



THE ROLE OF INSURANCE INVESTMENTS IN THE U.S. ECONOMY

WINTER 2019



CENTER FOR CAPITAL MARKETS

COMPETITIVENESS®



CENTER FOR CAPITAL MARKETS
COMPETITIVENESS

This report was prepared by the U.S. Chamber of Commerce. Ernst & Young LLP (EY) assisted with market research and provided objective data analysis in connection with this report.



TABLE OF CONTENTS

The Role of Insurance Investments in the U.S. Economy..... 4

Executive Summary 4

Insurance Investment Strategies..... 5

U.S. Insurance Investments: Macroeconomic Context13

Implications of U.S. Insurance Investment on the U.S. Economy16

Conclusion.....36

Appendix..... 37

EXECUTIVE SUMMARY

U.S. insurance companies finance long-term improvements in the U.S. real economy that drive much-needed municipal infrastructure investments, support developers as they improve and construct commercial and multifamily properties, help farmers purchase needed land, buildings, and equipment, and fund a wide variety of business activity. As a large and important part of U.S. capital markets, insurers fill a vital role as institutional investors with a unique investment strategy. By investing policyholder premiums in anticipation of future claims, U.S. insurers deploy capital focused on longer-duration, relatively lower-volatility investments. These investments support businesses, households, and local governments and are an important source of stability to financial markets.

U.S. insurance companies have a unique business model that creates a distinct set of investment criteria. Specifically, U.S. insurance companies aim to invest in longer-duration, lower-risk assets. The long duration of their investments is used to pay off claims that are expected far in the future. As a result, U.S. insurance companies invest for the long term. This results in insurance companies holding longer-term positions than other investors. As a result, insurance companies are able to hold positions in illiquid investments and capture a “liquidity premium”—ensuring investment in longer-term, positive-return projects.

U.S. insurance companies also play a stabilizing role in capital markets. Their current assets are roughly \$5.8 trillion as of December 2017 and they make up a sizable share of asset classes such as corporate bonds (21%) and municipal bonds (20%). Within these asset classes they are able to uniquely provide liquidity as a result of their fundamental underlying business modelⁱ. For example, U.S. insurance companies invest in bonds that trade less frequently, and their long-term investment horizon stands in marked contrast to the shorter investment holding period observed in public equity markets.

The unique investment strategy of insurance companies results in tangible, long-term projects being financed by these firms and, indirectly, by policyholders. For example, U.S. insurance investments in education projects through municipal bond purchases could build about 1,000 elementary schools every year. Likewise, their annual investments in municipal bonds used for transportation projects could build a road from Washington, D.C., to Los Angeles every year. Their current holdings of mortgage-backed securities correspond to roughly 2 million mortgages, and life insurers’ public corporate bond investments alone funded about \$120 billion of business investment in needed plants, equipment, and other capital expenditures in 2017.

Across other asset classes, insurers provide approximately 12% of nongovernment funding for U.S. farm loans and hold about 15% of all commercial and multifamily debt (\$468 billion).

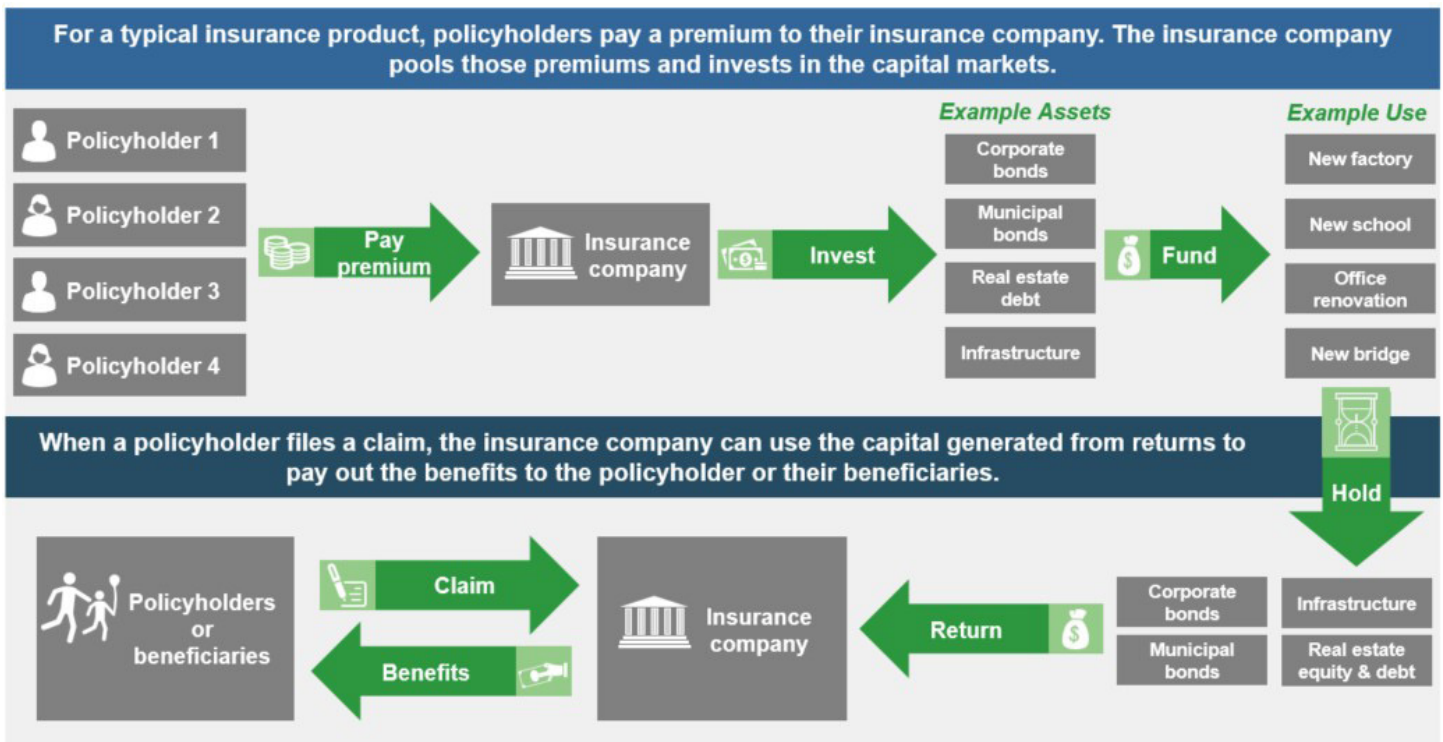
i. This paper is not intended to be a complete analysis of systemic risk considerations as it relates to the insurance sector.

To summarize, U.S. insurance companies invest for different purposes than other institutional investors. They are primarily concerned with matching long-term liabilities and, as a result, hold a different portfolio. They play a significant and important role across capital markets and within specific asset classes. Their focus on the long term and their ability to provide liquidity to illiquid asset classes allow them to stabilize capital markets. They are able to invest much-needed capital into important sectors of the real economy of the U.S., such as municipal education and infrastructure projects, investment in U.S. businesses, and credit to the U.S. homeowner through their real estate investments.

INSURANCE INVESTMENT STRATEGIES

Insurance companies invest in a unique set of assets as a direct result of their business model. Thus, any discussion of the overall impact of the investments of insurance companies must begin with the fundamental business model that drives their unique investment strategies. The basic business model of an insurance company involves receiving a steady cash inflow from policyholders in the form of premiums that, over time, are allocated internally and flow to operating expenses, new investment assets, and payouts for claims (Figure 1). Thus, policyholder premiums are used, in part, to invest in assets that generate returns, which ultimately are used to pay future claims.

Figure 1: Insurance companies’ business model



Source: EY Analysis

INSURANCE TYPES

Life insurance companies provide protection against risk of premature death, long-term illness or disability, and people living past their savings. For each product, life insurance companies are able to project claims through the lifetime of the product. Insurance companies must make investments that will supplement reserve capital with sufficient returns to pay these expected claims through the entire duration of the insurance product. These investments are statutory requirements—insurance companies are required to hold capital reserves in order to sufficiently fund expected liabilities.

Life insurance companies are focused on ensuring a steady stream of long-term income to pay for future liabilities that are matched against that asset. These liabilities tend to be long term and illiquid in nature, and this allows insurance companies to invest in assets that match this profile. As a result, these companies are the leading investors in corporate bonds, and they also rely on other mortgage-backed securities to provide the income streams needed to cover liabilities. They are also large investors in commercial real estate mortgages. In each of these asset classes, they receive a predictable stream of income to offset their predictable stream of liabilities. They have limited exposure to more liquid assets, such as U.S. treasuries, public equities, and cash, often investing less than 10% of their portfolio in these assets.

Property and casualty (P&C) insurance policies are generally held for shorter periods of time than life insurance, and liabilities are relatively less predictable. The volatility means that P&C companies must be ready to satisfy claims at short notice and, as a result, tend to be less leveraged than their life insurance counterparts.

LIFE INSURANCE PRODUCTS

Life insurance companies offer both life insurance and annuities. A typical life insurance product will require periodic premium payments from the policyholder to purchase coverage. In exchange for premium payments, an insurer provides a lump-sum payment, known as a death benefit, to beneficiaries upon the insured's death.

The two most common life insurance products are term (which covers a set number of years) and whole life (which covers the life span of the insured). Whole life provides beneficiaries a predetermined benefit upon the death of the insured. These policies can carry a cash benefit that allows the insured to withdraw (or surrender) a certain portion of the accumulated premiums (and earnings). Term life is the simplest form of life insurance. It pays out if the insured passes away during the term of the policy, which is usually one to 30 years. In certain cases, term life policies can be converted to whole life. With both, insurers receive a steady stream of income from premiums, then pay a lump sum upon the death of the insured. Annuity policyholders have the option to annuitize and receive guaranteed monthly payments, or to keep their assets accumulating and withdraw as needed.

With an annuity, consumers can purchase guaranteed lifetime income in either a single payment or with multiple payments, depending on the type of annuity. You can choose to receive income from an annuity immediately or at a later date. Payments can be in lump sum, in a series of payments for a specified period of time, or as guaranteed payments for the life of the policyholder.

Annuities protect the insured from outliving their savings. With longer life spans, Social Security benefits are often insufficient for meeting retirement income needs.

P&C INSURANCE PRODUCTS

P&C insurance companies provide protection from the financial impact of risks such as the destruction of property from flooding, work injury, and theft. Policyholders make periodic premium payments in exchange for protection against these risks, and should an event come to pass, benefits are paid out by insurance companies.

That being said, P&C companies manage the uncertainty through the pooling of policyholders, as pooled liabilities are more predictable. Across their products, there is a large enough volume of customers that insurance companies are able to predict the number of policyholders that typically file a claim, even if they aren't able to identify which policyholders will need benefits. Their ability to accurately estimate the number of potential claims helps them project liabilities in a similar manner to life insurance companies.

Even though the expected durations are shorter than those of life insurance companies, P&C insurance companies have longer investment horizons than most other institutional investors. Like life insurance companies, P&C companies want to limit credit risk and ensure steady streams of investment income to offset future liabilities. However, P&C companies' ability to take advantage of tax-exempt assets has led to a higher allocation to municipal securities. The tax-exempt nature of municipal bonds provides three financial benefits for P&C companies: the reduced (or exempt) tax obligation on interest generated means that P&C companies have lower tax bills and can worry less about managing their income stream to manage the potential tax obligations. The tax-exempt nature of municipal bonds also allows P&C companies to capture yields that would otherwise be lower on taxable corporate bonds of a similar credit risk. Finally, the less-predictable nature of P&C obligations requires more active asset turnover to manage claims. Without the exempt status, the tax obligations generated by higher transaction activity to satisfy these claims would impact profitability. The Tax Cuts and Jobs Act of 2017 has adjusted these benefits

OWNERSHIP TYPE

The ownership structure of an insurer also plays a role in determining the investment strategy. There are two types of insurance ownership structures: mutual companies and public stock companies. Each type must satisfy its own unique requirements.

Mutual companies are private insurance companies that are owned by their policyholders. Any excess profits earned by the company are either retained and invested back into the company or paid out to policyholders through dividends. As there are no outside investors, mutual companies are less subject to short-term reporting requirements.

Public/stock insurance companies are owned by investors who acquire stakes in the company through the publicly traded markets. As a result, they must satisfy a broader set of stakeholder responsibilities: quarterly financial reporting requirements to the investor community as well as insurance regulatory responsibilities. This mandate drives investment decision-making.

