RESEARCH
16 September 2024

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2023 Was Another Challenging Year for Insurance Expenses

SUMMARY

Insurance coverage cost and availability has become an increasing pain point for commercial real estate (CRE) market participants. Property insurance expenses traditionally inflated by roughly two to three percent per year, which is a typical expense budgeting target of underwriters, lenders and asset managers. However, year-over-year insurance cost growth has spiked to over 20% in some markets in recent years. We found that on average nationally, CRE properties have seen about a 9.7% annual growth rate since 2017. The average cost of insurance tends to be much higher for properties exposed to acute climate risks, but the elevated insurance expense growth rate is largely ubiquitous across the country.

On top of this, some property owners are struggling to get coverage or maintain the requisite coverage in their loan agreements, which leads to rippling implications for lenders. Understanding the growing insurance expense trends and availability challenges provides an important foundation from which to preemptively factor this into underwriting and structuring deals around insurance requirements. Exploring the potential drivers of these changes can also begin to indicate how these trends may evolve over time.

We reviewed the insurance costs trends of over 100,000 properties over the last 20 years and published an initial analysis in August 2023. In this new report we update the analysis with 2023 data, which shows insurance costs continuing to spike. We summarized trends in insurance rates nationally and identified the markets with the highest insurance costs and rate of cost inflation. We also differentiated properties and their insurance costs where our modeling suggests the greatest potential damage and business interruption due to acute climate-related hazards, such as hurricanes, floods and wildfires.

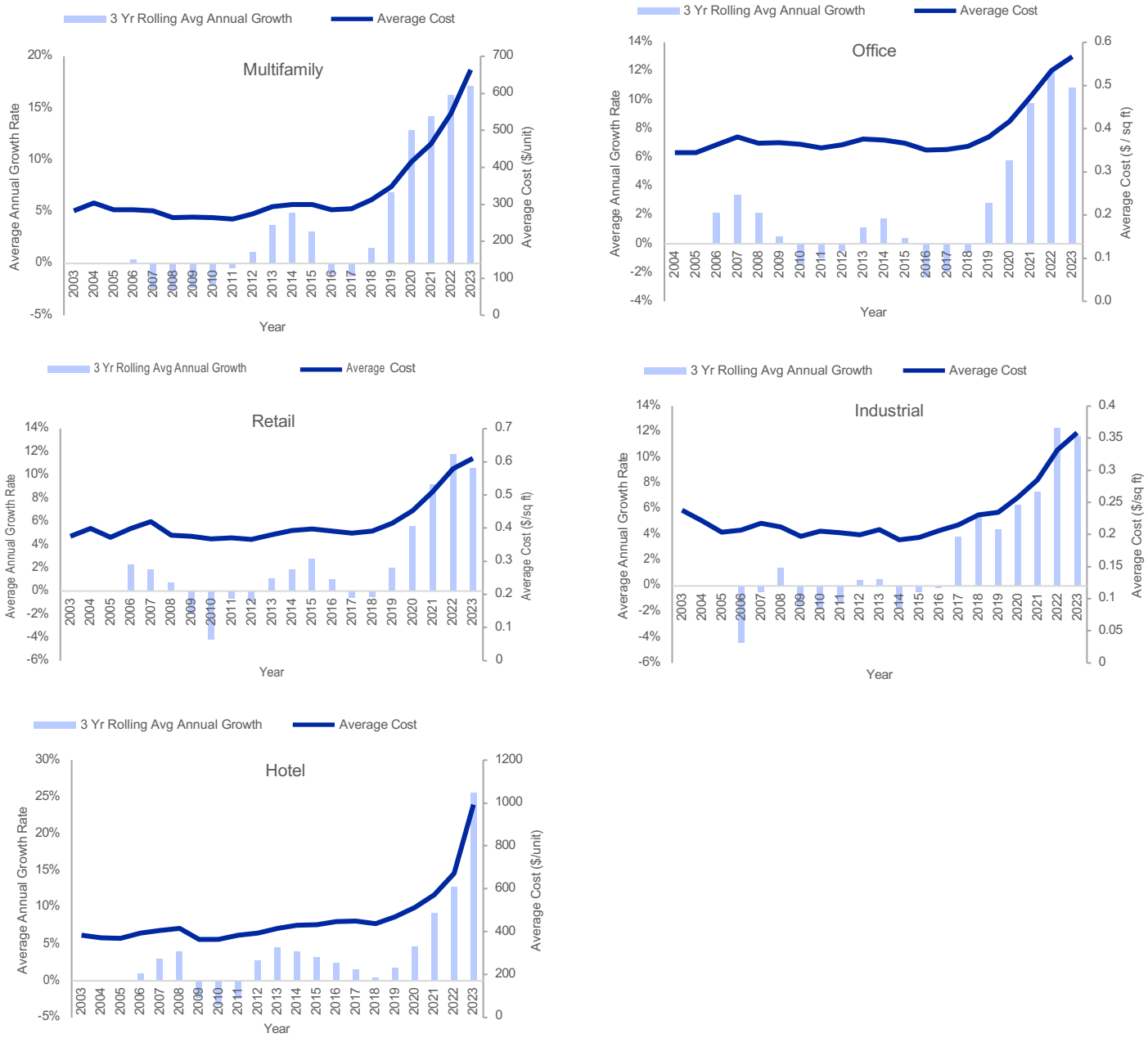
INSURANCE RATES ARE RISING NATIONALLY

Insurance rates are increasing nationwide, with a particular spike in the last six years. Overall insurance rates tend to increase gradually over time, as we would expect given inflation. Our data shows that during times of economic downturn (ie 2009-2011) prices decline gradually rather than increasing gradually. We also see that beginning around 2018 or 2019, depending on the property type, the rate of increase in the past several years is noticeably higher than the gradual increase of previous years.

While different property types show moderately different rates of increase, the trend is consistent for all of them, as Figure 1 illustrates. This trend is also ubiquitous across geographies, supporting a more anecdotal theme heard repeatedly and increasingly in the market: the recent rapid increase in insurance premiums is proving challenging or prohibitive for some CRE

transactions, particularly for lenders that have long relied on insurance to offload most physical risks associated with properties.

FIGURE 1 Average annual insurance and rolling average annual growth in insurance by property type



Source: Moody's CRE

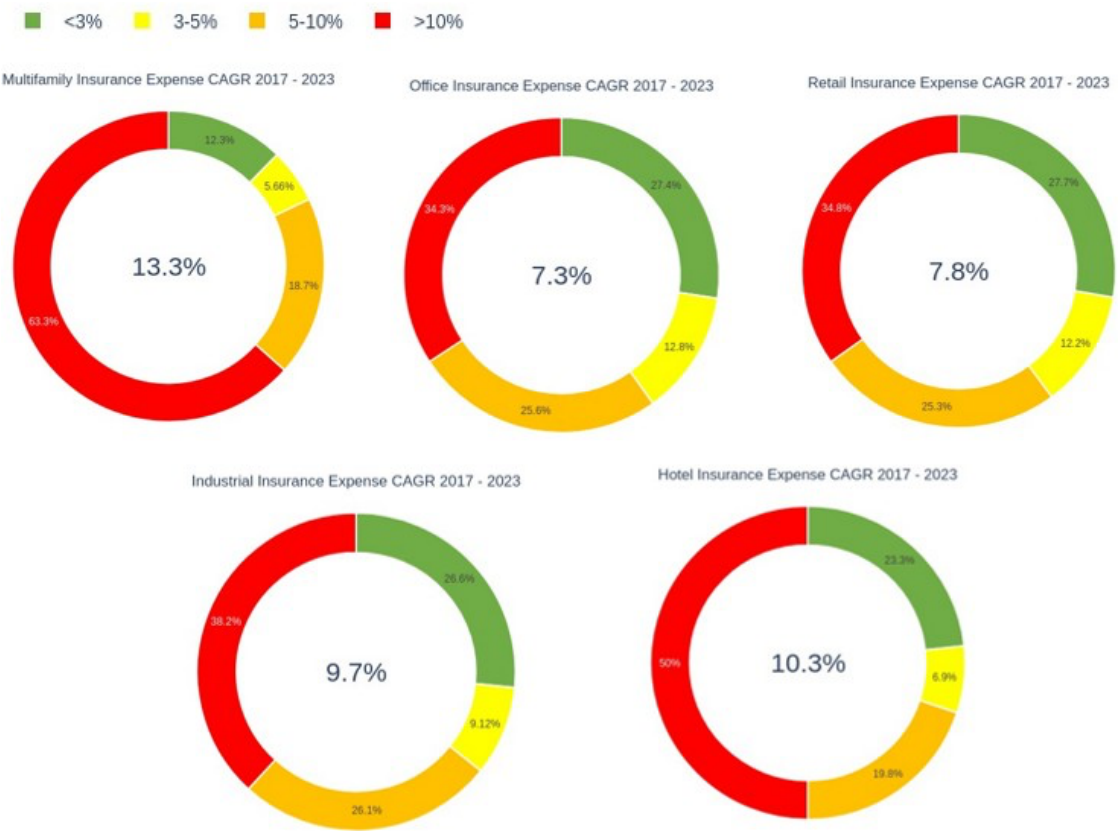
LOOKING PAST THE AVERAGES, COST INCREASES SKEW HIGH

