The impact of COVID-19 on the insurance industry

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Abstract

This study analyses the impact of COVID-19 pandemics on the insurance industry. While COVID-19 increased morbidity and mortality other factors resulting from the pandemic benefit the industry. Overall, the response of the insurance industry to COVID-19 reflects other sectors in the market like transportation and trade. However, a structural downturn in the insurance industry like the one observed in 2016 was not found during the year 2020. We found that the insurance industry did not absorb extra losses during the year 2020 and did not suffer from the pandemics more than the economy as a whole. This article explores the past two decades and compares the structural break of the insurance industry in 2016 with that of 2020 due to the COVID-19 pandemic. In addition, during the year 2020, the returns to investors in the insurance industry were very similar to returns in the general market as measured by S&P500.

Introduction

SARS and MERS pandemics occurred during the last two decades, prepared the economy and the medical industry for the current COVID-19 pandemics. These Coronavirus pandemics were carefully investigated by the academy and pharmaceuticals industry since 2002. This research was the basis for the medicines and vaccinations developed recently by Moderna, Pfizer and other laboratories around the world. The insurance industry, as part of humanity, took care of these diseases in the past and was prepared to face the present Covid-19 pandemics. Overbeck (2003) from Swiss Re-insurance publishes the consequences of epidemics on the insurance industry. As for March 2021 the financial reports of the insurance industry like the GDP statistics for the year 2020 and the actuarial reports are not released yet. We just read that "Overall, the industry could face at least $100 billion in total underwriting losses from the pandemic, Lloyd's of London predicted in May", (Feeley & Chiglinsky, 11/30/2020).

This paper analysis the global insurance industry during the COVID-19 pandemic. The paper details several insurance policies, and describes the management of the industry, emphasizing its global diversification. Moreover, the paper presents preliminary study of the stock market performances of the insurance industry and how it is comparable to the general stock market index.

The reminder of the paper is organized as follows: Part II details several insurance policies. Section III describes the asset management of insurance companies. Section IV emphasized the global dimension of the insurance industry by presenting the industry as a global insurance entity. Section V studies the effects of the COVID-19 on shareholders of the insurance companies. Section VI briefly summarizes.

Several insurance policies

This section presents a few major insurance areas. This includes health, motor vehicles, travel, car insurance, Long Term Care, Business interruptions, Credit, and Life Insurance and Annuities. We turn to briefly describe each of these insurance policies.

Health Insurance: As of August 2020, about 6.2 million Americans lost their health insurance provided by their employer. Four million of US families were added to Medicaid. (Bivens & Zipperer, 2020). While health insurance companies encountered less incomes, the claims went down as many medical procedures were delayed. Insured patients avoided doctors' visits and hospitals postpones non urgent procedures. Telemedicine was further developed, increasing industry's efficiency.

Motor vehicle insurance: Number of claims have decreased due to reduced traffic in part by strict lockdowns. Several insurers even offer reimbursed to policy holders due to reduced driving.

Travel Insurance: The losses stem from cancelling travels, which cause loses to airlines, hotels, restaurants, bars, theatres, stadium, and other trip providers. Despite the exclusion of pandemics from many policies, insurers are facing an increase in claims. During last year, most insurers stopped selling these policies. Even policies that were already sold by brokers, were cancelled. Such policies are offered recently for a higher, more expensive, premia (10% of the trip costs, as compared with a premium of 6% before the pandemics), (Phoenix, 2021). Consequently, airlines, hotels etc. add to their products options for cancelled reservations.

Long Term Care Insurance: According to the American Academy of Actuaries "As of the latter part of 2020, there remained considerable uncertainty concerning the impacts that the pandemic will have on actuarial experience, both short-term and long- term. While a clearer picture of short-term experience is starting to emerge, it will take many years for long-term experience to emerge, stabilize, and allow for an accurate measurement." (American Academy of Actuaries (1/21/2021). Excess morbidity brought insurance companies to limit their sales and lobby regulators to raise prices. Insurance companies are now demanding more pre-approval medical tests, extending waiting period and avoiding issuing insurance policies to the elderly.

