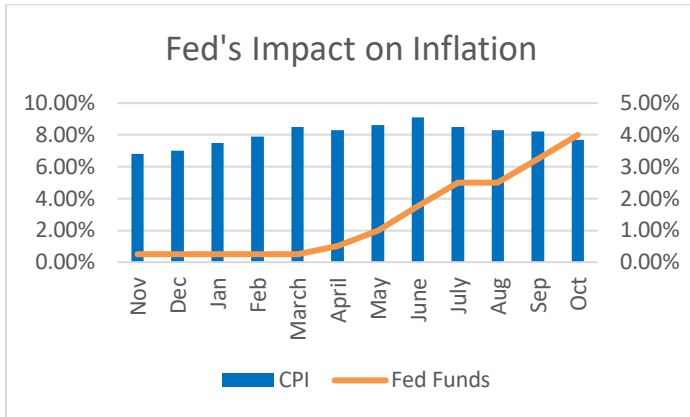
ECONOMIC OUTLOOK

Inflation

With inflation data being around 7.7% in October. This was a very small but hopefully positive sign for the economy.⁶ With the CPI being a lagging indicator and with fuel prices coming down over the past two months. Headline inflation will most likely cool even more when the next CPI data is released.

From a microeconomic perspective. Interest rates are not always a bad thing for insurance companies. Like we have mentioned already. About 87% of their investment portfolio is in fixed-income securities. Over time they should have the ability to roll over their portfolio into higher interest-paying bonds for the same risk as before. The next chart displays the relationship over the last year of the fed's actions and how it corresponds with the CPI. When it comes to their expenses we think Inflation would temporarily squeeze some of their margins because the prices of the underlying assets are going up. Although when inflation comes down we believe they will ultimately

benefit from increased premiums due to previous inflation.



(Source: BLA & FRED)

Fed Fund's Rate

With the latest inflation data still running historically higher than normal, and persistently above the Fed's objective target of 2%. The Fed will almost be forced to push the economy into some varying degree of a recession to slow us down. Jerome Powell recently said the Fed must continue to raise rates and keep them elevated to bring inflation down. Arguing that if left uncontrolled it would place the United States in worse shape.

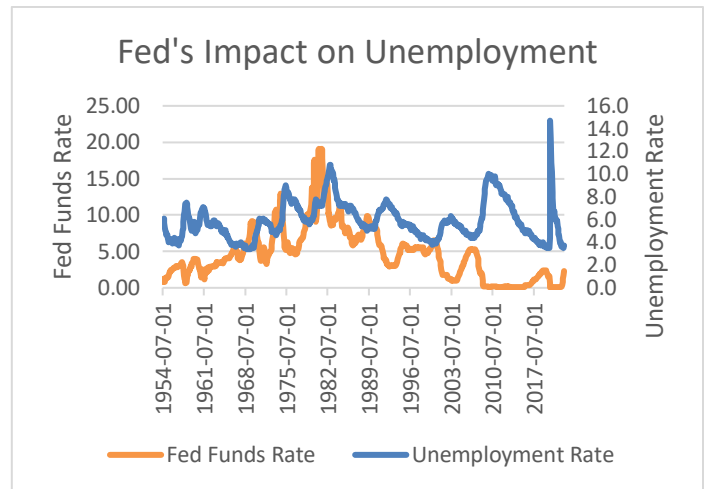
The current Fed Funds target rate is at 3.75-4.00%, and with the treasury market strongly correlated. The 10-year treasury moving up from about 2% to above 4% currently. These rates will likely not fall for a while. With Chubb's duration of 4.1 they will likely have relatively low portfolio volatility, and they have shown signs of rolling over investments into higher returns already. Our Henry Fund team is forecasting the rate to be between 4.75-5.25% over the short term.¹²

Employment

Over the recent year, there has not been many times like this from a macroeconomic perspective. We always hear about theoretical stagflation. However, our own eyes have been able to see empirical evidence of it, or at least very similar economic conditions over the most recent six months. With the unemployment rate now around 3.5%. Which has been consistently falling since coming out of the COVID-19 pandemic. According to our historical measures of unemployment, we must be hovering around full employment. Combined with the fact that the Fed is likely to push our economy to a point where a softer labor

market is inevitable. We do not think the unemployment rate will continue to fall and will likely hit an inflection point. If it has not already.

Below is a great depiction of the fed-funds rate compared to historical unemployment rates. The fed funds rate represented in orange has historically risen before the unemployment rate rises. There are clearly at least six visible scenarios like this on the chart below. The fed has been raising rates, but we have not seen the unemployment rate tick up much yet. According to precedent, it is only a matter of time before this occurs.^{8, 16}



(Source: U.S. Bureau of Labor Statistics)

When unemployment rises this could impact Chubb in the following ways. We think they would be financially impacted more on the demand side for their products than any significant labor constraint. We believe this would hinder their ability to increase premiums and expand their total clientele base in the short term.

VALUATION

Revenue Decomposition

Net Premiums Written

Like we have mentioned already we have incorporated growth rates largely based on management guidance. We have total premiums written in 2022 growing at just above four percent. With our expectations of a soft landing, we have them growing by about the same next year as well. Followed with 7% growth in 2024. We then taper off down to our 2% terminal growth rate. We have this growing by

a CAGR of 3.7% over our investment horizon which should be attainable.

Investment Portfolio

The expectation for their investment portfolio is for the year-to-date trend to continue this year. Total investments are expected to fall by about 6% in 2022. We forecasted a 20% drop in their equity portfolio. However, only a 5% decline in fixed income was reported as available for sale and a decline of 10% in their held-to-maturity securities. We felt with their 2021 duration of 4.1 these decline assumptions were reasonable.

Interest Rates

For our interest rate assumptions. We incorporated a forecasted interest rate for the rest of 2022, 2023, and 2024. Following that, we factored in a long-term expectation of the respective interest rates throughout the rest of the forecast horizon. The next list shows the assumptions we used. We used the risk-free rate for fixed income available for sale. The 30-year treasury for held-to-maturity securities. The one-year treasury for their short-term investments. Followed by the equity premium for equity securities, and we added a spread for their other investment category.

Interest-Rate Assumptions				
Rate Type	2022	2023	2024	-2031
Risk-Free Rate	3.56%	4.25%	4.00%	3.00%
30-Year Treasury	3.75%	4.00%	4.00%	3.50%
One-Year Treasury	3.70%	4.50%	4.00%	2.50%
Equity Premium	7.93%	8.25%	8.00%	6.00%
Spread Over Equity	10.00%	10.25%	10.00%	8.00%

(Source: HF-Model)

Cost Assumptions

As we elaborated above. We forecasted our loss expense ratio to be 56% throughout the forecast period. We think they will be able to increase premiums by passing on inflation to clients without the underlying risks they underwrite significantly increasing. This will allow them to pass on costs and improve margins moving forward. We also are expecting that their policy benefit expense will fall to just under 2%. With the push to expand technology in

their underwriting processes. The efficiency is likely to increase for some of these administrative tasks.

Valuation

Discounted Cash Flow

Our DCF and EP models have the company valued at \$186 with the incorporation of a 7.93% cost of equity.

- Risk-free rate of 3.56% based on the 10-year treasury
- Beta of .85 based on average 1, 2, and 5yr weekly statistics
- Henry Fund Equity Risk Premium of 5.15%

Dividend Discount Model

Our DDM model is valuing the company at \$191. We incorporated an annual increase in their share dividend by 9 cents per year. This is reasonable given since 2017 they have increased their dividends per share by at least 8 cents. With it increasing by 11 cents in the year of 2020. The CV growth of EPS that we factored in is 2% which is the same as our terminal year growth. We are convinced these are all realistic assumptions based on precedents that are known for persisting.

Relative Value

The price-to-book value is watched very heavily for insurance companies. This is because they have a regulated amount of equity capital that they must have in reserves. The implied value derived from price to tangible book value we computed was \$180. This likely would have been lower but because Progressive is one of the comparable companies that elevated the number. Their price to tangible book is 4.26. Which is much higher than the rest. With most coming in between one and two.

Street Comparison

We believe our model is an accurate representation of the intrinsic value. There are 25 reported sell-side analysts covering this stock according to FactSet. Who either have a hold or buy rating on the stock. We believe in the value we computed, and that it is an accurate representation of the value of this stock. We would recommend it as a hold if it was in the Henry Fund portfolio, but given it is not we have *no action* with a limited upside.