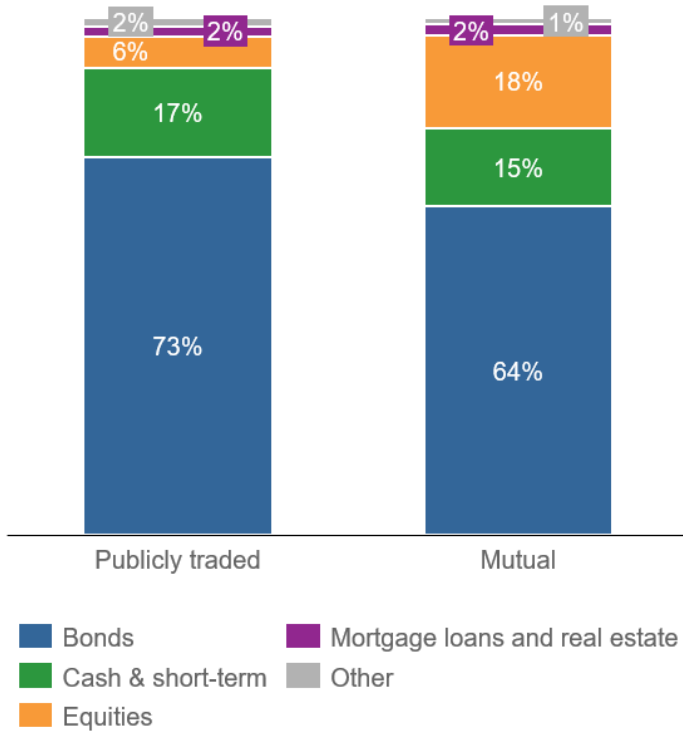


Figure 2:

Mutual and publicly traded life and P&C insurance companies' average asset allocations, 2017

Source: SNL (S&P Market Intelligence), EY Analysis

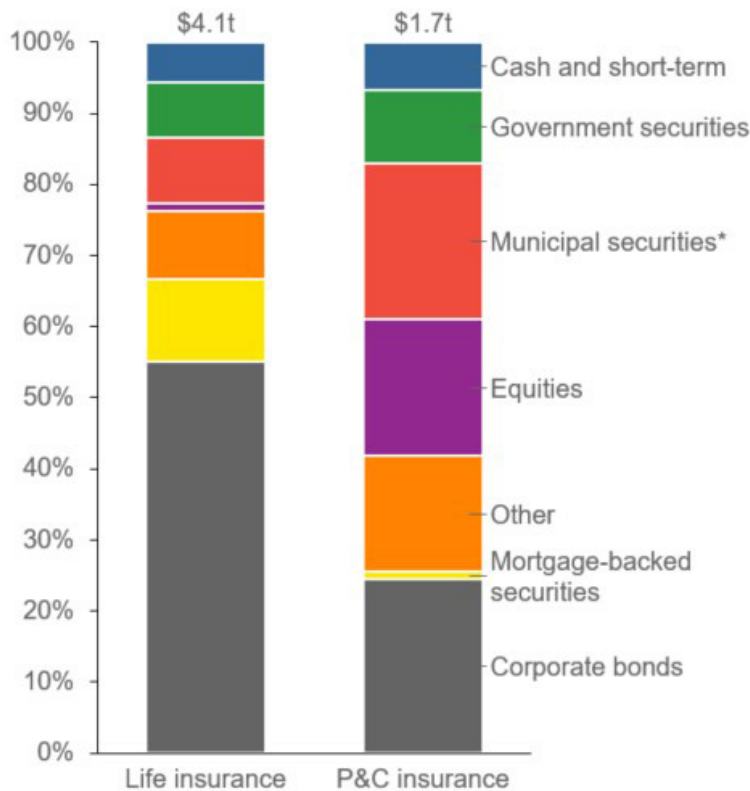


Figure 3:

U.S. life and P&C insurance companies' asset allocations, 2017

*Municipal securities includes states, territories & possession, political subdivisions, special revenue, and public utilities bonds

Source: SNL (S&P Market Intelligence)

INVESTMENT STRATEGIES

With both life and P&C insurance companies facing predictable liabilities over a long duration, their investments are focused on assets that can effectively pay for future liabilities for the entire duration of the policies provided by the company.

Insurance companies' investment strategies are centered on four key criteria:

1. Duration matching

Assets need to match projected liabilities for insurance companies, which means investments are typically longer-term. This matching ensures investment income is available to pay all projected liabilities, even those 10 years or more in the future. As a part of the duration-matching principles used by insurance companies, they are typically buying and holding their investments, including more liquid assets such as a residential mortgage-backed security (RMBS) or corporate bonds.

2. Low credit risk

Insurance investments are focused on managing credit risk. Many insurance companies invest in alternative asset types, but these investments are often structured to limit credit risk exposure. Insurance companies cannot risk investment losses that would hinder their ability to pay out future liabilities. Thus, there are specific requirements that they invest in assets which will equip them to repay policyholders in the long term.

“Our first question when we look at a specific asset or even an asset class is: How does it fit with our asset and liability matching and our credit risk? Everything is viewed through that lens.”

– Publicly Traded Life Insurance Company

3. Diversification

Insurance companies want to build a diverse portfolio that includes a variety of asset types, levels of liquidity, and sector focus. A diverse portfolio should provide insurance companies a stable flow of cash in a wide variety of market conditions.

4. Optimize capital redeployment

As a result of the business need for long-term returns, insurance companies are required to hold capital against their investment portfolio. Risk-based capital (RBC) regulations determine how much capital is to be held against each asset that an insurer invests in. The riskier the assets, the more capital is required to be held in reserve to offset potential losses.

In practice, RBC requirements are determined by looking at asset risk, underwriting risk, and other risks that vary by asset class. Even within an asset class, the risk of specific assets determines the capital required to be held. For example, a BBB corporate bond will have a higher capital requirement than an AAA bond, as it has been deemed riskier.

In terms of investment strategy, capital requirements limit investment in more volatile products. This leads companies to focus on fixed-income products instead of equity. For example, less capital is required to be held in the case of a commercial real estate loan compared to a real estate equity investment, even if the amount of money invested is identical. As a result, insurance companies, especially smaller companies, put more of an emphasis on commercial mortgages instead of commercial real estate equity. This type of decision-making is true across asset classes as insurance companies look to balance yield and capital requirements.

TRENDS IN INVESTMENT STRATEGIES

Given the close connection between the fundamental business model of an insurer and its investment strategy, the overall approaches of U.S. insurers have remained largely consistent over time. That being said, there have been a few notable recent trends that have had an impact on the go-forward investment strategies of U.S. insurers as they compete in the current low-yield environment.

The macroeconomic environment over the past 10 years has been marked by low interest rates. With the Federal Reserve funds rate at historic lows, insurance companies struggled to find assets that could provide the required yield to offset future liabilities. Thus, insurance companies began to look for alternative asset classes that could provide high returns without requiring excessive credit risk.

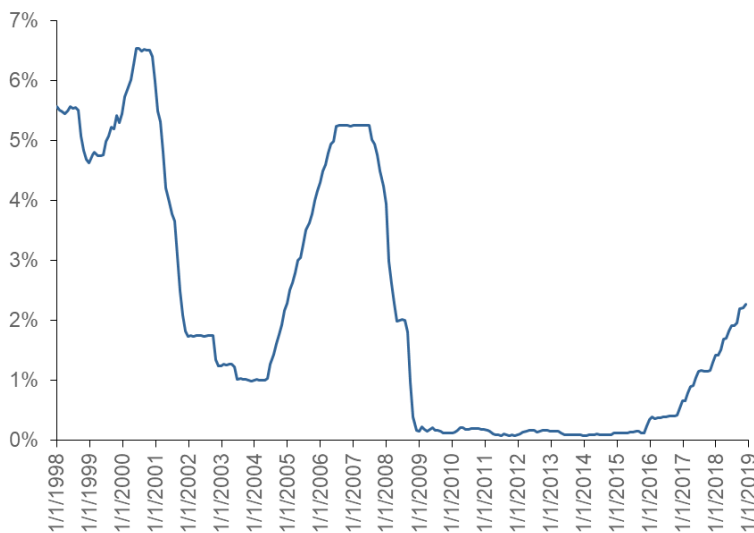


Figure 4:

Effective U.S. federal funds rate, 1998-2018

Source: FRED: Federal Reserve Economic Data

WHAT IS LIQUIDITY?

The term “liquidity” can be applied in several ways depending on the context. Asset liquidity describes how quickly an asset can be bought or sold without affecting the price of that asset. The more easily traded an asset is, the more liquid it is considered. Cash is the most liquid asset available, while illiquid investments include real estate and venture capital. Market liquidity describes the extent to which assets can be bought and sold at stable prices in that venue. Funding liquidity, on the other hand, describes the ease with which institutions can borrow or raise capital to finance their needs.

WHY ARE ASSET AND MARKET LIQUIDITY IMPORTANT FOR INSURANCE COMPANIES?

For insurers, it is important to hold liquid assets should there be an unexpected increase in the volume of claims. And liquid markets support their ability to transact in these assets efficiently. For P&C companies, holding a sizable volume of liquid assets is especially important as they need to be able to respond to an increased number of claims in a fairly short period of time. With recent natural disasters such as Hurricane Harvey and the California wildfires, large volumes of claims have required insurance companies to pay out billions of dollars. Absent a stable of liquid assets and liquid markets, they might not have been able to pay out these claims in a timely manner without incurring significant haircuts on their assets.

WHY IS FUNDING LIQUIDITY IMPORTANT FOR MARKETS?

Funding liquidity is important for market participants because it determines their ability to borrow efficiently to manage their operating and investing needs. Generally, companies need access to capital to finance capital investments, product development, and other growth efforts. If companies face difficulties accessing the funding they need, investments stall and growth stagnates. Several factors have limited traditional sources of funding, and substitutes, including insurance companies, have become vital for ensuring that companies get access to the capital they need to finance growth. Insurers play an important role of providing liquidity to markets as they hold a large, patient capital base and are willing to invest in longer-term projects. For example, private equity and private placement debt are examples of asset owners that rely on insurance companies to provide funding liquidity. The funding liquidity provided by insurers is especially important for organizations that are unable or unwilling to go to the public market for capital, or in less liquid asset classes where fewer capital providers exist.

While this low-yield environment could have created incentives for insurance companies to enter riskier markets and invest in lower-quality assets, most insurance companies maintained their focus on investment-grade assets and instead used their ability to provide liquidity to markets as a means of accessing excess yield.

Three asset classes have seen increased interest as part of the emphasis on finding yield through liquidity: middle-market private debt, commercial real estate loans, and infrastructure. In each of these markets, insurance companies are ideal partners, as they are able to provide liquidity in exchange for long-term illiquid assets. The increased focus on these three asset classes has coincided with the low interest rate environment, as insurance companies are no longer able to access the yield needed to support liabilities through the public bond markets, traditionally the most popular asset class for insurers. Insurance companies could invest in lower-quality corporate bonds to find yield, but market participants have indicated that this strategy has only been used minimally as the credit risk is too high. As a result, there has been increased investment in other asset classes.

The popularity of each of these asset classes can be seen in the growth of the markets over the past few years. Lending to participants in the midsize market has grown substantially in recent years, with direct lending growing from approximately \$10 billion to \$153 billion from 2006-2016. Six of the 10 largest investors in the market are insurance companies or pension funds.¹ Life insurance companies' investment in commercial mortgages grew 7.5% in 2016 and 8.4% in 2017 to a total of \$422 billion in 2017.² Infrastructure has seen strong growth in the low-rate environment of the past few years as the number of North American infrastructure deals has grown from 318 in 2008 to 661 in 2016, with the average deal size increasing to \$532 million.³

For each of these markets, insurance companies are not the only interested investors, but they are a critical, stabilizing component of each asset class due to the alignment of their investment strategy with the long-term nature, capital intensity, and illiquidity that characterizes these assets.

TAX IMPLICATIONS AND TRENDS

In 2017, comprehensive tax reform made significant changes to the U.S. tax code. The corporate rate permanently dropped from 35% to 21%. Additionally, the international system was reformed to more closely resemble our global competitors' territorial approaches. Further, several new anti-base erosion provisions, including GILTI (global intangible low-taxed income), FDII (foreign-derived intangible income), and a base erosion minimum tax (the base erosion anti-abuse tax, or BEAT) were enacted with this reform. Much work remains to be done on the regulatory front, particularly in the international arena, to completely understand the impacts of these provisions. The impacts of tax reform on the insurance industry vary based on things such as business lines and headquarters location. Additionally, until final rules are promulgated, the overall impacts of tax reform on the insurance industry will not be clear.

If insurers, and specifically P&C companies, choose to limit their investments in municipals going forward, it may have an impact on the market. At this time, however, demand for municipal bonds has kept up with previous years as they continue to provide low credit risk and strong relative yields. Investments in municipal bonds from insurance companies grew 1.7% to \$745 billion in 2017, with market participants expecting a similar or fractionally smaller level of investment going forward. Municipal bonds are also seen as good investments for diversification purposes.

Another component of the new tax law that might affect insurers is the extension of the estate tax exemption through 2025 and the raising of the exemption to \$11.2 million per person, thus limiting the need for tax-advantaged estate strategies through life insurance products. This could have an impact on the use of life insurance as an estate protection vehicle and increase the surrender rate of life insurance policies, which affects the duration matching and risk calculations associated with life insurance portfolios. However, the changes to the tax code are not expected to have a large impact on insurance companies' investment strategies.