There is a wide distribution of insurance cost growth around the national average. There is a significant share of properties that have maintained historically normal insurance inflation, but the distribution does skew toward the higher-than-average expense increases. The cost growth is not isolated to a small handful of properties or markets.

Among all properties we examined, the biggest share of them experienced insurance cost compound annual growth rates (CAGRs) above 10% from 2017 through 2023, as Figure 2 shows. This was the case across all CRE property types. Additionally, the majority of properties across each property type saw insurance premium CAGRs over 5% over the last six years.

The bottom line is that, if these trends continue, most properties are likely to see well-above historical average insurance expense growth. One of the differentiators is that some markets' insurance costs are growing at higher rates than others, which we'll dive into in the next section.

FIGURE 2 Distribution of insurance expense CAGR (2017-2023) across properties1



Note: [1]National average CAGR shown in middle of charts.

Source: Moody's CRE

SOME METROS ARE TRENDING MUCH WORSE THAN OTHERS

Insurance expenses are trending higher than prior to 2017 in the vast majority of markets, but some metros are feeling the pain much worse than others, with many having average annual growth rates above 10%. There isn't an obvious relationship between region of metros and insurance cost growth. Metros with the highest median rate of insurance increase are spread across the country, but Texas, Sunbelt, and California metros tended to be among the metros with highest growth rates.

We also noted that the property type with the most metros having >10% annual insurance cost growth rates since 2017 was multifamily. Therefore, in the remainder of this section, we've focused on multifamily metros and their insurance trends. Similar metro trend data for the other property types is provided in the Appendix.

Table 1 shows insurance expense CAGR alongside rent CAGR for additional context for "real" expense growth, inasmuch as expenses are impacting the bottom-line property net operating income (NOI).

TABLE 1 Metros in descending order of 2017-2023 insurance expense CAGR for mutlifamily[1,2]

METRO	INSURANCE CAGR	RENT CAGR
Cincinnati	27.2%	5.1%
Kansas City	19.6%	5.2%
Sacramento	19.3%	5.1%
San Antonio	19.2%	4.1%
Houston	19.1%	4.1%
Dallas	18.4%	5.9%
Harrisburg	17.9%	4.1%
Fort Worth	17.7%	4.8%
Los Angeles	16.5%	4.6%
Orange County	16.1%	5.0%
San Bernardino/Riverside	16.1%	6.2%
Miami	15.7%	7.3%
Denver	15.1%	5.6%
Orlando	14.6%	6.9%
Baltimore	13.9%	3.5%
Nashville	13.1%	6.5%
Chicago	13.0%	5.4%
Oklahoma City	13.0%	3.4%

Portland	12.7%	4.7%
Charlotte	12.7%	6.3%
Las Vegas	12.5%	7.1%
Seattle	11.8%	5.3%
Tampa-St. Petersburg	11.4%	7.5%
Omaha	11.1%	5.5%
Austin	10.8%	5.3%
Atlanta	10.6%	5.8%
Suburban Maryland	10.5%	2.9%
Philadelphia	10.2%	5.2%
Rochester	10.1%	5.3%
San Diego	9.9%	5.5%

Note: [1] To obtain the median CAGR by metro we calculated the CAGR for each property with an insurance value in 2017 and 2023 and then took the median of that sample. See the Appendix for the highest and lowest CAGRs and insurance prices for the other four property types. [2] To obtain rent CAGR we used average metro level rent growth from 2017 through 2023.

Source: Moody's CRE

Higher rates of increase of insurance expenses do not appear to be isolated to metros with the highest CAGR for rent, meaning insurance expenses are exceeding general metro-level rent inflation in most cases. However, it is noteworthy that Florida metros, some of which have high insurance cost CAGRs, also have seen some of the highest growth in rents. Florida metros have experienced both high general inflation on top of having insurability issues stemming from hurricane risk. These metros exemplify that a mix of factors can drive insurance rates, which we'll discuss more in the next section.

When it comes to the level of property insurance cost, rather than rate of change, we see some similar metros in Texas, Florida and California, as well as some different metros on top, with a wide range around the average (see Table 2). Many of the metros with the highest median insurance expense tend to be large metros which have higher value properties.

TABLE 2 Multifamily metros in descending order of 2023 insurance cost[1]

METRO	INSURANCE CAGR
Miami	1309.05
Houston	1091.50
New York	1013.14
Northern New Jersey	802.56
Oklahoma City	776.34
Tampa-St. Petersburg	749.10
Kansas City	744.18
Dallas	723.72
Orlando	714.10
San Antonio	668.69
Fort Worth	650.55
Boston	616.53
Cincinnati	595.75
Sacramento	592.75
Philadelphia	579.22

METRO	INSURANCE CAGR
Chicago	567.14
Denver	498.86
Orange County	498.27
Rochester	490.30
Atlanta	490.27
Norfolk/Hampton Roads	486.67
Nashville	474.63
Austin	458.82
Baltimore	443.08
Suburban Maryland	432.25
Harrisburg	427.70
Milwaukee	426.21
Portland	407.64
Omaha	405.56
Charlotte	388.43

A VARIETY OF FACTORS DRIVE INSURANCE TRENDS

We know that many factors affect the insurance market, interacting to drive insurance premiums. Among others, these factors include general inflation, social inflation, litigation, increasing frequency and severity of natural catastrophes, liquidity in the insurance capital markets, and the responses of reinsurers and regulators to these factors.

Firstly, general inflation has been affecting many aspects of the US economy, as prices continue to increase. However, as RMS explains, the impact of inflation on insurance premiums is driven

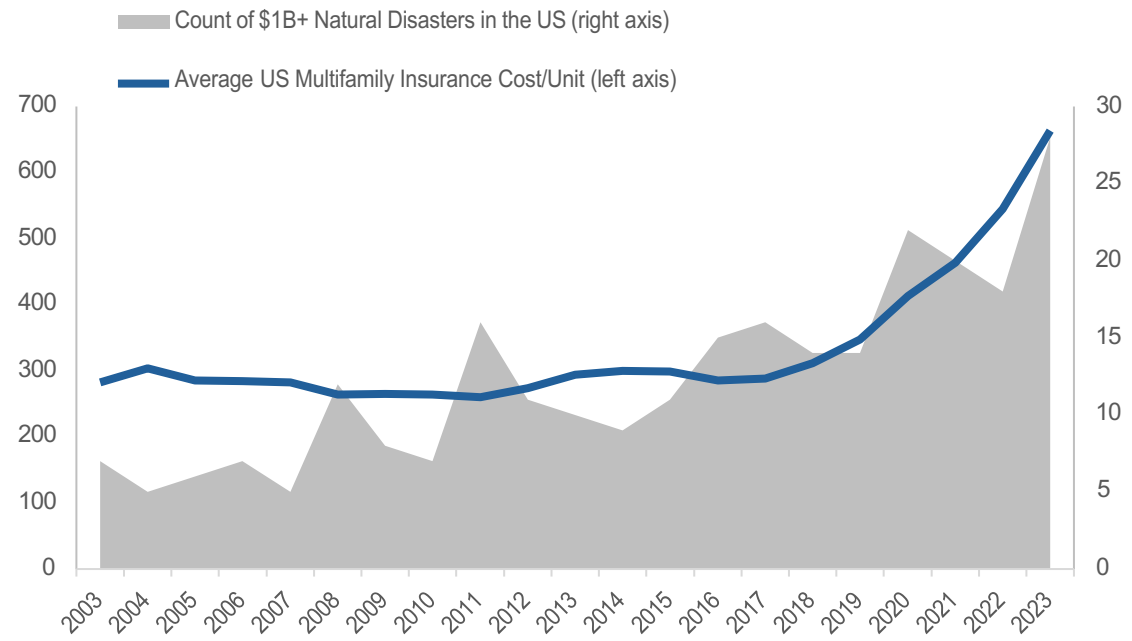
by more nuanced factors than the price of general goods typically captured by the Consumer Price Index. A more informative metric might be something like the Producer Price Index which shows that construction costs stopped rising as rapidly over the past year. However, this index is also highly volatile, reflecting the nuanced supply chain challenges and demand fluctuations specific to construction materials. As inflation of construction materials leads to higher insurance payouts, this is likely to affect insurance pricing over time. Although it's unclear how year-over-year fluctuations of a construction index like the Producer Price Index will take hold on a long-term basis. This type of inflation also affects insurers through its impact on reinsurers, potentially leading to a lag time for it to thoroughly get priced in by primary insurers.