KEYS TO MONITOR

Bull Case

- Ability to increase premiums significantly faster than the rate of the total insurable value in contract renewals. The CBRE construction cost index is showing signs of underlying costs receding.
- Acquisition of Cigna's life insurance line will allow them to grow in foreign markets more than expected. Increasing their customer base.

Bear Case

- Weaker economy prohibits their ability to increase premiums at a rate that fully compensates for historical inflation. As displayed in the insurance cycle chart in the competition section.
- Dependence on acquisitions to grow in a mature market. That carries risks with antitrust oversight and insurance commissioner approval.

Conclusion

Chubb has been one of the largest property and casualty insurance companies in the world. This is likely to continue however they operate in a very competitive space in a market that is mature, and likely to grow at the rate of the economy over time. We feel they could be a good short-term play if our economy is placed under tremendous economic stress. However, the upside potential is limited and therefore justifies the current stance we have of *no action*.

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Chubb Limited
Revenue Decomposition

Fiscal Years Ending Dec. 31	2019	2020	2021	2022E	2023E	2024E	2025E	2026E	2027E	2028E	2029E	2030E	2031E
Commercial Casualty	5654	6177	6994	7554	7931	8328	8578	8835	9277	9462	9651	9844	10041
	8.65%	9.25%	13.23%	8%	5%	5%	3%	3%	5%	2%	2%	2%	2%
Workers' Compensation	2098	2015	2130	2173	2216	2327	2420	2493	2617	2669	2723	2777	2833
	0.19%	-3.96%	5.71%	2%	2%	5%	4%	3%	5%	2%	2%	2%	2%
Financial/Professional Lines	3697	4201	5067	5168	5272	5535	5701	5872	6049	6170	6293	6419	6547
	4.82%	13.63%	20.61%	2%	2%	5%	3%	3%	3%	2%	2%	2%	2%
Surety	639	531	572	601	631	662	689	716	745	760	775	790	806
	0.63%	-16.90%	7.72%	5%	5%	5%	4%	4%	4%	2%	2%	2%	2%
Commercial Multiple Peril	983	1047	1193	1253	1315	1447	1519	1580	1643	1692	1743	1778	1814
	8.02%	6.51%	13.94%	5%	5%	10%	5%	4%	4%	3%	3%	2%	2%
Property & Other short-tail lines	4468	5231	6425	6939	7494	8244	8862	9305	9770	10063	10365	10572	10784
	11.25%	17.08%	22.83%	8%	8%	10%	8%	5%	5%	3%	3%	2%	2%
Total Commercial P&C	17539	19202	22381	23687	24859	26542	27768	28801	30100	30817	31550	32182	32825
	7.04%	9.48%	16.56%	5.83%	4.95%	6.77%	4.62%	3.72%	4.51%	2.38%	2.38%	2.00%	2.00%
Agriculture	1810	1846	2388	2627	2889	3178	3337	3504	3679	3790	3904	3982	4061
	14.77%	1.99%	29.36%	10.00%	10.00%	10.00%	5.00%	5.00%	5.00%	3.00%	3.00%	2.00%	2.00%
Personal Automobile	1786	1550	1525	1601	1681	1765	1854	1891	1929	1967	2006	2047	2088
	5.37%	-13.21%	-1.61%	5.00%	5.00%	5.00%	5.00%	2.00%	2.00%	2.00%	2.00%	2.00%	2.00%
Personal Homeowners	3513	3627	3719	3756	3831	4214	4425	4514	4604	4696	4790	4886	4983
	3.60%	3.25%	2.54%	1.00%	2.00%	10.00%	5.00%	2.00%	2.00%	2.00%	2.00%	2.00%	2.00%
Personal Other	1514	1656	1825	1843	1880	2068	2172	2280	2394	2442	2491	2541	2591
	0.40%	9.38%	10.21%	1.00%	2.00%	10.00%	5.00%	5.00%	5.00%	2.00%	2.00%	2.00%	2.00%
Total Personal Lines	6813	6833	7069	9827	10282	11226	11788	12189	12606	12895	13191	13455	13724
	3.32%	0.29%	3.45%	39.02%	4.63%	9.18%	5.00%	3.40%	3.42%	2.29%	2.29%	2.00%	2.00%
Total Property & Casualty Lines	26162	27881	31838	33514	35141	37769	39556	40990	42706	43712	44741	45636	46549
	6.54%	6.57%	14.19%	5.26%	4.85%	7.48%	4.73%	3.62%	4.19%	2.35%	2.36%	2.00%	2.00%
Global A&H Lines	4315	3859	3763	3763	3838	4030	4232	4443	4665	4759	4854	4951	5050
	0.89%	-10.57%	-2.49%	0.00%	2.00%	5.00%	5.00%	5.00%	5.00%	2.00%	2.00%	2.00%	2.00%
Reinsurance Lines	649	731	873	890	935	982	1031	1082	1136	1159	1182	1206	1230
	-3.28%	12.63%	19.43%	2.00%	5.00%	5.00%	5.00%	5.00%	5.00%	2.00%	2.00%	2.00%	2.00%
Life	1149	1349	1394	1324	1364	1432	1504	1579	1658	1691	1725	1759	1795
	6.98%	17.41%	3.34%	-5.00%	3.00%	5.00%	5.00%	5.00%	5.00%	2.00%	2.00%	2.00%	2.00%
Total Consolidated	32275	33820	37868	39492	41278	44213	46323	48094	50166	51321	52503	53553	54624
	5.55%	4.79%	11.97%	4.29%	4.52%	7.11%	4.77%	3.82%	4.31%	2.30%	2.30%	2.00%	2.00%
Investment Growth													
Fixed Maturities Available for Sale	85488	90699	93108	88453	92875	97519	99957	102456	105017	107118	109260	111445	113674
	8.94%	6.10%	2.66%	-5.00%	5.00%	5.00%	2.50%	2.50%	2.50%	2.00%	2.00%	2.00%	2.00%
Fixed Maturities held to maturity	12581	11653	10118	9106	9562	10040	10341	10651	10864	11081	11303	11529	11760
	-6.36%	-7.38%	-13.17%	-10.00%	5.00%	5.00%	3.00%	3.00%	2.00%	2.00%	2.00%	2.00%	2.00%
Short-term investments	4291	4345	3146	2989	3138	3295	3460	3564	3670	3744	3819	3895	3973
	42.27%	1.26%	-27.59%	-5.00%	5.00%	5.00%	5.00%	3.00%	3.00%	2.00%	2.00%	2.00%	2.00%
Total Fixed income securities	102360	106697	106372	100548	105575	110854	113758	116670	119552	121943	124382	126869	129407
				-5.48%	5.00%	5.00%	2.62%	2.56%	2.47%	2.00%	2.00%	2.00%	2.00%
Equity Securities	812	4027	4782	3826	4208	4419	4639	4871	5018	5168	5272	5377	5484
	5.45%	395.94%	18.75%	-20.00%	10.00%	5.00%	5.00%	5.00%	3.00%	3.00%	2.00%	2.00%	2.00%
Other Investments	6062	7945	11169	11169	11392	11962	12560	13063	13585	13993	14412	14701	14995
	14.88%	31.06%	40.58%	0.00%	2.00%	5.00%	5.00%	4.00%	4.00%	3.00%	3.00%	2.00%	2.00%
Total Investments	109234	118669	122852	115542	121175	127234	130957	134604	138154	141104	144066	146947	149886
	8.19%	8.64%	3.52%	-5.95%	4.88%	5.00%	2.93%	2.79%	2.64%	2.13%	2.10%	2.00%	2.00%

