Insurance & Risk

Figures current as of October 2026

The industry that prices risk for everyone else: how insurance works, its history, reinsurance and the capital behind it, property and the climate repricing, life insurance and private equity, health, liability and the courts, the specialty lines in a year of war, regulation and failure, and insurance as an investment.

MODULE 1 — Foundations

Goal: Size the subject and set its vocabulary.

What insurance is and is not, the industry's premiums, growth, and returns in a table, and the lines of business.

MODULE 2 — How Insurance Works

Goal: Understand the machine inside every policy.

The pool and the price, adverse selection and its remedies, the measures an insurer is judged by, and the float, with an insurer's year worked through.

MODULE 3 — A Brief History

Goal: Trace the industry from Lloyd's coffee house to the 2026 market.

The long record in a table, the losses that made the rules, and the underwriting cycle from hard markets to soft.

MODULE 4 — Reinsurance and the Capital Markets

Goal: Map the market that insures the insurers.

The market in numbers, how a reinsurance tower works, the renewals of 2023-26, Bermuda's two businesses, and whether outside capital has tamed the cycle, argued both ways.

MODULE 5 — Property and Catastrophe

Goal: Study the industry's side of the climate repricing.

The losses and what drives them, the repricing and the insurers of last resort, the Los Angeles fires as the case, and whether premiums should follow the risk, argued both ways.

MODULE 6 — Life, Annuities, and the Pension Transfer

Goal: Follow the aging world's largest financial business into private equity's hands.

The products and their sales, pension transfers, the private-equity model, an annuity's balance sheet worked through, and whether the model endangers policyholders, argued both ways.

MODULE 7 — Health Insurance

Goal: Understand the insurance, not the medicine.

Why sickness is hard to pool, the American system segment by segment, and the subsidies that expired at the end of 2025, with whether they should return argued both ways.

MODULE 8 — Casualty, Liability, and the Courts

Goal: See where losses are decided by juries.

The casualty lines in a table, rising claims and the nuclear verdict, the reserves that proved short, and whether 'social inflation' is real, argued both ways.

MODULE 9 — Marine, Aviation, War, and Cyber

Goal: Survey the specialty lines the year tested.

The specialty lines in a table, war-risk cover in the year of the Hormuz closure, the Baltimore bridge, and cyber as the line whose catastrophe has no backstop.

MODULE 10 — Regulation and Failure

Goal: Learn why insurers fail slowly and what the rules do.

The rules in a table, how insurers fail, AIG in 2008, and what a failure looks like now.

MODULE 11 — Insurance as an Investment

Goal: Judge the stocks and the model.

The float as Berkshire Hathaway's engine, the turn in the 2026 results, and an insurer's value worked through.

MODULE 12 — Where Things Stand, and What to Watch

Goal: Assemble the picture and name the dates.

The argument on a page, five contradictions, a dated watch list from October 2026 into 2027, and a last word.

A note on the sources: World figures come from the Swiss Re Institute's *sigma* reports and Munich Re; American figures from the National Association of Insurance Commissioners (NAIC), AM Best, Verisk, and the federal health agencies; reinsurance figures from the brokers Aon, Gallagher Re, Guy Carpenter, and Howden Re; catastrophe bonds from Artemis. Market prices and Treasury yields are the close of Wednesday, October 14, 2026, and other figures are the latest release, with its date. The course explains how the industry works; it is not advice, and it does not forecast prices.

Market Snapshot

Prices and yields at the close of Wednesday, October 14, 2026, with the latest releases

Measure	Level	Source
Federal funds rate	3.75-4.00%, raised on September 16; the next meeting October 27-28	Federal Reserve
Ten-year Treasury yield	5.19% (5.31% on October 5)	US Treasury
Investment-grade corporate bond yield	5.94%, 0.84 points over Treasuries	ICE BofA indexes
Consumer prices	Up 3.7% in the year to September; 2.6% excluding food and energy	Bureau of Labor Statistics, October 14
S&P 500	7,718.94, up 12.8% in 2026	S&P Dow Jones Indices
Brent crude oil	About $106 a barrel	ICE futures
American property-casualty combined ratio	93 in 2025; 92.7 in the first half of 2026	AM Best; Verisk
American policyholders' surplus	$1.30 trillion on June 30, 2026, a record	Verisk
Reinsurance capital	A record $790 billion on March 31, 2026	Aon
Property-catastrophe reinsurance prices	Down about 16% in the year to July 1, 2026	Guy Carpenter
Catastrophe bonds	$65.5 billion outstanding on September 30; a record $18.9 billion issued in January-September	Artemis
Catastrophe-bond funds	Up 6.67% in 2026 to September 25	Plenum Investments' fund index
Insured natural-catastrophe losses, world	$108 billion in 2025; $42 billion in the first half of 2026	Munich Re; Swiss Re
Gulf war-risk cover	About 5% of hull value for the most exposed voyages on September 22, against 0.1-0.25% before the war	Brokers, via Insurance Business
American annuity sales	A record $461.3 billion in 2025	LIMRA

Market prices are closes of October 14, 2026; the other figures are the latest releases, with their dates.

Module 1 — Foundations

The Industry That Prices Risk

Recommended Reading / Reference

Book: Peter L. Bernstein, *Against the Gods: The Remarkable Story of Risk* (1996)

Reference: Swiss Re Institute, *sigma 2/2026: World insurance in 2026* (July 2026); AM Best's and Verisk's reviews of the American property-casualty industry

1a. What Insurance Is

Insurance is the transfer of a risk from someone who cannot bear it to someone who can, for a price. The one who can is a pool. Many households or companies each pay a premium into a fund, and the few who suffer the loss are paid from it.

The business that results has three parts, and the course keeps them apart. The underwriting business takes in premiums and pays claims, and its result is measured by the combined ratio (Module 2). The investment business holds the premiums between their receipt and the payment of claims, money called the float, and earns a return on it. The capital business stands behind both with the shareholders' equity that absorbs a year in which claims exceed premiums, and regulators set how much of it an insurer must hold.

Insurance is not a savings product, though life insurers sell savings products too. It is not a promise to pay every loss, since a policy's exclusions are some of the most litigated text in commerce. Nor is it charity: the underwriter's job is to charge each policyholder what that policyholder's risk is worth. Insurers are also the quiet counterparty of the whole economy. A mortgage lender requires a policy on the house, a ship cannot enter most ports without cover for its liabilities, and no hospital, airline, or factory runs without insurance.

1b. The Numbers

Measure	Figure	Note
Premiums in the United States	$3.76 trillion in 2025, nearly 4.4 times China's	The United States writes about half the world's premiums and about 80% of its private health premiums
World premium growth, after inflation	3.9% in 2025; forecast 1.3% in 2026 and 1.6% in 2027	Below the long-run trend of 2%, on price competition, slower economies, and the inflation that followed the war in the Gulf
Non-life and life growth, 2026	Non-life 0.6%; life 2.3%	Non-life slows as prices soften; life grows on higher interest rates and an aging population
Fastest-growing large market	India, 7.1% in 2026	The fastest of the twenty largest markets
Non-life return on equity, world	14% in 2025; forecast 11.4% in 2026 and 7.7% in 2028	Against the 7.5% cost of capital Swiss Re assumes, the return shareholders could expect elsewhere
American property-casualty results, 2025	A combined ratio of 93 and underwriting income of $61.2 billion, the best in a decade; direct premiums of about $1.11 trillion, up 5%	The combined ratio is losses and expenses per 100 of premium (Module 2)
American property-casualty results, first half of 2026	A combined ratio of 92.7, against 96.5 a year earlier; net income of $77.8 billion, up 53%	Net premiums written grew only 2.1%, as prices fell

Measure	Figure	Note
American policyholders' surplus	$1.30 trillion on June 30, 2026, a record	The property-casualty industry's capital, from $1.13 trillion a year earlier

Swiss Re Institute, *sigma 2/2026*, via Risk & Insurance and Carrier Management (July 2026); AM Best, via Claims Journal (July 15, 2026); Verisk and the American Property Casualty Insurance Association (September 2, 2026).

The figures describe an industry at a peak. Yet Swiss Re expects the world's non-life return on equity to fall nearly to its cost of capital, because the profits have drawn in competition that is cutting prices (Module 4).

1c. The Lines

Line	What it covers	Leading writers	Where the course takes it up
Motor	Liability for injuries and damage to others, and damage to the car	State Farm, Progressive, GEICO (Berkshire Hathaway), Allstate, Allianz	Module 8
Property	Homes and commercial buildings against fire, wind, water, and theft	State Farm, Allstate, Chubb, Zurich, AXA	Module 5
Life and annuities	Payment at death, income for life, and savings	China Life, Ping An, Allianz, AXA, MetLife, Prudential, Athene	Module 6
Health	Medical costs	UnitedHealth, Elevance, Cigna, CVS Health's Aetna, Centene	Module 7
Liability	Lawsuits against businesses and professionals, and workers' injuries	Chubb, AIG, Travelers, Zurich, Lloyd's	Module 8
Specialty	Ships, aircraft, energy plants, war, terrorism, and cyber attacks	Lloyd's, Munich Re, Allianz, Chubb, Beazley	Module 9
Reinsurance	Insurance for insurers	Munich Re, Swiss Re, Hannover Re, Lloyd's, Berkshire Hathaway	Module 4

Module 1 Key Points

Foundations

• Insurance moves risk to a pool for a price; the course separates underwriting, the investment of the float, and the capital behind both.

• American premiums were $3.76 trillion in 2025, about half the world's and nearly 4.4 times China's.

• World premiums grew 3.9% after inflation in 2025; Swiss Re expects 1.3% in 2026 as prices soften.

• American property-casualty insurers ran a combined ratio of 93 in 2025 and 92.7 in the first half of 2026.

• Swiss Re expects non-life return on equity to fall from 14% in 2025 to 7.7% in 2028, near its cost of capital.

Module 1 Quiz

Check Your Understanding

1. What are the three businesses inside an insurer, as the course separates them?

A) Life, health, and property cover
B) Selling policies, settling claims, and advertising
C) Brokers, agents, and the adjusters who check claims
D) Underwriting, investing the float, and capital

2. About what share of the world's premiums does the United States write?

A) About a tenth, much the same as China.
B) About a quarter, behind the European Union.
C) About half, $3.76 trillion of premiums in 2025.
D) Nearly all, since other markets are small.

3. What combined ratio did American property-casualty insurers report for 2025?

A) 103, an underwriting loss
B) 93, the industry's best result in a decade
C) 75, its lowest ever
D) 97, a small underwriting profit in the year of the Los Angeles fires

4. Why does Swiss Re expect non-life returns to fall by 2028?

A) Profits have drawn in price-cutting rivals
B) Interest rates on the float are expected to fall to zero
C) Regulators plan to cap insurers' returns on equity
D) A run of large catastrophes is forecast for 2027

5. What does Swiss Re forecast for world premium growth after inflation in 2026?

A) About 10%, a record
B) A fall of 5% as buyers cancel cover
C) 3.9%, unchanged
D) 1.3%, down from 3.9% in 2025

Module 2 — How Insurance Works

The Machine Inside Every Policy

Recommended Reading / Reference

Book: Howard C. Kunreuther, Mark V. Pauly, and Stacey McMorrow, *Insurance and Behavioral Economics: Improving Decisions in the Most Misunderstood Industry* (2013)

Reference: Geoff Werner and Claudine Modlin, *Basic Ratemaking* (Casualty Actuarial Society, fifth edition, 2016); the NAIC's annual statement instructions

2a. The Pool and the Price

Take a property insurer that covers a million houses. Its records tell it that about 3,000 of them will suffer a fire, a storm, or a burst pipe in a year, at an average cost of $30,000, so it expects $90 million of losses. Running the business costs about $25 million more: agents' commissions, adjusters, systems, and the premium taxes the states charge. With a margin for profit, it charges $120 million in all, or $120 a house on average.