Another factor influencing rising insurance premiums is social inflation, which refers to the way in which insurers' costs rise above the rate of economic inflation. For example, in Florida, there was a "25 percent rule" which mandated that if 25% or more of a roof is deemed damaged, the entire roof must be replaced. While the rule has since been amended, it did contribute to "loss creep," in which insurance payouts end up being higher than one would expect purely looking at storm damage. However, rules like this also pave the way for a bustling litigation landscape. In fact, Florida's Office of Insurance Regulation points to insurance fraud as a key driver of rising insurance premiums. The state only has about 9% of insurance claims in the nation, but has over 76% of property insurance lawsuits. From outright fraud, such as claiming a roof is storm damaged when it's really just aging, to more nuanced litigation around proving whether or not 25% of a roof has been storm damaged, these issues play a large role in the Florida insurance market. However in spring 2023 Florida implemented new insurance regulations targeting these challenges, and has seen some improvements over the past year, with litigation decreasing. Detailed analysis of various risk drivers can start to parse out the impact of social inflation on increasing insurers' loss ratios and in turn rising premiums.

Accelerating growth in claims from climate-related hazards is also contributing to this rise in insurance premiums, and the ramp up in insurance costs does appear to follow closely with the growth in number of billion-dollar-plus loss events in the US (see Figure 3). The average combined ratio for homeowners insurance in 2014-2023 was 101.3%, showing that insurers paid out more claims than they earned in premiums. The impact on insurance costs appears particularly acute in states like California and Florida with substantial exposure to repeated extreme events. In 2023, these states' five-year average loss ratios for homeowners insurance were 117% and 80% respectively. In California, property & casualty insurers and their reinsurers had $36 billion in losses from the 2017 and 2018 wildfires, with their 2017 loss ratio over 200%.

Insurers are also pulling out of some highly exposed areas, further complicating the market. For example, State Farm will no longer write new home or business property insurance policies in California, and Allstate stopped selling new homeowners insurance policies in 2022. These challenges around insurance availability are interacting with other factors like affordability and local amenities which drive migration and development to certain areas. In some cases these locations continue to have a growing demand that has not yet significantly been curbed by these challenges. Meanwhile, like many others, Florida's insurance market is in flux. While several insurers went insolvent or pulled coverage from the state over the past two years, several other companies have newly entered the market and policies on the state's insurer of last resort, Citizens, has decreased from it's all time high in fall of 2023.

FIGURE 3 Multifamily insurance costs and US natural disasters



Sources: NOAA National Centers for Environmental Information (NCEI), Moody's Analytics CRE, Moody's Analytics CMBS.

The structure of an insurance market also influences the availability and affordability of insurance, interacting with the impacts of extreme events. For example, much of the Florida insurance market is composed of small, non-diversified insurance companies. These local companies face substantial loss when a major hurricane hits, given the concentration of their business activities. They in turn rely heavily on reinsurance, which is facing similar challenges and are also increasing their premiums accordingly, which in turn further challenges the primary insurers. Due to current market conditions, some reinsurers may have large unrealized losses on their fixed income investments due to high interest rates. This can present liquidity risk if severe catastrophes do occur.

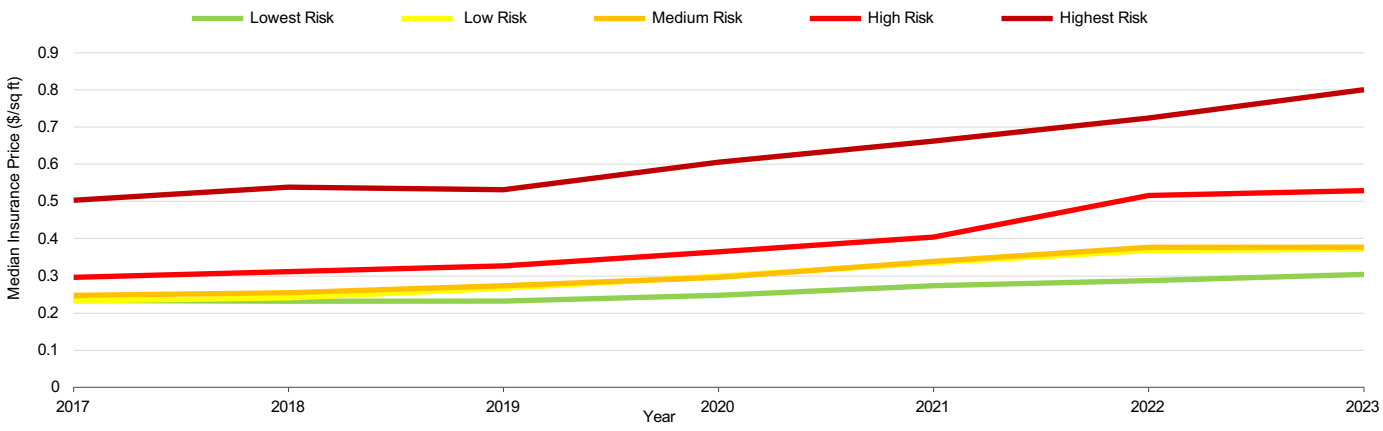
Insurance market regulation is another factor with significant, but not straightforward impacts on insurance expense and availability. As discussed above, Florida has taken regulatory action to reduce litigation costs and thus reduce insurance premiums. Meanwhile, California is traditionally heavily focused on consumer protections and in some cases this has helped to keep premiums artificially low. This may be one reason there has been a surge of insurers leaving the state or specific markets over the past two years. However, the California Insurance Commissioner is working on comprehensive insurance reform to address these challenges. For example, he has proposed plans to allow insurers to use catastrophe models to set wildfire premiums, which would enable premiums to better reflect risk. While these changes may not reduce premiums, they could help address the challenges of availability of insurance. They provide one example of the multifaceted impacts that will likely come from ongoing efforts to address the ongoing insurance crisis.

UNPACKING ONE DRIVER OF RISING PREMIUMS: CLIMATE HAZARD EXPOSURE

Leveraging the expertise and analytical tools of Moody's RMS for catastrophe modeling and climate data (see Appendix regarding data and methodologies), we dug deeper into the relationship between acute climate risk exposure and insurance expenses. As discussed above, there is ample anecdotal evidence to support such a relationship, but given the multitude of factors driving insurance costs, it is not a clear-cut relationship. This final section of our report examines the relationship between climate hazard risk and both the level and the growth rate of insurance expenses for property owners.

We overlayed the data on properties' insurance premiums with data on the estimated damage from their modeled exposure to acute climate-related hazards (floods, hurricanes and wildfires). We did not see a consistent correlation between the growth rate of insurance premiums since 2017 and the estimated acute climate risk. However, we did find that the properties with the highest insurance premiums tend to have higher estimated damage from climate hazards (see Figure 4). We show only trends for retail properties here, but this trend holds for all property types. See the Appendix for equivalent charts for the other core property types.

