CHARTA LEARNING · INTERVIEW PREPARATION

Insurance Fundamentals and the Interview Process

Interview preparation summary · IN track

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INT.NF.1.a · How insurance works

Explain how pooling lets an insurer take on uncertain losses, and say what makes a risk insurable.

Insurance is a transfer of risk. A policyholder pays a known, small premium and the insurer promises to pay if a defined bad event happens. This works because of pooling: one household cannot predict whether its house will burn, but an insurer with thousands of similar, unconnected policies can predict the total number of fires fairly well, so the loss that is unbearable for one becomes manageable for many. The law of large numbers means the average loss per policy becomes steadier as the pool grows. Pooling fails when losses are linked, for example one storm damaging a whole town, which is called accumulation or correlation. Interviewers also expect the features of an insurable risk: the loss is accidental and uncertain, definable and measurable, not under the policyholder's control, and there are enough similar exposures to estimate its likelihood. Typical mistakes are saying insurance removes risk (it moves and shares it) or forgetting correlation.

WORKED EXAMPLE: WHY A BIGGER POOL OF WORKSHOPS IS STEADIER AT TARNBECK INSURANCE

Tarnbeck Insurance, an invented insurer, covers small workshops against fire. Each workshop has a 0.5% chance of a fire in a year, and a fire costs 80,000. Compare a pool of 2,000 workshops with a pool of 20. Convention: fires are independent, at most one per workshop per year, and expenses are ignored. Charge 500 per workshop and ask how often the larger pool's claims exceed its premium.

Answer: Pooling makes claims steadier: 2,000 independent workshops have a relative spread of about 32% against about 315% for 20. Even so, an expected cost of 800,000 against premium of 1,000,000 leaves about a 21% chance of claims above premium, and linked losses would make it worse.

> **Interview tip:** Say it simply: one workshop cannot predict its fire, but two thousand together can, because the average steadies as the pool grows. Then show judgement by adding the caveat that pooling only works when losses are not linked.

INT.NF.1.b · How insurance works

Apply premium, deductible (excess) and limit to a claim, and explain moral hazard and adverse selection.

A premium is the price of cover. A deductible, also called an excess, is the part of each loss the policyholder bears first; a limit is the most the insurer will pay. Together they shape what the insurer is really promising: an excess removes small, frequent claims that cost more to handle than they are worth and keeps the policyholder with a stake in avoiding loss, while a limit caps the insurer's worst case. Two problems arise from information. Adverse selection happens before the contract: people who know they are more likely to claim are keener to buy, so a price set for the average customer attracts the worst risks. Moral hazard happens after: being covered can make people less careful. Insurers respond with underwriting questions, risk-based pricing, excesses, conditions and claims checks. A common mistake is to mix up the two, or to apply the limit before the excess without stating the convention.

WORKED EXAMPLE: WHAT A WORKSHOP OWNER RECOVERS AT MARLOWE PROPERTY

Marlowe Property, an invented insurer, writes a policy with an excess of 1,000 on each loss and a limit of 50,000 per loss. In a year the policyholder has three separate losses of 600, 4,500 and 70,000. Convention: the excess is taken off each loss first and the limit then caps what the insurer pays. How much does the insurer pay, how much does the policyholder keep, and what changes if the excess is 2,500?

Answer: The insurer pays 53,500 and the policyholder bears 21,600; raising the excess to 2,500 cuts the insurer's payment to 52,000. The excess and limit define what is transferred, and they also manage moral hazard and adverse selection.

Interview tip: State the order you apply the terms in before you give a number. Then add one sentence on why an insurer wants an excess: it removes small claims and keeps the customer careful.

INT.NF.1.c · How insurance works

Explain how an insurer makes money and work out a loss ratio, expense ratio and combined ratio.

An insurer earns from two sources. Underwriting profit is premium earned less claims and expenses. Investment income is the return on the money held between receiving premiums and paying claims, often called float, plus the return on the insurer's own capital. The loss ratio is claims divided by premium earned, the expense ratio is expenses (including commission) divided by premium earned, and their sum is the combined ratio. Below 100% means an underwriting profit and above 100% an underwriting loss. A common rule of thumb is that a combined ratio in the 90s is healthy for many lines, but it varies by line and by the interest-rate environment. Interviewers like candidates who remember that a combined ratio over 100% can still be profitable overall if investment income is large enough, and who ask whether reserves are adequate before trusting a good ratio. The usual mistake is to give only one half of the answer.

WORKED EXAMPLE: CALDERWICK INSURANCE: A GOOD YEAR AND A BAD YEAR

Calderwick Insurance, an invented general insurer, earns premium of 200m in a year. Claims incurred are 130m, expenses including commission are 60m, and investment income is 8m. Find the loss, expense and combined ratios, the underwriting profit and the total pre-tax profit. Then repeat it with a worse claims year of 143m. Convention: premiums earned equal premiums written, and ignore tax and capital charges.