Chubb Limited
Income Statement

<i>Fiscal Years Ending Dec. 31</i>	2019	2020	2021	2022E	2023E	2024E	2025E	2026E	2027E	2028E	2029E	2030E	2031E
Net premiums written	32275	33820	37868	39492	41278	44213	46323	48094	50166	51321	52503	53553	54624
Decrease (increase) in unearned premiums	985	703	1513	703	735	787	825	856	893	914	935	953	972
Net premiums earned	31290	33117	36355	38789	40544	43426	45498	47238	49273	50407	51568	52599	53651
Net investment income	3426	3375	3456	5307	5718	5699	4581	4730	4873	5010	5124	5238	5343
Total revenues	34186	35994	40963	44034	46198	49057	50010	51897	54073	55342	56616	57759	58914
Losses & loss expenses	18730	21710	21980	22115	23116	24759	25941	26933	28093	28740	29401	29989	30589
Policy benefits	740	784	699	731	764	818	857	890	928	949	971	991	1011
Policy acquisition costs	6153	6547	6918	7168	7492	8025	8408	8729	9105	9315	9529	9720	9914
Administrative expenses	3030	2979	3136	3270	3418	3661	3836	3982	4154	4249	4347	4434	4523
Interest expense	552	516	492	834	810	844	886	914	939	966	984	1003	1021
Other income (expense)	596	994	2365	4526	4275	4483	4708	4845	4980	5112	5221	5330	5437
Amortization of purchased intangibles	305	290	287	281	265	242	225	209	280	280	280	280	280
Chubb Limited integration expenses	23	-	-	-	-	-	-	-	-	-	-	-	-
Total expenses	28937	31832	31147	34399	35865	38349	40152	41657	43500	44499	45514	46418	47339
Income (loss) before income tax	5249	4162	9816	9635	10333	10708	9858	10240	10573	10843	11102	11341	11576
Income tax expense (benefit)	795	629	1277	2043	2191	2270	2090	2171	2241	2299	2354	2404	2454
Net income (loss)	4454	3533	8539	7592	8142	8438	7768	8069	8331	8545	8748	8937	9122
Weighted average shares outstanding - basic	455.91	451.603	439.968	424	419	414	408	403	397	390	383	375	367
Year end shares outstanding	451.972	450.733	426.573	422	416	411	406	400	394	387	379	371	363
Net earnings (loss) per share - basic	9.77	7.82	19.41	17.90	19.44	20.40	19.03	20.04	20.98	21.89	22.86	23.85	24.88
Cash dividends per share	2.98	3.09	3.18	3.27	3.36	3.45	3.54	3.63	3.72	3.81	3.90	3.99	4.08

Chubb Limited
Forecasted Implied Interest

<i>Fiscal Years Ending Dec. 31</i>	2021	2022E	2023E	2024E	2025E	2026E	2027E	2028E	2029E	2030E	2031E
Investment Income											
Fixed Maturities Available for Sale	93108	88453	92875	97519	99957	102456	105017	107118	109260	111445	113674
Risk-Free Forecast (10-Year)		3.56%	4.25%	4.00%	3.00%	3.00%	3.00%	3.00%	3.00%	3.00%	3.00%
Interest Earned		3315	3759	3715	2926	2999	3074	3151	3214	3278	3343
Fixed Maturities held to maturity	10118	9106	9562	10040	10341	10651	10864	11081	11303	11529	11760
30-Year Treasury Forecast		3.75%	4.00%	4.00%	3.50%	3.50%	3.50%	3.50%	3.50%	3.50%	3.50%
Interest Earned		379	364	382	351	362	373	380	388	396	404
Short-term investments	3146	2989	3138	3295	3460	3564	3670	3744	3819	3895	3973
One-Year Treasury Forecast		3.70%	4.50%	4.00%	2.50%	2.50%	2.50%	2.50%	2.50%	2.50%	2.50%
Interest Earned		116	134	126	82	86	89	92	94	95	97
Total Fixed income securities	106372	100548	105575	110854	113758	116670	119552	121943	124382	126869	129407
Total Fixed Interest Income		3810	4258	4223	3359	3447	3536	3623	3695	3769	3844
Equity Securities	4782	3826	4208	4419	4639	4871	5018	5168	5272	5377	5484
Equity Premium		7.93%	8.25%	8.00%	6.00%	6.00%	6.00%	6.00%	6.00%	6.00%	6.00%
Interest Earned		379	316	337	265	278	292	301	310	316	323
Other Investments	11169	11169	11392	11962	12560	13063	13585	13993	14412	14701	14995
Spread over Equity Premium		10.00%	10.25%	10.00%	8.00%	8.00%	8.00%	8.00%	8.00%	8.00%	8.00%
Interest Earned		1117	1145	1139	957	1005	1045	1087	1119	1153	1176
Total Investments	122852	115542	121175	127234	130957	134604	138154	141104	144066	146947	149886
Total Interest Income		5307	5718	5699	4581	4730	4873	5010	5124	5238	5343

Chubb Limited
Balance Sheet

<i>Fiscal Years Ending Dec. 31</i>	2019	2020	2021	2022E	2023E	2024E	2025E	2026E	2027E	2028E	2029E	2030E	2031E
Cash	1537	1747	1659	11229	14689	20127	25521	30639	36717	41869	47261	52674	58260
Restricted cash	109	89	152	156	161	165	170	175	179	184	190	195	200
Securities lending collateral	994	1844	1831	2081	2182	2291	2358	2424	2488	2541	2595	2646	2699
Accrued investment income	867	867	821	966	1014	1064	1095	1126	1156	1180	1205	1229	1254
Insurance & reinsurance balances receivable, net	10357	10480	11322	11413	11929	12778	13387	13899	14498	14832	15173	15477	15786
Reinsurance recoverable on losses & loss expenses, net	15181	15592	17366	20413	21337	22854	23944	24860	25931	26528	27139	27681	28235
Reinsurance recoverable on policy benefits	197	206	213	316	330	354	371	385	401	411	420	428	437
Deferred policy acquisition costs	5242	5402	5513	5464	5711	6117	6409	6654	6941	7100	7264	7409	7557
Value of business acquired	306	263	236	213	191	172	155	140	126	113	102	92	83
Goodwill	15296	15400	15213	15045	15045	15045	15045	15045	15045	15045	15045	15045	15045
Other intangible assets	6063	5811	5455	5174	4909	4667	4442	4233	3953	3672	3392	3111	2831
Prepaid reinsurance premiums	2647	2769	3028	3377	3529	3780	3961	4112	4289	4388	4489	4579	4670
Investments in partially-owned insurance companies	1332	2813	3130	2874	3130	3386	3642	3898	4154	4410	4666	4922	5178
Fixed maturities available for sale, at fair value, net	85488	90699	93108	88453	92875	97519	99957	102456	105017	107118	109260	111445	113674
Fixed maturities held to maturity, at amortized cost, net	12581	11653	10118	9106	9562	10040	10341	10651	10864	11081	11303	11529	11760
Equity securities, at fair value	812	4027	4782	3826	4208	4419	4639	4871	5018	5168	5272	5377	5484
Short-term investments, at fair value	4291	4345	3146	2989	3138	3295	3460	3564	3670	3744	3819	3895	3973
Other investments, at fair value	6062	7945	11169	11169	11392	11962	12560	13063	13585	13993	14412	14701	14995
Total investments	109234	118669	122323	115542	121175	127234	130957	134604	138154	141104	144066	146947	149886
Other assets	7581	8822	11792	9679	10117	10837	11354	11788	12296	12579	12868	13126	13388
Total assets	176943	190774	200054	203943	215450	230871	242811	253981	266328	275956	285874	295562	305510
Unpaid losses & loss expenses	62690	67811	72943	76310	79762	85433	89509	92932	96936	99167	101451	103480	105549
Unearned premiums	16771	17652	19101	17815	18621	19945	20896	21695	22630	23151	23684	24158	24641
Future policy benefits	5814	5713	5947	5734	5994	6420	6726	6983	7284	7452	7623	7776	7931
Insurance & reinsurance balances payable	6184	6708	7243	7101	7422	7949	8329	8647	9020	9227	9440	9629	9821
Securities lending payable	994	1844	1831	2081	2182	2291	2358	2424	2488	2541	2595	2646	2699
Accounts payable, accrued expenses, & other liabilities	11773	14052	15004	12503	13069	13998	14666	15227	15883	16248	16622	16955	17294
Deferred tax liabilities	804	892	389	389	389	389	389	389	389	389	389	389	389
Repurchase agreements	1416	1405	1406	1406	1406	1406	1406	1406	1406	1406	1406	1406	1406
Trust preferred securities	308	308	308	308	308	308	308	308	308	308	308	308	308
Long-term debt	14857	14948	16168	15634	16159	16841	17269	17666	18087	18376	18674	18958	19253
Total liabilities	121612	131333	140340	139280	145312	154980	161856	167678	174431	178265	182191	185704	189291
Common shares in treasury & APIC	14957	13459	7464	8713	9963	11212	12461	13711	14960	16209	17459	18708	19957
Additional paid-in capital	11203	9815	8478	8478	8478	8478	8478	8478	8478	8478	8478	8478	8478
Retained earnings	36142	39337	47365	53562	60288	67290	73603	80201	87044	94087	101328	108754	116363
Accumulated other comprehensive income (loss)	619	2869	350	350	350	350	350	350	350	350	350	350	350
Total shareholders' equity	55331	59441	59714	64662	70139	75891	80955	86303	91897	97691	103682	109859	116219
Total liabilities & Equity	176943	190774	200054	203943	215450	230871	242811	253981	266328	275956	285874	295562	305510