FIGURE 4 Median insurance premium by year for retail properties grouped by their acute climate risk[1]



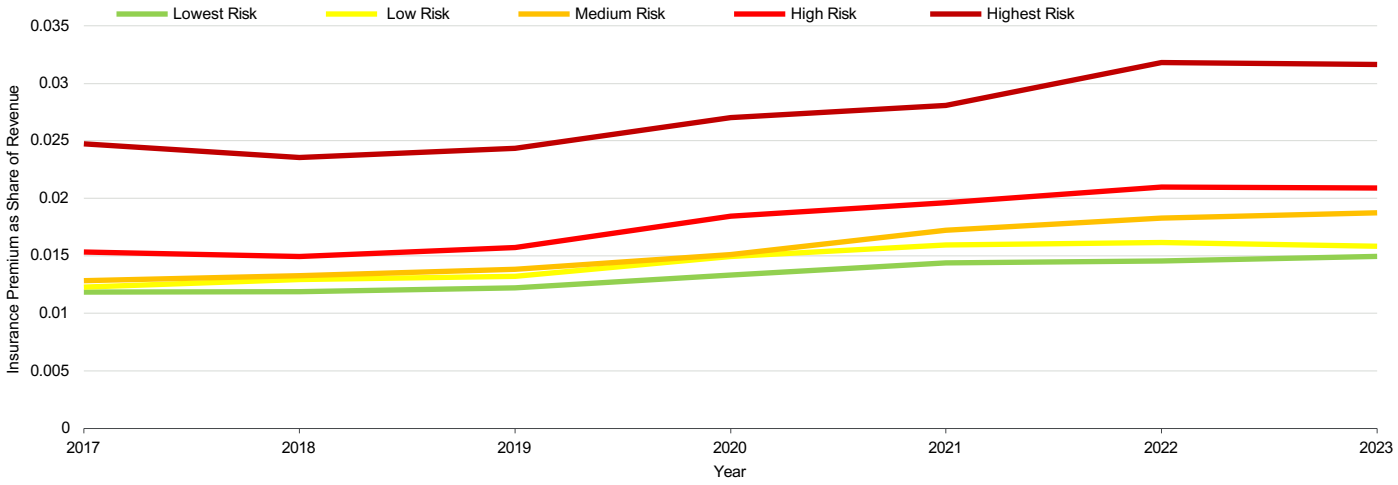
Sources: Moody's CRE, Moody's RMS.

Note: [1] We grouped properties into quintiles based on the sum of their Moody's RMS Climate on Demand (CoD) average annualized damage (AAD) scores for hurricanes, wildfires and floods. To see equivalent charts for the other four property types, refer to the Appendix.

Insurance premiums are often sized by the value and revenue of a CRE property, and higher value and revenue CRE properties are often located in coastal areas with higher acute climate risk. However, insurance costs have also been consistently higher for high risk properties when we normalize for property value (as proxied by gross revenue of the property).

Figure 5 shows the median insurance expense as a share of gross property revenue. Insurance expense as a share of revenue is substantially higher for the group of properties with the highest exposure to acute climate hazards, demonstrating that this is not solely driven by higher value properties having hazard exposure.

FIGURE 5 Median insurance premium as share of gross revenue for retail properties grouped by their acute climate risk[1]

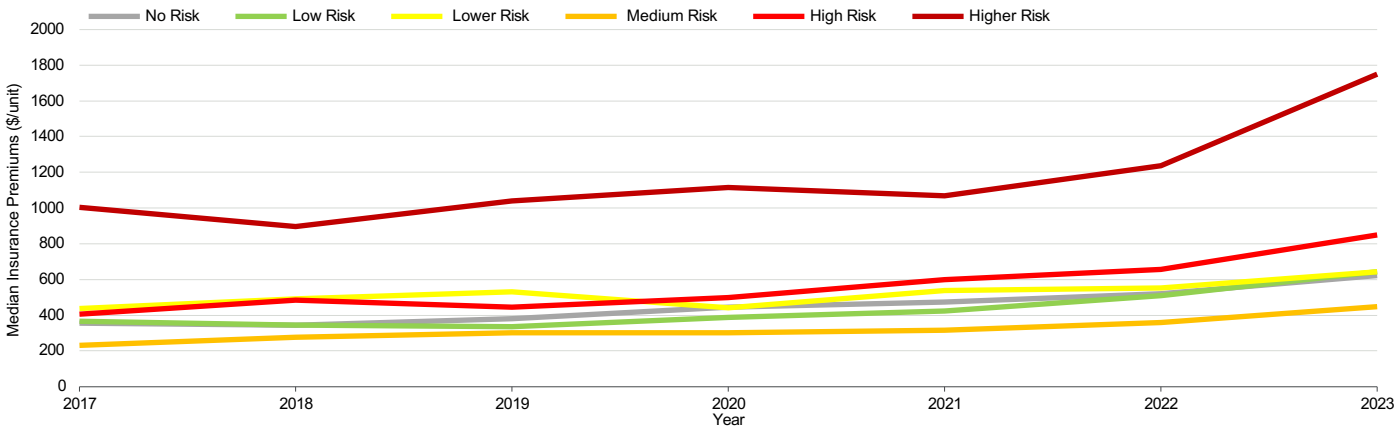


Sources: Moody's CRE, Moody's RMS.

Note: [1] We grouped properties into quintiles based on the sum of their Moody's RMS Climate on Demand (CoD) average annualized damage (AAD) scores for hurricanes, wildfires and floods. To see equivalent charts for the other four property types, refer to the Appendix.

When we unpack the relationship between type of acute hazard exposure and insurance premiums, we find **that hurricane exposure has the clearest relationship to insurance expense**. In most property types when we bucket properties by their hurricane average annual damage (AAD) estimates, those properties in the highest bucket show the highest insurance expenses consistently for the past seven years. Figure 6 illustrates this trend for the hotel sector.

FIGURE 6 Median insurance premium by year for hotel properties grouped by their hurricane risk[1]

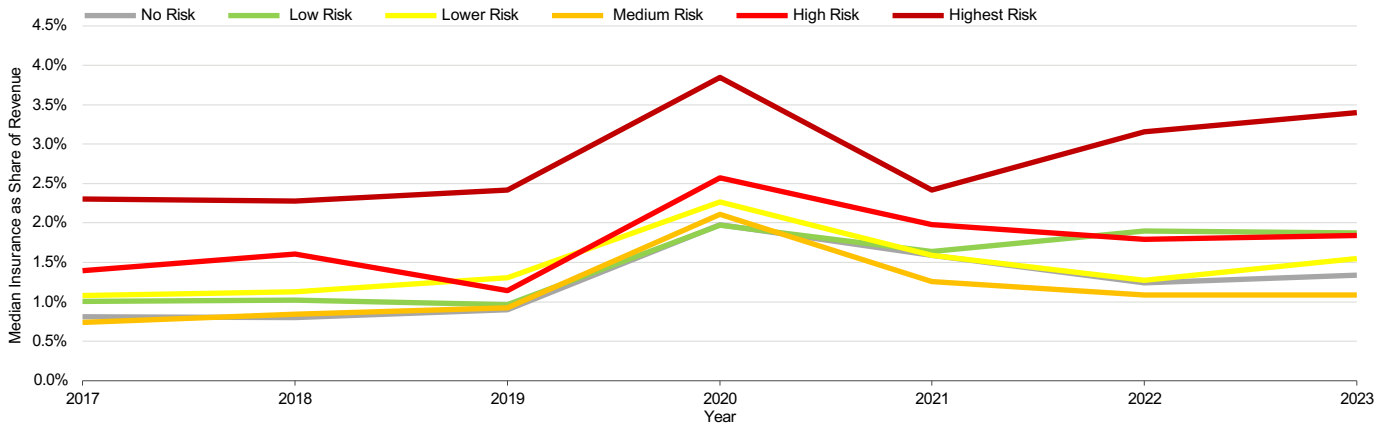


Sources: Moody's CRE, Moody's RMS.

Note: [1] We grouped properties into quintiles based on the sum of their Moody's RMS Climate on Demand (CoD) average annualized damage (AAD) scores for hurricanes. To see equivalent charts for the other four property types, refer to the Appendix.