Business interruptions insurance: Previous corona virus pandemics during the last decades brought insurers to exclude pandemics as the cause for compensating their clients. During last year, thousands of lawsuits cases are in court to ascertain the exact meaning of specific words in policy. (Feeley and Chiglinsky, 2020).

Credit Insurance: Because the economic downturn, governments help households, producers and many other businesses to pay their debts. Yet, claims for lost credit increased significantly. As insurers stopped selling new policies, firms that were used to buy policies protecting from credit loss, limit credit arrangements. (HC insider, Chambers et.al.2020).

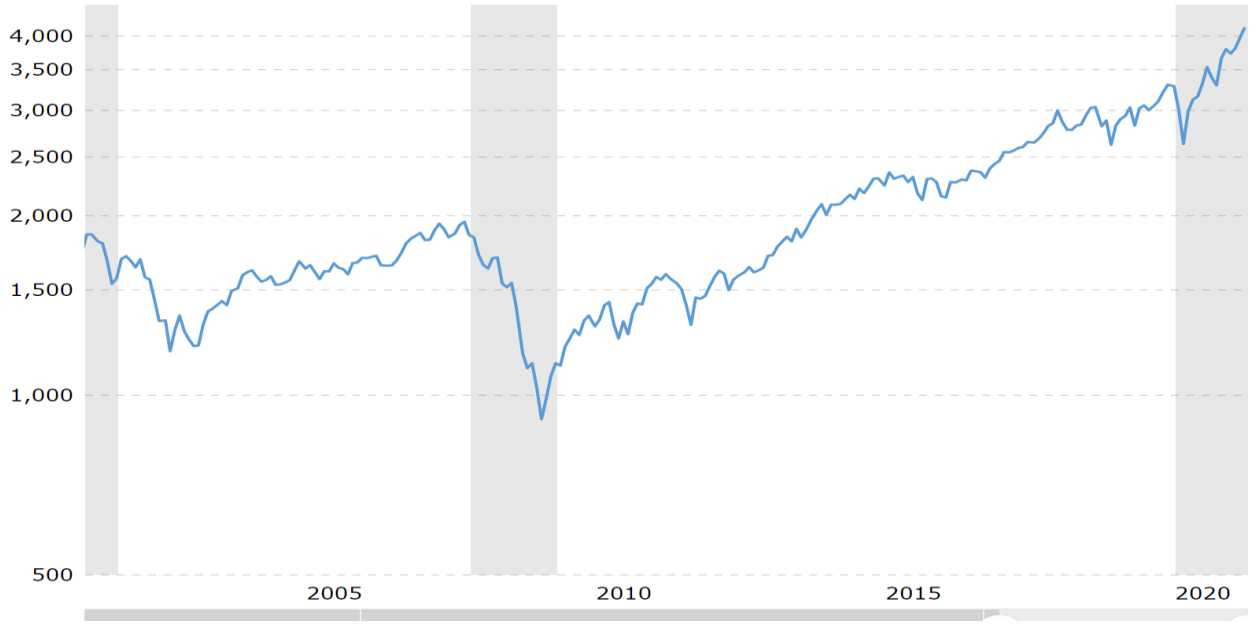
Life Insurance and Annuities: Two factors hit these products: Increasing mortality and assets returns. In the USA, general mortality increased by 15% during 2020, (CDC). Though, mortality rates of the insured population are usually lower than those of the general population, data are not as yet available to ascertain whether lower traffic volumes balanced the increasing mortality due to corona for the working age group 30-67. Usually, education and wealth lower probability of mortality but raise demand for insurance. Facing changes in mortality, the demand for life insurance policies as financial assets should increase. In fact, insurers report a significant increase in demand. (Iacurci ,2020). However, economic downturn due to the pandemic decreases demand. Changes in mortality decreases demand for annuities as financial assets. Hanoch and Levy (1969) show that a transformation that exhibits a permanent change in probability of death decreases demand by all rational agents who prefer higher income, independent on the existence of risk aversion preferences. At the same time, lower incomes of agents also reduce demand for annuities. Pensions based on Defined Contribution (DC) do not promise benefits. These policies protect insurers where only the insureds incur lower returns. Annuities and Defined Benefits (DB) pensions cause losses to insurers. Evidence shows that last year people who lost their job redeemed their annuities (OECD, 2020). Several insurers offer loans to help insureds to keep their savings for pension. However, an increase in mortality rates of retirees lowered current liabilities of insurers.