Chubb Limited
Historical Cash Flow Statement

Fiscal Years Ending Dec. 31	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
Net income (loss)	2706	3758	2853	2834	4135	3861	3962	4454	3533	8539
Net realized losses (gains)	-78	-504	507	420	145	-84	652	530	498	-1152
Amortization of premiums/discounts on fixed maturities	220	268	188	158	737	694	592	395	367	332
Amortization of purchased intangibles	-	-	-	-	-	-	339	305	290	287
Deferred income taxes	-7	240	145	113	96	-527	16	-97	-333	-74
Unpaid losses & loss expenses	203	-365	317	-375	332	2137	570	-257	4664	5791
Unearned premiums	522	402	441	335	-680	264	654	1051	846	1857
Future policy benefits	158	191	236	216	188	217	235	215	236	239
Insurance & reinsurance balances payable	-151	176	376	268	848	271	722	-302	535	582
Accounts payable, accrued expenses, & other liabilities	-42	37	13	179	-97	-517	375	-207	-98	536
Income taxes payable	-167	-45	103	-148	147	-365	161	-7	46	48
Insurance & reinsurance balances receivable	335	-624	-469	-53	-616	-243	-981	-270	-114	-984
Reinsurance recoverable	-	-	-	-	-	-	-1165	838	-336	-1953
Deferred policy acquisition costs	-340	-503	-397	-435	-1449	-317	-301	-344	-89	-247
Equity in net income of subsidiaries & affiliates	-	-	-	-	-	-	-	-	-	-2433
Other operating activities	335	212	149	313	287	182	-351	38	-260	-219
Net cash flows from operating activities	3995	4022	4496	3864	5292	4503	5480	6342	9785	11149
Purchases of fixed maturities available for sale	-23455	-21340	-15553	-16040	-30759	-25720	-24700	-25846	-26298	-30222
Purchases of fixed maturities held to maturity	-388	-447	-267	-62	-282	-352	-456	-229	-202	-594
Purchases of equity securities	-135	-264	-251	-158	-146	-173	-207	-531	-6419	-1167
Sales of fixed maturities available for sale	14321	10355	7482	10783	16621	13228	14001	13110	11377	6596
Sales of to be announced mortgage-backed securities	448	58	-	31	56	27	29	6	-	-
Sales of equity securities	119	142	670	183	1000	187	315	611	3880	1018
Maturities & redemptions of fixed maturities available for sale	5523	6941	6413	6567	9349	10425	7352	9039	12450	17361
Maturities & redemptions of fixed maturities held to maturity	1451	1488	875	669	958	879	1124	946	995	1964
Net change in short-term investments	-	524	-603	-8216	12350	-537	516	-1117	-81	1175
Net derivative instruments settlements	-281	-471	-230	-21	-168	-265	16	-703	-113	-219
Private equity contributions	-	-	-	-	-	-	-1337	-1315	-1924	-2471
Private equity distributions	-	-	-	-	-	-	980	1390	907	1421
Acquisition of subsidiaries (net)	-98	-977	-766	264	-14248	-	-	-29	-	-
Payment, including deposit, for Huatai Insurance Group Co., Ltd. interest	-	-	-	-	-	-	-	-	-1623	-1184
Other investing activities	-555	-393	-274	-263	10	-114	-533	-1237	-470	-337
Net cash flows from investing activities	-3439	-4442	-2504	-6294	-5315	-2442	-2935	-5905	-7521	-6659
Dividends paid on common shares	-815	-517	-862	-862	-1173	-1308	-1337	-1354	-1388	-1401
Common shares repurchased	-11	-287	-1429	-758	-	-801	-1044	-1530	-523	-4861
Proceeds from issuance of long-term debt	-	947	699	6090	-	-	2171	2828	988	1576
Proceeds from issuance of repurchase agreements	2933	2572	1978	2029	2310	2353	2029	2817	2354	1858
Repayment of long-term debt	-	-	-501	-1150	-	-501	-2001	-510	-1301	-
Repayment of repurchase agreements	-2783	-2572	-1977	-2027	-2311	-2348	-2019	-2817	-2354	-1858
Proceeds from share-based compensation plans	-	-	-	-	-	151	115	204	145	300
Policyholder contract deposits	-	-	-	503	522	442	453	514	470	512
Policyholder contract withdrawals	-	-	-	-221	-253	-307	-358	-303	-386	-454
Other financing activities	-	113	188	-40	-4	-	-	-	-87	-81
Net cash flows from financing activities	-550	391	-1777	3695	-742	-2319	-1991	-151	-2082	-4409
Effect of foreign currency rate changes on cash & restricted cash	-	-	-	-	-	-	-65	20	8	-106
Net increase in cash & restricted cash	-	-	-	-	-	-	489	306	190	-25
Cash & restricted cash - beginning of year	-	-	-	-	-	-	851	1340	1646	1836
Cash & restricted cash - end of year	-	-	-	-	-	-	1340	1646	1836	1811
Taxes paid	438	218	349	469	662	736	503	912	902	1298
Interest paid	240	253	264	259	642	644	621	512	524	492

Chubb Limited
Forecasted Cash Flow Statement

<i>Fiscal Years Ending Dec. 31</i>	2022E	2023E	2024E	2025E	2026E	2027E	2028E	2029E	2030E	2031E
Cash from Operating Activities										
Adjustment to Reconcile Operating Cash										
Net Income	7592	8142	8438	7768	8069	8331	8545	8748	8937	9122
Other intangible assets	281	265	242	225	209	280	280	280	280	280
Restricted cash	-4	-4	-4	-5	-5	-5	-5	-5	-5	-5
Securities lending collateral	-250	-101	-109	-67	-66	-64	-53	-53	-52	-53
Accrued investment income	-145	-47	-51	-31	-31	-30	-25	-25	-24	-25
Insurance & reinsurance balances receivable, net	-91	-516	-848	-610	-512	-599	-334	-342	-303	-310
Reinsurance recoverable on losses & loss expenses, net	-3047	-923	-1517	-1090	-916	-1071	-597	-611	-543	-554
Reinsurance recoverable on policy benefits	-103	-14	-23	-17	-14	-17	-9	-9	-8	-9
Deferred policy acquisition costs	49	-247	-406	-292	-245	-287	-160	-164	-145	-148
Unpaid losses & loss expenses	3367	3452	5670	4076	3423	4004	2230	2284	2029	2070
Unearned premiums	-1286	806	1324	952	799	935	521	533	474	483
Future policy benefits	-213	259	426	306	257	301	168	172	152	156
Insurance & reinsurance balances payable	-142	321	528	379	319	373	208	212	189	193
Securities lending payable	250	101	109	67	66	64	53	53	52	53
Accounts payable, accrued expenses, & other liabilities	-2501	566	929	668	561	656	365	374	332	339
Deferred Tax Liabilities	0	0	0	0	0	0	0	0	0	0
Net Cash from Operations	3756	12059	14707	12330	11915	12872	11188	11448	11364	11592
Cash from Investing Activities										
Value of business acquired	23	21	19	17	15	14	13	11	10	9
Goodwill	168	0	0	0	0	0	0	0	0	0
Prepaid reinsurance premiums	-349	-153	-251	-180	-151	-177	-99	-101	-90	-92
Investments in partially-owned insurance companies	256	-256	-256	-256	-256	-256	-256	-256	-256	-256
Other assets	2113	-438	-719	-517	-434	-508	-283	-290	-257	-263
Total Investments	6781	-5633	-6059	-3723	-3647	-3550	-2949	-2962	-2881	-2939
Net Cash from Investing	8,992	(6,459)	(7,266)	(4,659)	(4,474)	(4,477)	(3,574)	(3,597)	(3,474)	(3,540)
Cash from Financing Activities										
Repurchase agreements	0	0	0	0	0	0	0	0	0	0
Chubb INA senior notes	-100	-90	-81	-73	-66	-59	-53	-48	-43	-39
Long-term debt	-434	615	763	500	463	479	342	346	327	334
Trust preferred securities	0	0	0	0	0	0	0	0	0	0
Common shares	0	0	0	0	0	0	0	0	0	0
Dividends	-1394.89	-1416.27	-1436.28	-1454.88	-1472.01	-1487.63	-1501.69	-1507.74	-1511.10	-1512.43
Common Stock Share Changes	(1,249)	(1,249)	(1,249)	(1,249)	(1,249)	(1,249)	(1,249)	(1,249)	(1,249)	(1,249)
Additional paid-in capital	0	0	0	0	0	0	0	0	0	0
Accumulated other comprehensive income (loss)	0	0	0	0	0	0	0	0	0	0
Net Cash from Financing Activities	-3179	-2140	-2003	-2277	-2324	-2317	-2462	-2459	-2477	-2467
Net Cash	9570	3460	5438	5394	5118	6079	5152	5392	5414	5585
Cash at the Beginning of the year	1659	11229	14689	20127	25521	30639	36717	41869	47261	52674
Cash at Year End	11229	14689	20127	25521	30639	36717	41869	47261	52674	58260