U.S. INSURANCE INVESTMENTS: MACROECONOMIC CONTEXT

While U.S. insurance investors deploy a unique strategy based on their distinct business model, they also play an important role in a number of asset classes. U.S. life and P&C insurer investment assets were roughly \$5.8 trillion as of December 2017. Life insurance companies accounted for about \$4.1 trillion of these investments, and P&C insurance companies comprised the other \$1.7 trillion. Between 2013 and 2017, the aggregate investments of life and P&C insurers steadily increased at a compound annual growth rate (CAGR) of 3.8% from about \$5.0 trillion to roughly \$5.8 trillion.

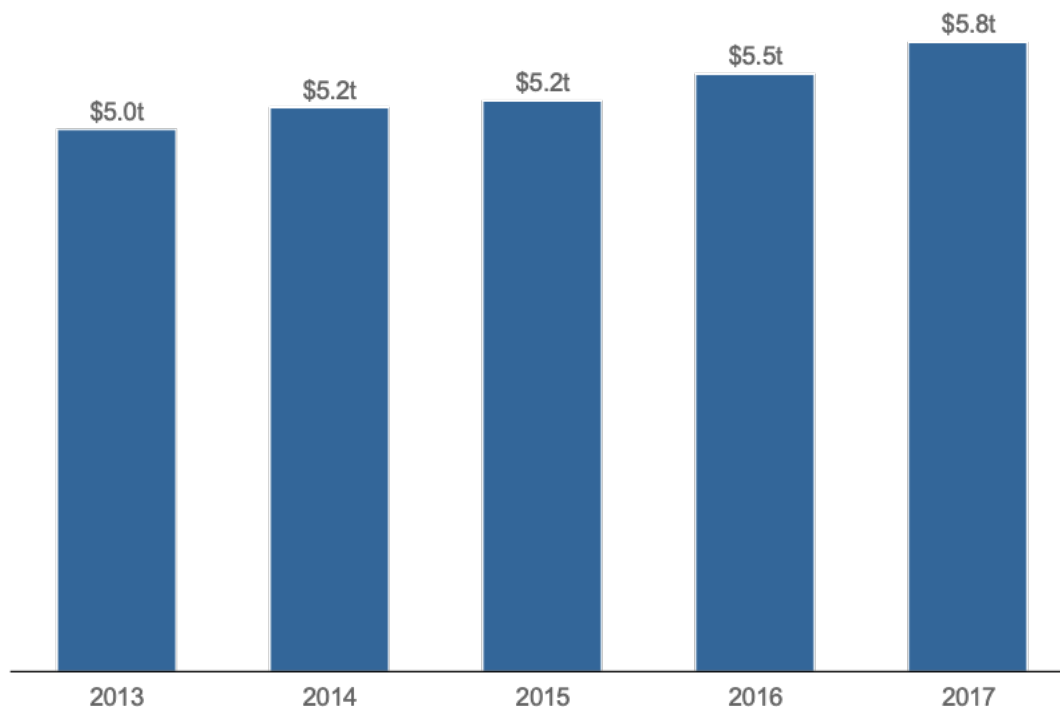


Figure 5:
U.S. life and
P&C insurance
investments,
2013 - 2017

Source:
SNL (S&P Market
Intelligence)

These investments are held in a variety of different asset classes. As displayed in Figure 6, bonds account for about 76% of total assets. Within bonds, corporate bonds account for 60%, with municipal securities at 17%, and mortgage-backed securities (MBS) at 11%. The remainder is in U.S. and foreign government securities. Stocks account for approximately 7% of total invested assets, and cash and short-term investments account for roughly 6%.

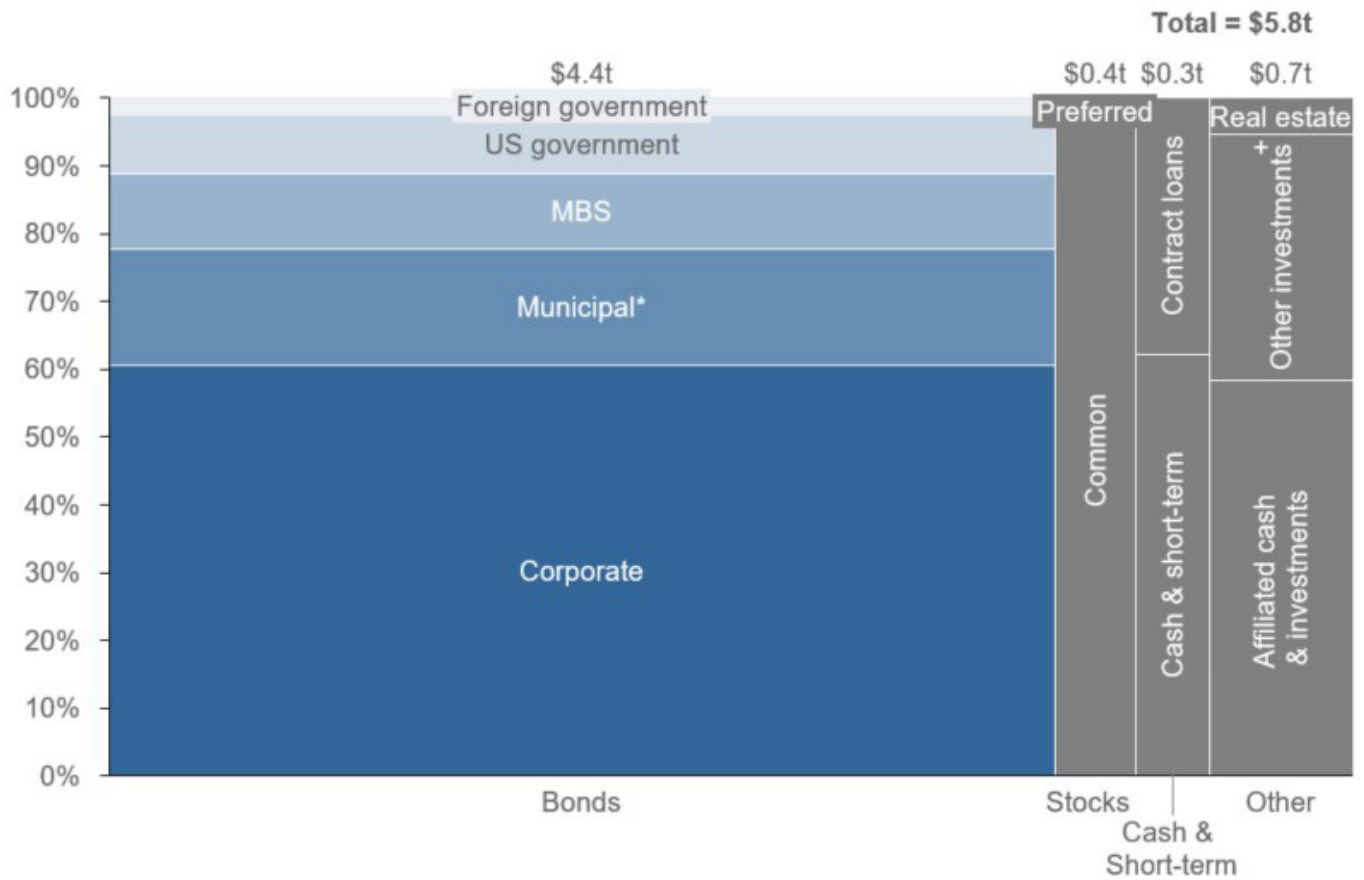


Figure 6:

Total U.S. invested assets, P&C and life insurance companies
2017 (dollars outstanding)

*Municipal securities includes states, territories & possession, political subdivisions, special revenue, and public utilities bonds

+Includes direct infrastructure, derivatives, and securities lending

Source: SNL (S&P Market Intelligence)

Regarding the role that life and P&C insurers play in the various asset markets, their investment assets represent 21% of the corporate bond market and 20% of the municipal bond market (Figure 7).

Insurance companies are also playing an outsized role within specific asset class sub-segments. For example, in the commercial real estate loan market, insurance companies account for about 16% of outstanding loans. In the farm mortgages market, insurers are the second largest nongovernment lender after depository institutions, controlling about 12% of the outstanding loans issued by nongovernment entities. Together with banks, government entities, and households, insurance companies support mortgages that help U.S. farmers buy and finance land and equipment. In the private placement debt market, insurance companies account for over 10% of the outstanding volume, and this figure is growing.

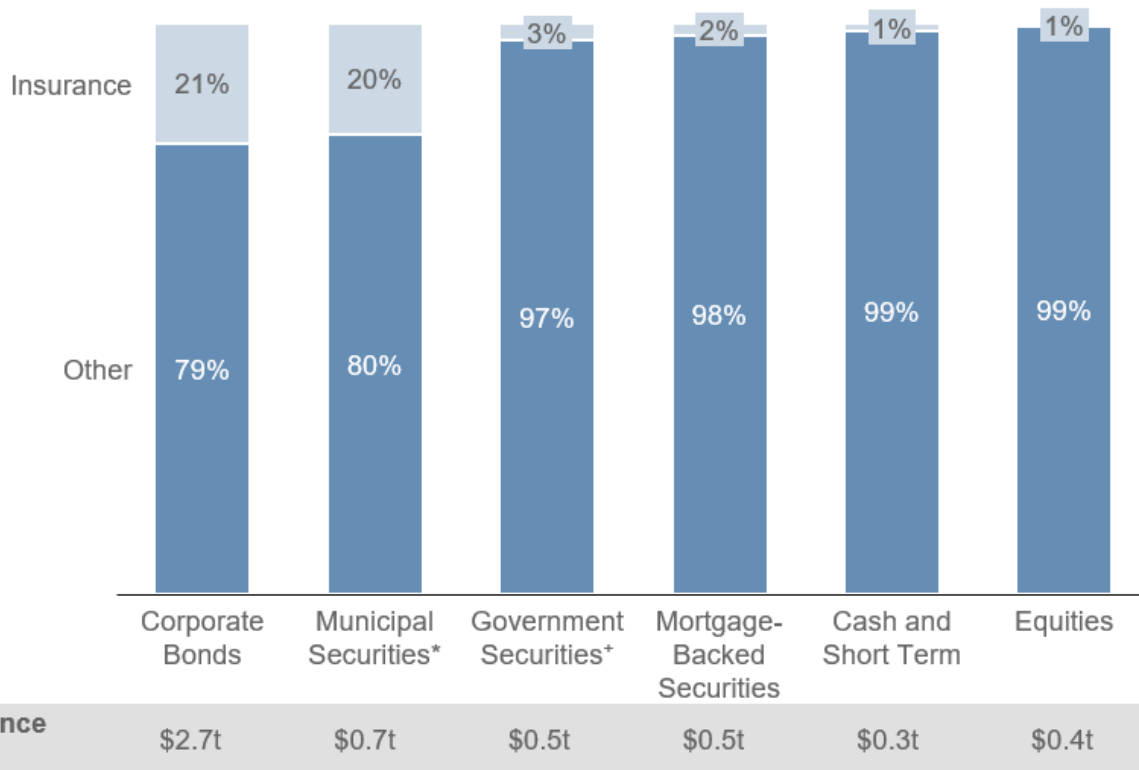


Figure 7:

U.S. life and P&C insurance companies' market share by asset class, 2017, (dollars outstanding)

Graph excludes roughly \$0.7t in insurance assets that are categorized as "other."

*Municipal securities includes states, territories & possession, political subdivisions, special revenue, and public utilities bonds

*Government securities includes securities lending

Source: SNL (S&P Market Intelligence), SIFMA, NYSE, MSRB

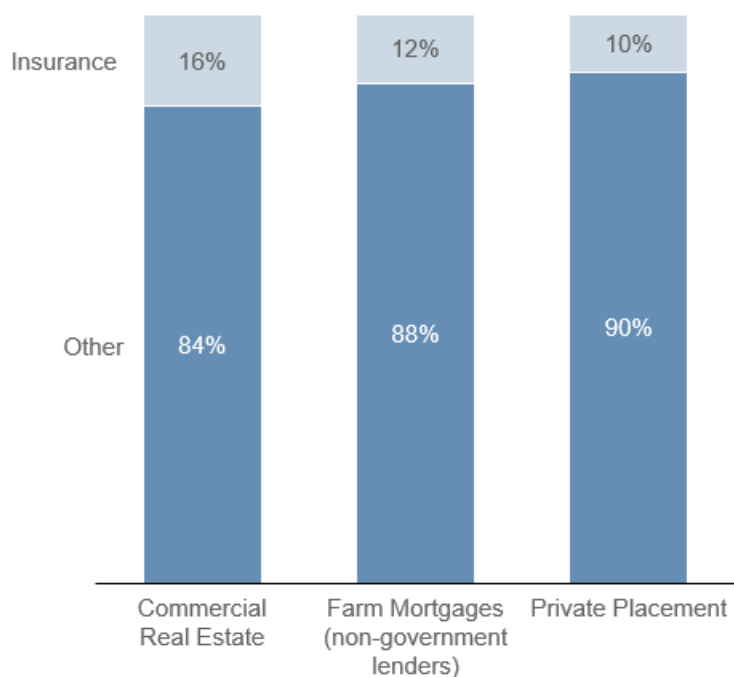


Figure 8:

U.S. life and P&C insurance companies' market share in relevant markets, 2017, (dollars outstanding)

For farm mortgages, Other includes U.S. depository institutions (banks) and households

Source: Federal Reserve; SNL, S&P Global, Mortgage Bankers Association (MBA)

Insurance companies invest funds differently than other types of investors. This is driven by the varying capital standards that are applicable to each type of investor. For example, the standards for insurance companies differ from those for pension funds, and, as a result, the latter tend to have more exposure to riskier assets, including equities (Figure 9). To manage their capital standards and achieve their objectives, insurance companies focus on asset classes that are lower-risk and that produce steady cash flow.