The average hides the work. Underwriting is the sorting and pricing of each risk, so the house with old wiring pays more and the one with a new roof pays less. Its enemy is adverse selection: if every house pays the average, the owners of risky houses buy and the owners of safe ones drop out. The pool fills with risk, the price must rise, and the next-safest owners leave in turn. Left alone, the spiral ends with only the riskiest in the pool, which is the danger every health-insurance market faces (Module 7).

Insurers have three remedies. Information lets them price each risk, through the inspection, the credit-based insurance score, the telematics device that records how a car is driven, and the medical exam. Compulsion keeps the safe in the pool: the mortgage that requires a policy, the state law that requires auto liability cover. Exclusion removes what cannot be priced, as the standard American homeowner's policy excludes flood. A second hazard, moral hazard, is the insured's temptation to take less care once the loss is covered. Deductibles answer it by leaving part of every loss with the policyholder.

The arithmetic of the pool is the law of large numbers: the more independent risks an insurer holds, the closer its losses come to the average it priced. The condition is independence. A thousand houses that burn separately can be pooled; a thousand that burn in the same fire cannot. That correlated risk, the hurricane that strikes every house on a coast at once, is why property insurers buy reinsurance (Module 4).

2b. The Measures

Measure	Definition	How to read it
Loss ratio	Claims incurred divided by premiums earned	The share of the premium paid back in claims; 75% in 2a
Expense ratio	Operating costs divided by premiums	Commissions, staff, systems, and taxes; 21% in 2a
Combined ratio	Loss ratio plus expense ratio	Below 100% is an underwriting profit and above it a loss; 96% in 2a
Reserves	The estimate of claims incurred but not yet paid, the largest liability on the balance sheet	Set by actuaries from history and judgment; 'reserve development' is the later correction when the estimate proves wrong (Module 8)

Measure	Definition	How to read it
Float	Money held between the receipt of premiums and the payment of claims, which the insurer invests but does not own	Held from months to decades, depending on the line (2c)
Retention and cession	The part of a risk the insurer keeps, and the part it passes to a reinsurer	Module 4
Return on equity	Net income, from underwriting and investment together, divided by shareholders' equity	Judged against the cost of capital, the return shareholders could expect elsewhere for similar risk
Solvency ratio	Capital the insurer holds divided by the capital its regulator requires	Above 100% meets the rule; Module 10

The industry's own figures for these measures are in Module 1.

2c. The Float

The feature of insurance that runs through every module is the float. The premium is paid when the policy starts, and the claims are paid later: within months for a car's repair, five or ten years later for a liability claim that works through the courts, and thirty or forty years later for a life policy or an annuity. In between, the insurer holds the money and invests it.

What the float costs depends on the underwriting. An insurer that writes at a combined ratio of 100% breaks even on its policies and earns everything on the float. One at 96% is paid 4 cents on each premium dollar to hold the money. One at 105% pays 5 cents for it, which can still be cheap money if the investments earn more.

The float explains much of the industry's behavior. Insurers buy bonds that mature when their claims are expected, which makes them among the largest private holders of bonds. Their profits rose with interest rates after 2022, once the float earned more than the near-zero yields of the 2010s.

Worked example — An Insurer's Year

The setup. A property-casualty insurer earns $1 billion of premiums in a year. Its losses on the year's policies come to $680 million, a loss ratio of 68%, and its expenses to $270 million, an expense ratio of 27%. The combined ratio is 95%, an underwriting profit of $50 million. **The float.** It holds, on average, $1.5 billion of float, a year and a half of premiums, because its liability lines pay slowly. Invested in bonds at 5.19%, the ten-year Treasury yield on October 14, the float earns $78 million. **The return.** Pre-tax profit is $128 million on $800 million of shareholders' capital, 16.0%, or 12.6% after the 21% federal corporate tax. **The same year in 2021.** With bonds near 1.5%, the float earns $22.5 million, and the same underwriting brings a pre-tax return of 9.1%. **A bad year.** A hurricane and a run of liability verdicts lift the loss ratio to 82% and the combined ratio to 109%, an underwriting loss of $90 million. The float's $78 million covers most of it, and the capital absorbs the remaining $12 million before tax. **The lesson.** The combined ratio decides whether the insurer is paid to hold the float or pays for it, the yield decides what the float is worth, and the capital decides how many bad years the insurer can survive.

Module 2 Key Points

How Insurance Works

• The pool relies on the law of large numbers, which needs independent risks; correlated ones, like a hurricane, need reinsurance.

• Adverse selection, the risky buying and the safe leaving, is underwriting's enemy; information, compulsion, and exclusion are the remedies.

• The combined ratio, losses plus expenses over premiums, is the scorecard: below 100% is an underwriting profit.

• Reserves, the estimate of claims incurred but not yet paid, are the largest liability and the most uncertain number.

• The float is money held between premium and claim; an insurer at a 96% combined ratio is paid to hold it.

• Worked example: a 95% combined ratio and a 5.19% yield return 16.0% on capital before tax; at 1.5%, 9.1%.

Module 2 Quiz

Check Your Understanding

1. What is adverse selection?

A) An insurer refusing to cover its riskiest customers at any price
B) The risky buying at the average price as the safe drop out
C) A regulator rejecting a rate filing
D) A reinsurer declining to renew a treaty at the January renewal season

2. What does a combined ratio of 96% tell you about an insurer's year?

A) It paid 96% of the claims filed with it and denied the rest of them
B) It lost 4% on its policies and made up the loss from investment income
C) Losses and expenses took 96 cents of each premium dollar, leaving 4 cents of profit
D) It held 96% of the capital its regulator requires of an insurer its size

3. What is an insurer's float?

A) Money it holds between taking premiums and paying claims.
B) The commission it pays its agents on every policy they sell.
C) Its profit on investments after each claim is paid in full.
D) The reinsurer's share of each loss under the treaty it has signed.

4. Why did insurers' profits rise with interest rates after 2022?

A) Catastrophe losses fell to nothing during the years of higher rates.
B) Their float earned more, so the same underwriting brought a higher return.
C) Regulators cut the capital they required of insurers as soon as rates went up.
D) Policyholders filed fewer claims once borrowing became expensive.

5. In the worked example, what covers most of the $90 million underwriting loss in the bad year?

A) A federal disaster grant
B) Higher premiums that year
C) The float's investment income
D) New money from shareholders

Module 3 — A Brief History

From Lloyd's Coffee House to the 2026 Market

Recommended Reading / Reference

Book: Adam Raphael, *Ultimate Risk: The Inside Story of the Lloyd's Catastrophe* (1994)

Reference: Lloyd's of London's history pages; the Insurance Information Institute's historical catastrophe-loss data

3a. The Long Record

Date	Event	What it established
1347	The oldest surviving insurance contract, written in Genoa for a ship's voyage	Marine insurance: a risk sold for a price, apart from the loan or the cargo
1666-80	The Great Fire of London destroys about 13,000 houses; Nicholas Barbon opens the first fire insurance office in 1680	Fire insurance, with the insurers' own fire brigades and the marks on the buildings they covered
1688-1771	Edward Lloyd's coffee house becomes the meeting place of marine underwriters; the Society of Lloyd's is formed in 1771	The syndicate model: members, the 'Names', each taking a share of a risk with unlimited personal liability
1762	The Equitable Life is founded in London on James Dodson's actuarial methods	Life insurance priced by age from mortality tables, and the mutual company owned by its policyholders
1835-1906	New York's fire of 1835 puts 23 of the city's 26 insurers out of business; Chicago burns in 1871; San Francisco's earthquake and fire follow in 1906	The catastrophe as the industry's test; Lloyd's American reputation, made when its underwriters paid San Francisco's claims in full
1883-1911	Germany's sickness (1883), accident (1884), and old-age (1889) insurance under Bismarck; Britain's National Insurance Act (1911)	The state as insurer, the start of social insurance
1935-65	Social Security (1935); employer health plans spread under the wage controls of the Second World War; Medicare and Medicaid (1965)	The American mix of employer, state, and private insurer in health (Module 7)
1945	The McCarran-Ferguson Act leaves insurance regulation to the states	The American state system (Module 10)
1988-96	Lloyd's nearly collapses under asbestos and pollution claims and a spiral of reinsurance traded among its own syndicates; Reconstruction and Renewal (1996)	Corporate capital admitted, old liabilities moved to a new company, Equitas, and the lesson that reinsurance within one market spreads nothing
2009-26	Private equity buys into life insurance	The annuity model of Module 6
2017-25	Hurricanes Harvey, Irma, and Maria (2017); Ian (2022); the Los Angeles fires (2025)	The repricing of property insurance (Module 5)

Lloyd's; the Institute and Faculty of Actuaries; the Insurance Information Institute.

3b. The Losses That Made the Rules

Most of the industry's institutions were built after a disaster showed what it could not bear. Hurricane Andrew struck south Florida in August 1992 and caused about $15.5 billion of insured losses at the time, far more than most insurers had thought one storm could do. At least eleven insurers failed. The computer models of catastrophe, which simulate thousands of possible storms over a portfolio of insured buildings, had been

offered to insurers before Andrew; after it, they became the basis of pricing. New reinsurers were founded in Bermuda to supply the capital Andrew had destroyed, and Florida's long insurance problem began.

The September 11 attacks cost insurers about $32.5 billion at the time, still the largest insured loss caused by people, and insurers responded by excluding terrorism from their policies. Congress answered with the Terrorism Risk Insurance Act of 2002 (TRIA), under which the federal government shares large losses from certified acts of terrorism. The program has never been triggered. It has been extended four times and now runs to December 31, 2027. The House passed a reauthorization by 373-15 on June 29, 2026, and the Senate passed its own version, running to 2034, on September 28, so the two must be reconciled before either becomes law.

Hurricane Katrina in 2005 caused about $41 billion of private insured losses at the time, and it remains among the costliest catastrophes insurers have paid for. Its flood claims, and a dispute over which damage wind had caused and which flood, also left the federal flood program borrowing from the Treasury (Module 5). The failure that taught the most about insurers and the financial system, AIG's, is the subject of Module 10.

3c. The Cycle

The industry's history since Andrew has a rhythm that insurers call the underwriting cycle, from hard markets to soft. A catastrophe or a shock to reserves takes capital out of the industry. Prices rise, because the capital that remains can charge for its scarcity, and the higher prices earn high returns. The returns draw in new capital, from new Bermuda reinsurers after 1992, 2001, and 2005 to the catastrophe bonds of the 2020s. The new capital competes prices down until the next shock.

The latest turn followed Hurricane Ian in 2022, when losses, inflation, and rising interest rates together drained capital. Reinsurance prices rose sharply, and their fall since is the soft market of Module 4. The cycle is why the industry's profits look like a saw blade and why its best years have usually come just before prices fell.

Module 3 Key Points

A Brief History

• Marine cover in Genoa, fire cover after London's 1666 fire, and life cover priced by age began the industry.

• Lloyd's syndicates carried unlimited personal liability until losses on asbestos, pollution, and reinsurance spirals nearly broke the market in 1988-96.

• The state became an insurer with Bismarck's programs of 1883-89 and Britain's National Insurance Act of 1911.

• Catastrophes built the rules: Andrew brought catastrophe models, September 11 a federal terrorism backstop, Katrina the flood program's debt.

• The underwriting cycle: a shock removes capital, prices rise, returns draw capital back, and prices fall until the next shock.

Module 3 Quiz

Check Your Understanding

1. What did Lloyd's underwriters do after the San Francisco earthquake and fire of 1906?

A) Paid the claims in full
B) Refused claims for earthquake damage
C) Left the American market for a decade
D) Asked Congress for a federal backstop for the losses

2. What nearly broke Lloyd's in 1988-96?

A) One Florida hurricane it had not reinsured
B) A fraud by its chairman that emptied its fund
C) The loss of its business to Bermuda
D) Asbestos claims and a reinsurance spiral

3. What did Hurricane Andrew change in 1992?

A) It ended private insurance in Florida for good.
B) It created the federal flood insurance program that still covers most homes in flood zones.
C) It ended hurricane cover in the Gulf states.
D) It made catastrophe models the basis of pricing.