Asset Management

Although insurance companies claim that fluctuations in financial markets hit them, it seems that the industry has been aware of low interest rates pursued by the Fed for many years. Figure 1 exhibits the United States Federal Fund Rates since 1995. The figure displays the tendency for lower interest rates.

Figure 1: United States Federal Funds Rate

Figure 2: S&P500 Price Index 2001 - 2020



Experienced with SARS and the 2008-2009 crisis induce 27 European States to enact the 2016 Solvency II's regulations requiring every insurance company selling policies in the EU, to be supervised. Armed with the history of fluctuations in assets returns and economic downturns, so far, insurance companies are capable to honour claims.

Global Insurance

Insurance companies that manage most of world's savings are now in most cases, a subsidiary of a financial holding company like Lloyds Bank. Most insurers diversify risks by selling multi-line products. They sell insurance products such as life insurance, health, and property insurance, either by the same firm or by managing separate firms under a joint ownership. The need for decreasing risks and improving marketing have brought a wave of international mergers and acquisitions to the industry. Insurance companies around the world are seeking the umbrella of larger insurance companies with global reputation. Table 1 displays major holding companies and the countries which they operate in. Clearly, holding companies ae well diversified among many countries.

Table 1: Holding companies and number of countries where they own a local insurance company as a subsidiary.

Insurance company	Number of countries
AIG	140
Allianz	70
AXA	54
Generali	50
Prudential	40
Phoenix	9

Source: Internet publications of the 6 companies.

These local insurance companies are selling insurance policies subject to local regulations, which are nationally supervised. Claims against them are dealt by local courts. In addition, insurers like Cigna or GeoBlue, are marketing health insurance employing hundreds of brokers around the world. This global activity pools together local risks of natural disasters together with exchange rates fluctuations. Samuelson (1967) shows that pooling *independent* risks increases the variance of loss to the insurer. However, in the Covid-19 pandemic risks are Highly correlated among countries. Such *Dependent* risks of different products in different locations and variety of currencies are pooled together.

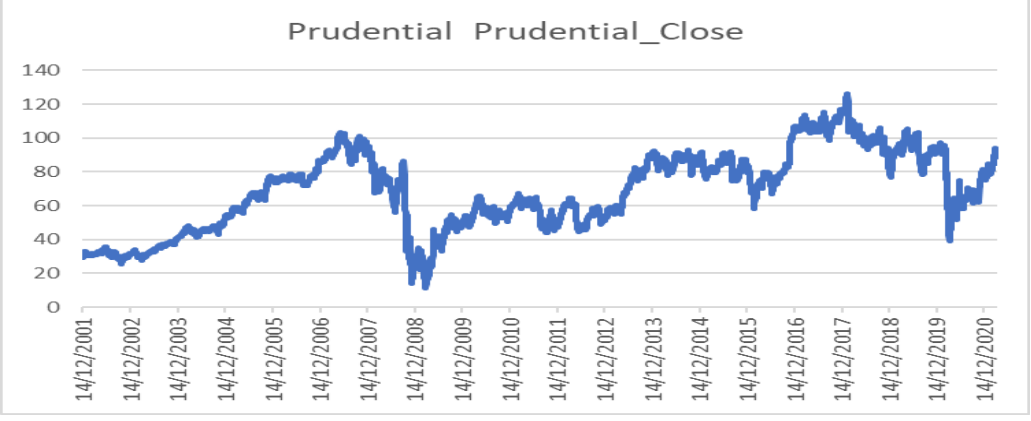
The global losses of the current Covid-19 pandemic have some positive effect due to sharing information among local insurers who need advice with their struggle. The lockdowns brought technology for remote services, improving service production. Moreover, insurance policy prices are raising when permitted by regulators.