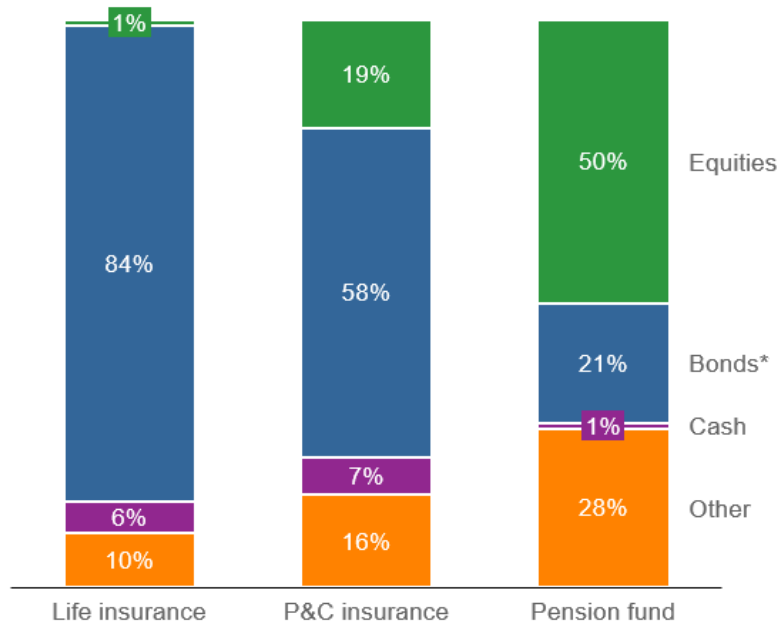


Figure 9: Life insurance, P&C insurance, and pension fund investment allocations, 2017

*Bonds includes government securities, mortgage backed securities, municipal securities, and corporate bonds.

Other includes real estate, other investments, and affiliated cash and investments.

Source: SNL (S&P Market Intelligence), Willis Towers Watson, EY Analysis

IMPLICATIONS OF U.S. INSURANCE INVESTMENT ON THE U.S. ECONOMY

Insurance investments have three major impacts on the U.S. economy. First, insurers play a unique role in the capital markets. As long-term investors able to take on additional liquidity risk, they are able to stabilize financial markets and prioritize longer-term growth. Second, insurers invest differently than other investors would, due to the long duration of their liabilities and a need to take fewer credit risks. These investment criteria result in a different asset allocation than U.S. households would pursue, and thus relatively more investments in asset classes such as corporate bonds or municipal securities. Finally, even within asset classes, insurers play a significant role in certain specific types of investments and projects. Digging into these specific investments demonstrates how insurance investments fund a variety of tangible projects in the U.S. economy. These projects help drive growth across the economy. For example, they fund infrastructure, homeownership, and needed business investment.

A. CAPITAL MARKET IMPACTS

In addition to supporting investments across a variety of asset classes and projects, insurers play an important role in financial markets thanks to their unique investment strategies. Insurers can provide additional stability and a longer-term investment view to financial markets.

CAPITAL MARKET STABILITY

As was demonstrated during the 2008 Great Recession, whenever a large group of financial market participants are unable to trade securities and other assets, it creates a “liquidity crunch” that can trigger business cycle downturns. Due to the nature of their investments and business model, insurers can help mitigate liquidity issues. Unlike banks, insurers hold illiquid liabilities on their balance sheets, are less subject to short-term deposit liabilities, and are largely standalone providers of capital. Within an insurer, there is smaller risk of a bank run or “contagion” effects caused by interrelated business activitiesⁱⁱ.

“Insurance companies, especially life insurance companies, are financial institutions with longer-term liabilities than commercial and investment banks, and thus they have the capacity to adopt investment strategies with longer-term horizons. To the extent that they adopt such strategies and do not sell into falling markets when many other types of investors do, they are a stabilizing element of the financial system. Most parts of the insurance industry appear to have acted as a stabilizing element in this sense during the current crisis.”

– OECD, 2009

“The financial crisis of 2008/09 has shown that, in general, the insurance business model enabled the majority of insurers to withstand the financial crisis better than other financial institutions. This reflects the fact that insurance underwriting risks are, in general, not correlated with the economic business cycle and financial market risks and that the magnitude of insurance liabilities are, in very broad terms, not affected by financial market losses.”

– International Association of Insurance Supervisors, 2011

ii. This paper is not intended to be a complete analysis of systemic risk considerations as it relates to the insurance sector.

“Here, though, the major relevant difference is that the funding structures of traditional insurers are generally much more stable than the funding structures of commercial banks, much less broker-dealers. A traditional insurance company’s liabilities are largely composed of contingent claims based on the occurrence of specified events, such as the death of an insured person or the destruction of property. Because these claims generally cannot be accelerated, companies engaged in traditional insurance activities are less vulnerable to runs and, accordingly, to short-term pressures to sell assets into declining markets.”

– Board of Governors of the Federal Reserve System

PROVIDING LIQUIDITY

By focusing on a longer-duration time horizon, insurers are able to find additional yield by providing needed liquidity to types of assets that trade less frequently. Providing additional liquidity is particularly important in the current macroeconomic rate cycle and for specific asset classes.

Insurers are willing to purchase bonds when those bonds have lower turnover. In fact, while insurers make up a small share (about 5%) of total transaction volume of the most-traded corporate bonds, insurance purchases make up a significantly higher percentage (about 22%) of the purchases of the least-traded bonds (see Figure 10). By purchasing these less-frequently traded bonds, insurers are able to provide liquidity to the bond market and ensure a healthy market for corporate bond trading.

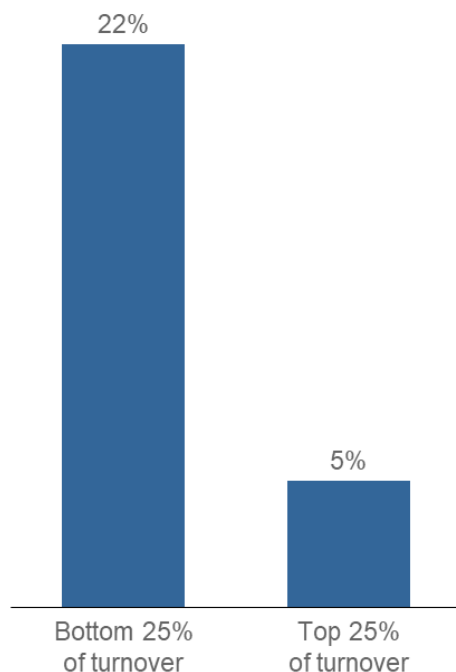


Figure 10:
Insurer’s share of bond transactions volume by bond turnover, 2016

Source: Paulson and Rosen, 2016

Not only are insurers able to provide liquidity, they are also increasingly seeking out opportunities to do so. Finding opportunities to provide liquidity to the market has become a progressively more important part of their overall strategy in the low-interest-rate environment. Insurers need to find opportunities to capture yield without incurring additional credit risk. One way to do this is by investing in assets that trade less frequently. Investing in illiquid assets provides a way for insurers to capture additional yield while also providing the asset segment with market-making liquidity.

LONGER-TERM INVESTMENT HORIZON

There is an ongoing debate on the extent to which investors in financial markets are focused on a short-term investment horizon—and the extent to which this could result in worse management and investment decisions. The long-term nature of insurance investments makes them well-suited to mitigating the potential negative effects of short-term managerial decision-making.

Holding period data shows a steady decline in the average time that stocks are held by investors.⁴ At the peak in the 1950s, equity investors held positions for an average of about 8 years. By 2016, this had fallen to about 8 months. This decline is fueled by an environment of quarterly earnings, sell-side research, and continuous financial media coverage. In this environment, market expectations and investor pressure could encourage leaders to take a short-term view of company strategy and neglect the deeper strategic thinking that drives durable success.

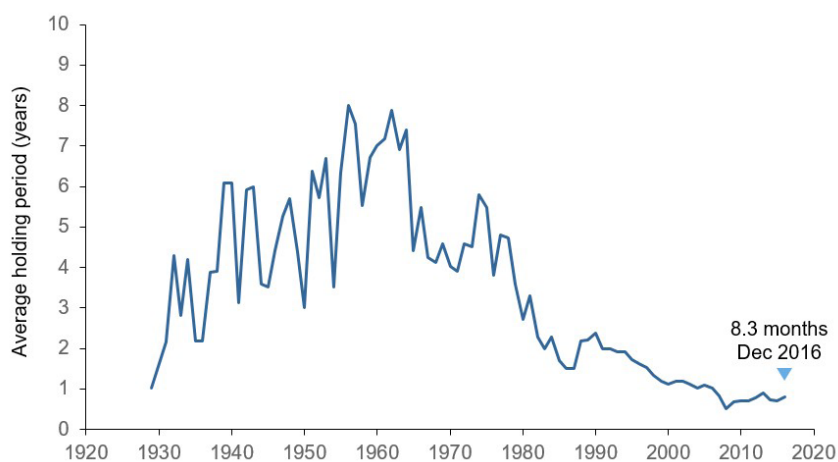


Figure 11:
NYSE average holding periods,
1929 - 2016

Source: MFS investment management

Unlike these investors, who are focused on realizing short-term gains on trades, insurers are among those institutional investors who are interested in receiving a return over 20-year or longer time horizons. Their limited allocation to stocks and greater emphasis on fixed income instruments support their investment time horizon as they look to provide funding for long-term capital expenditure and infrastructure projects—projects that create sustainable and tangible economic benefits to the capital markets and to communities. Thus, by deploying their patient capital accordingly, insurance companies help counteract any shift toward increased short-term thinking. Additionally, the long-term approach that insurance companies take can empower corporate leaders to make decisions that encourage investments on projects with long-term benefits, and support their financing.

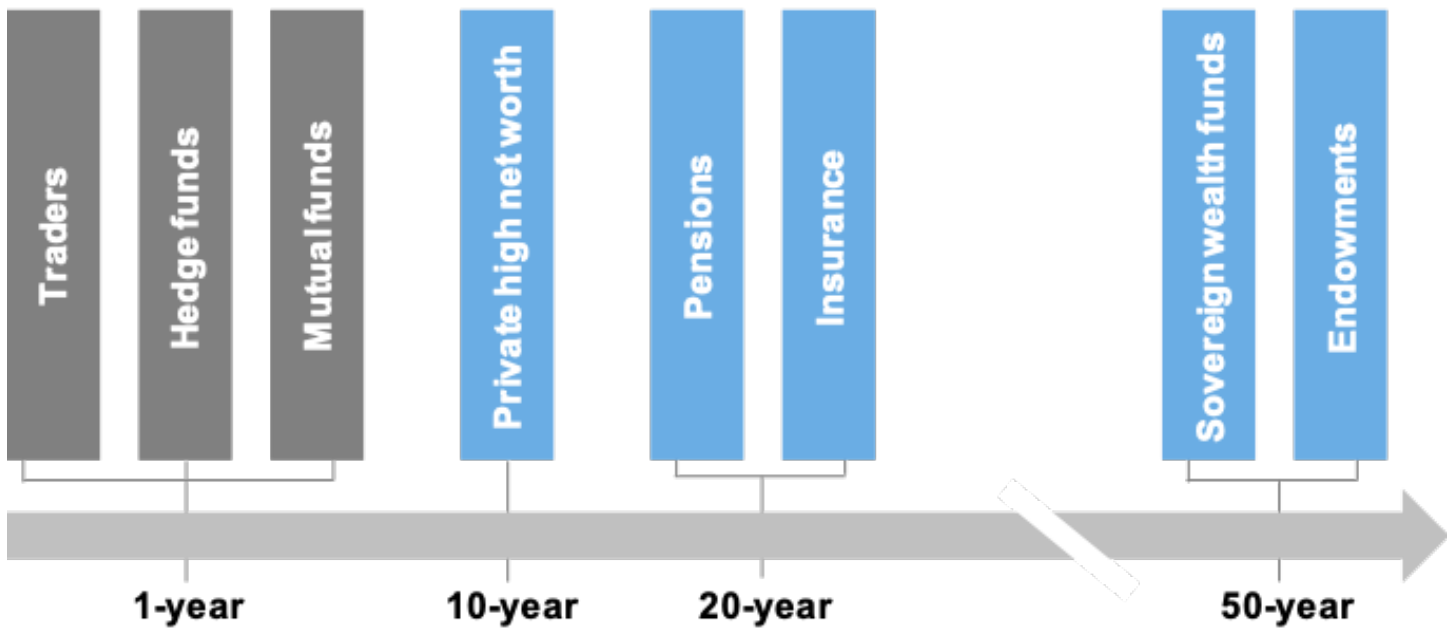


Figure 12:
Investment time horizon by investor type

Source: MFS investment management

B. APPROACH: IMPACT OF INSURER ASSET ALLOCATION

To gain an understanding of the impact that insurance investment decisions have on the overall U.S. economy, insurers' asset allocation was compared to the asset allocation of all U.S. households (see sidebar below). This provides us with a high-level framework to compare the impact of U.S. insurers' preferences versus that of premium-holders.