Once again, this trend holds even when normalizing for value, by looking at the insurance expense as a share of revenue in Figure 7. While insurance as a share of revenue fluctuates over the seven years for hotel, those properties with the highest risk to hurricanes do consistently have the higher insurance expense as a share of revenue. Anecdotal evidence suggests that hurricane exposure is a driving force behind increasing insurance premiums along the Gulf Coast, as discussed previously. Figure 7 does show substantial volatility in insurance premiums' share of revenue, and it isn't consistently trending upward as one would expect. This reflects that both insurance markets and property markets are in flux and do not necessarily change in pace with one another.

FIGURE 7 Median insurance premium as a share of gross revenue for hotel properties grouped by their hurricane risk[1]

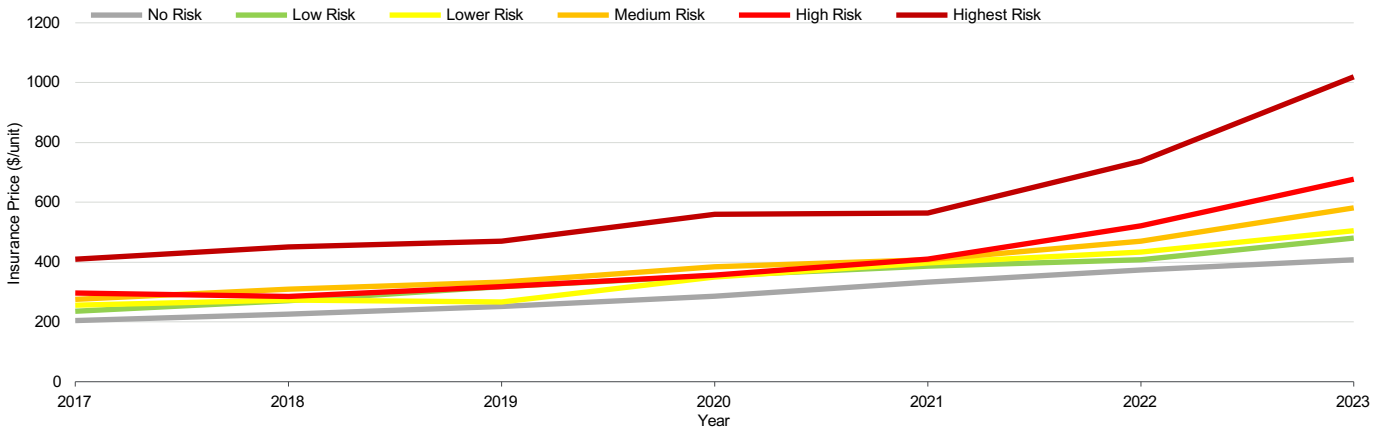


Sources: Moody's CRE, Moody's RMS.

Note: [1]We grouped properties into quintiles based on the sum of their Moody's RMS Climate on Demand (CoD) average annualized damage (AAD) scores for hurricanes. To see equivalent charts for the other four property types, refer to the Appendix.

The trends for multifamily follow a similar pattern with both median insurance premium (Figure 8) and median insurance premium as a share of revenue (Figure 9) being the highest for those properties with the highest modeled hurricane risk.

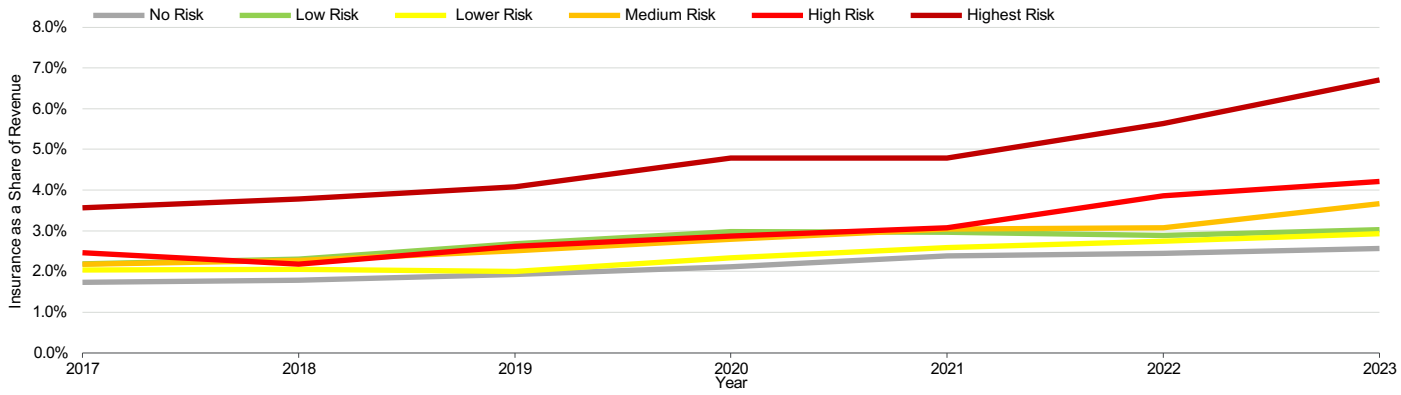
FIGURE 8 Median insurance premium by year for multifamily properties grouped by their hurricane risk[1]



Sources: Moody's CRE, Moody's RMS.

Note: [1]We grouped properties into quintiles based on the sum of their Moody's RMS Climate on Demand (CoD) average annualized damage (AAD) scores for hurricanes. To see equivalent charts for the other four property types, refer to the Appendix.

FIGURE 9 Median insurance premium as share of gross revenue for multifamily properties grouped by their hurricane risk[1]



Sources: Moody's CRE, Moody's RMS.

Note: [1]We grouped properties into quintiles based on the sum of their Moody's RMS Climate on Demand (CoD) average annualized damage (AAD) scores for hurricanes. To see equivalent charts for the other four property types, refer to the Appendix.

For hotels and office we find that the metro with the highest median hurricane AAD has the highest median insurance expense in 2022 (see Table 3). The other property types have the same metros near the top, though not at the top precisely. The top metros for both insurance expense and AAD occur in Florida.

TABLE 3 Metros / property type combinations with the highest average insurance costs in 2022

PROPERTY TYPE	METRO	MEDIAN INSURANCE EXPENSE	MEDIAN HURRICANE AAD
Office	Palm Beach	1.87 ($/sq ft)	$4343.05
Hotel	Tampa-St. Petersburg	1254.214 ($/unit)	$1722.74

Source: Moody's CRE

TAKEAWAYS

This research into property insurance trends demonstrates that insurance premiums are still increasing, faster than years prior. The rate of increase skews higher for most properties, and some metros are experiencing insurance expense increases much greater than their average rent growth. We also see that, while there are many factors at play driving these trends, higher climate risk generally equivocates to higher insurance cost per square foot or per unit. We also found that hurricane risk exposure was the strongest differentiator of insurance costs among acute climate risks.

While there has been significant progress in the past year since this original publication in terms of sizing these insurance challenges and examining solutions, there is room for continued research including exploring the time horizon that insurers may be factoring climate risk into underwriting, separating catastrophe insurance out from other insurance, assessing the relationship with NOI and conducting more detailed state level analysis relative to state insurance legislature policies. This also underscores the need for solutions in the insurance industry, that best manage the desire for development with the reality that much of this development is in areas that will be repeatedly hit by devastating hazards. This is an area of active exploration in the market and is a topic we'll continue to monitor closely.

METHODOLOGY

Insurance Data

Moody's collects CMBS property income, expense, reserve and capital expenditure data in CRE Financial Council Investor Reporting Package format. The dataset contains more than 114,000 loans and 123,000 properties spanning back to the early 1990s. This dataset provides one data point covering all of a property's insurance expenses. Thus, while this analysis focuses on factors related to property and casualty insurance we are not able to parse out different types of insurance coverages.

For this analysis we focused on the past 21 years and looked specifically at multifamily, hotel, office, retail, and industrial (which includes self-storage and warehouses) properties. We cleaned the dataset by removing outliers and adjusting for incomplete data. This included annualizing statements that do not cover a full year using respective statement start & end dates. We cleaned overlapping statement periods to construct property-level annual insurance expense series (at a monthly frequency), interpolating as needed. We calculated national insurance expense indices for each property type by averaging these property-level series. For metro level analysis we only included metros with at least ten properties (five for hotels) in our database with data for both 2017 and 2023 so as not to skew the results with outliers.