4. What did Congress pass after insurers excluded terrorism following September 11?

A) A federal terrorism backstop
B) A ban on terrorism exclusions in policies
C) A federal insurer for all commercial property
D) A tax credit for buyers of terrorism cover

5. In the underwriting cycle, what usually brings a hard market to an end?

A) A new state rule capping premiums
B) A fall in demand as policyholders drop cover
C) New capital drawn in by the high returns
D) A quiet run of years that lets insurers cut prices without any new competitors entering

Module 4 — Reinsurance and the Capital Markets

The Market That Insures the Insurers

Recommended Reading / Reference

Reference: Guy Carpenter's, Gallagher Re's, and Howden Re's renewal reports (January and July 2026); Aon's reinsurance market reports; Artemis's quarterly reports on catastrophe bonds

4a. The Market

Measure	Figure	Note
Reinsurance capital	A record $790 billion on March 31, 2026 (Aon); about $688 billion of dedicated capital at mid-2026 (Gallagher Re)	The brokers count different things; both put capital at a record
Alternative capital	About $147 billion at mid-2026, up 9% in the half (Gallagher Re)	Money from pension funds and other investors, through catastrophe bonds, collateralized reinsurance, and sidecars (4b)
Catastrophe bonds	$65.5 billion outstanding at the end of September 2026; a record $25.6 billion issued in 2025 and $18.9 billion in January-September 2026, a record for nine months	The average spread, the interest paid above the money-market rate, fell to 6.83% from 7.23% a year earlier
The largest reinsurers	Munich Re, Swiss Re, Hannover Re, SCOR, and China Re among groups reporting under the new international insurance accounting standard; Lloyd's, Berkshire Hathaway, Reinsurance Group of America, Everest, and RenaissanceRe among the rest	AM Best's 2026 ranking, in two lists; Berkshire's reinsurance premiums fell 7.9% in 2025
Profits, 2025	Swiss Re a record $4.8 billion, a 19.6% return on equity; Munich Re €6.1 billion, 18.3%	Gallagher Re's composite of reinsurers earned close to 19%
Profits, first half of 2026	Munich Re €3.9 billion, a record for a half-year; Swiss Re $2.8 billion; Hannover Re €1.4 billion	Gallagher Re's composite earned 19.9%, its second-best half in a decade
Lloyd's of London, first half of 2026	Profit before tax £3.5 billion; a combined ratio of 90.8%; prices down 6.7%	Gross premiums of £34.7 billion, up 6.9%

Aon and Gallagher Re, via Insurance Journal (July 2, 2026) and Insurance Business (September 3, 2026); Artemis (third quarter of 2026); AM Best, via Insurance Journal (September 7, 2026); company results; Lloyd's (September 3, 2026).

4b. How It Works

A primary insurer that covers a million homes in Florida cannot hold the risk of a hurricane that damages half of them, so it passes the risk on in layers. It keeps the first part of a storm's losses, its retention: say, $100 million. Above that it buys a treaty from reinsurers covering the next $2 billion, divided into layers by their attachment point, the size of loss at which each begins to pay. The higher a layer, the less likely it is to be touched and the cheaper it is per dollar of cover.

The reinsurers pass part of their own share on in turn. Retrocession is reinsurance bought by reinsurers. Catastrophe bonds sell a layer to investors: the investors' principal is held in trust, they receive interest above the money-market rate, and they lose some or all of the principal if a defined catastrophe exceeds the bond's trigger. Sidecars are vehicles in which investors share a reinsurer's book for a fee. Through these channels a pension fund for teachers in Ontario can end up holding part of Miami's hurricane risk.

Most treaties run for a year and are renewed on a few dates: January 1 for Europe, much of the United States, and the retrocession market; April 1 for Japan; June 1 for Florida; and July 1 for Australia, New Zealand, and more of the United States. The renewals set the price of the whole chain. What reinsurers charge in January and June feeds, at the margin, into what a Florida homeowner pays. The chain can also fail, as Lloyd's learned when risk circled among its own syndicates (Module 3).

4c. The Renewals, 2023-26

Renewal	Price change for property-catastrophe reinsurance	Note
January 1, 2023	Up 27.5% worldwide and 30.1% in the United States (Guy Carpenter's rate-on-line indexes)	The latest turn of the cycle (Module 3)
January 1, 2026	Down 12% worldwide (Guy Carpenter); down 14.7% after adjusting for changes in risk, with retrocession down 16.5% (Howden Re)	Capital at a record after two years of high returns
April 1, 2026	Japan down by as much as 17.5% (Gallagher Re) or 20% (Howden Re)	Japanese rates back to their levels of the early 2020s
June 1, 2026	Florida down 15-20%	One of the best renewals for buyers in a decade (Aon)
July 1, 2026	Guy Carpenter's world index down about 16% on the year	The steepest annual fall in 25 years, on Bermuda's reinsurers' count
January 1, 2027 (forecast)	Falls of 7.5-15% (a Moody's survey), at least 10% (Keefe, Bruyette & Woods), and 20% (J.P. Morgan)	Terms are loosening too: Gallagher Re says buyers are in their strongest position in more than a decade

Guy Carpenter (January 2023 and July 1, 2026); Howden Re and Gallagher Re, via Artemis and Reinsurance News (2026); Aon, via Insurance Journal (July 2, 2026); Insurance Business (July 24 and September 3, 2026). A rate on line is the premium as a share of the cover bought.

4d. Bermuda

Bermuda is the reinsurance capital of the world by design. Its regulator, the Bermuda Monetary Authority, runs a regime that the European Union judged equivalent to its own Solvency II rules in 2016 (Module 10), and the American states treat it as a reciprocal jurisdiction, which lets Bermuda reinsurers post less collateral when they cover American risks. The island's industry was built in the waves of new capital that followed the catastrophes of Module 3. For decades its companies paid no income tax; since 2025 large groups pay a corporate income tax of 15% under the global minimum tax.

There are two Bermudas. One is the catastrophe market, which spreads hurricane and earthquake risk to the world's capital. The other is the life-reinsurance market that grew in the 2020s, in which American annuity liabilities are reinsured to affiliates on the island under its capital rules (Module 6). The two share a regulator, and it is the second that drew official scrutiny in 2026.

4e. Has Outside Capital Tamed the Cycle?

The case that it has

Its advocates, among them managers of insurance-linked securities and many brokers, argue that the capital markets have made the supply of reinsurance deeper and quicker to respond. Pension funds and other investors buy catastrophe bonds because hurricanes and earthquakes do not move with stock and bond prices, so their money is there when reinsurers' own capital is short. On this view a hard market now draws new capital within months rather than years, and the old swing from famine to feast has given way to shorter, smaller swings.

The case that it has not

Its critics, among them many reinsurers and analysts, reply that outside capital is fair-weather money. After the losses of 2017-22, investors found their collateral trapped against unsettled claims and pulled back, and the January 2023 renewal brought the sharpest rise in years. Now the same capital is pushing prices down while losses keep growing. On this view the cycle is intact, and the capital markets have only sharpened its turns.

The evidence

Prices swung from the steep rise of January 2023 to the steep fall of mid-2026, as capital and catastrophe bonds reached records (4a and 4c). The forecasts point to further falls, and Swiss Re expects the non-life industry's return on equity to approach its cost of capital (Module 1) even as insured catastrophe losses keep growing (Module 5).

The course's reading

Outside capital has made the cycle faster, not flatter. It arrives sooner after a hard market and competes prices down sooner, but it has not ended the pattern in which the best years bring the price cuts that set up the next shortage.

Module 4 Key Points

Reinsurance and the Capital Markets

• Reinsurance capital hit a record: $790 billion on Aon's count in March, $688 billion on Gallagher Re's narrower measure at mid-year.

• A reinsurance tower stacks layers above the insurer's retention; catastrophe bonds pass layers on to investors.

• Property-catastrophe prices rose 27.5% at January 2023's renewal and fell about 16% in the year to mid-2026.

• Catastrophe bonds reached $65.5 billion outstanding in September 2026, after record issuance in 2025 and 2026.

• Bermuda's regime is judged equivalent to Europe's, and its large groups have paid a 15% corporate tax since 2025.

• The course's reading: outside capital has made the underwriting cycle faster, not flatter.

Module 4 Quiz

Check Your Understanding

1. What is an insurer's retention in a reinsurance program?

A) The premium a reinsurer keeps after buying its own retrocession
B) The first part of each loss that the insurer keeps before its reinsurance pays
C) The capital a reinsurer holds against the top layer of a tower
D) The interest a catastrophe-bond investor earns above the market rate

2. How did property-catastrophe reinsurance prices move between January 2023 and mid-2026?

A) Up at every renewal of the period, as insured losses rose each year
B) Unchanged, because the treaties had fixed prices for three years
C) Up 27.5% in January 2023, then down about 16% in the year to mid-2026
D) Down by half at a single renewal as new capital arrived in 2024

3. What is a catastrophe bond?

A) A bond a state issues to rebuild after a disaster
B) A government-guaranteed policy sold to investors
C) A loan to a reinsurer secured on its future premiums
D) A bond whose principal can pay disaster losses

4. What is the course's reading of outside capital and the cycle?

A) It made the cycle faster, not flatter
B) It ended the cycle
C) It has no effect
D) It has made prices rise at every renewal since 2023

5. What tax have Bermuda's large insurance groups paid since 2025?

A) No income tax at all
B) A 15% corporate income tax
C) A 21% federal-style corporate tax
D) A tax of 5% on premiums written

Module 5 — Property and Catastrophe

The Industry's Side of the Climate Repricing

Recommended Reading / Reference

Book: John Vaillant, *Fire Weather: A True Story from a Hotter World* (2023)

Reference: Swiss Re Institute, *sigma 1/2026: Natural catastrophes in 2025* (March 2026); Munich Re's natural-catastrophe reviews; the Florida Office of Insurance Regulation and the California Department of Insurance

5a. The Losses

Measure	Figure	Note
Insured natural-catastrophe losses, 2025	$107 billion (Swiss Re); $108 billion of $224 billion overall (Munich Re)	Swiss Re counted 2024 as the fifth straight year above $100 billion, so 2025 made a sixth; on Munich Re's figures it was the second
The trend	$148 billion for 2026 if losses follow the trend; a peak year could cost about $320 billion	Swiss Re puts the growth of insured losses at 5-7% a year, which doubles them every 10 to 14 years
What caused them	The 'secondary perils', among them severe convective storms, floods, and wildfires, 92% of 2025's insured losses; convective storms alone $51 billion	Floods cost only $3.4 billion, against a five-year average of $15.4 billion; no major hurricane struck the United States
The share insured	49% of 2025's natural-catastrophe economic losses, the highest on Swiss Re's records	In emerging markets 80-90% of such losses are typically uninsured
First half of 2026	$42 billion (Swiss Re), the lowest first half since 2020; $44 billion (Munich Re)	Severe convective storms $28 billion
The 2026 Atlantic season	No hurricane until Isaias, the ninth named storm, which struck near Destin, Florida, on October 9 with 105 mph winds	Insured losses estimated at $1-4.5 billion: Karen Clark & Company $3 billion, Verisk $1-2 billion, Moody's RMS a best estimate of $3.5 billion
A modeled average year	About $171 billion of insured catastrophe losses worldwide and $117 billion in the United States	Verisk's models; a quiet year falls below this average

Swiss Re (March 19, 2026), and via Artemis (August 11, 2026); Munich Re (January 13 and August 2026); Verisk (September 2, 2026); Karen Clark & Company and Moody's RMS (October 2026).