Chubb Limited

Common Size Income Statement

Fiscal Years Ending Dec. 31	2019	2020	2021	2022E	2023E	2024E	2025E	2026E	2027E	2028E	2029E	2030E	2031E
Total Revenue	34186	35994	40963	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%
Net premiums written	94.41%	93.96%	92.44%	89.68%	89.35%	90.13%	92.63%	92.67%	92.78%	92.73%	92.73%	92.72%	92.72%
Decrease (increase) in unearned premiums	2.88%	1.95%	3.69%	1.60%	1.59%	1.60%	1.65%	1.65%	1.65%	1.65%	1.65%	1.65%	1.65%
Net premiums earned	91.53%	92.01%	88.75%	88.09%	87.76%	88.52%	90.98%	91.02%	91.12%	91.08%	91.08%	91.07%	91.07%
Net investment income	10.02%	9.38%	8.44%	12.05%	12.38%	11.62%	9.16%	9.11%	9.01%	9.05%	9.05%	9.07%	9.07%
Net realized gains (losses) - other-than-temporary impairment ("OTTI") losses gross	-0.26%	-	-	-	-	-	-	-	-	-	-	-	-
Net realized gains (losses) - portion of OTTI losses recognized in other comprehensive income ("OCI")	0.09%	-	-	-	-	-	-	-	-	-	-	-	-
Net OTTI losses recognized in income	-0.17%	-	-	-	-	-	-	-	-	-	-	-	-
Net realized gains (losses) excluding OTTI losses	-1.38%	-1.38%	2.81%	-0.14%	-0.14%	-0.14%	-0.14%	-0.14%	-0.14%	-0.14%	-0.14%	-0.14%	-0.14%
Total net realized gains (losses)	-1.55%	-1.38%	2.81%	-0.14%	-0.14%	-0.14%	-0.14%	-0.14%	-0.14%	-0.14%	-0.14%	-0.14%	-0.14%
Total revenues	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%
Losses & loss expenses	54.79%	60.32%	53.66%	56.00%	56.00%	56.00%	56.00%	56.00%	56.00%	56.00%	56.00%	56.00%	56.00%
Policy benefits	2.16%	2.18%	1.71%	1.66%	1.65%	1.67%	1.71%	1.71%	1.72%	1.72%	1.72%	1.72%	1.72%
Policy acquisition costs	18.00%	18.19%	16.89%	16.28%	16.22%	16.36%	16.81%	16.82%	16.84%	16.83%	16.83%	16.83%	16.83%
Administrative expenses	8.86%	8.28%	7.66%	7.43%	7.40%	7.46%	7.67%	7.67%	7.68%	7.68%	7.68%	7.68%	7.68%
Interest expense	1.61%	1.43%	1.20%	1.89%	1.75%	1.72%	1.77%	1.76%	1.74%	1.74%	1.74%	1.74%	1.73%
Other income (expense)	1.74%	2.76%	5.77%	10.28%	9.25%	9.14%	9.41%	9.34%	9.21%	9.24%	9.22%	9.23%	9.23%
Amortization of purchased intangibles	0.89%	0.81%	0.70%	0.64%	0.57%	0.49%	0.45%	0.40%	0.52%	0.51%	0.50%	0.49%	0.48%
Chubb Limited integration expenses	0.07%	-	-	-	-	-	-	-	-	-	-	-	-
Total expenses	84.65%	88.44%	76.04%	78.12%	77.63%	78.17%	80.29%	80.27%	80.45%	80.41%	80.39%	80.36%	80.35%
Income (loss) before income tax	15.35%	11.56%	23.96%	21.88%	22.37%	21.83%	19.71%	19.73%	19.55%	19.59%	19.61%	19.64%	19.65%
Income tax expense (benefit)	2.33%	1.75%	3.12%	4.64%	4.74%	4.63%	4.18%	4.18%	4.15%	4.15%	4.16%	4.16%	4.17%
Net income (loss)	13.03%	9.82%	20.85%	17.24%	17.62%	17.20%	15.53%	15.55%	15.41%	15.44%	15.45%	15.47%	15.48%

Key Assumptions of Valuation Model

Common Size Income Statement

Fiscal Years Ending 44561	2019	2020	2021	2022E	2023E	2024E	2025E	2026E	2027E	2028E	2029E	2030E	2031E
Net premiums written	32275	33820	37868	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Decrease (increase) in unearned premiums	3.05%	2.08%	4.00%	1.78%	1.78%	1.78%	1.78%	1.78%	1.78%	1.78%	1.78%	1.78%	1.78%
Net premiums earned	96.95%	97.92%	96.00%	98.22%	98.22%	98.22%	98.22%	98.22%	98.22%	98.22%	98.22%	98.22%	98.22%
Net investment income	10.62%	9.98%	9.13%	13.44%	13.85%	12.89%	9.89%	9.84%	9.71%	9.76%	9.76%	9.78%	9.78%
Net realized gains (losses) - other-than-temporary impairment ("OTTI") losses gross	-0.28%	-	-	-	-	-	-	-	-	-	-	-	-
Net realized gains (losses) - portion of OTTI losses recognized in other comprehensive income ("OCI")	0.10%	-	-	-	-	-	-	-	-	-	-	-	-
Net OTTI losses recognized in income	-0.18%	-	-	-	-	-	-	-	-	-	-	-	-
Net realized gains (losses) excluding OTTI losses	-1.46%	-1.47%	3.04%	-	-	-	-	-	-	-	-	-	-
Total net realized gains (losses)	-1.64%	-1.47%	3.04%	-	-	-	-	-	-	-	-	-	-
Total revenues	105.92%	106.43%	108.17%	111.50%	111.92%	110.96%	107.96%	107.91%	107.79%	107.84%	107.83%	107.86%	107.86%
Losses & loss expenses	58.03%	64.19%	58.04%	56.00%	56.00%	56.00%	56.00%	56.00%	56.00%	56.00%	56.00%	56.00%	56.00%
Policy benefits	2.29%	2.32%	1.85%	1.85%	1.85%	1.85%	1.85%	1.85%	1.85%	1.85%	1.85%	1.85%	1.85%
Policy acquisition costs	19.06%	19.36%	18.27%	18.15%	18.15%	18.15%	18.15%	18.15%	18.15%	18.15%	18.15%	18.15%	18.15%
Administrative expenses	9.39%	8.81%	8.28%	8.28%	8.28%	8.28%	8.28%	8.28%	8.28%	8.28%	8.28%	8.28%	8.28%
Interest expense	1.71%	1.53%	1.30%	2.11%	1.96%	1.91%	1.91%	1.90%	1.87%	1.88%	1.87%	1.87%	1.87%
Other income (expense)	1.85%	2.94%	6.25%	11.46%	10.36%	10.14%	10.16%	10.07%	9.93%	9.96%	9.94%	9.95%	9.95%
Amortization of purchased intangibles	0.95%	0.86%	0.76%	0.71%	0.64%	0.55%	0.49%	0.43%	0.56%	0.55%	0.53%	0.52%	0.51%
Chubb Limited integration expenses	0.07%	-	-	-	-	-	-	-	-	-	-	-	-
Total expenses	89.66%	94.12%	82.25%	87.10%	86.89%	86.74%	86.68%	86.61%	86.71%	86.71%	86.69%	86.68%	86.66%
Income (loss) before income tax	16.26%	12.31%	25.92%	24.40%	25.03%	24.22%	21.28%	21.29%	21.08%	21.13%	21.15%	21.18%	21.19%
Income tax expense (benefit)	2.46%	1.86%	3.37%	5.17%	5.31%	5.13%	4.51%	4.51%	4.47%	4.48%	4.48%	4.49%	4.49%
Net income (loss)	13.80%	10.45%	22.55%	19.23%	19.73%	19.09%	16.77%	16.78%	16.61%	16.65%	16.66%	16.69%	16.70%