If insurers were instead investing using the investment preferences of U.S. households, about \$3.5 trillion of corporate, municipal, and government bonds may be moved into other asset classes. This would depress prices and drive yields higher. In the absence of substitute buyers, yields would likely adjust upwards until they provide a compelling enough risk-return profile to drive investors away from other assets. In such a scenario, companies and municipalities would likely be more cautious about their capital expenditures as they look to minimize borrowing.

Certain investment assets would also gain investment if insurers invested like households. Stocks might be the main beneficiaries, receiving about \$1.6 trillion of incremental investment under this counterfactual model. These assets would experience a demand shock and see their price rise. Other impacts may include additions to cash and short-term investments. Life insurance companies have a lower need for liquidity and therefore allocate a smaller portion of their portfolio to cash. A reallocation may result in a transfer of about \$240 billion to cash holdings.

This hypothetical example demonstrates the impact of the investment strategies of insurers relative to other investor types. Insurers act as stewards of risk by making informed long-term investments. The demands of their business result in meaningfully higher investments in lower-risk, longer-term assets such as corporate, municipal, and government bonds. Thus, consumers are able to leverage the investment acumen and strategies of insurance investment teams to make prudent, long-term investments. Absent insurance companies to guide them, this exercise indicates that individuals may hold assets in an inefficient, less productive manner.

METHODOLOGY

In order to estimate the impact of an insurer’s unique investment criteria, the asset allocation of life and P&C insurance companies was compared to that of U.S. households. This comparison demonstrated the extent to which insurers’ investment strategies change the type of investments that are pursued.

While this provides some high-level context on the overall macroeconomic impact of U.S. insurance industry investments, it is important to note a few caveats. Firstly, this analysis does not take into account any pricing impacts that would result from insurers investing differently. This would likely mitigate some of the shifts in investment. Secondly, this also does not take into account the fact that parts of households’ current asset allocation is in insurance itself. If households were to invest insurance assets themselves, they could be more likely to invest in relatively more conservative assets.

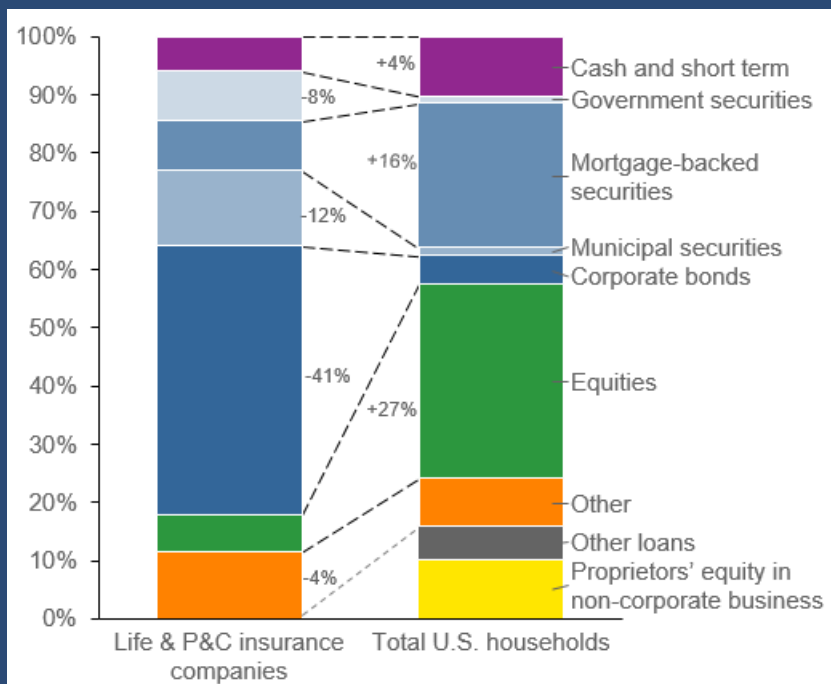


Figure 13:

U.S. life and P&C insurer assets reallocated to that of U.S. households

Source: SNL (S&P Market Intelligence), Federal Reserve, EY Analysis

C. PROJECTS AND INVESTMENTS IN THE REAL ECONOMY DRIVEN BY INSURANCE INVESTMENT

Insurance companies play a significant role in some specific projects and investments within asset classes. Mapping the relevant investments that insurers make within these specific investment types (Table 1) highlights the tangible economic activity that insurance investments fund.

Table 1:

Insurance company investments' impact on the real economy

Source: EY Analysis; see endnotes

Investment type	Investment/ project type	Description	Direct economic activity supported
Corporate debt	Corporate bonds	Debt instrument issued on public markets to finance expenses or fund growth projects	Roughly \$120 billion in direct business investment; these funds can support construction and expansion of manufacturing facilities as seen through companies such as GM, Boeing, and Apple, which used corporate bonds to fund projects ⁵
	Private placement	Debt instrument issued to qualified investors on a private market for funding purposes	At least \$12.6 billion in gross output, based on small-business investment ⁶
Corporate equity	Publicly traded equity	Equity asset on a public market offering ownership in a public corporation	Insurers have limited investments in public equity, but investments provide capital to support growth of these companies and the U.S. economy
	Private equity	Unlisted shares representing private ownership of a corporation	Approximately 30,000 full-time equivalent (FTE) positions ⁷

Table 1: Continued

Investment type	Investment/ project type	Description	Direct economic activity supported
Real estate	Mortgage-backed securities	Debt security backed by a pool of mortgages available on the public markets	Originations of roughly 2.1 million mortgages in their current holdings of MBS ⁸
	Non-performing/ Re-performing loan pools	Distressed loan with potential for recovery	Insurers provide liquidity to support wind-down of pools of non-performing loans from Great Recession
	Commercial and multifamily real estate loans	Customized financing for acquisition or development of commercial properties	About \$2.7 billion in GDP driven from funding of new construction; ⁹ about 18,000 jobs from construction; on an industry-wide basis, insurers have committed \$52 billion to \$66 billion of new loans every year for the past four years (2013-2017) ¹⁰
	Real estate equity	Private investment in real estate asset ownership	Insurers purchase, renovate, and operate commercial and multifamily real estate buildings in housing, office, industrial, and retail sectors; building improvements could drive additional real economic impact—every \$1 of additional spending by insurance companies over previous owner equates to \$2.64 in real economy ¹¹
Infrastructure	Real estate equity ⁱⁱⁱ	Debt issued by state/local entities on a public market to fund expenses and new investments	Education: 350 high schools or 1,000 elementary schools ¹² Transportation: 2,300 miles of road annually, about 1% of all roads ¹³
	Direct infrastructure/ private-public partnerships	Private financing to acquire, operate, and maintain a physical infrastructure asset alone or with partners	250,000-600,000 FTEs ¹⁴
Agriculture finance	Agricultural loans for land, building, and equipment	Customized secured financing (loan) for agricultural use	530 farms or 6,100 farms' equipment ¹⁵

iii. Municipal bonds include both taxable and nontaxable municipal bonds.

CORPORATE DEBT

Public corporate debt

Corporate bonds allow companies to finance various forward-looking projects as they look to grow their business. This capital can be used to fund operating expenses, invest in new projects, or simply retire outstanding debt. Corporate debt is also used to manage the capital structure of companies. A review of the top 20 bond issuers reveals a list of household companies, including banks, information technology, health care, and automotive.

As corporate debt is used for a variety of business purposes, some have an indirect impact on the economy, and some have a direct impact. For example, issuing corporate debt indirectly affects the economy through allowing companies to refinance their existing debt or repurchase shares to modify their capital structure. Corporate debt is also used to directly impact the economy through increased real business investment. As insurers currently hold close to \$4.4 trillion in total fixed income, of which \$2.5 trillion is corporate, the impact of their investments on the bond market and the overall economy is significant. Their absence would be felt greatly, as can be illustrated through a high-level comparison of the impact that the quantitative easing (QE) program had on the economy. Across multiple rounds, the Fed provided over \$4 trillion in bond purchases that had the result of lowering bond yields, increasing prices, and generating GDP growth.¹⁶ The withdrawal of insurers from this space would likely have a similar, but reverse, effect.

Separately, it is estimated that between 20% and 25% of newly issued corporate debt is used directly for new business investment.¹⁷ This would imply that of the roughly \$530 billion^{iv} in corporate debt purchased by the life insurance industry, about \$120 billion supported direct business investment in the economy. In 2015, 39% of total capital expenditures for U.S. businesses went toward the acquisition, construction, and preparation of structures.¹⁸ This translates to roughly \$47 billion contributed by insurance companies toward corporate building projects. The other 61% of total capital expenditures, or about \$73 billion in insurers' investments, would be allocated to U.S. business equipment expenditures. That is, spending on apparatuses, furnishings, motor vehicles, office machines, or any other equipment with an expected life beyond five years.

Investments like these have helped to support numerous corporate growth projects.

In 2017, auto manufacturer General Motors (GM) invested \$1 billion in U.S. factories, which helped create and maintain 7,000 jobs.¹⁹ GM also invested \$5.4 billion to modernize U.S. factories over the past three years.²⁰ This capital allowed for the investment into new equipment and helped retain nearly 2,000 jobs per factory in some cases. In 2009, airplane manufacturer Boeing bought a Charleston, South Carolina-based plant to produce the long-haul, mid-sized 787 Dreamliner jet for \$1 billion, which helped to create thousands of jobs for that community.²¹

iv. In 2017, life insurance companies held roughly 6.6% of their bond portfolio in assets with a maturity of less than one year and about 25% in assets with maturities of one to five years. This amounts to an average of about \$140 billion in corporate bonds that will mature in 12 months, and another \$532 billion that will mature on a short-term basis. This maturity schedule supports the participation of insurers in new corporate bond issues

Apple spent \$60 billion in U.S. manufacturing in 2018 across 9,000 suppliers.²² This investment helped to triple Apple’s job creation in the U.S. since 2011, increasing it from 600,000 to 2 million jobs across the country. Corporate bonds have allowed GM, Boeing, Apple, and other U.S. corporations to make large investments that have facilitated job creation and economic growth. As a result of their significant holdings in the corporate bond market, insurance companies have been able to help corporations make those needed investments.

Private placement debt

Private placements are debt securities issued by corporations that are exempt from Securities and Exchange Commission (SEC) registration requirements— purchased typically by private corporations, including family-owned businesses, that are more sophisticated than average retail investors. The private placement debt market is also a critical source of funding for corporations that prefer to raise capital privately without incurring public listing costs. These securities are only sold to sophisticated investors that can analyze and hold them. Insurers value these assets, as they offer a return premium to more liquid public bonds while also benefiting from additional covenants that private companies agree to as part of their debt offering.

Insurers are attracted to this market for a variety of reasons: The assets have a long time horizon, offer attractive yields, and carry risk that is in line with fixed-income investments of a similar profile. In 2018, the insurance industry accounted for close to \$350 billion in traditional private placement securities, with life insurers accounting for 89% of this total.²³ Given the opportunities that private debt provides, its popularity with insurers has increased. Between 2010 and 2014, the allocation of privately placed bonds as a total of bonds has grown from 25% to 28%.²⁴

Lower- and middle-market borrowers that have complex needs will also look to the private market for financing. Here, in the absence of traditional lenders, insurers have identified a unique opportunity. Between 2016 and 2017, assets under management (AUM) at private debt funds grew from \$441 billion to \$478 billion, with insurers accounting for 9% of this growth, or \$3.3 billion.²⁵ If lent to small businesses, this amount would have led to roughly \$12.6 billion in gross output for their local communities.

“Both the middle-market debt arena and the income-financing transactions arena allow us to do that (lending) where there’s clearly a need for capital. We can step in and capture a higher return than you would probably get in other markets. They are hard to do, and they’re very bespoke with contracts and negotiations. It does add value for the larger (insurance) companies that have the capability to do it.”

– Publicly Traded P&C Insurance Company

CORPORATE EQUITY

Relative to other types of investors, traditional public equity is not a priority investment for insurers because of the volatility and the capital requirements associated with the equity market.

Even with their limited investment in public equity, insurance companies still play an important role in the corporate equity market through their investments in private equity. Private equity is an ideal asset for insurers as it offers long duration and high yields. At the same time, these insurers can structure investments to limit credit risk.

“Private equity is still a very small part of our portfolio, and we tend to focus on buyout funds instead of venture because of the credit risk, but we think we can get intriguing returns compared to public equities.”