5b. What Drives the Losses

Three forces push insured losses up. One is exposure: more buildings, worth more, in the places the weather hits, from Florida's coast to the forest edges of California and the fast-growing suburbs of the Sun Belt. Another is the cost of rebuilding, which rose with the inflation that followed 2021. The third is a changing climate, which scientists link to heavier rainfall, more intense hurricanes, and longer fire seasons in many regions. Swiss Re calls the upward trend 'structural'.

The mix of losses has changed as well. The secondary perils were once treated as small and frequent, the background to the hurricanes and earthquakes that the catastrophe models were built for. They now cause most insured losses, and modelers have rebuilt their models to price them.

5c. The Repricing and the Insurers of Last Resort

Insurers repriced. American homeowners' premiums rose 12% in 2025, a fifth straight annual rise, and Insurify projects an average of $3,057 in 2026. The repricing restored profits: homeowners' insurance earned about $16.8 billion of underwriting income in 2025, despite the Los Angeles fires (AM Best). Where insurers could not get the rates they sought, they stopped writing new business, and the states' insurers of last resort took the risk.

Florida and California show the two paths. Florida's legislature curbed the lawsuits and roof claims that had driven up claims costs in 2022-23 and let rates rise, and private insurers returned; the state's domestic insurers posted a combined ratio of about 83% in 2025 (Morningstar DBRS). California kept tight approval of rates, and from 2023 its largest insurers stopped or limited new policies. Its Sustainable Insurance Strategy of December 2024 then allowed catastrophe models and the cost of reinsurance into rates in exchange for writing more policies in fire-prone areas, and in May 2025 the state approved an emergency rise of 17% for State Farm.

Plan	Size	2025-26
Florida's Citizens Property Insurance, the state's own insurer	255,099 policies on September 18, 2026, from about 1.4 million in September 2023	Shrank as private insurers took policies back
California's Fair Access to Insurance Requirements (FAIR) Plan, a pool of the state's insurers	663,000 properties (March 2026); $768 billion of exposure (June 2026)	An assessment on private insurers in 2025 (5d); an average rate rise of 29% approved in 2026
The Texas Windstorm Insurance Association (TWIA)	288,676 policies on June 30, 2026, its most ever, and $128.3 billion of insured value, from $55.0 billion in 2020	$4.3 billion of funding for the 2026 season, $2.3 billion of it reinsurance; a 0% rate change filed for 2027
The National Flood Insurance Program (NFIP), the federal flood insurer	Nearly 4.5 million policies and about $1.3 trillion of coverage	Owes the Treasury $22.525 billion; authorized only to December 11, 2026, and unable to write new policies in a lapse

Citizens; the California FAIR Plan; TWIA's fact book for the second quarter of 2026; the Congressional Research Service (2026).

5d. The Case: The Los Angeles Fires

The Palisades and Eaton fires of January 2025 destroyed about 16,000 structures and cost about $40 billion of insured losses and $53 billion overall (Munich Re), the largest insured wildfire loss on Swiss Re's records. They tested every part of the system. Catastrophe models had given little weight to a wind-driven fire spreading through dense suburbs. The FAIR Plan, which had taken on homes the private market refused, faced about $4 billion of losses and assessed the state's insurers $1 billion. And the reform that California had just adopted (5c) became the state's main hope of drawing insurers back.

5e. Should Premiums Follow the Risk?

The case that they should

Its advocates, among them insurers, many economists, and Florida's reformers, say a premium that reflects the risk tells people where building is dangerous, rewards owners who harden their homes, and keeps private insurers in the market. Holding rates down, they argue, drives insurers out and loads the risk onto a state plan, whose shortfalls fall on every policyholder through assessments.

The case that they should not, or not alone

Its critics, among them consumer advocates and many legislators, say prices that follow the risk punish owners who bought before the risk was priced, often families whose home is most of their wealth. Insurance is not optional for anyone with a mortgage, so a premium that doubles can force a sale at a loss. The risk is rising partly through a changing climate that no owner controls, so they argue it should be pooled widely, even through a public insurer.

The evidence

Florida's private market recovered and Citizens shrank as rates rose, though a quiet 2025 helped. California's FAIR Plan grew while rates were held down, and the fires showed what that concentration costs. Voters in California take up the question on November 3, choosing an insurance commissioner between two Democrats: Jane Kim, who proposes a state-run insurer for wildfire and flood, and State Senator Ben Allen, who proposes more transparent rate filings, stronger enforcement, and fire-resistant building codes.

The course's reading

Premiums that follow the risk are what keep insurance available, and the states that held them down ended with fewer insurers and larger public liabilities. The hard question is who pays for the owners caught by the repricing. That help is a subsidy, better paid openly and aimed at the households that need it than hidden in rates that drive insurers away.

Module 5 Key Points

Property and Catastrophe

• Insured catastrophe losses were $107-108 billion in 2025; Swiss Re puts a year on trend in 2026 at $148 billion.

• Swiss Re puts the growth of insured losses at 5-7% a year, a doubling every 10 to 14 years.

• Secondary perils, among them storms, floods, and wildfires, caused 92% of 2025's insured catastrophe losses.

• Florida's Citizens shrank to 255,099 policies as rates rose; California's FAIR Plan grew to $768 billion of exposure.

• The Los Angeles fires cost about $40 billion insured, the largest wildfire loss on Swiss Re's records.

• The course's reading: risk-based premiums keep insurance available; help for owners caught by repricing belongs in open subsidies.

Module 5 Quiz

Check Your Understanding

1. What caused most of 2025's insured catastrophe losses?

A) Atlantic hurricanes in Florida
B) Convective storms, floods, and fires
C) Earthquakes in Japan and in Chile
D) Volcanic eruptions in Asia

2. At what rate does Swiss Re say insured catastrophe losses grow?

A) About 1%, in line with inflation
B) About 15% a year, doubling every five years
C) 5-7% a year, doubling every 10 to 14 years
D) Zero, once inflation and economic growth are counted

3. What happened to Florida's Citizens Property Insurance after the reforms of 2022-23?

A) It shrank to about 255,000 policies
B) It grew to cover most homes in the state
C) It was closed, and its policies were sold off
D) It doubled in size as private insurers left the state after the hurricanes of 2024

4. Why can holding insurance rates down shrink the private market?

A) Insurers prefer to sell cheaper policies.
B) Regulators ban insurers from leaving.
C) Lower rates draw so many new insurers into the market that it cannot support them all.
D) Insurers stop writing where they cannot charge for the risk.

5. About how much did the Los Angeles fires of January 2025 cost insurers?

A) About $400 billion
B) About $40 billion
C) Roughly $10 billion
D) About $4 billion, since the state's FAIR Plan had insured most of the homes that burned

Module 6 — Life, Annuities, and the Pension Transfer

The Aging World's Largest Financial Business

Recommended Reading / Reference

Book: Moshe A. Milevsky, *The 7 Most Important Equations for Your Retirement* (2012)

Reference: LIMRA's quarterly annuity and pension-risk-transfer sales reports; ALIRT Insurance Research's studies of privately owned life insurers; the Bermuda Monetary Authority's reports on asset-intensive reinsurance

6a. The Business

Product	What it is	American sales, 2025	Who bears the risk
Life insurance	A payment at death, for a set term or for life with a savings element	—	The insurer bears mortality risk, the easiest to price, since death rates for a large pool are predictable
Fixed-rate deferred annuities	A lump sum earning a guaranteed rate over a term	$160.6 billion, up 5%	The insurer bears the investment risk
Fixed indexed annuities	Returns tied to a stock index, with a guaranteed floor	$128.2 billion, a fifth straight year of growth	Shared: the insurer guarantees the floor
Registered index-linked annuities	Index returns with a buffer against part of any loss	$79.6 billion, up 20%, an eleventh straight year of growth	Shared
Variable annuities	Returns from investment funds, often with guarantees	$65.2 billion, up 7%	Mostly the buyer, apart from the guarantees
Income annuities	A lump sum exchanged for an income for life	$18.8 billion, immediate and deferred	The insurer bears longevity risk, the risk that buyers live longer than expected

LIMRA (February 12, 2026). Total annuity sales were a record $461.3 billion in 2025, up 6%, and the first half of 2026 set a record for a half-year.

Companies hand their pension obligations to insurers too. In a pension-risk transfer, an employer pays an insurer to take over its pension plan's obligations, either through a buy-out, in which the pensioners become the insurer's policyholders, or a buy-in, in which the plan holds an insurance policy that pays it what the pensions cost. American transfers totaled $48.8 billion in 2025: $31.3 billion of buy-outs and a record $17.5 billion of buy-ins. The first quarter of 2026 fell 47%, which LIMRA put down to timing after a strong end to 2025. In Britain, the consultancy LCP forecasts £40-55 billion of buy-ins in 2026.

6b. The Private-Equity Model

A life insurer is in large part an asset manager with an insurance license. It holds premiums and annuity deposits for decades, and its profit is the spread between what the money earns and what it promised to pay. After 2008, near-zero interest rates left traditional bond portfolios earning little more than the promises. Private-equity firms saw a business they understood, and they bought it.

Apollo founded Athene in 2009 and merged with it on January 1, 2022. KKR bought Global Atlantic; Blackstone bought Allstate's life business, now Everlake; Brookfield bought American National and, in 2024, American Equity; Carlyle backs Fortitude Re, formed from AIG's older business. The buying has reached Britain, where Brookfield agreed in 2025 to buy Just Group and Athora to buy Pension Insurance Corporation. By the end of 2025, 93 privately owned life insurers held nearly $1.2 trillion, 19.8% of the industry's invested assets, against 16 holding $85 billion, 2.5%, in 2011 (ALIRT).

The model has three parts. The first is the annuity, which brings in deposits that stay for years at a known cost. The second is the assets. Instead of the government and corporate bonds that traditional life insurers held, the new owners invest more in private credit, loans arranged outside the public bond markets, often by the parent firm itself. Assets tied to related parties ran from about 12% at Athene to more than 40% at some peers in 2024 filings (ALIRT). American life insurers held $807 billion of private credit, 20% of a $4 trillion book of fixed-income assets, after holdings grew more than 20% in 2025 (Moody's, June 8, 2026).

The third part is offshore reinsurance. The insurer reinsures its annuity liabilities to an affiliate abroad, most often in Bermuda, where the capital rules differ. American life insurers' reserves ceded offshore passed $1.1 trillion by the end of 2024; Bermuda took more than 60% of new cessions in 2023 and 2024, and nearly 70% of offshore reserves went to affiliated reinsurers (AM Best, via ALIRT).

The model has drawn official scrutiny. On May 7, 2026, Treasury Secretary Scott Bessent, in office since January 28, 2025, met state insurance commissioners and the NAIC to discuss private credit, the life industry, and the movement of life and annuity reserves offshore. They agreed to follow up on the NAIC's capital rules, on ratings that insurers obtain privately for their holdings, on offshore jurisdictions, and on the oversight of new business models. Bessent called for 'fit-for-purpose regulation that encourages innovation while appropriately managing risk'.

Worked example — An Annuity's Balance Sheet

The setup. A retiree aged 65 puts $500,000 into a seven-year fixed annuity at an assumed guaranteed rate of 5.5%, so the insurer owes $727,340 in 2033. **The traditional model.** The insurer invests the money in investment-grade corporate bonds at 5.94%, their yield on October 14, and holds an assumed 8% of capital, $40,000. Its spread of 0.44 points earns $2,200 a year, 5.5% on the capital, which is why traditional insurers find the product hard to write at a profit. **The private-equity model.** The liability is reinsured to an affiliate offshore that, in this example, holds 5% of capital, $25,000, a thinner cushion (6c). The money goes into private credit at an assumed 9.0%. The spread of 3.5 points earns $17,500 a year, 70% on the capital. **A bad year for credit.** Suppose 10% of the private loans default and lenders recover 40% of what they lent. The loss is 6% of the portfolio, $30,000, so the year ends $12,500 down, half the affiliate's capital; a second such year exhausts it. The same year might cost an investment-grade portfolio, at an assumed 1% of defaults and the same recovery, $3,000, leaving the traditional insurer $800 down, 2% of its capital. **The retiree.** If an insurer fails, the state guaranty association covers an annuity's value only up to a limit (Module 10), and in most states half of the retiree's $500,000 would sit above it at the start. **The lesson.** The private-equity model earns far more in every year the loans perform, and loses far more of its capital in a year they do not.