Climate Data

For the climate risk portion of our analyses, we used data from Moody's Climate on Demand. Climate on Demand characterizes physical climate risk through exposure scores for six climate hazards that are the most common climate-related hazards that can result in significant business risk: flooding, heat stress, hurricanes & typhoons, sea level rise, water stress and wildfires. Climate on Demand includes Average Annualized Damage (AAD), an estimate of the long-term damage, including physical damage, downtime, increased operating costs and reduced productivity, that an asset faces due to each climate hazard. To inform the Climate on Demand AAD estimate users can input replacement cost of the building and its contents combined with a measure of net annual revenue. For this analysis, since we don't have this detailed data for each property, we used $1 million of property replacement cost as the exposed value to enable comparisons between assets in relative terms. Thus, in this report AAD is in units of dollars, assuming a million dollars of exposure, with exposure defined as the combination of replacement cost and net annual revenue for the site. We focused on the AAD values for acute climate hazards most likely to influence insurance costs in the near term, including floods, wildfires and hurricanes. Climate on Demand offers RCP 4.5 and 8.5 and several time horizons including 2020, 2030, 2040, 2050, 2075 and 2100. For this analysis we used RCP 8.5 and 2050.

APPENDIX

TABLE 4 Metros in descending order of 2017-2023 insurance expense CAGR for retail[1,2]

METRO	INSURANCE CAGR	RENT CAGR
Norfolk/Hampton Roads	14.4%	0.6%
Dallas	12.9%	0.8%
San Bernardino/Riverside	11.1%	0.3%
Fort Worth	11.1%	0.4%
San Antonio	10.6%	1.2%
Houston	8.5%	1.0%
Tampa-St. Petersburg	8.4%	0.5%
Philadelphia	7.4%	0.4%
Phoenix	7.3%	0.6%
Atlanta	7.2%	0.7%
Oakland-East Bay	6.9%	0.8%
Orlando	6.7%	1.2%
Los Angeles	6.6%	0.9%
Las Vegas	5.9%	0.9%
Charlotte	5.7%	1.0%
Denver	5.1%	0.6%
Indianapolis	4.5%	0.3%
Orange County	4.4%	0.6%
Columbus	3.5%	0.8%
San Diego	3.4%	0.6%
Detroit	3.1%	0.5%
Cleveland	2.7%	0.4%
Chicago	2.4%	0.7%

Source: Moody's CRE

Notes: [1] To obtain the median CAGR by metro we calculated the CAGR for each property with an insurance value in 2017 and 2023 and then took the median of that sample.[2] To obtain rent CAGR we used average metro level rent growth from 2017 through 2023.

TABLE 5 Top and bottom retail metros for 2023 insurance cost[1]

METRO	INSURANCE ($/SQ FT)
Tampa-St. Petersburg	1.01
Orlando	0.89
Dallas	0.81
Houston	0.78
San Antonio	0.73
San Bernardino/Riverside	0.59
Fort Worth	0.56
San Diego	0.54
Philadelphia	0.52
Los Angeles	0.51
Oakland-East Bay	0.46
Orange County	0.43
Las Vegas	0.41
Denver	0.40
Indianapolis	0.39
Atlanta	0.37
Chicago	0.35
Detroit	0.28
Phoenix	0.28
Charlotte	0.26
Cleveland	0.26
Columbus	0.24

Source: Moody's CRE

Note: [1]Median insurance cost per square foot for metro.

TABLE 6 Metros in descending order of 2017-2023 insurance expense and rent CAGR for industrial[1,2]

METRO	INSURANCE CAGR	RENT CAGR
Dallas	15.0%	4.5%
Oakland-East Bay	12.3%	5.3%
Fort Worth	10.8%	4.7%
Atlanta	10.6%	5.0%
San Bernardino/Riverside	10.1%	13.6%
Sacramento	9.1%	4.4%
Los Angeles	8.4%	8.6%
Houston	8.4%	4.8%
Philadelphia	8.3%	5.4%
Orange County	7.7%	5.9%
Tampa-St. Petersburg	5.4%	3.8%
Chicago	5.0%	4.0%
Detroit	3.4%	3.8%
Phoenix	1.3%	4.7%

Source: Moody's CRE

Notes: [1] To obtain the median CAGR by metro we calculated the CAGR for each property with an insurance value in 2017 and 2023 and then took the median of that sample.[2] To obtain rent CAGR we used average metro level rent growth from 2017 through 2023.

TABLE 7 Industrial metros in descending order of 2022 insurance cost[1]

METRO	INSURANCE ($/SQ FT)
Los Angeles	0.37
Orange County	0.33
Houston	0.32
Dallas	0.32
Fort Worth	0.29
Tampa-St. Petersburg	0.29
San Bernardino/Riverside	0.27
Detroit	0.26
Philadelphia	0.23

Chicago	0.23
Oakland-East Bay	0.22
Sacramento	0.19
Atlanta	0.17
Phoenix	0.10

Source: Moody's CRE

Note: [1]Median insurance cost per square foot for metro.

TABLE 8 Metros in descending order of 2017-2022 insurance expense and rent CAGR for office[1]

METRO	INSURANCE CAGR	RENT CAGR
Dallas	10.5%	2.4%
Denver	10.1%	1.9%
Los Angeles	9.8%	2.0%
Houston	8.6%	0.6%
Atlanta	8.6%	2.1%
New York	7.9%	1.0%
Phoenix	6.8%	2.3%
Las Vegas	5.4%	1.4%
Chicago	5.2%	1.1%
Raleigh-Durham	5.2%	2.8%
Philadelphia	5.2%	1.1%
Detroit	5.1%	0.9%
San Bernardino/Riverside	5.0%	1.8%
St. Louis	4.5%	1.1%
Indianapolis	2.8%	1.4%

Source: Moody's CRE

Notes: [1] To obtain the median CAGR by metro we calculated the CAGR for each property with an insurance value in 2017 and 2023 and then took the median of that sample.

TABLE 9 Office metros in descending order of 2023 insurance cost[1]

METRO	INSURANCE ($/SQ FT)
New York	0.82
Houston	0.54
Los Angeles	0.50
Atlanta	0.43
St. Louis	0.43
Philadelphia	0.38
Denver	0.35
Las Vegas	0.33
Chicago	0.31
Phoenix	0.28
Detroit	0.27
Indianapolis	0.27
San Bernardino/Riverside	0.25
Raleigh-Durham	0.24
Dallas	0.22

Source: Moody's CRE

Note: [1]Median insurance cost per square foot for metro.

TABLE 10 Metros in descending order of 2017-2023 insurance expense and rent CAGR for hotel[1]

METRO	INSURANCE CAGR	ROOM RATE CAGR
Tampa-St. Petersburg	20.0%	5.7%
Portland	10.5%	-2.2%
San Jose	6.1%	2.4%
Atlanta	6.0%	0.6%

Source: Moody's CRE

Note: [1]For hotel properties there are no metros that have more than 10 properties, we show the metros with at least five properties, in descending order