– Publicly Traded Life Insurance Company

Private equity has emerged as an increasingly popular alternative investment during the low-yield environment of the past few years, with 32% of investment decision-makers reporting that they are likely to maintain or increase their investments in private equity.²⁶

While interest in private equity is growing, it is important to recognize that it is still a very limited portion of investment portfolios due to the capital charges associated with carrying any equity investment. For the most part, the insurers with investments in private equity tend to be the largest companies with the size to support the associated capital charges of equity investments.

However, even though investment is limited, the investments in private equity do have a substantial impact on the U.S. economy. Insurance companies make up an estimated 9% of U.S. private equity investment, translating to approximately \$30 billion in 2017 investments. This \$30 billion creates an estimated 30,000 jobs in the long term from their 2017 investments.

“You tend to look at private equity and some other hedge funds on the longer end of the duration—but those are capital-intensive, so they’re very expensive to an insurance company to carry. So, you got to get a tremendous amount of return just to cover the capital charges.”

– Publicly Traded Life Insurance Company

REAL ESTATE

Insurance companies have long seen real estate as a key investment opportunity because of its long duration and minimal credit risk. Real estate also provides opportunities to invest in both liquid and illiquid assets, helping companies manage their durations. Insurance companies invest in real estate three ways: through commercial and multifamily real estate loans, direct equity investments, and mortgage-backed securities (MBS).

Commercial real estate loans

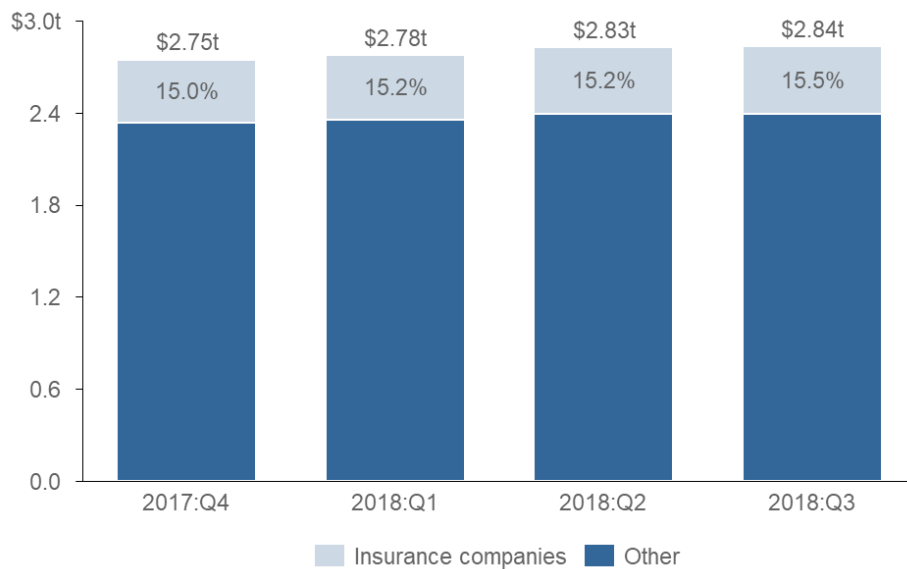


Figure 14:

Lender composition of U.S. commercial real estate loans, 2017 - 2018

Source: CBRE

“The insurance companies play a major role in the financing of the commercial real estate market in the United States. That’s the point where if insurance companies step away, that would be a meaningful, meaningful shift.”

– Publicly Traded P&C Insurance Company

Commercial real estate loans are generally for long-duration real estate investments in large commercial properties. They share similar characteristics to bonds (stream of payments, interest rate sensitivity), while also exhibiting lower correlations with other asset classes that investors may hold in their portfolio. This makes commercial real estate loans well-suited for insurers as they can obtain a high-quality and steady income stream in a diversified manner. In addition, the flexible and bespoke structure of these loans position them perfectly to manage the different durations on an insurer’s balance sheet. In the fourth quarter of 2017, life insurers alone held close to 15% of the \$3.2 trillion of debt outstanding.²⁷ In 2017, life insurance companies originated over \$60 billion of loans that helped support the acquisition of office, retail and industrial buildings across the U.S.²⁸ The sidebar on page 28 also outlines a few publicly available key investments made by large insurers.

In terms of direct economic impact from insurance companies in the commercial real estate market, it is helpful to separate out loans for new construction projects, which have more of a direct impact on the economy when compared to acquisitions of existing buildings. While insurance companies tend to limit new construction lending, some insurers offer “construction to permanent” loans for developers looking to construct and then operate a building. These loans provide funding for the initial construction period and convert into a traditional mortgage once the construction is over. Approximately 2% of commercial real estate loan originations from insurers are construction or construction to permanent loans.²⁹ This roughly \$935 million in loans in 2017 helped create an estimated 18,000 jobs for the economy.³⁰

This being said, the other 98% of commercial real estate lending still has an impact on the economy. The acquisition of commercial buildings helps support local real estate markets and indirectly creates demand for new construction and development.

REAL ESTATE EQUITY INVESTMENTS

Real estate equity investments provide a steady income and long-term return and bring stability to business communities across the country. Insurance companies often renovate and improve the quality of the commercial and multifamily spaces they invest in as landlords capture a steady stream of income through rent payments. At the same time, they are able to capture the long-term appreciation of the asset as property values increase over the 10-year or longer investment.

Recent acquisitions made by insurance companies include AIG’s purchase of an office park outside Charlotte, North Carolina, for \$114 million; MetLife’s acquisition of a \$100 million office building in suburban Boston and a \$15 million renovation for the suburban Atlanta office park it purchased in 2013; and PGIM Real Estate’s \$600 million multifamily venture joint partnership with the Carroll Organization to acquire and support over 4,000 units of workforce housing across 13 properties in Raleigh-Durham, North Carolina; Ponte Vedra Beach, Florida; and Charleston, South Carolina.

“Most of the big players in the space have large real estate origination teams and are doing both direct and participating lending with each other, as well as with some of the commercial banks. So, to keep going, you looked at probably half of Manhattan real estate is backed by insurance company debt underlying all those buildings.”

– Publicly Traded Life Insurance Company

Real estate equity

Another alternative to MBS purchases or commercial real estate lending is direct ownership of real estate properties. Here, insurers go beyond originating mortgages and take positions in real estate equity. Real estate equity provides multiple benefits to an insurer; it is long-term in nature, the asset has the potential to appreciate over time, and rental income from tenants can serve as a recurring payment stream similar to that of bonds. The approach that insurers take to their investing strategy will depend on the size of the asset to be acquired and their own capabilities. For smaller companies, it is complicated to purchase and hold real estate as an individual entity. This is due to the high capital charges and the upfront cost required to finance the purchase. As a result, smaller companies often use partnerships, participation programs, or joint ventures to access the real estate market. For large companies, direct acquisition and ownership is the easiest route to the market, and large insurers such as MetLife and Prudential are active in the purchase real estate market.

Mortgage-backed securities (MBS)

MBS are investments secured by one or multiple home mortgages. These investments receive ratings from credit rating agencies that assess the risk associated with the security. MBS provide a secondary market that allows large investors to lend capital to both individual homeowners and commercial and multifamily borrowers, allowing lenders to reach underserved communities and keep interest rates low. Insurers have investments in agency-issued MBS, commercial mortgage-backed securities (CMBS), and privately issued MBS.

MBS and CMBS provide steady income streams over a long duration, with limited risk for investors. They generally do not provide high yields, but they do act as a diversifier in portfolios. For the market, investors purchasing these assets help disperse risk and provide liquidity to lenders, and, ultimately, homeowners or building owners. Agency MBS and CMBS are generally low-risk and safe investments for many investor types.

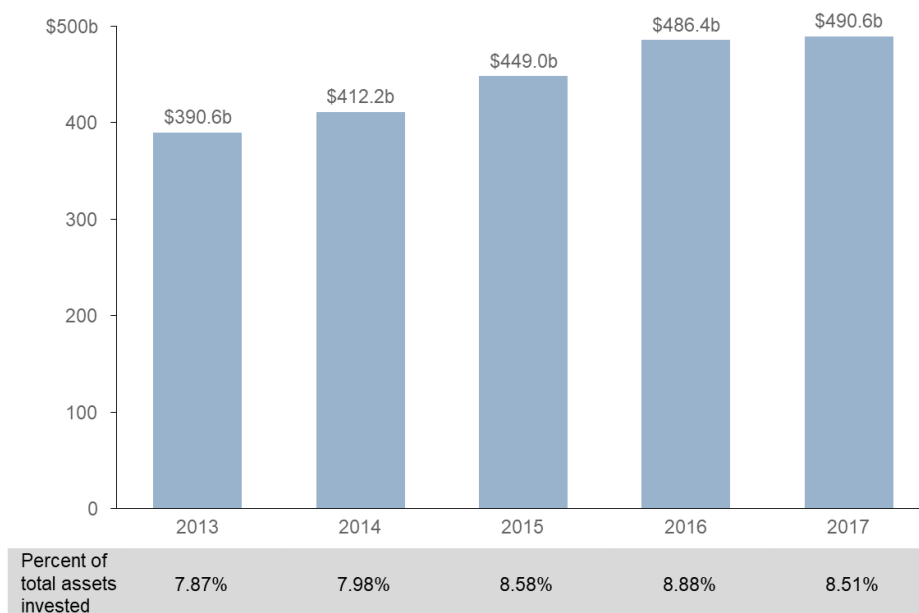


Figure 15:

U.S. life and P&C mortgage-backed securities investments, 2013 - 2017

Source: SNL (S&P Market Intelligence)

In the agency MBS market, insurers participate in the Government National Mortgage Association (GNMA) space, where capital has supported Federal Housing Authority (FHA), Veterans Affairs (VA), and similar affordable loan programs. As of 2017, life insurance companies held about \$11 billion in loans guaranteed by GNMA, and while this only represents about 1% of the roughly \$1.8 trillion GNMA market, the average GNMA loan size of about \$225,000 indicates that the tangible impact of insurance investments is significant. This is especially important as the need for affordable housing has become a growing concern in recent years.

Beyond MBS, insurers are also starting to increase their allocation to whole loan portfolios, specifically non-performing loans (NPL) and re-performing loans (RPL), as well as near prime and jumbo mortgages. By investing in these, insurers provide stability and liquidity to loan pools that are still recovering from the Great Recession. These portfolios provide a steady income stream through mortgage payments, and these products provide insurers with the ability to access higher yields in the long run than currently performing loans. Larger insurers have the resources to successfully evaluate and monitor the portfolios to ensure that the risk of default is limited and that insurers are only investing in the highest-quality portfolios but asset allocation is limited beyond a few large insurers.

Affordable and Specialty Multifamily Housing

Insurers not only make loans and investments for conventional multifamily housing, but also support thousands of units dedicated to low-income, workforce, senior, and disabled households every year. They provide direct private finance and investments and participate in government-affiliated programs such as Fannie Mae, Freddie Mac, the Department of Housing and Urban Development's FHA and Community Development, VA initiatives, and state and local affordable programs and bonds, among others. They also finance and invest in sustainable and green housing initiatives, often in conjunction with their multifamily housing market activities.

“Millions of low-income Americans are paying 70 percent or more of their incomes for shelter, while rents continue to rise and construction of affordable rental apartments lags far behind the need.”

– The New York Times, 2018³¹

Table 2 illustrates some of the publicly available affordable multifamily activities undertaken by large insurers.

Insurance company	Affordable Multifamily Activities
Prudential ³²	In 2018, PGIM Real Estate Finance helped preserve over 3,500 affordable housing units and over \$557 million in direct affordable and workforce housing financing, including a \$102 million Freddie Mac loan to support affordable and senior housing in Brooklyn, New York. As of 2017, Prudential had \$2.1 billion AUM attributed to affordable housing. ^v
MetLife ³³	Over \$200 million in community and affordable housing investments in 2017 to both the U.S. and U.K. Total portfolio amounted to \$2.4 billion.
TIAA	TIAA investments and Enterprise Homes jointly invested in a fund that purchased 43 properties, covering 4,100 units, in the mid-Atlantic in 2017 to help preserve them as affordable housing. ³⁴

Table 2:

Examples of insurance company affordable loan projects

In addition to direct financing and investment, insurers have used federal tax incentive programs, such as the Low-Income Housing Tax Credit (LIHTC) program or the new opportunity zone rules authorized by the Tax Cuts and Jobs Act of 2017, to support the development and preservation of affordable housing. Since its inception in 1986, the LIHTC has helped with the development of over 2.8 million homes. Initiatives like this have helped insurers fund projects that benefit communities, while still meeting investment targets to match future liabilities.

INFRASTRUCTURE

According to the Brookings Institution, there are some “14 million workers who are impacted by infrastructure-related sectors—this accounts for roughly 11% of the total U.S. labor force.”³⁵ With regards to economic output provided by infrastructure, a simulation carried out by the National Association of Manufacturers estimated that “by 2030, infrastructure investments would produce economy-wide returns of close to \$3 per every \$1 spent.”³⁶ It is therefore critical to finance infrastructure projects in an efficient manner.