6c. Does the Model Endanger Policyholders?

The case that it does not

Its defenders, among them the firms and many investors, say that private credit is mostly senior, secured lending that suits liabilities held for years, and that its extra yield pays for giving up the ability to sell quickly, which an insurer with long liabilities rarely needs. The new owners brought capital to a business that near-zero rates had starved, and they offered retirees better rates. Bermuda's regime is judged equivalent to Europe's, and its regulator reports that about 80% of the island's long-term reinsurance is collateralized, 77% of its assets are investment grade, and Bermuda's life reinsurers have paid about $230 billion of claims since 2020.

The case that it does

Its critics, among them some state regulators, academics, and international bodies, say the model moves the safest promise in finance, a retiree's income, onto assets that are harder to value and sell, often arranged by the insurer's own parent and rated privately. Reinsuring to an affiliate offshore can let the same liability be backed by less capital, and the model has not yet been through a recession in private credit. They point to the first failures in that market: the collapses of First Brands and Tricolor in 2025, and the cap on withdrawals that Blue Owl imposed on April 2, 2026.

The evidence

In its Global Financial Stability Report of October 13, 2026, the International Monetary Fund (IMF) warned of the mismatch between insurers' and pension funds' illiquid holdings and their obligations. The NAIC has raised capital charges on some structured credit (Module 10).

The course's reading

The model has met its promises so far, and regulators are now doing the work its critics asked for. Its safety depends on how private loans recover in a recession, which no one can yet check, so the case for it remains a forecast. The guaranty limits mark how much of a retiree's savings rests on that forecast.

Module 6 Key Points

Life, Annuities, and the Pension Transfer

• American annuity sales reached a record $461.3 billion in 2025, and the first half of 2026 set another record.

• Privately owned insurers held 19.8% of American life insurers' invested assets at the end of 2025, against 2.5% in 2011.

• Life reserves ceded offshore passed $1.1 trillion by 2024, with Bermuda taking most new cessions.

• Treasury Secretary Bessent met state insurance commissioners on May 7, 2026, on private credit and offshore reserves.

• Worked example: a 3.5-point spread earns 70% on thin capital; one bad credit year can halve that capital.

• The course's reading: the model has paid so far; its safety rests on private loans' untested recovery in a recession.

Module 6 Quiz

Check Your Understanding

1. What share of American life insurers' invested assets did privately owned insurers hold at the end of 2025?

A) About 20%
B) About 2%
C) About half of the industry's assets
D) Nearly all of them, after the mergers of 2022

2. What did Treasury Secretary Bessent discuss with state insurance regulators on May 7, 2026?

A) Hurricane season and flood insurance
B) Health insurers' Medicare payments
C) Auto insurers' rates after the tariffs
D) Private credit and offshore life reserves

3. In the worked example, what does a year of 10% defaults at 40% recovery do to the offshore affiliate?

A) It earns 70%
B) It still profits
C) It loses half its capital
D) It loses only the year's spread, since the guaranty association covers the rest of the loss

4. Where have most new offshore cessions of American life reserves gone?

A) To the Cayman Islands
B) To Bermuda, over 60% in 2023 and 2024
C) To Ireland
D) To Switzerland, where the large European reinsurers hold most of the American annuity business

5. What is the course's reading of the private-equity model?

A) It has paid so far, but it rests on how private loans recover in a recession.
B) It is unsafe and should be banned by the state regulators at once.
C) It is no different from the traditional model in its risks.
D) It is safe because the guaranty funds cover every policyholder in full.

Module 7 — Health Insurance

The Insurance, Not the Medicine

Recommended Reading / Reference

Book: Elisabeth Rosenthal, *An American Sickness: How Healthcare Became Big Business and How You Can Take It Back* (2017)

Reference: KFF's *Employer Health Benefits Survey* and its marketplace analyses; the Centers for Medicare & Medicaid Services' (CMS) enrollment and spending data; the Congressional Budget Office's (CBO) coverage projections

7a. Pooling Sickness

Health is the hardest risk to pool. A house fire strikes at random, but sickness is often known in advance: the sick know they are sick, and many healthy people know they are likely to stay well. A pool priced for the average draws in the first group and loses the second, which is adverse selection in its purest form (Module 2). Every health system answers it in one of three ways. It compels everyone into the pool, as national systems do; it lets insurers select, as American insurers did by excluding pre-existing conditions until 2014; or it subsidizes the pool to keep the healthy in, through the tax break for employer plans and the subsidies on the public marketplaces.

The second difficulty is that the loss is not one event but a stream of decisions. Each visit, test, and prescription is chosen by a patient who does not see the bill and a provider who is paid by it. The health insurer's business is therefore less pricing than managing: building networks of providers, negotiating their rates, requiring prior authorization before costly care, and denying claims, which has made it one of the least popular industries in America. Its economics are a thin margin on an enormous premium. Under the Affordable Care Act (ACA) of 2010, an insurer must spend at least 80% of premiums on care for individuals and small groups, and 85% for large groups, or refund the difference.

7b. The American System

Segment	Covered	Who pays	The insurer's role	2025-26
Employer plans	About 154 million people under 65	Employers and workers; the tax code excludes employer premiums from income	Insures smaller employers' plans and runs large employers' self-funded plans for a fee	A family premium of $26,993 in 2025, up 6%, of which workers paid 26%; an average single deductible of $1,886
Medicare, for those 65 and over and some disabled people	64.2 million eligible beneficiaries with both hospital and doctor coverage	The federal government, from payroll taxes, premiums, and general revenue	Traditional Medicare pays providers directly; Medicare Advantage pays private plans a monthly amount per member	Medicare Advantage at 35.2 million, 55% of those eligible; UnitedHealth's share down to 26% from 29%, Humana's up to 20%
Medicaid and the Children's Health Insurance Program (CHIP), for people with low incomes	73.2 million in June 2026: 66.0 million in Medicaid and 7.2 million in CHIP	The federal government and the states	Managed-care insurers such as Centene, Molina, and Elevance run most of it for the states	Falling since early 2025; work requirements on the way (7c)

Segment	Covered	Who pays	The insurer's role	2025-26
The ACA marketplaces	22.1 million paying enrollees at their 2025 peak	Enrollees and federal tax credits	Insurers sell regulated plans, priced the same for the healthy and the sick of a given age	Fewer paying enrollees after the enhanced tax credits expired (7c)
Uninsured	About 8% of Americans in 2025	—	—	Unchanged from 2024; federal statisticians expect it could rise

KFF's 2025 Employer Health Benefits Survey (October 22, 2025), via NIS Benefits; KFF (June and July 2026); CMS (June 2026 enrollment data); the National Center for Health Statistics (May 28, 2026). Categories overlap: some people hold more than one kind of coverage.

Behind all of it sits the largest health bill in the world. American health spending was about $5.3 trillion in 2024, 18% of the economy (CMS). The insurers do not set most of that spending; they negotiate it, and the margins they keep are thin by law (7a). The federal payment that matters most to insurers is Medicare Advantage's: CMS set an average rise of 2.48% for 2027 on April 6, 2026.

UnitedHealth Group, the largest health insurer, shows how thin the margin can be. Brian Thompson, the chief executive of its insurance unit, was shot dead in New York on December 4, 2024. In 2025 its medical costs rose faster than it had priced for, it cut and then suspended its forecast, and its chief executive, Andrew Witty, stepped down in May; Stephen Hemsley, who had led it from 2006 to 2017, returned. By the third quarter of 2026 it had recovered: on October 13 it reported revenue of $112.7 billion, a medical care ratio, the share of premiums paid out in care, of 88.4% against 89.9% a year earlier, and a raised forecast for the year. Its own count of Medicare Advantage members fell by 935,000 in 2026, to 7.6 million, and it lists the Justice Department's legal actions over its Medicare business among its risks.

7c. The Subsidies That Expired

The enhanced premium tax credits of 2021 capped what enrollees paid for a benchmark marketplace plan at 8.5% of income and extended help to households above 400% of the federal poverty line. They expired on December 31, 2025, when Congress did not renew them. The House passed a three-year extension by 230-196 on January 8, 2026, but it has not become law, and the credits remain expired.

The insurers priced for the healthy to leave. The median requested rise for 2026 was 18%, and the median approved 20%; benchmark premiums rose 26% on average (KFF). Enrollees who kept the same plan saw what they paid rise 114% on average, and 58% once switching to cheaper plans is counted, with deductibles 37% higher. Aetna, owned by CVS Health, left the individual market. Sign-ups fell about 5%, but paying enrollment, counted once those who did not pay are excluded, fell 13%, to 19.2 million in February 2026.

The pool sickened as the actuaries expected, and the next round followed. For 2027 insurers have asked for a median rise of 15%, the second-highest since 2018, citing medical costs first and then the sicker pool left after the credits lapsed. Open enrollment for 2027 runs from November 1, 2026 to January 15, 2027 on HealthCare.gov, with December 15 the deadline for coverage from January 1 (CMS, August 4, 2026), and state-run marketplaces set their own dates. In Medicaid, the budget law of July 4, 2025 requires many adults aged 19-64 to work, study, or volunteer 80 hours a month; under a CMS rule of June 1, 2026, states must begin by January 1, 2027. The CBO estimated that the law would leave about 10 million more people uninsured by 2034.

7d. Should the Enhanced Subsidies Return?

The case that they should

Its advocates, among them most Democrats in Congress, hospital groups, and many health economists, say the enhanced credits kept healthier, middle-income people in the pool. Without them, premiums rise for everyone who stays, coverage falls, and the costs of the uninsured return to hospitals and the states. They see 2026 as proof: fewer paying enrollees, higher premiums, and a sicker pool.

The case that they should not

Its opponents, among them most Republicans in Congress and conservative policy groups such as the Paragon Health Institute, say the credits were a costly pandemic measure that sent subsidies to households well above the old income limit and hid the rising price of the plans themselves. They argue the credits fed enrollment that brokers inflated, with some enrollees who never used their coverage, and that help should be targeted at lower incomes or paired with reforms that lower premiums.

The evidence

Paying enrollment fell and premiums rose in 2026 (7c). The fall in paying enrollment was larger than the fall in sign-ups, which fits both sides' accounts: some people left when their costs rose, and some enrollments had not been in active use.

The course's reading

The evidence confirms the arithmetic of 7a: the credits kept the healthy in the pool, and their loss shrank it and raised its price. Whether that is worth the public cost is a judgment about spending that the evidence cannot settle.

Module 7 Key Points

Health Insurance

• Health is the hardest risk to pool: the insured know their risk, so pools must be compelled, selected, or subsidized.

• The ACA requires insurers to spend at least 80-85% of premiums on care, leaving a thin margin.

• Medicare Advantage enrolled 35.2 million in 2026, 55% of eligible beneficiaries; UnitedHealth's share fell to 26%.

• After the enhanced credits expired, paying marketplace enrollment fell 13% to 19.2 million in February 2026.

• Insurers asked for a median 15% rise for 2027, citing the sicker pool; Medicaid work requirements begin by January 2027.

• The course's reading: the credits held the healthy in; whether that is worth their cost is a judgment about spending.

Module 7 Quiz

Check Your Understanding

1. Why is health the hardest risk to pool?

A) Medical bills are too small
B) Hospitals will not negotiate with insurers
C) No state regulates health insurance, so insurers can charge what they like and leave the market at will
D) The insured often know their own risk

2. What share of their premiums must ACA health insurers spend on care?

A) About half, with the rest kept as profit for owners.
B) All of it, with nothing left for costs.
C) At least 80-85%, by market.
D) At least 95%, in every market and state.