Chubb Limited

Common Size Balance Sheet

Fiscal Years Ending Dec. 31	2019	2020	2021	2022E	2023E	2024E	2025E	2026E	2027E	2028E	2029E	2030E	2031E
Total Revenue	34186	35994	40963	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%
Fixed maturities available for sale, at fair value, net	250.07%	251.98%	227.30%	200.87%	201.04%	198.79%	199.88%	197.42%	194.21%	193.55%	192.99%	192.95%	192.95%
Fixed maturities held to maturity, at amortized cost, net	36.80%	32.37%	24.70%	20.68%	20.70%	20.47%	20.68%	20.52%	20.09%	20.02%	19.96%	19.96%	19.96%
Equity securities, at fair value	2.38%	11.19%	11.67%	8.69%	9.11%	9.01%	9.28%	9.39%	9.28%	9.34%	9.31%	9.31%	9.31%
Short-term investments, at fair value	12.55%	12.07%	7.68%	6.79%	6.79%	6.72%	6.92%	6.87%	6.79%	6.76%	6.75%	6.74%	6.74%
Other investments, at fair value	17.73%	22.07%	27.27%	25.36%	24.66%	24.38%	25.12%	25.17%	25.12%	25.28%	25.46%	25.45%	25.45%
Total investments	319.53%	329.69%	298.62%	262.39%	262.30%	259.36%	261.86%	259.37%	255.50%	254.96%	254.46%	254.41%	254.41%
Cash	4.50%	4.85%	4.05%	25.50%	31.80%	41.03%	51.03%	59.04%	67.90%	75.65%	83.48%	91.20%	98.89%
Restricted cash	0.32%	0.25%	0.37%	0.35%	0.35%	0.34%	0.34%	0.34%	0.33%	0.33%	0.33%	0.34%	0.34%
Securities lending collateral	2.91%	5.12%	4.47%	4.73%	4.72%	4.67%	4.72%	4.67%	4.60%	4.59%	4.58%	4.58%	4.58%
Accrued investment income	2.54%	2.41%	2.00%	2.19%	2.19%	2.17%	2.19%	2.17%	2.14%	2.13%	2.13%	2.13%	2.13%
Insurance & reinsurance balances receivable, net	30.30%	29.12%	27.64%	25.92%	25.82%	26.05%	26.77%	26.78%	26.81%	26.80%	26.80%	26.80%	26.80%
Reinsurance recoverable on losses & loss expenses, net	44.41%	43.32%	42.39%	46.36%	46.19%	46.59%	47.88%	47.90%	47.96%	47.93%	47.93%	47.93%	47.93%
Reinsurance recoverable on policy benefits	0.58%	0.57%	0.52%	0.72%	0.71%	0.72%	0.74%	0.74%	0.74%	0.74%	0.74%	0.74%	0.74%
Deferred policy acquisition costs	15.33%	15.01%	13.46%	12.41%	12.36%	12.47%	12.82%	12.82%	12.84%	12.83%	12.83%	12.83%	12.83%
Value of business acquired	0.90%	0.73%	0.58%	0.48%	0.41%	0.35%	0.31%	0.27%	0.23%	0.21%	0.18%	0.16%	0.14%
Goodwill	44.74%	42.78%	37.14%	34.17%	32.57%	30.67%	30.08%	28.99%	27.82%	27.19%	26.57%	26.05%	25.54%
Other intangible assets	17.74%	16.14%	13.32%	11.75%	10.63%	9.51%	8.88%	8.16%	7.31%	6.64%	5.99%	5.39%	4.81%
Prepaid reinsurance premiums	7.74%	7.69%	7.39%	7.67%	7.64%	7.71%	7.92%	7.92%	7.93%	7.93%	7.93%	7.93%	7.93%
Investments in partially-owned insurance companies	3.90%	7.82%	7.64%	6.53%	6.78%	6.90%	7.28%	7.51%	7.68%	7.97%	8.24%	8.52%	8.79%
Other assets	22.18%	24.51%	28.79%	21.98%	21.90%	22.09%	22.70%	22.71%	22.74%	22.73%	22.73%	22.72%	22.72%
Total assets	517.59%	530.02%	488.38%	463.15%	466.37%	470.62%	485.53%	489.40%	492.54%	498.63%	504.94%	511.71%	518.57%
Unpaid losses & loss expenses	183.38%	188.40%	178.07%	173.30%	172.65%	174.15%	178.98%	179.07%	179.27%	179.19%	179.19%	179.16%	179.16%
Unearned premiums	49.06%	49.04%	46.63%	40.46%	40.31%	40.66%	41.78%	41.80%	41.85%	41.83%	41.83%	41.82%	41.82%
Future policy benefits	17.01%	15.87%	14.52%	13.02%	12.97%	13.09%	13.45%	13.46%	13.47%	13.46%	13.47%	13.46%	13.46%
Insurance & reinsurance balances payable	18.09%	18.64%	17.68%	16.13%	16.07%	16.20%	16.65%	16.66%	16.68%	16.67%	16.67%	16.67%	16.67%
Securities lending payable	2.91%	5.12%	4.47%	4.73%	4.72%	4.67%	4.72%	4.67%	4.60%	4.59%	4.58%	4.58%	4.58%
Accounts payable, accrued expenses, & other liabilities	34.44%	39.04%	36.63%	28.39%	28.29%	28.53%	29.33%	29.34%	29.37%	29.36%	29.36%	29.35%	29.35%
Deferred tax liabilities	2.35%	2.48%	0.95%	0.88%	0.84%	0.79%	0.78%	0.75%	0.72%	0.70%	0.69%	0.67%	0.66%
Repurchase agreements	4.14%	3.90%	3.43%	3.19%	3.04%	2.87%	2.81%	2.71%	2.60%	2.54%	2.48%	2.43%	2.39%
Chubb INA senior notes	3.80%	-	2.44%	2.04%	1.75%	1.48%	1.31%	1.14%	0.98%	0.86%	0.76%	0.67%	0.59%
Long-term debt	39.66%	41.53%	37.03%	33.46%	33.23%	32.85%	33.22%	32.90%	32.47%	32.34%	32.22%	32.15%	32.09%
Trust preferred securities	0.90%	0.86%	0.75%	0.70%	0.67%	0.63%	0.62%	0.59%	0.57%	0.56%	0.54%	0.53%	0.52%
Total liabilities	355.74%	364.87%	342.60%	316.30%	314.54%	315.92%	323.65%	323.10%	322.59%	322.11%	321.80%	321.51%	321.30%
Common shares	32.53%	30.74%	26.82%	24.95%	23.78%	22.39%	21.97%	21.17%	20.32%	19.85%	19.40%	19.02%	18.65%
Common shares in treasury	43.75%	37.39%	18.22%	19.79%	21.57%	22.86%	24.92%	26.42%	27.67%	29.29%	30.84%	32.39%	33.88%
Additional paid-in capital	32.77%	27.27%	20.70%	19.25%	18.35%	17.28%	16.95%	16.34%	15.68%	15.32%	14.97%	14.68%	14.39%
Retained earnings	105.72%	109.29%	115.63%	121.64%	130.50%	137.17%	147.18%	154.54%	160.98%	170.01%	178.97%	188.29%	197.51%
Accumulated other comprehensive income (loss)	1.81%	7.97%	0.85%	0.79%	0.76%	0.71%	0.70%	0.67%	0.65%	0.63%	0.62%	0.61%	0.59%
Total shareholders' equity	161.85%	165.14%	145.78%	146.85%	151.82%	154.70%	161.88%	166.30%	169.95%	176.52%	183.13%	190.20%	197.27%
Total liabilities & Equity	517.59%	530.02%	488.38%	463.15%	466.37%	470.62%	485.53%	489.40%	492.54%	498.63%	504.94%	511.71%	518.57%