There are two types of infrastructure financing approaches that are relevant for insurers. The first and most common way for municipalities to finance infrastructure improvements is to issue municipal bonds to finance investments with longer-term tax revenue. This bond is then tradable on the public markets. The second and less common method is for municipalities or large utilities to offer direct lending in specific projects. This method is significantly less liquid, as these direct-lending arrangements are not publicly traded and require significantly more institutional capital. Insurers offer capital to this market along with other institutional investors, such as pension funds or sovereign wealth funds.

v. “Figures are inclusive of both Prudential’s general account investments and PGIM client investments.”

INSURANCE INFRASTRUCTURE INVESTMENTS

In 2011, TIAA entered into a public-private partnership agreement to support the Interstate 595 corridor project with the Florida Department of Transportation. An integral route, I-595 carries more than 180,000 vehicles daily, with those figures set to rise. The \$1.6 billion project enhanced the experience of Floridians traveling on this road while also offering TIAA a steady stream of recurring payments. The project was eventually recognized as a model for excellence in innovative transportation financing by the American Road & Transportation Builders Association.

In 2017, MetLife Investment Management originated \$3.8 billion in infrastructure and project finance debt-related transactions. Its portfolio in infrastructure and project finance debt exceeds \$17.7 billion. It was recognized as Global Institutional Investor of the year by Infrastructure magazine in 2015.

In 2018, Prudential Capital Group launched its first energy mezzanine fund, raising \$343 million, which will be used to make investments ranging from \$10 million to \$50 million to support new and existing oil, gas, renewable, and other conventional energy facilities in North America. (Figures are inclusive of both Prudential's general account investments and PGIM client investments.)

MUNICIPAL BONDS

The traditional method of investing in infrastructure through municipal bonds continues to play a major role for insurance companies. The long-term holding nature of insurance companies aligns well with the long-term financing needs of government entities. Their presence provides stability, efficiency, and a recurring demand source in the market. Here, insurance companies are the fourth leading source of capital after individual investors, mutual funds, and banks.

Between 2010 and 2016, annual municipal issuance averaged about \$430 billion, and bond proceeds were allocated across the diverse needs of the issuers.³⁷ Based on usage of municipal bonds and insurer share of total issuance, estimates indicate that life insurers alone invested roughly \$16 billion in education, \$7 billion in transportation, \$6 billion in utilities and \$5 billion in health care projects per year.

The \$16 billion invested in education could potentially support 0.5% to 1% of the estimated 55 million students in K-12 private or public schools across the country. These investments could directly support the construction of 1,000 elementary schools, which would support around 620,000 students and close to 45,000 teachers. Alternatively, it could provide funding for 350 high schools holding around 350,000 students and 25,000 teachers. These investments ensure students are able to receive their education in safe, high-quality buildings.

With regards to transportation, the \$7 billion in investments per year would be sufficient to pave 2,300 miles of road annually, the length of a road from Washington, D.C., to Los Angeles. This level of investment could help rebuild up to about 1% of the total mile network in the U.S. (4 million miles) every year.

Insurers investing in these markets helped keep the cost of funding down for debt issuers and provided public entities with the ability to offer services similar to what has been previously discussed to their constituents.

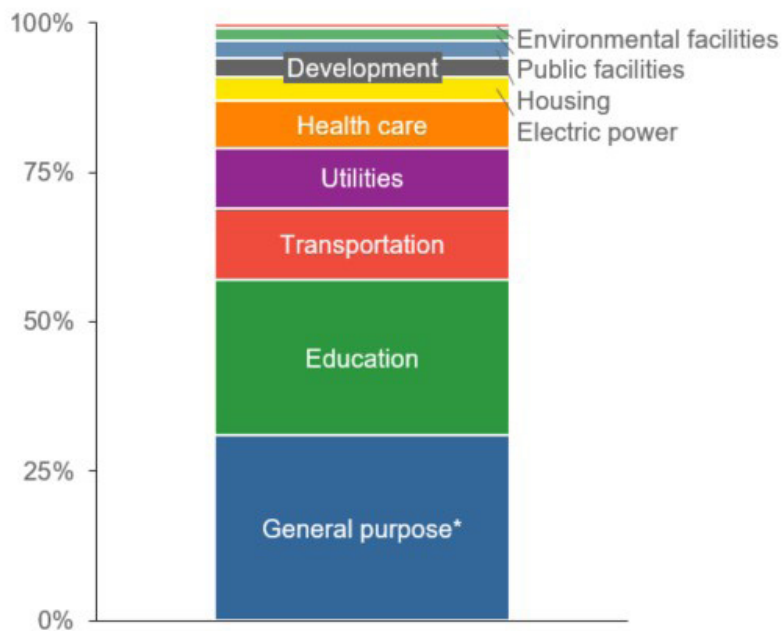


Figure 16: Use of proceeds from municipal bonds issued between 2010 & 2016

*These are funds used for general public works facilities and improvements.

Source: MSRB

\$3 trillion total issuance with an average of \$430 billion

Direct infrastructure investments

The profile of direct infrastructure investments makes them ideal for private-sector investors with long-term horizons and large capital bases. These investments require sophisticated knowledge and expertise from investors that allow them to navigate a complex risk-return asset profile across the life cycle (from planning to construction to wind-down). As of 2017, global insurance companies had allocated over \$1 trillion³⁸ in direct infrastructure projects, and participants expect this allocation to increase as insurance companies look to achieve their target asset allocation.

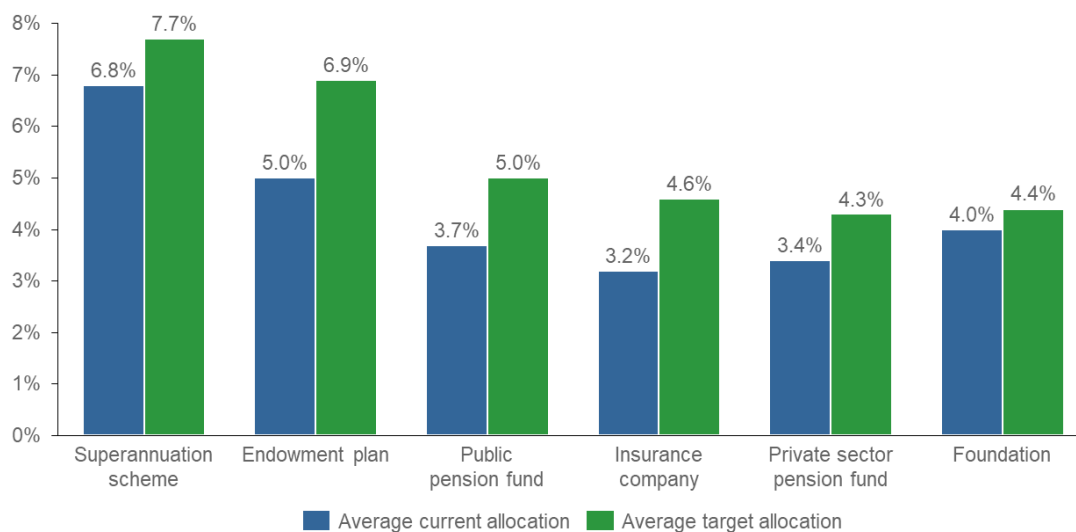


Figure 17: Institutional investors' current and target allocations to infrastructure by type, 2017

Source: Preqin

Insurance companies accounted for approximately 6% of infrastructure investments in 2016, investing roughly \$26 billion.³⁹ Based on available estimates of the economic multiplier of infrastructure investments, these investments translate to approximately 250,000-600,000 jobs.

AGRICULTURE FINANCE

Agriculture is a key driver of the U.S. economy, and insurers support this by providing private financing for agricultural loans. As of 2015, agriculture and related industries accounted for roughly 5.5% of total U.S. GDP and contributed close to \$992 billion to GDP.⁴⁰ According to the U.S. Department of Agriculture (USDA), agriculture, both directly and indirectly, was responsible for over “21.6 million full- and part-time jobs.”⁴¹

By its nature, agriculture is a long-term investment that requires patient and engaged capital providers. These characteristics are ideal for investors with low liquidity needs and a desire to be involved for the longer term, and insurers fit this profile. As of the third quarter of 2018, insurers account for about 6%, or close to \$14 billion, of total U.S. farm mortgages, or 12% of farm mortgages from nongovernment lenders.

Agriculture credit provides farmers, landowners, and rural communities with a consistent and stable source of capital. Credit can also be extended to finance rural infrastructure. Across the value chain, loans are used for horticulture, livestock, food products, and more. Loans made by insurers are aligned to the time horizons of the borrower and are usually secured by a first lien on collateral (e.g., land and buildings). This financing by insurers supports jobs and creates economic growth.

Insurance companies also contribute to the stability of the agricultural real estate mortgage market structure. Working alongside other agricultural lenders, including banks and members of the Farm Credit System (FCS) funding corporations, insurers provide the agricultural market with another source of stable, long-term financing. These loans ultimately find their way into the secondary market through Farmer Mac (Federal Agricultural Mortgage Corporation). This system supports over 550,000 borrowers with agriculture-related needs across the U.S. and in Puerto Rico.

According to Federal Reserve flow data, in 2017, life insurance companies invested approximately \$700 million in new agricultural mortgage loans.⁴² These investments could support over 530 entire farms in 2017.⁴³ In terms of the purchase of farm equipment, insurers’ \$700 million of investments in 2017 would have been sufficient to finance around 6,100 farms’ machinery.

INSURANCE AGRICULTURE INVESTMENTS

MetLife is a major player in the agricultural mortgage space, with more than \$14.5 billion in its loan portfolio. Investments in 2016 included:

- \$49 million in a 20-year loan to Rose Acre Farms in Arizona, the second largest producer and marketer of eggs in the U.S.
- \$30 million in a 10-year loan to Keweenaw Land Association Limited, a forest products and land management company based in Michigan and Wisconsin
- \$11.1 million to Good Luck Properties LLC in Mississippi, for a family-managed farm involved in the production of cotton, rice, and row crops

In 2014, TIAA worked with the Napa Sanitation District in Napa County, California, to support the building of a system to recycle wastewater. Through its affiliate Nuveen, \$2 million in capital and property easements were provided to develop an irrigation pipeline. This supported 40 landowners and cut their irrigation costs by up to 65%. TIAA has also participated in the Yazoo Mississippi Delta voluntary flow meter irrigation program. This manages water flow to mitigate issues related to water availability in the delta.

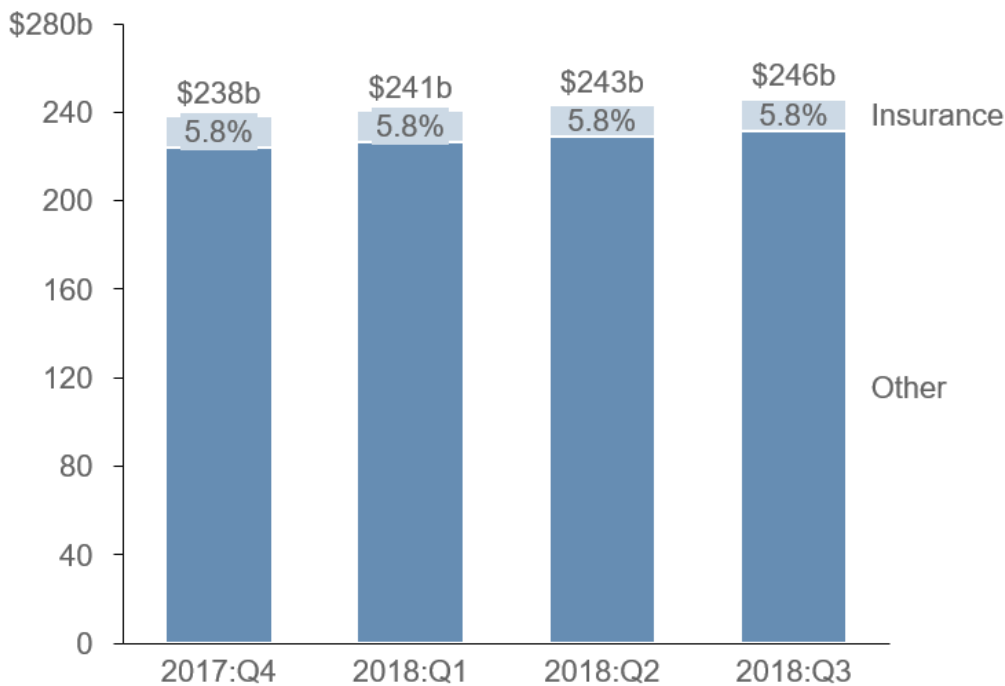


Figure 18:
Lender composition of U.S. farm mortgages 2017 - 2018

Source: U.S. Federal Reserve

CONCLUSION

U.S. insurance companies play a key role in the capital markets and ultimately have an outsized impact on the nation's economy, its communities, and its individuals through their investments. Their focus on long-term, lower-risk investments provides stability to the market, and their ability to provide capital to those who are struggling to access it helps drive economic growth. Insurance investments touch all aspects of the economy and have a positive impact on farmers, homeowners, and businesses across the country. Insurers have invested trillions of dollars in the U.S. economy, helping companies grow and innovate, Americans purchase homes, and large-scale infrastructure and commercial projects get off the ground. As a result, insurance investments have a positive impact on the U.S. economy, providing stability, injecting capital, and, ultimately, driving economic growth.