3. What share of eligible Medicare beneficiaries were in Medicare Advantage in 2026?

A) About 55%, or 35.2 million people.
B) About 10%, a small minority.
C) About 25%, a quarter of them.
D) About 90%, nearly all of them.

4. What happened to paying marketplace enrollment after the enhanced credits expired?

A) It fell by half
B) It rose slightly
C) It was unchanged, as new credits replaced the old ones
D) It fell 13%, to 19.2 million

5. What is the course's reading of the enhanced subsidies?

A) They had no effect on who joined the pool
B) They should be made permanent at once
C) They held the healthy in the pool
D) They caused the rise in premiums for 2026 by drawing in people who were already sick

Module 8 — Casualty, Liability, and the Courts

Where Losses Are Decided by Juries

Recommended Reading / Reference

Book: Kenneth S. Abraham, *The Liability Century: Insurance and Tort Law from the Progressive Era to 9/11* (2008)

Reference: Marathon Strategies' annual reports on nuclear verdicts; AM Best's reviews of the American property-casualty lines; the National Council on Compensation Insurance's (NCCI) *State of the Line*

8a. The Lines

Line	What it pays	The 2025 result
Personal auto	Injuries and damage to others, and damage to the policyholder's car	Underwriting income of $28.9 billion, double 2024's $13.8 billion, after the line's losses of 2022-23
Commercial auto	Trucks and business fleets	An underwriting loss of $1.9 billion, from $4.9 billion in 2024, with about $2 billion added to reserves for past years' liability claims
Workers' compensation	Workplace injuries, paid without regard to fault under state law	A combined ratio of 91%; premiums of $41.6 billion, the only major line to shrink; the average cost per claim up 4% for both medical care and lost wages
Other liability	Injury and damage claims against businesses	A combined ratio of 114.7, from 120.3 in 2024; an underwriting loss of about $11 billion; incurred losses at a five-year high near $50 billion
Product liability and mass torts	Claims over products, drugs, chemicals, and software, often in thousands of similar suits	Claims over PFAS, the 'forever chemicals' of nonstick and water-resistant coatings, 'developing at an accelerating pace' (AM Best); more than 4,000 suits against more than 160 companies over addictive software design (Moody's)

AM Best, via Claims Journal (July 15, 2026); NCCI, via Risk & Insurance (May 13, 2026); Moody's, via Risk & Insurance (September 3, 2026). 'Other liability' here is AM Best's line for policies covering injuries that occur during the policy period.

8b. Rising Claims and the Nuclear Verdict

The liability lines have a problem the property lines do not. Their losses are decided not by the weather but by courts, often years after the premium was set. Since about 2015 those decisions have run against insurers. Swiss Re estimated that American liability claims rose 57% in the decade to 2023, far faster than prices in the economy, and the industry calls the gap 'social inflation'.

The most visible sign is the nuclear verdict, a jury award of $10 million or more. Marathon Strategies counted nearly 200 against corporate defendants in 2025, up 40.7% and the most since it began counting, worth more than $25.6 billion in all. More than 40 exceeded $100 million and four exceeded $1 billion. Georgia led by value, with $4.9 billion, and Florida had 20 despite its reforms of 2023, which limited awards of attorneys' fees and barred recovery by plaintiffs found mostly at fault.

The money behind the suits has grown too. Litigation funders, investors who pay a lawsuit's costs in exchange for a share of any award, increased their new commitments by 23% in 2025 after two years of decline (Westfleet Advisors). And the bill keeps arriving for old policies. Moody's counts more than $35 billion of adverse reserve development in general liability over the past eight years, meaning claims came in above what insurers had set aside, and nearly $100 billion with commercial auto included. The shortfalls

now show up in recent accident years as well as in those of 2015-19. In October 2026 Travelers added $295 million to its reserves for asbestos, a tort whose claims began in the 1970s.

8c. Is 'Social Inflation' Real?

The case that it is

Its advocates, among them the Insurance Information Institute, the American Property Casualty Insurance Association, and analysts at Swiss Re, Verisk, and Moody's, say claims costs have outrun inflation because of how lawsuits are now funded and fought. They point to litigation funding, heavy advertising by plaintiffs' firms, trial tactics that anchor juries to large numbers, public distrust of corporations, and the erosion of earlier tort reforms. The verdict counts and the reserve shortfalls, they argue, are the measurable result.

The case that it is exaggerated

Its critics, among them the American Association for Justice, which represents plaintiffs' lawyers, and consumer groups such as the Center for Justice & Democracy and the Consumer Federation of America, say the term relabels the underwriting cycle. Insurers cut prices in the soft market of the late 2010s and set reserves too low, they argue, and now blame juries for their own mistakes. Large verdicts are a tiny share of claims and are often reduced on appeal or settled for less, and the industry's profits are at records.

The evidence

The reserve shortfalls are real money, and they are concentrated in the lines most exposed to litigation (8a). The industry as a whole is having its best years in a decade (Module 1), so liability is the exception rather than the rule. Florida's reforms came before its insurers' recovery (Module 5), yet juries there still returned nuclear verdicts (8b).

The course's reading

Both sides are partly right. The shortfalls in liability reserves are real, but the industry's own pricing in the soft markets of the late 2010s helped create them. Verdict counts measure what makes the news more than what insurers pay.

Module 8 Key Points

Casualty, Liability, and the Courts

• Liability losses are decided by courts, often years after the premium was set.

• Nuclear verdicts against companies rose 40.7% to nearly 200 in 2025, worth more than $25.6 billion.

• Other liability ran a combined ratio of 114.7 in 2025, an underwriting loss of about $11 billion.

• Moody's puts adverse reserve development near $100 billion over eight years, including commercial auto.

• Personal auto earned $28.9 billion of underwriting income in 2025, double 2024's.

• The course's reading: liability reserve shortfalls are real, and verdict counts measure headlines more than payments.

Module 8 Quiz

Check Your Understanding

1. What distinguishes the liability lines from the property lines?

A) They are cheaper to write
B) Courts set their losses, years after pricing
C) They need no reinsurance from other companies
D) They are regulated by Washington, not the states

2. How many nuclear verdicts against corporate defendants did Marathon Strategies count in 2025?

A) About 20
B) About 1,000, one in every state court
C) Nearly 2,000, most of them in Florida's courts
D) Nearly 200

3. What combined ratio did other liability run in 2025, on AM Best's figures?

A) 92.7, a profit
B) 100, break-even
C) 114.7, a loss
D) 83, the same as Florida's homeowners' insurers after their reforms of 2022-23

4. What does Moody's estimate for adverse reserve development over eight years, including commercial auto?

A) About $2 billion
B) Near $100 billion with commercial auto
C) $20-30 billion
D) Zero, since reserves have proved more than adequate

5. What is the course's reading of social inflation?

A) Reserve shortfalls are real; verdict counts track headlines more than payments
B) It is an invention of the industry to raise prices without cause
C) It explains all of the industry's losses in every line since 2015
D) It has ended since Florida's tort reforms of 2023 took effect

Module 9 — Marine, Aviation, War, and Cyber

The Specialty Lines the Year Tested

Recommended Reading / Reference

Book: Andy Greenberg, *Sandworm: A New Era of Cyberwar and the Hunt for the Kremlin's Most Dangerous Hackers* (2019)

Reference: The Joint War Committee's listed areas; Lloyd's of London's results; the International Union of Marine Insurance's (IUMI) market reports; Munich Re's *Global Cyber Risk and Insurance Survey 2026*

9a. The Lines

Line	What it covers	Who writes it	The 2025-26 test
Marine hull and cargo	Ships against loss and damage, and cargo in transit	Lloyd's, the Nordic and Japanese markets, Allianz, AXA XL	A market 'broadly stable but predominantly soft' (IUMI, September 2026), with the Gulf war's claims on top (9b)
Protection and indemnity (P&I)	Shipowners' liability for pollution, crew, cargo, and wreck removal	The mutual P&I clubs of the International Group	The Baltimore bridge (9c)
War risk	Ships and cargo against war, mines, and seizure	Lloyd's and the London market, with national pools	The Hormuz closure (9b)
Aviation	Aircraft hulls, airline liability, and war cover for aircraft	Lloyd's, Allianz, AIG	The war-risk claims for leased aircraft stranded in Russia in 2022, still being settled in 2026; AerCap alone had recovered $3 billion by June 30
Energy	Rigs, refineries, pipelines, and liquefied natural gas (LNG) plants	Lloyd's, Munich Re, and the oil companies' mutuals	The strikes on Gulf energy sites in 2026 (9b)
Political violence and terrorism	Riots, terrorism, and war on land	Lloyd's, with state backstops such as Britain's Pool Re and the American terrorism program (Module 3)	Claims from the Gulf war of $2-3 billion, against a world premium pool of $1.5-2 billion a year (Howden Re)
Cyber	Data breaches, ransomware, business interruption, and liability	Beazley, Chubb, AIG, Munich Re, and the Lloyd's market	The line whose catastrophe has no backstop (9d)

IUMI, via Insurance Business (September 22, 2026); The Currency (August 13, 2026), citing AerCap; Howden Re, via Insurance Business (August 26 and September 22, 2026).

9b. The Hormuz Year

War risk is the specialty market's most political product. Ordinary marine policies exclude war, so owners buy the cover separately for voyages through areas listed by the Joint War Committee, a committee of London underwriters. It is priced as a share of the ship's hull value for each voyage or each week in the area. Before the war that began on February 28, 2026, a Gulf transit cost 0.1-0.25% of hull value.

The war re-priced the cover rather than ending it. The International Group's clubs gave notice that existing war cover would lapse at midnight on March 5, and the Joint War Committee extended its listed area to the whole Gulf. New cover was written within days at about 1% of hull value for seven days, or 2-3% for a full oil voyage, $2-3 million on a $100 million tanker. On March 23 the Lloyd's Market Association stated that cover

remained available. At the peak, quotes reached about 5% of hull value after discounts and as much as 10%, so a transit for a $150 million tanker went from under $400,000 to as much as $15 million.

The price then followed the fighting. After the ceasefire of June 17, rates halved to about 2% within a week, and Kpler counted at least 172 transits in the week that followed. The strait closed again on July 11, fighting resumed in August, and the most exposed voyages paid about 5% on September 22. In early October, Kpler counted 7 to just over 20 commodity ships a day through the strait, against about 125 before the war.

The bill has been smaller than the disruption. Lloyd's put its net loss from the conflict at £1.4 billion, about $1.9 billion, in its half-year results of September 3, and its chief executive said he did not expect a capital event for the market. IUMI counted about 70 vessel casualties and $1.5-2 billion of marine war claims. Ashore, about 40 Gulf energy sites had been hit or disrupted by April 11, among them Qatar's Ras Laffan, where two LNG production units holding 17% of capacity were destroyed, and Bahrain's Sitra refinery. Rystad Energy put the repair bill at $25 billion or more, much of it uninsured, since ordinary energy policies exclude war and only separate war or political-violence cover responds.

Washington offered a state answer. The US International Development Finance Corporation (DFC) set up a $40 billion reinsurance facility for Gulf shipping, backed by Chubb, AIG, Berkshire Hathaway, Travelers, Liberty Mutual, and Starr, and had written no cover by September. Private cover was available throughout at a price, and ships stayed away anyway. That suggests the danger to crews and cargo, more than the cost of insuring them, kept the strait nearly empty.

9c. The Baltimore Bridge

The container ship Dali lost power and struck the Francis Scott Key Bridge in Baltimore on March 26, 2024, killing six road workers and closing the port. Its owner and manager have since settled most of the claims through their P&I club. The federal government's claim settled for just over $100 million in October 2024, and the families' claims are settled. On May 12, 2026, Maryland's Attorney General announced a final settlement of $2.25 billion with the owner, Grace Ocean, and the manager, Synergy Marine, which outlets that follow shipping called a record.