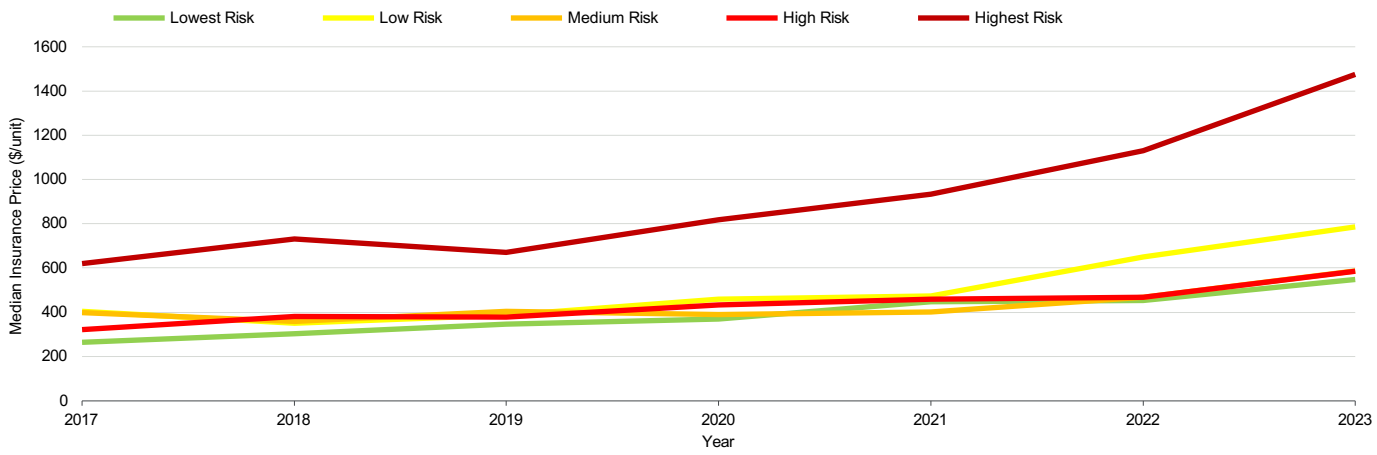
TABLE 11 Hotel metros in descending order of 2023 insurance cost[1]

METRO	INSURANCE($/UNIT)
Tampa-St. Petersburg	1254.21
Portland	987.09
San Jose	790.79
Atlanta	477.37

Source: Moody's CRE

Note: [1]For hotel properties there are no metros that have more than 10 properties, we show the metros with at least five properties, in descending order

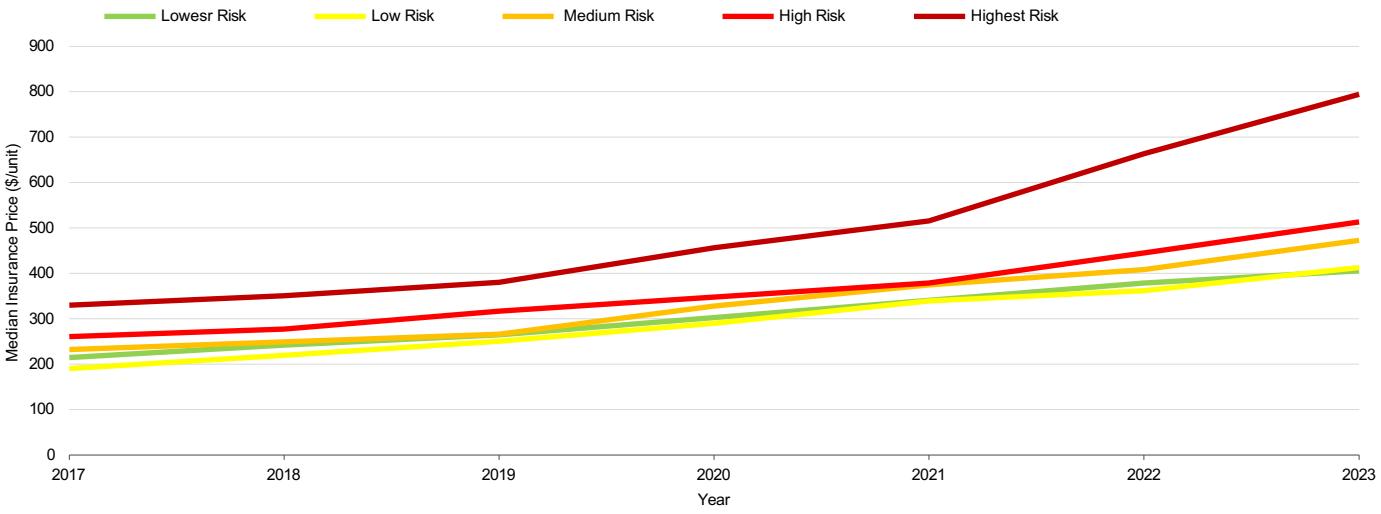
FIGURE 10 Median insurance premium by year for hotel properties grouped by their acute climate risk[1]



Sources: Moody's CRE, Moody's RMS.

Note: [1]We grouped properties into quintiles based on the sum of their Moody's RMS Climate on Demand (CoD) average annualized damage (AAD) scores for hurricanes, wildfires and floods.

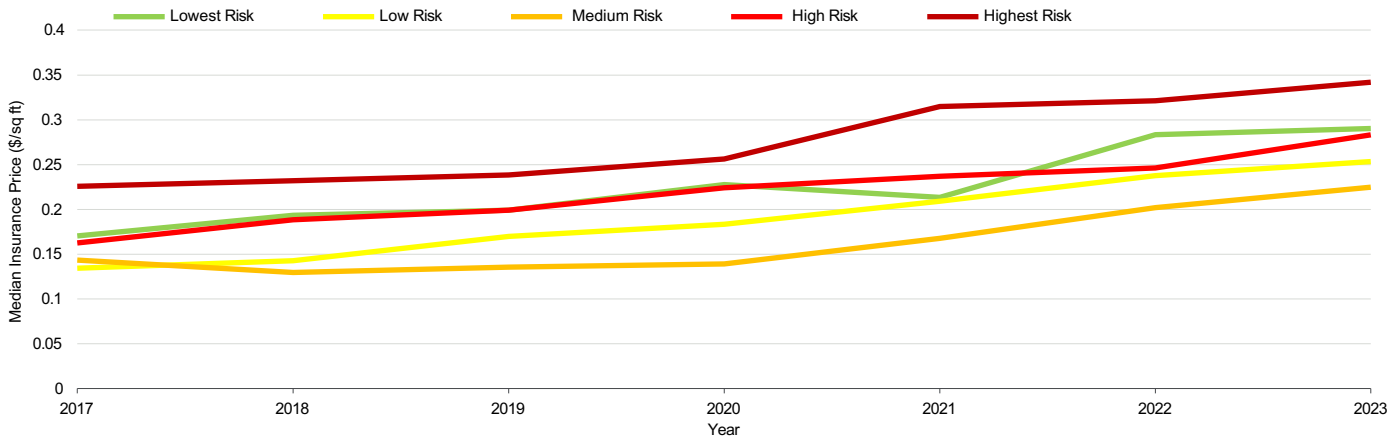
FIGURE 11 Median insurance premium by year for multifamily properties grouped by their acute climate risk[1]



Sources: Moody's CRE, Moody's RMS.

Note: [1]We grouped properties into quintiles based on the sum of their Moody's RMS Climate on Demand (CoD) average annualized damage (AAD) scores for hurricanes, wildfires and floods.

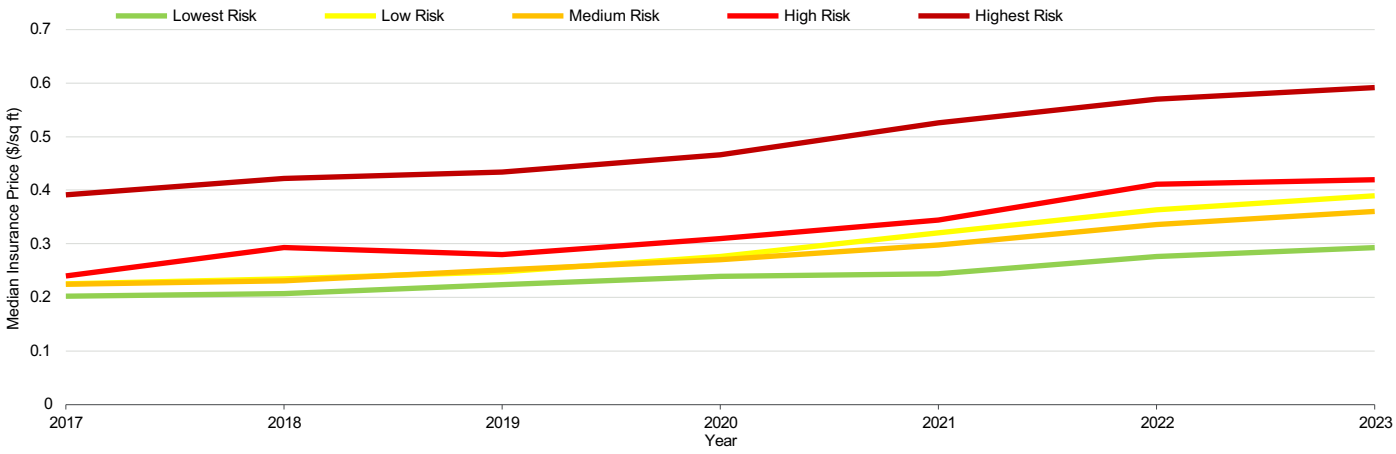
FIGURE 12 Median insurance premium by year for industrial properties grouped by their acute climate risk[1]



Sources: Moody's CRE, Moody's RMS.