Chubb Limited

Value Driver Estimation

<i>Fiscal Years Ending Dec. 31</i>	2019	2020	2021	2022E	2023E	2024E	2025E	2026E	2027E	2028E	2029E	2030E	2031E
Net Income	4454	3533	8539	7592	8142	8438	7768	8069	8331	8545	8748	8937	9122
Total Shareholders Equity	55331	59441	59714	64662	70139	75891	80955	86303	91897	97691	103682	109859	116219
Return on Equity	8.05%	5.94%	14.30%	12.71%	12.59%	12.03%	10.24%	9.97%	9.65%	9.30%	8.96%	8.62%	8.30%
Equity FCF													
Net Income	4454	3533	8539	7592	8142	8438	7768	8069	8331	8545	8748	8937	9122
Less: Change in Total Assets	-9172	-13831	-9280	-3889	-11508	-15421	-11940	-11170	-12347	-9627	-9918	-9689	-9948
Plus: Change in Total Liabilities	4153	9721	9007	-1060	6031	9668	6876	5822	6753	3834	3927	3512	3588
FCFE	-565	-577	8266	2644	2666	2686	2704	2721	2737	2751	2757	2760	2762
Equity Economic Profit													
Beginning Total Shareholders Equity	50312	55331	59441	59714	64662	70139	75891	80955	86303	91897	97691	103682	109859
(ROE - Re)	0.12%	-1.99%	6.37%	4.78%	4.66%	4.10%	2.30%	2.04%	1.72%	1.37%	1.02%	0.69%	0.37%
EEP	59	-1100	3785	2856	3013	2874	1748	1648	1486	1255	999	713	407

Chubb Limited

Estimated Cost of Equity (Re) Estimation

Cost of Equity:

Risk-Free Rate	3.56%
Beta	0.85
Equity Risk Premium	5.15%
Cost of Equity	7.93%

ASSUMPTIONS:

10-Year Treasury Bond

Average adjusted beta computed with 1, 2, and 5 year weekly Betas

Henry Fund Equity Risk Premium

Market Value of Common Equity:

Total Shares Outstanding	417.6
Current Stock Price	\$181.41
MV of Equity	75,756.82

MV Weights

100.00%

Market Value of the Firm

75,756.82

100.00%

Estimated Cost of Equity

7.93%

Chubb Limited*Dividend Discount Model (DDM) or Fundamental P/E Valuation Model*

Fiscal Years Ending Dec. 31	2022E	2023E	2024E	2025E	2026E	2027E	2028E	2029E	2030E	2031E
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EPS	\$ 17.90	\$ 19.44	\$ 20.40	\$ 19.03	\$ 20.04	\$ 20.98	\$ 21.89	\$ 22.86	\$ 23.85	\$ 24.88
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Key Assumptions

CV growth of EPS	2.00%
CV Year ROE	8.30%
Cost of Equity	7.93%

Future Cash Flows

P/E Multiple (CV Year)										12.80
EPS (CV Year)										\$ 24.88
Future Stock Price										\$ 318.40
Dividends Per Share	\$3.27	\$3.36	\$3.45	\$3.54	\$3.63	\$3.72	\$3.81	\$3.90	\$3.99	
Discounted Cash Flows	\$3.03	\$2.88	\$2.74	\$2.61	\$2.48	\$2.35	\$2.23	\$2.12	\$2.01	\$160.18

Intrinsic Value as of Last FYE	\$ 182.64
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Implied Price as of Today	\$ 190.57
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Chubb Limited*Relative Valuation Models*

Ticker	Company	Price	EPS		P/E 22	P/E 23	BV Equity	Tangible		
			2022E	2023E				BV Equity	P/B	P/B
PGR	Progressive	\$125.10	\$5.08	\$6.26	25.10	20.30	30.35	29.38	4.12	4.26
TRV	Travelers	\$160.95	\$13.42	\$14.76	12.20	11.10	119.76	101.88	1.34	1.58
ALL	Allstate	\$130.08	\$5.53	\$11.62	23.90	11.40	82.40	69.94	1.58	1.86
HIG	Hartford Financial	\$64.49	\$7.33	\$8.31	9.00	7.90	52.24	43.98	1.23	1.47
AIG	American International	\$53.41	\$5.01	\$6.37	10.90	8.60	79.95	75.00	0.67	0.71
	Average				16.22	11.86			1.79	1.98
CB	Chubb Limited	\$181.41	\$17.90	\$19.44	10.1	9.3	139.99	90.98	1.30	1.99

Implied Relative Value:P/E (EPS22) **\$ 290.41**P/E (EPS23) **\$ 230.52**P/B **\$ 250.50**P/Tangible BV **\$ 179.71**

Chubb Limited*Effects of ESOP Exercise and Share Repurchases on Common Stock Account and Number of Shares Outstanding*

Number of Options Outstanding (shares):	11
Average Time to Maturity (years):	5.90
Expected Annual Number of Options Exercised:	1.82

Current Average Strike Price:	\$ 133.94
Cost of Equity:	0.00%
Current Stock Price:	\$181.41

Fiscal Years Ending Dec. 31	2022E	2023E	2024E	2025E	2026E	2027E	2028E	2029E	2030E	2031E
Increase in Shares Outstanding:	1.82	1.82	1.82	1.82	1.82	1.82	0.18			
Average Strike Price:	\$ 133.94	\$ 133.94	\$ 133.94	\$ 133.94	\$ 133.94	\$ 133.94	\$ 133.94			
Increase in Common Stock Account:	244	244	244	244	244	244	24	-	-	-
Share Repurchases (\$)	1,249	1,249	1,249	1,249	1,249	1,249	1,249	1,249	1,249	1,249
Expected Price of Repurchased Shares:	\$ 181.41	\$ 177.96	\$ 174.58	\$ 171.26	\$ 168.01	\$ 164.82	\$ 161.69	\$ 158.62	\$ 155.60	\$ 152.64
Number of Shares Repurchased:	7	7	7	7	7	8	8	8	8	8
Shares Outstanding (beginning of the year)	427	422	416	411	406	400	394	387	379	371
Plus: Shares Issued Through ESOP	2	2	2	2	2	2	0	0	0	0
Less: Shares Repurchased in Treasury	7	7	7	7	7	8	8	8	8	8
Shares Outstanding (end of the year)	422	416	411	406	400	394	387	379	371	363

Chubb Limited*Valuation of Options Granted under ESOP*

Current Stock Price	\$181.41
Risk Free Rate	3.56%
Current Dividend Yield	1.90%
Annualized St. Dev. of Stock Returns	25.86%

Range of Outstanding Options	Number of Shares	Average Exercise Price	Average Remaining Life (yrs)	B-S Option Price	Value of Options Granted
Range 1	11	133.94	5.90	\$ 66.44	\$ 715
Range 2					
Range 3					
Range 4					
Range 5					
Range 6				\$	-
Range 7				\$	-
Range 8				\$	-
Range 9				\$	-
Total	11	\$ 133.94	5.90	\$ 82.40	\$ 715

Chubb Limited
Present Value of Operating Lease Obligations

Fiscal Years Ending Dec. 31	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
Year 1	300.0	310.0	106.0	108.0	111.0	173.0	181.0	173.0	158.0	150.0	142.0
Year 2	250.0	260.0	99.0	94.0	93.0	149.0	153.0	151.0	136.0	123.0	117.0
Year 3	225.0	230.0	86.0	77.0	72.0	118.0	133.0	126.0	107.0	96.0	88.0
Year 4	175.0	180.0	70.0	58.0	54.0	93.0	114.0	100.0	88.0	68.0	58.0
Year 5	100.0	104.0	49.0	42.0	43.0	78.0	89.0	86.0	66.0	38.0	51.0
Thereafter	290.0	300.0	124.0	95.0	86.0	186.0	230.0	184.0	105.0	75.0	57.0
Total Minimum Payments	1340.0	1384.0	534.0	474.0	459.0	797.0	900.0	820.0	660.0	550.0	513.0
Less: Cumulative Interest	221.6	228.8	91.0	76.0	71.7	133.8	157.6	137.0	100.4	78.6	71.3
PV of Minimum Payments	1118.4	1155.2	443.0	398.0	387.3	663.2	742.4	683.0	559.6	471.4	441.7
Implied Interest in Year 1 Payment		61.5	63.5	24.4	21.9	21.3	36.5	40.8	37.6	30.8	25.9
Pre-Tax Cost of Debt	5.50%	5.50%	5.50%	5.50%	5.50%	5.50%	5.50%	5.50%	5.50%	5.50%	5.50%
Years Implied by Year 6 Payment	2.9	2.9	2.5	2.3	2.0	2.4	2.6	2.1	1.6	2.0	1.1
Expected Obligation in Year 6 & Beyond	100	104	49	42	43	78	89	86	66	38	51
Present Value of Lease Payments											
PV of Year 1	284.4	293.8	100.5	102.4	105.2	164.0	171.6	164.0	149.8	142.2	134.6
PV of Year 2	224.6	233.6	88.9	84.5	83.6	133.9	137.5	135.7	122.2	110.5	105.1
PV of Year 3	191.6	195.9	73.2	65.6	61.3	100.5	113.3	107.3	91.1	81.8	74.9
PV of Year 4	141.3	145.3	56.5	46.8	43.6	75.1	92.0	80.7	71.0	54.9	46.8
PV of Year 5	76.5	79.6	37.5	32.1	32.9	59.7	68.1	65.8	50.5	29.1	39.0
PV of 6 & beyond	200.1	207.0	86.4	66.6	60.7	130.1	160.0	129.5	75.0	53.0	41.2
Capitalized PV of Payments	1118.4	1155.2	443.0	398.0	387.3	663.2	742.4	683.0	559.6	471.4	441.7