What remains is the owners' attempt to limit their liability. Under a law of 1851, a shipowner can seek to cap its liability at the value of the ship after the voyage, about $43.7 million for the Dali. The trial on that petition, set for June 1, 2026, was postponed indefinitely that day, with the economic-loss claims from the port's closure still open. Rebuilding the bridge is now estimated at $4.3-5.2 billion, with a 2030 target for reopening.

9d. Cyber

Cyber insurance is the newest line and the hardest to write. It breaks the condition the pool rests on, independence (Module 2): one software flaw or one faulty update can hit every insured that runs the software at once. The CrowdStrike outage of July 2024, which grounded airlines and closed hospital systems, cost insurers up to $1.5 billion on CyberCube's estimate. And it lacks the long record that pricing needs: the loss data cover about a decade, and attackers adapt to every defense.

The largest attacks come from states, and the industry's answer is to exclude them. When the NotPetya malware, which the United States and Britain attributed to Russia's military intelligence, crippled Merck in 2017, Merck's insurers cited a war exclusion; New Jersey's courts held, in 2022 and on appeal in 2023, that the old clause did not cover a cyber attack, and the case settled in January 2024. Lloyd's has required its

syndicates to exclude state-backed cyber attacks from standalone cyber policies since March 31, 2023, with new clauses that no court has yet tested.

The market is still small. Munich Re puts world cyber premiums at nearly $15 billion in 2025 and expects about $28 billion by 2030, though growth has slowed for three years and brokers report falling rates. Insurers price by security practice, such as multi-factor authentication, backups, and prompt patching, so cyber is the one line where underwriting directly improves the insured's defenses. Its limit is scale. A long outage at a major cloud provider could bring claims from the whole market at once, and no country yet offers a state backstop for cyber catastrophe.

Module 9 Key Points

Marine, Aviation, War, and Cyber

• War-risk cover is bought separately for listed areas, priced per voyage or week as a share of the ship's value.

• Gulf war-risk rates rose from 0.1-0.25% of hull value before the war to about 5-10% at the peak.

• The market stayed open: Lloyd's put its conflict loss at £1.4 billion and expected no capital event.

• Maryland settled its Key Bridge claim against the Dali's owner and manager for $2.25 billion in May 2026.

• Cyber premiums were nearly $15 billion in 2025; its risks are correlated and the state-attack exclusion untested in court.

Module 9 Quiz

Check Your Understanding

1. How is war-risk cover for a ship priced?

A) As a share of hull value per voyage or week
B) By the size of the cargo
C) By the flag state's government
D) As a fixed yearly fee per ship, whatever its route or flag

2. What happened to Gulf war-risk cover when the war began in 2026?

A) Governments took it over
B) It was withdrawn by every market for the rest of the year
C) Its price was frozen by the Joint War Committee
D) Existing cover lapsed and was re-priced

3. What did Lloyd's report about its losses from the conflict?

A) A loss large enough to need new capital from its members.
B) A net £1.4 billion, and no capital event.
C) No losses at all, since war was excluded from every policy.
D) A loss of $25 billion on the Gulf's energy plants.

4. What did Maryland settle for with the Dali's owner and manager in May 2026?

A) $43.7 million, the ship's value
B) $350 million, the bridge policy's limit
C) $2.25 billion, in a settlement of May 12, 2026
D) $100 million, like the federal claim

5. Why is cyber the hardest line to insure?

A) Its risks are correlated and its history short
B) No reinsurer will take any of the risk at any price
C) Regulators forbid cyber policies in most states
D) Claims are too small to be worth paying, so few firms buy it and premiums never cover an insurer's costs

Module 10 — Regulation and Failure

Why Insurers Fail Slowly and What the Rules Do

Recommended Reading / Reference

Book: Roddy Boyd, *Fatal Risk: A Cautionary Tale of AIG's Corporate Suicide* (2011)

Reference: The NAIC's risk-based capital framework; the European Insurance and Occupational Pensions Authority's (EIOPA) Solvency II reports; the International Association of Insurance Supervisors' (IAIS) Insurance Capital Standard

10a. The Rules

Regime	How it works	Where it stands in 2026
The American states	Each state licenses insurers, examines them, and in most lines approves their rates; risk-based capital (RBC), a formula set through the NAIC, ties the capital an insurer must hold to the risks in its assets, underwriting, and reserves	In July the NAIC approved new capital charges for collateralized loan obligations and similar securities held by life insurers, effective at the end of 2026; in August its financial-stability task force called private credit 'a significant risk for the insurance industry'
Guaranty associations	State funds that pay a failed insurer's policyholders up to limits, financed by assessments on the surviving insurers, usually capped at 2% of their premiums a year	Most states cover $300,000 of life insurance death benefits, $100,000 of cash value, $250,000 of an annuity's present value, $500,000 of major medical benefits, and $300,000 per property-casualty claim
Solvency II (European Union)	A balance sheet at market values, capital set to survive a loss expected once in 200 years, and public disclosure	A revised version applies from January 30, 2027
Bermuda	The Bermuda Monetary Authority's regime (Module 4)	Since 2023 life reinsurance of closed blocks of policies needs its approval; from January 1, 2026 long-term insurers must publish statements of their assets and liabilities
The international standard	The IAIS's Insurance Capital Standard for internationally active groups, adopted in December 2024	The IAIS found the American 'aggregation method', which adds up each company's capital under local rules, comparable; the NAIC is putting it into effect
Rating agencies	AM Best, S&P, Moody's, and Fitch grade insurers' ability to pay claims	A private regulator in effect: brokers and large buyers rarely place cover with an insurer rated below the A range

Debevoise & Plimpton on the NAIC's Summer 2026 National Meeting (August 2026); the National Organization of Life and Health Insurance Guaranty Associations; the National Conference of Insurance Guaranty Funds; Milliman (August 19, 2025); the Bermuda Monetary Authority; the IAIS. There is no federal insurance regulator; the Treasury's Federal Insurance Office, created in 2010, monitors the industry.

10b. How Insurers Fail

Banks fail fast, in a run. Their deposits can be withdrawn on demand, so a loss of confidence can close a bank in days. An insurer's liabilities are claims that fall due over years, and its failure is usually a discovery: the reserves were too small, the assets were worth less than the books said, or the reinsurance did not pay. A run follows only where policyholders can take their money out, as owners of some life policies and annuities can, or where brokers stop placing business with the insurer.

The record fits the pattern. Lloyd's crisis came from reserves for asbestos and pollution claims on policies written decades earlier (Module 3). Florida's failed property insurers, after Andrew and again in 2022-23, met catastrophe losses with thin capital and reinsurance that cost more than their premiums could bear. The writers of long-term-care insurance sold policies on assumptions about lapses and care costs that took twenty years to prove wrong. Executive Life, seized by California's regulator in 1991, had invested heavily in high-yield bonds, and its policyholders took losses when that market fell.

10c. AIG, 2008

AIG's failure in September 2008 began outside its insurance companies. Its Financial Products unit had sold credit default swaps, contracts that pay the buyer if a borrower defaults, on about $500 billion of debt. Because AIG was rated AAA, it had posted little collateral against them. When the rating agencies cut AIG's rating on September 15, 2008, the contracts required collateral it could not raise, and a securities-lending program run for its life insurers, which had invested cash in mortgage securities, added to the drain.

The Federal Reserve and the Treasury committed up to $182.3 billion. AIG repaid it, and when the Treasury sold its last shares in December 2012, the government's combined gain was $22.7 billion, about $5.0 billion to the Treasury and $17.7 billion to the Fed. The lesson regulators drew was that an insurance group can be a risk to the financial system when it also runs a business like a bank's.

10d. What a Failure Looks Like

A failing insurer is taken over by its home state's regulator, either in rehabilitation, an attempt to restore it, or in liquidation. In liquidation, the guaranty associations pay policyholders up to their limits (10a), and claims are paid out over years from the insurer's remaining assets and the associations' assessments. The process is slow. PHL Variable Insurance, a Connecticut life insurer in rehabilitation since May 2024, was found to need liquidation, which Connecticut's regulators now expect in 2027. For policyholders the loss is any amount above the limits, and the failure becomes a public event only in a case like AIG's (10c).

Module 10 Key Points

Regulation and Failure

• American insurers answer to the states, which license them, approve rates, and set risk-based capital through the NAIC.

• Guaranty associations in most states cover annuities to $250,000 of present value and death benefits to $300,000.

• Banks fail fast in a run; insurers fail slowly, when reserves, assets, or reinsurance prove short.

• AIG's rescue committed $182.3 billion and returned a $22.7 billion gain to the government by 2012.

• The NAIC raised capital charges on some structured credit in July 2026 and called private credit a significant risk.

• Europe's revised Solvency II applies from January 30, 2027.

Module 10 Quiz

Check Your Understanding

1. Who regulates American insurers?

A) The Federal Reserve
B) The Securities and Exchange Commission alone
C) A single federal regulator created by the Dodd-Frank Act of 2010 for all financial firms
D) The fifty states, coordinated by the NAIC

2. In most states, up to what amount does a guaranty association cover an annuity's value?

A) $50,000 for each policy
B) $250,000 of present value
C) $1 million per person
D) Its full value, always

3. How do insurers usually fail, compared with banks?

A) In a weekend run
B) When stock prices fall
C) Slowly, as reserves prove short
D) Only through fraud by their managers

4. What did the AIG rescue of 2008 cost the government in the end?

A) It lost about $182 billion, the full commitment.
B) It lost about $50 billion on AIG's shares.
C) It broke even, with no gain or loss.
D) It made a gain of $22.7 billion once AIG had repaid it.

5. When does Europe's revised Solvency II apply?

A) Since 2016
B) From January 30, 2027
C) From January 1, 2026, already in force
D) It was withdrawn in 2025, when the European Union dropped its review of insurers' capital

Module 11 — Insurance as an Investment

The Stocks and the Model

Recommended Reading / Reference

Book: Lawrence A. Cunningham, ed., *The Essays of Warren Buffett: Lessons for Corporate America* (first edition 1997)

Reference: Berkshire Hathaway's, Progressive's, Chubb's, and Travelers' quarterly reports; Mercer Capital's quarterly newsletters on the insurance industry

11a. The Model

An insurance company is a pool of other people's money, invested for its shareholders at a cost set by its underwriting. An investor asks three questions of it. What does the float cost? What does it earn? And how much capital stands behind it?

Berkshire Hathaway is the model because it has answered all three well for decades. Its insurers, GEICO, its reinsurance group, and its specialty companies, have made underwriting profits in most years, so its float, about $177.5 billion on June 30, 2026, has cost it less than nothing; after-tax underwriting earnings were $3.45 billion in the first half of 2026. It has invested the float in shares and whole companies as well as bonds, which few insurers' capital would allow, and its shareholders' equity stood at $747.9 billion. Greg Abel succeeded Warren Buffett as chief executive on January 1, 2026, and in the first half of the year Berkshire bought back $4.8 billion of its own shares.

The ordinary insurer is humbler and works the same way (Module 2). Its earnings follow the underwriting cycle (Module 3) with a lag. In a hard market prices rise faster than claims and profits climb; in a soft market prices fall while claims costs keep rising, and profits shrink a year or two later.

11b. The Turn in 2026

The third-quarter results of October 2026 show the turn under way. Progressive, the largest writer of auto insurance among listed companies, reported a combined ratio of 90.0 and net premiums written up only 2%, with 40.5 million policies in force. Chubb ran a property-casualty combined ratio of 84.1% and a core operating return on equity of 14.9%, down from 16.6% a year earlier, as its premiums grew 1.9% and fell 2.7% in North American commercial lines; its chief executive, Evan Greenberg, said the market 'continues to grow more competitive'. Travelers earned a core return of 22.1%, with premiums flat.