Note: [1]We grouped properties into quintiles based on the sum of their Moody's RMS Climate on Demand (CoD) average annualized damage (AAD) scores for hurricanes, wildfires and floods.

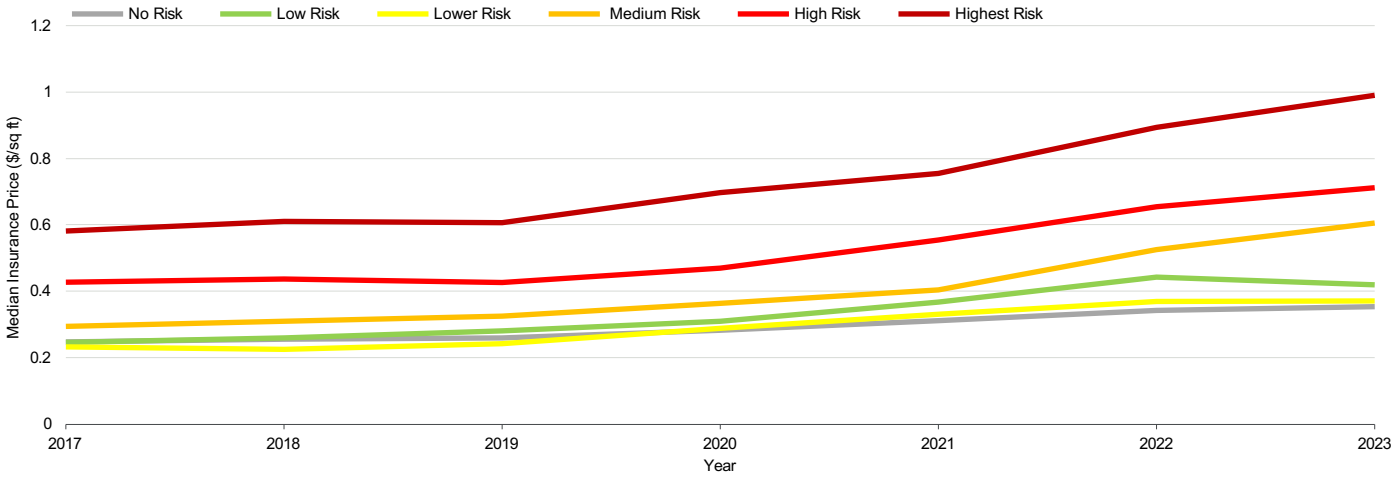
FIGURE 13 Median insurance premium by year for office properties grouped by their acute climate risk[1]



Sources: Moody's CRE, Moody's RMS.

Note: [1]We grouped properties into quintiles based on the sum of their Moody's RMS Climate on Demand (CoD) average annualized damage (AAD) scores for hurricanes, wildfires and floods.

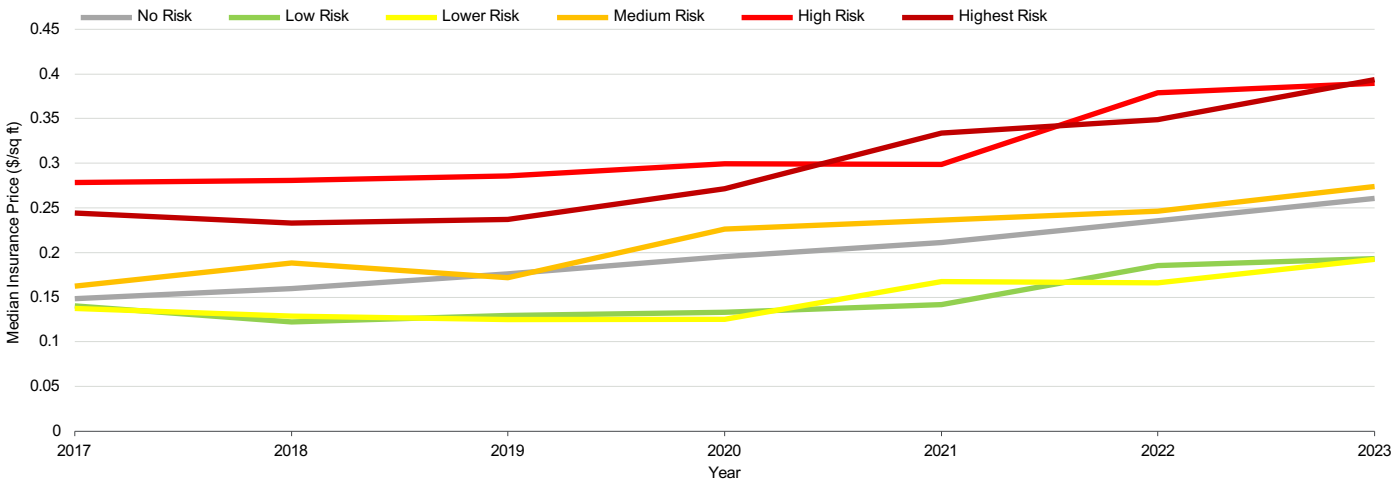
FIGURE 14 Median insurance premium by year for retail properties grouped by their hurricane risk[1]



Sources: Moody's CRE, Moody's RMS.

Note: [1]We grouped properties into quintiles based on the sum of their Moody's RMS Climate on Demand (CoD) average annualized damage (AAD) scores for hurricanes.

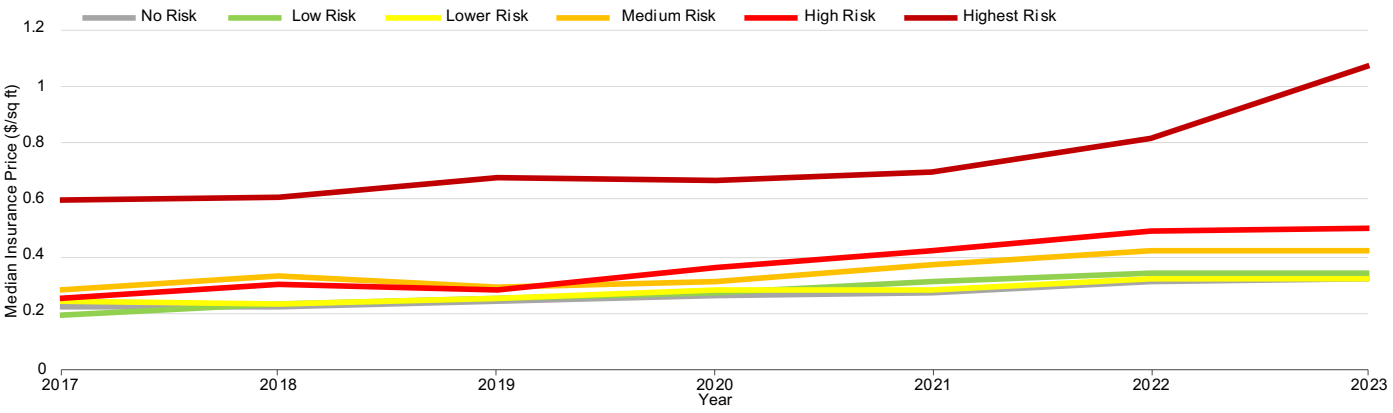
FIGURE 15 Median insurance premium by year for retail properties grouped by their hurricane risk[1]



Sources: Moody's CRE, Moody's RMS.

Note: [1]We grouped properties into quintiles based on the sum of their Moody's RMS Climate on Demand (CoD) average annualized damage (AAD) scores for hurricanes.

FIGURE 16 Median insurance premium by year for office properties grouped by their hurricane risk[1]



Sources: Moody's CRE, Moody's RMS.

Note: [1]We grouped properties into quintiles based on the sum of their Moody's RMS Climate on Demand (CoD) average annualized damage (AAD) scores for hurricanes.