Facing increased global risk, holding financial companies are expected to be ready for this situation. Solvency II (2016) regulations for the 27 EU states to be more prepared to encounter global risks. Regulators in the USA have always prevented insolvency of insurers and enforced reinsurance arrangements. So far, it seems that claims are honoured by all insurers over the world. Only shareholders of the holding companies may incur possible losses.

Share Holders

Shareholders of stocks of insurers are carefully following losses and profits of the insurance companies and forecast their future value. We thus follow the stock markets' performances of the large insurance companies. Following the prices of Prudential's stocks, one sees that they are dove-tailing the general stock market indices. Initially, share prices went down during Spring 2020, however, recover soon after. Figure 3 plots the stock price for Prudential.

Figure 3: Prudential Stock Price 2001-2021



As Sharp (1964) suggest, we measure the relationship between S&P500 Insurance Select Industry stock prices of the insurance industry as a function of S&P500 general index and the total revenue (TR) in the insurance industry, for the last ten years (since 2/22/2011 till 3/24/2021). The regression estimates are

presented in Table 2. An increase in the S&P500 general index leads to an increase in the price of the insurance index.

Table 2: Linear regression equation. SP insurance index as a function of SP500 and volume of SP insurance index trade.

Method: Least Squares (Gauss-Newton / Marquardt steps)				
Date: 03/24/21 Time: 11:11				
Sample (adjusted): 1 2532				
Included observations: 2532 after adjustments				
S_P_INSURANCE_SELECT_INDUSTRY_INDEX = C(1) + C(2)				
*SP_CLOSE + C(3)*S_P_VOLUME				
	Coefficient	Std. Error	t-Statistic	Prob.
C(1)	446.1119	20.22393	22.05861	0
C(2)	0.938408	0.006178	151.9049	0
C(3)	-9.52E-08	4.51E-09	-21.1111	0
R-squared	0.901419	Mean dependent var		2168.78
Adjusted R-squared	0.901341	S.D. dependent var		650.1855
S.E. of regression	204.2237	Akaike info criterion		13.47749
Sum squared resid	1.05E+08	Schwarz criterion		13.48441
Log likelihood	-17059.5	Hannan-Quinn criter.		13.48

Table 2 shows that the regression coefficient of the General S&P500 Index C(2) is 0.938. We learn that shareholders as a group believe that on average, the index of stocks of the insurance industry is almost neutral to the market and even slightly defensive. This index fluctuates overall, along with the market. The estimation of the regression coefficient shows that shareholders do not see insurance as a branch that took on itself the economic downturn. According to shareholders' forecasts, the insurance industry with its multi-lines and global spread, does not incur additional risks as compared to other industries and the whole economy. A further analysis shows that the general S&P500 index explained 88.4% of the variance of the S&P500 insurance index while the volume of Total Revenue C(3) of the insurance sector estimated by S&P500 index explained only 1.4% of the variance.

Conclusions

Under the Covid-19 crisis, insurance companies suffered losses, but their shareholders believe in quick recovery. Insurers have been prepared for the pandemics where regulators allow them to exclude certain provisions from the policy. When the pandemics hit the economies, they stopped selling specific insurance like travel insurance or long-term care to the elderly. When risk increases, insurers raise premia for new policies to the extent permitted by the regulators.

Fluctuations in financial markets adversely affect the insurance companies. However, the insured public has been protected. The involvement of shareholders of insurance companies in financial markets does not reveal special attitude to the insurance industry or any specific additional risk losses.

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