Investors had priced the turn already. In the second quarter of 2026, managed-care stocks returned 54.4% as the health insurers recovered (Module 7), life and annuity insurers 14.9%, the same as the S&P 500, standard property-casualty insurers 9.2%, specialty insurers 4.9%, and brokers 0.8% (Mercer Capital).

Brokers take no underwriting risk. They earn fees and commissions on the premiums they place, so falling prices slow their growth rather than hurting their balance sheets. Marsh, renamed from Marsh McLennan in January 2026, reported underlying revenue growth of 5% in the third quarter, while the revenue of its reinsurance broker, Guy Carpenter, fell 6% as reinsurance prices fell (Module 4).

Worked example — Valuing an Insurer

The setup. A commercial insurer has $10 billion of shareholders' equity, its book value. It earns $12 billion of premiums a year, holds $18 billion of float, and averages a combined ratio of 92% over the cycle. **A normal year.** The underwriting margin of 8% on $12 billion is $960 million. The float, invested at 5.19%, the ten-year Treasury yield on October 14, earns $934 million. After $150 million of corporate costs and the 21% federal tax, net income is $1.38 billion, a return on equity (ROE) of 13.8%. **The value.** A common rule values a company at a multiple of its book value equal to (ROE − g) ÷ (r − g), where g is the long-run growth rate of its earnings and book value and r is its cost of capital, the return its shareholders require. With an assumed g of 3% and r of 9%, the multiple is (13.8 − 3) ÷ (9 − 3) = 1.8 times book, a value of $18.0 billion, or 13 times earnings. **The soft market.** If prices soften and the combined ratio drifts to 96%, the underwriting margin halves to $480 million, net income falls to $999 million, and ROE to 10.0%. The multiple falls to 1.17 times book, and the value by 35%, with no catastrophe at all. **A catastrophe year.** At a combined ratio of 108%, an underwriting loss of $960 million exceeds the float's income. After costs and the tax credit, the insurer loses $139 million, 1.4% of its book. **The lesson.** The float and its yield set the base, the combined ratio's place in the cycle sets the multiple, and the capital decides whether the insurer survives a bad year to charge the higher prices that usually follow.

Module 11 Key Points

Insurance as an Investment

- An insurer's investor asks what the float costs, what it earns, and how much capital stands behind it.
- Berkshire's float was about $177.5 billion in June 2026, backed by $747.9 billion of shareholders' equity.
- Third-quarter 2026 results showed the turn: high returns at Chubb and Travelers, with premiums barely growing.
- Managed care returned 54.4% in the second quarter of 2026 and brokers 0.8%, against the S&P 500's 14.9%.
- Worked example: a drift from a 92% to a 96% combined ratio cuts the insurer's value by 35%.

Module 11 Quiz

Check Your Understanding

1. What are an investor's three questions about an insurer?

A) What its float costs, what it earns, and what capital backs it.
B) Its brand, its agents, and its advertising.
C) Its premium growth alone, whatever the cost.
D) Its headquarters, its history, and its chief executive's record in the industry.

2. About how large was Berkshire Hathaway's insurance float on June 30, 2026?

A) About $1.8 trillion, a record
B) About $747.9 billion, its equity
C) About $177.5 billion
D) About $75 billion, after the buybacks

3. What happened to the revenue of Marsh's reinsurance broker, Guy Carpenter, in the third quarter of 2026?

A) It was sold
B) It fell by 6%
C) It rose 20% on record placements
D) It merged with Aon's reinsurance arm

4. In the worked example, what does a drift from a 92% to a 96% combined ratio do to the insurer's value?

A) Cuts it by about 35%, with no catastrophe at all
B) Leaves it unchanged, as the float still earns
C) Doubles it, as soft markets draw in new capital
D) Raises it slightly, on higher bond yields

5. Which part of the insurance industry returned the most in the second quarter of 2026, on Mercer Capital's figures?

A) Brokers
B) Reinsurers
C) Life and annuity insurers, up about 30%
D) Managed care, up 54.4%

Module 12 — Where Things Stand, and What to Watch

The Argument on a Page, and the Dates

Recommended Reading / Reference

Reference: The brokers' January renewal reports; the NAIC's national meetings; Swiss Re Institute's *sigma* reports; KFF's analyses of marketplace enrollment

12a. The Argument on a Page

Insurance works when two conditions hold: the risks in a pool are independent of one another, and the assets behind the promises keep their value. In October 2026 the industry is at a peak of profit, and the peak is producing the forces that have ended earlier peaks (Module 3). American property-casualty insurers had their best underwriting year in a decade, their capital is at a record, and reinsurers are earning returns near 20%. Those returns have drawn in capital that is cutting prices, and forecasters expect further cuts at the January 2027 renewals.

Each line tests one of the two conditions. Property losses grow more correlated as more is built where the weather strikes, and the state plans hold what the private market will not price. Life insurance has moved a fifth of its assets into private ownership and a growing share into private credit, so the safest promises rest on the least tested assets. Health insurance shows what happens to a pool when the subsidy that kept the healthy in is withdrawn. Liability losses are set in courtrooms years after the premium. And the specialty lines spent the year insuring a war, a test the market passed by raising its price.

The course's finding is that the machine of Module 2, the pool, the price, the float, and the capital, is sound, and that 2026 has strained both of its conditions at once: correlated risks in property and cyber, and less liquid assets in life insurance. An industry paid to be right about the future now meets falling prices with more capital than ever and less certainty about what that capital will be asked to pay for.

12b. Five Contradictions

- **Record profits, falling prices.** The best underwriting results in a decade drew in the capital that is now cutting prices, while the trend in insured catastrophe losses keeps rising 5-7% a year (Modules 1, 4, and 5).
- **The safest promises on the least tested assets.** A retiree's guaranteed income increasingly rests on private loans arranged by the insurer's own parent and reinsured offshore, and regulators are only now measuring the exposure (Modules 6 and 10).
- **The best years overall, the worst in liability.** The industry ran a combined ratio of 93 in 2025 while other liability ran 114.7, and reserves for old policies kept proving short (Modules 1 and 8).
- **A strait insured but empty.** War cover stayed available all year at a price, and Lloyd's called its loss no capital event, yet traffic through Hormuz fell to a fraction of its pre-war level (Module 9).
- **A private industry leaning on the state.** Florida's Citizens shrank, but California's FAIR Plan, Texas's windstorm pool, the federal flood program, the terrorism backstop, and a new federal facility for Gulf shipping all stand behind risks the private market will not take at a price buyers or legislators accept (Modules 3, 5, and 9).

12c. What to Watch

Date	What to watch	Why it matters
October 27-28, 2026	The Fed's meeting; futures on October 16 priced about 1 chance in 6 of a rise	Higher rates raise what new money in the float earns and what annuities can promise (Modules 2 and 6)
Late October to mid-November	Third-quarter results from the reinsurers and from AIG (November 3)	Whether returns hold as prices fall (Module 4)
Through December 7	Medicare's open enrollment	Whether Medicare Advantage keeps growing as UnitedHealth shrinks its plans (Module 7)
November 1, 2026 to January 15, 2027	Open enrollment for 2027 marketplace plans on HealthCare.gov, December 15 for coverage from January 1; state-run marketplaces set their own dates	Whether paying enrollment falls again after insurers asked for a median rise of 15% (Module 7)
November 3	The midterms, among them California's choice of insurance commissioner	The question of Module 5 put to voters
November 9-13	The IAIS's annual meetings in Hong Kong	How the international capital standard is put into effect (Module 10)
November 14-17	The NAIC's Fall National Meeting in Dallas	Its work on private credit and offshore reinsurance (Modules 6 and 10)
November 30	The Atlantic hurricane season ends	Whether 2026 ends as a quiet year, which would deepen the soft market (Module 5)
December 11	The flood insurance program's authorization expires unless Congress extends it	A lapse stops new flood policies and stalls home sales in flood zones (Module 5)
By December 31	Congress's choice between the House and Senate bills to renew the terrorism program	The program expires at the end of 2027 without one (Module 3)
December 31, 2026	The NAIC's new capital charges on structured credit take effect, for the year-end filings	The first test of rules aimed at private credit in life insurers (Modules 6 and 10)
January 1, 2027	Reinsurance renewals; states' deadline for Medicaid work requirements	The cycle's next turn, and coverage losses in Medicaid (Module 7)
January 30, 2027	The revised Solvency II applies	Europe's first broad change to its insurance capital rules since 2016 (Module 10)
From about March 2027	Twelve-month waiting periods begin to run out for ships trapped in the Gulf since March 2026	Some may then be claimed as total losses under war cover (Module 9)
By April 5, 2027	Medicare Advantage payment rates for 2028	The federal payment that matters most to health insurers (Module 7)
June 1, 2027	Florida's reinsurance renewals and the start of the hurricane season	Whether the price cuts of 2026 carry into a new season

Dates as announced by October 22, 2026; the Medicare Advantage date is the statutory deadline, the first Monday of April.

12d. The Last Word

Across twelve modules the throughline is that insurance turns uncertainty into a price, and the price is only as good as the independence of the risks and the soundness of the assets behind it. In 2026 the industry holds more capital than ever and has just had its best years in a decade, and it is being asked to price a changing climate, a war, the courts, and a new kind of lender all at once.

Module 12 Key Points

Where Things Stand, and What to Watch

• Insurance works when risks are independent and assets sound; in 2026 both conditions are under strain at once.

• Five contradictions, among them record profits with falling prices and safe promises on untested assets.

• Watch the January 2027 renewals, the NAIC's work on private credit, and the flood program's December 11 deadline.

• Watch California's commissioner race on November 3 and marketplace enrollment, which runs to January 15 on HealthCare.gov.

• The last word: an industry with record capital must price climate, war, the courts, and private credit at once.

Module 12 Quiz

Check Your Understanding

1. What two conditions does the closing module say insurance depends on?

A) Low premiums and generous agents' commissions
B) Federal regulation and a state backstop for every line
C) Independent risks and sound assets
D) High interest rates and low inflation for the float

2. Which contradiction describes the life business in 2026?

A) Record profits and falling prices
B) Safe promises, untested assets
C) A private industry leaning on the state
D) Best years overall, worst in liability

3. When does the flood insurance program's authorization expire unless Congress extends it?

A) In 2030
B) June 2027
C) January 1, 2027, with the reinsurance renewals
D) December 11, 2026

4. What did the shipping market show in the Hormuz year, on the course's account?

A) Cover stayed available at a price, yet ships stayed away
B) Cover vanished, so no ship could sail in the war
C) The navies' escorts made insurance unnecessary
D) Rates stayed at pre-war levels all year

5. What is the closing module's last word about the industry in 2026?

A) It has stopped growing
B) It is about to fail, as in 2008 and the AIG crisis
C) Record capital, asked to price much at once
D) It no longer needs reinsurance from the capital markets

Answer Sheet

Answers to every module's Check Your Understanding quiz.

Module	Answers
Module 1 Quiz	1. D 2. C 3. B 4. A 5. D
Module 2 Quiz	1. B 2. C 3. A 4. B 5. C
Module 3 Quiz	1. A 2. D 3. D 4. A 5. C
Module 4 Quiz	1. B 2. C 3. D 4. A 5. B
Module 5 Quiz	1. B 2. C 3. A 4. D 5. B
Module 6 Quiz	1. A 2. D 3. C 4. B 5. A
Module 7 Quiz	1. D 2. C 3. A 4. D 5. C
Module 8 Quiz	1. B 2. D 3. C 4. B 5. A
Module 9 Quiz	1. A 2. D 3. B 4. C 5. A
Module 10 Quiz	1. D 2. B 3. C 4. D 5. B
Module 11 Quiz	1. A 2. C 3. B 4. A 5. D
Module 12 Quiz	1. C 2. B 3. D 4. A 5. C