Insurance companies make up a sizeable portion of the overall U.S. capital markets. Their focus on fixed-income investments has made them important players in asset classes such as corporate bonds and municipal bonds. Insurance companies also play a significant role in alternative asset classes, such as commercial real estate loans, private placement debt and farm mortgages. In each of these markets, insurance companies use their experience, access to liquidity and long-term focus to build out a key market position through a unique investment approach.

Insurance companies are valuable to the capital markets, not just because of the volume of their investments, but because their unique strategy helps bring stability and liquidity to the market. Insurance companies need to ensure their investments are aligned with their business model, and, specifically, assets need to align with liabilities both in terms of yield and duration. With a business model built around long-term illiquid liabilities, insurance companies focus on investments with longer durations and less risk than other institutional investments. Insurance companies take the long view of the market and are able to sacrifice short-term liquidity in exchange for long-term, low-risk illiquid assets, which provide a steady stream of income over the holding period. This long-term view, ability to provide liquidity, and focus on low-risk assets help stabilize the capital markets over the long term.

When looking at specific asset classes, it is clear how insurers' investments directly impact the economy. Their annual municipal bond investments could help fund the construction of up to 1,000 elementary schools, and their transportation investments could build a road from Washington, D.C., to Los Angeles each year. Insurers' involvement in MBS and commercial and multifamily real estate helps provide homes for families of all incomes and stability in the housing market. Their agriculture investments could help provide mortgages for over 530 farms a year or financing for equipment purchases for close to 6,100 farms. Private-equity funding helps create 10 jobs for every \$1 million invested, and with close to \$30 billion invested in 2017, they help create 30,000 jobs. Corporate bonds help companies build, expand, and renovate their operations, creating thousands of new jobs each year. These projects would not be possible without the capital provided by insurers. All this underlines the importance of insurance companies not only to the capital markets, but also to the overall U.S. economy.

APPENDIX

Investment type	Investment/ project type	Methodology
Corporate debt	Corporate bonds	<p>Identified total bond issuance in 2017 (\$775 billion) from public sources, and the estimated percentage that was used for stock repurchases (roughly 75%) from public sources as well (Source: SNL, NAICS)</p> <p>By elimination, determined that 20% to 25% of newly issued bonds are for new business investment</p> <p>Roughly \$530 billion^{vi} in corporate debt was purchased by life insurance companies in 2017 (Source: SNL). Of this, 20% to 25% was used for capital expenditure¹⁷</p>
	Private placement	<p>Identified committed capital raised by private debt funds between 2016 and 2017 was approximately \$37 billion (Source: Preqin)</p> <p>Estimated insurance share of this at 9% (in line with public data showing that the global share of private debt investments held by insurers is 9%. The U.S. accounts for over 50% of the total market.)</p> <p>Obtained estimates for community and economic impact of lending to small businesses (Source: SBA). Estimated that this figure would be the conservative estimate of output impact, which implies lending would have led to \$12.6 billion in gross output for their local communities⁶</p>
Corporate equity	Publicly traded equity	<p>Insurers have limited share of investments in public equity, which are highly liquid</p>
	Private equity	<p>Using public sources, identified that roughly \$300 billion was invested in private equity (PE) during 2017</p> <p>Estimated that insurance companies account for about 9% (roughly \$30 billion) of total market</p> <p>Identified job impact using impact analysis of PE industry (about 10 jobs per \$1 million invested) (Source: American Investment Council)⁷</p>

vi. Notes: in 2017, life insurance companies held about 6.6% of their bond portfolio in assets with a maturity of less than one year, and about 25% in assets with maturities of one to five years. This amounts to an average of about \$140 billion in corporate bonds that will mature in 12 months and another \$532 billion that will mature on a short-term basis. This maturity schedule supports the participation of insurers in new corporate bond issues.

Investment type	Investment/ project type	Methodology
Real estate	Mortgage-backed securities	<p>Used public records to determine that the current stock of mortgage-backed securities held by insurance companies is about \$490 billion (Source: SNL)</p> <p>Used average mortgage size outstanding of roughly \$148,000 to approximate the number of loans held by insurers and eliminated close to 35% of mortgages that are estimated to be refinances⁸</p>
	Non-performing/ re-performing loan pools	<p>Primary impact is the indirect effect of provided liquidity to support wind-down of pools of non-performing loans from 2008 recession</p>
	Commercial real estate loans	<p>Used public data to determine that in 2017, roughly \$490 billion in large-cap commercial real estate lending exists</p> <p>Using public data, estimated that 11% was initiated by insurers equating to about \$54 billion in 2017</p> <p>Estimated that roughly 2% are construction loans for about \$935 million in construction loans; applied multipliers from NAIOP to calculate impact on economy and number of jobs created¹⁰</p>
	Real estate equity	<p>Insurers purchase, renovate, and operate commercial and multifamily real estate buildings in housing, office, industrial, and retail sectors; building improvements could drive additional real economic impact. Every \$1 of additional spending by insurance companies over previous owner equates to \$2.64 in real economy¹¹</p>
Infrastructure	Municipal bonds	<p>Identified total municipal bonds purchased by life and P&C insurance companies in 2017 (Source: SNL)</p> <p>Reviewed historical proceed use across sectors (Source: MSRB)</p> <p>Approximated investments in the various sectors accordingly by aligning total municipal bonds purchased and sector allocations (Source: MSRB)</p> <p><i>Education:</i> Estimated \$16 billion in 2017 insurance investments—used public reports to identify median construction cost and school size to calculate impact on number of schools, students, and teachers¹²</p> <p><i>Transportation:</i> Estimated \$7 billion in 2017 insurance investments—used public data to average the cost of building a mile of single/two lane/highway road and determined the total potential¹³</p>

Investment type	Investment/ project type	Methodology
Infrastructure	Direct infrastructure/ Private-public partnerships	<p>Used public sources to identify new infrastructure deals (assets under management) raised in the U.S. by closed end funds (\$487 billion) (Source: Preqin)</p> <p>Estimated conservatively insurance company portion of infrastructure investors based on historical public data (about 6%) (Source: SNL)</p> <p>Aligned this figure to determine net raised capital allocated to insurance companies</p> <p>Applied multipliers to net raised capital to approximate implied new jobs (Source: Economic Policy Institute)</p> <p>New investments: About \$26 billion in 2017 in insurance investments from 6% of total infrastructure investments; economic impact calculated using infrastructure investment employment multipliers from multiple studies¹⁴</p>
Agriculture finance	Agricultural loans for land, building, and equipment	<p>Estimated life insurance company purchase of agricultural mortgage loans in 2017 (Source: Federal Reserve/USDA data). (About \$700 million)</p> <p>Used average market value for an acre, and the average farm size, to calculate number of farms (Source: USDA)</p> <p>Used average cost of machinery to calculate the number of farms whose equipment purchases could be financed¹⁵</p>

Source: U.S. Federal Reserve

Information contained herein has not been independently verified and is subject to material change based on continuing review. Accordingly, the information contained herein is not intended to be and should not be relied upon by any third party or as legal, auditing, or accounting advice.

With respect to the information contained herein, there has not been any examination, compilation or application of agreed upon procedures to such information in accordance with attestation standards established by the American Institute of CPAs. Consequently, no assurance of any kind is given with respect to, or on, the information presented. There will usually be differences between forecasted and actual results because events and circumstances frequently do not occur as expected and those differences may be material. As a result, no responsibility for the achievement of forecasted results is made. Accordingly, reliance on this report is prohibited by any third party, as the information contained herein is subject to material change and may not reflect actual results.

1. Preqin, “Growing Interest in the Lower Middle Market,” May 2017
2. Stephen S. Fuller, “Economic Impact of Commercial Real Estate,” 2018, NAIOP Research Foundation
3. Preqin, “North American Infrastructure Deals,” November 2017
4. Michael W. Roberge, Joseph C. Flaherty Jr., Robert M Almeida Jr., Andrew C. Boyd, May 2018, “Lengthening the Investment Time Horizon,” MFS Investment Management
5. Kriti Gupta, January 2019, “This analyst makes the bull case for U.S. equities,” Bloomberg, James Lord, January 2018, “S&P 500 bond index sees record issuance in 2017,” ETFStrategy
6. Nam D. Pham, Alex J. Triantis, Mary Donovan, May 2018, “The Economic Benefits of Online Lending to Small Businesses and the U.S. Economy,” NDP Analytics
7. American Investment Council, September 2016, “New Report: Private Equity Boosts Local Employment Growth”
8. Stephen S. Fuller, “Economic Impact of Commercial Real Estate,” 2018, NAIOP Research Foundation
9. Stephen S. Fuller, “Economic Impact of Commercial Real Estate,” 2018, NAIOP Research Foundation
10. Sam Davis, April 2018, “Role of Insurance Companies in the Financing of Commercial and Multifamily Real Estate in America,” Mortgage Bankers Association
11. Stephen S. Fuller, “Economic Impact of Commercial Real Estate,” 2018, NAIOP Research Foundation
12. School Planning & Management, July 2015, “School Costs: Did You Know...”
13. Frank Elswick, January 2016, “How much does it cost to build a mile of road,” Midwest Industrial Supply Inc.
14. Josh Bivens, July 2017, “The potential macroeconomic benefits from increasing infrastructure investment,” Economic Policy Institute
15. USDA: ARMS Farm Financial and Crop Production Practices, National Agricultural Statistics Service
16. Brian Bonis, Jana Ihrig, Min Wei, April 2017, “The Effect of the Federal Reserve’s Securities Holdings on Longer-term Interest Rates,” Federal Reserve
17. Kriti Gupta, January 2019, “This analyst makes the bull case for U.S. equities,” Bloomberg, James Lord, January 2018, “S&P 500 bond index sees record issuance in 2017,” ETFStrategy
18. U.S. Census Bureau, 2017, “2017 Annual Capital Expenditures Survey”
19. “GM to invest \$1 billion in U.S. factories and create or keep 7,000 jobs here,” Jan. 17, 2017, Los Angeles Times
20. Vlastic, B. (April 30, 2015). “G.M. to invest \$5.4 Billion to Modernize Factories,” The New York Times
21. Gates, D. (July 7, 2009). “Boeing’s buy of 787 plant will cost \$1B,” The Seattle Times
22. Price, E. (Jan. 28, 2019). “Apple Spent \$60 Billion in the U.S. on Manufacturing in 2018,” Fortune
23. NAIC, January 2019, “Private Placements”

24. David Cummins, Michael Cragg, Bin Zhou, Jehan deFonseka, October 2016, “The Social and Economic Contributions of the Life Insurance Industry,” The Brattle Group
25. Preqin, 2018
26. James Comtois, April 2018, “Insurers less optimistic on investment opportunities, plan on lowering risk – survey,” Pensions & Investments
27. CBRE, May 2018, “Commercial Real Estate Lending Markets Robust in Q1 2018 Despite Recent Financial Market Volatility,” Sam Davis, April 2018, “Role of Insurance Companies in the Financing of Commercial and Multifamily Real Estate in America,” Mortgage Bankers Association
28. Sam Davis, April 2018, “Role of Insurance Companies in the Financing of Commercial and Multifamily Real Estate in America,” Mortgage Bankers Association
29. Stephen S. Fuller, “Economic Impact of Commercial Real Estate,” 2018, NAIOP Research Foundation
30. Stephen S. Fuller, “Economic Impact of Commercial Real Estate,” 2018, NAIOP Research Foundation
31. Thrush, G. (July 27, 2018). “As Affordable Housing Crisis Grows, HUD Sits on the Sidelines”
32. PGIM. (2018). Affordable Lending
33. MetLife. (2018). Community and Affordable Housing Investments
34. Enterprise Community Partners, August 2017, “More than 4,100 Rental Homes to Remain Affordable through Joint Venture between TIAA Investments and Enterprise Homes”
35. Robert Puentes, January 2015, “Why Infrastructure Matters: Rotten Roads, Bum Economy,” The Brookings Institution
36. Jeffrey Werling, Ronald Horst, September 2014, “Catching Up: Greater Focus Needed to Achieve a More Competitive Infrastructure,” National Association of Manufacturers
37. MSRB, 2017, “Municipal Bonds: Financing the Nation’s Infrastructure”
38. TIAA, 2017, “Building Roads to the Future”
39. Preqin, “North American Infrastructure Deals,” November 2017
40. USDA Economic Research Service, April 2017, “Agriculture contributed \$992 billion to the U.S. economy in 2015”
41. USDA Economic Research Service, April 2017, “Agriculture contributed \$992 billion to the U.S. economy in 2015”
42. Financial Accounts of the United States–Z.1. (Dec. 6, 2018). Retrieved from Federal Reserve
43. USDA: ARMS Farm Financial and Crop Production Practices, National Agricultural Statistics Service



CENTER FOR CAPITAL MARKETS
COMPETITIVENESS.



@USChamberCCMC



/CCMC-US-Chamber

CenterforCapitalMarkets.com