Chubb Limited

Key Management Ratios

<i>Fiscal Years Ending Dec. 31</i>	2019	2020	2021	2022E	2023E	2024E	2025E	2026E	2027E	2028E	2029E	2030E	2031E
Liquidity Ratios:													
Cash Ratio (Cash/Current Liabilites)	13.06%	12.43%	11.06%	89.81%	112.40%	143.79%	174.02%	201.22%	231.18%	257.68%	284.32%	310.68%	336.88%
Quick Ratio (Cash & Receivables/Current Liabilites)	26.17%	24.63%	25.04%	35.68%	38.01%	41.25%	44.37%	47.18%	50.28%	53.01%	55.75%	58.47%	61.16%
Current Ratio (Current Assets/Current Liabilites)	33.09%	31.84%	31.85%	42.81%	45.14%	48.33%	51.41%	54.20%	57.26%	59.98%	62.72%	65.44%	68.14%
Asset-Management Ratios:													
Receivables Turnover (Sales/Net Receivables)	1.25	1.29	1.31	1.23	1.23	1.23	1.23	1.23	1.23	1.23	1.23	1.23	1.23
Average Collection Period (365/(Sales/Net Receivables))	291.04	283.60	278.57	297.07	297.07	297.07	297.07	297.07	297.07	297.07	297.07	297.07	297.07
Total Asset Turnover (Sales/Total Assets)	0.19	0.19	0.20	0.22	0.21	0.21	0.21	0.20	0.20	0.20	0.20	0.20	0.19
Financial Leverage Ratios:													
Debt to Assets (Total Liabilities/Total Assets)	0.69	0.69	0.70	0.68	0.67	0.67	0.67	0.66	0.65	0.65	0.64	0.63	0.62
Long-term Debt to Assets (Long-term Debt/Total Assets)	0.08	0.08	0.08	0.07	0.07	0.07	0.07	0.07	0.07	0.06	0.06	0.06	0.06
Debt to EBIT (Total Debt/Earnings Before Interest & Taxes)	23.17	31.56	14.30	14.46	14.06	14.47	16.42	16.37	16.50	16.44	16.41	16.37	16.35
Profitability Ratios:													
Return on Equity (NI/Beg TSE)	8.85%	6.39%	14.37%	12.71%	12.59%	12.03%	10.24%	9.97%	9.65%	9.30%	8.96%	8.62%	8.30%
Profit Margin (Net Income/Revenue)	13.03%	9.82%	20.85%	17.24%	17.62%	17.20%	15.53%	15.55%	15.41%	15.44%	15.45%	15.47%	15.48%
Return on Assets (Net Income/Total Assets)	2.52%	1.85%	4.27%	3.72%	3.78%	3.65%	3.20%	3.18%	3.13%	3.10%	3.06%	3.02%	2.99%
Payout Policy Ratios:													
Dividend Payout Ratio (Dividend/EPS)	30.50%	39.51%	16.38%	18.26%	17.29%	16.91%	18.60%	18.12%	17.73%	17.41%	17.06%	16.73%	16.40%
Total Payout Ratio ((Divs. + Repurchases)/NI)	52.65%	37.87%	66.47%	34.83%	32.74%	31.83%	34.81%	33.72%	32.85%	32.20%	31.52%	30.89%	30.28%
Dividends to Net Income Ratio (Dividends/NI)	18.30%	23.07%	9.54%	18.37%	17.39%	17.02%	18.73%	18.24%	17.86%	17.57%	17.23%	16.91%	16.58%

Chubb Limited
Sensitivity Tables

DCF		Risk-Free Rate						
185.57		2.70%	2.85%	3.00%	3.15%	3.56%	3.75%	4.00%
NOPLAT CV Growth	1.70%	221.25	214.11	207.36	200.98	185.15	178.54	170.43
	1.80%	221.89	214.63	207.79	201.31	185.29	178.60	170.41
	1.90%	222.55	215.17	208.22	201.65	185.42	178.66	170.38
	2.00%	223.23	215.74	208.67	202.01	185.57	178.72	170.36
	2.10%	223.94	216.32	209.14	202.38	185.71	178.79	170.34
	2.20%	224.69	216.93	209.63	202.76	185.86	178.86	170.32
	2.30%	225.46	217.56	210.14	203.15	186.02	178.93	170.29

DCF		Treasury Stock Repurchases						
185.57		250	500	750	1,000	1,249	1,500	1,750
Policy Acquire Costs	15.00%	189.33	194.35	199.40	204.48	209.57	214.74	219.92
	16.00%	181.81	186.80	191.82	196.88	201.95	207.09	212.25
	17.00%	174.28	179.25	184.25	189.28	194.33	199.44	204.58
	18.15%	165.63	170.57	175.54	180.54	185.56	190.65	195.75
	19.00%	159.23	164.15	169.10	174.08	179.08	184.15	189.23
	20.00%	151.71	156.60	161.53	166.48	171.46	176.50	181.56
	21.00%	144.18	149.05	153.95	158.89	163.83	168.85	173.88

DCF		Equity-Risk Premium						
185.57		5.05%	5.10%	5.15%	5.30%	5.45%	5.60%	5.75%
Beta	0.71	219.44	217.68	215.94	210.89	206.03	201.38	196.90
	0.73	214.50	212.76	211.05	206.06	201.27	196.67	192.26
	0.75	209.75	208.04	206.35	201.42	196.70	192.16	187.81
	0.77	205.19	203.50	201.83	196.96	192.30	187.83	183.54
	0.79	200.80	199.13	197.48	192.68	188.08	183.67	179.43
	0.81	196.57	194.92	193.29	188.55	184.01	179.66	175.49
	0.83	192.50	190.87	189.26	184.58	180.10	175.81	171.69

DCF		Administrative Expenses 2022E						
185.57		7.60%	7.80%	8.00%	8.28%	8.40%	8.60%	8.80%
Losses & Loss Expense	54.00%	206.00	204.47	202.95	200.81	199.90	198.37	196.85
	55.00%	198.37	196.85	195.32	193.19	192.27	190.75	189.22
	56.00%	190.75	189.22	187.70	185.57	184.65	183.13	181.60
	56.24%	188.92	187.40	185.87	183.74	182.82	181.30	179.77
	57.00%	183.13	181.60	180.08	177.94	177.03	175.50	173.98
	58.00%	175.50	173.98	172.45	170.32	169.40	167.88	166.35
	59.00%	167.88	166.35	164.83	162.70	161.78	160.26	158.73

DCF		30-Year Treasury						
185.57		3.00%	3.25%	3.50%	3.75%	4.00%	4.25%	4.50%
Pre Tax Cost of Debt	4.00%	189.61	189.53	189.45	189.38	189.30	189.22	189.15
	4.50%	188.32	188.24	188.16	188.09	188.01	187.93	187.86
	5.00%	187.03	186.95	186.87	186.80	186.72	186.64	186.57
	5.50%	185.74	185.66	185.58	185.51	185.43	185.35	185.28
	6.00%	184.45	184.37	184.29	184.22	184.14	184.06	183.99
	6.50%	183.16	183.08	183.00	182.93	182.85	182.77	182.70
	7.50%	180.58	180.50	180.42	180.35	180.27	180.19	180.12

DDM		Dividend Growth Each Year (Cents)						
190.57		-	0.03	0.06	0.09	0.10	0.11	0.12
CV Growth EPS	1.25%	186.39	187.42	188.44	189.47	189.81	190.15	190.49
	1.50%	186.63	187.69	188.75	189.81	190.16	190.51	190.87
	1.75%	186.88	187.98	189.07	190.17	190.54	190.91	191.27
	2.00%	187.15	188.29	189.43	190.57	190.95	191.33	191.71
	2.25%	187.45	188.63	189.82	191.00	191.40	191.79	192.19
	2.50%	187.77	189.01	190.24	191.48	191.89	192.30	192.71
	2.75%	188.13	189.42	190.71	191.99	192.42	192.85	193.28