Answer: The combined ratio is 95.0% with an underwriting profit of 10m and a pre-tax profit of 18m. In the worse year the combined ratio is 101.5%, underwriting loses 3m, and investment income leaves 5m of profit.

Interview tip: Give the formula in a sentence, the number, and then what it means: for example, below 100% the insurer is paid to take the risk before it even invests the premium.

INT.NF.2.a · The industry and the interview

Distinguish general insurance from life insurance, and describe the main graduate roles and routes.

General (non-life) insurance covers property, motor, liability, marine, cyber, travel and similar risks, usually in contracts of a year or less that are repriced at renewal. Life insurance covers death, survival and long-term savings and pensions, typically over many years, so its profit depends on long-run assumptions about mortality, lapses and interest rates. Within general insurance, short-tail lines such as motor damage settle quickly, while long-tail lines such as liability can take years, which means more reserve uncertainty and more time to invest the premium. Main roles include underwriters (select and price risk), claims handlers and loss adjusters (assess and settle claims), brokers (advise clients and place cover), actuarial trainees (model, price and reserve), reinsurance and catastrophe analysts, and risk and finance staff. Graduate routes usually include rotational schemes, direct entry to a team, and placements; availability varies by firm. Candidates err by treating the industry as one job.

WORKED EXAMPLE: WHY TAIL LENGTH MATTERS AT BRACKENFIELD GROUP

Brackenfield Group, an invented insurer, writes a motor damage book and an employer liability book. Each pays out 70m of claims a year. Motor damage claims are paid on average 0.5 years after the premium is received, and liability claims on average 4 years after. Investments earn 3% a year. Estimate the money held (float) and the annual investment income for each, and say what the longer tail costs the insurer. Convention: float is annual claims paid times the average delay, and the yield is constant.

Answer: Motor damage holds about 35m and earns about 1.05m a year; liability holds about 280m and earns about 8.4m. The longer tail earns more investment income but carries far more reserve uncertainty.

Interview tip: Use the words short-tail and long-tail and give the trade-off in one sentence: more time to invest, but more time for the claims to surprise you.

INT.NF.2.b · The industry and the interview

Describe the stages of a typical graduate insurance selection process and prepare for each in a sensible order.

A typical graduate process has an online application, then online tests (numerical and situational judgement, sometimes verbal), then a video or phone screen, then an interview and sometimes an assessment centre with group exercises, a case or presentation, and a final conversation. Firms differ, so treat this as a pattern, not a rule. Each stage filters, and the pass rates multiply, so a modest improvement at an early stage raises your chance of reaching every later one. Numerical tests check

comfort with percentages, ratios and tables under time pressure, so timed practice matters more than reading. A screen tests your motivation and clarity, so a short, structured answer to why insurance and why this role is the priority. Interviews and assessment centres test understanding of how insurers make money, judgement and teamwork. Insurance qualifications exist at several levels, and many firms support study after joining, but you do not need one to apply. Good preparation follows the order of the gates.

WORKED EXAMPLE: THE FUNNEL AT A HYPOTHETICAL SCHEME

An invented insurer, Wexcombe Group, receives 2,000 applications for its graduate scheme. Suppose 40% pass the online tests, 25% of those pass the video screen, 40% of those pass the interview and reach the assessment centre, and 25% of those receive an offer. How many candidates remain after each stage, what share of applicants get an offer, and how long per question does a 24-question, 30-minute numerical test allow? These rates are illustrative only. Convention: each rate applies to those who reached that stage.

Answer: The funnel runs 800, 200, 80, 20, an overall offer rate of 1%, with most rejections coming from the first two stages; the test allows 75 seconds a question. Preparing in the order of the gates is the sensible use of limited time.

Interview tip: If asked how you prepared, describe the order: timed practice for the tests, a rehearsed why-insurance answer for the screen, and real reading about how insurers make money for the interview.

INT.NF.2.c · The industry and the interview

Explain what interviewers look for and give a structured answer to why insurance.

Interviewers typically look for several things together: a reason for choosing insurance that goes beyond job security, an understanding of how insurers make money and how risk is selected, priced, reserved and transferred, numerical comfort with percentages, ratios and expected value, judgement when information is incomplete, customer focus and fairness, commercial awareness of current risks, and teamwork and resilience. They cannot expect deep industry knowledge from graduates, so they listen for curiosity, structure and honesty. A strong why-insurance answer has three parts: what drew you to it (a specific idea such as turning uncertainty into a promise), evidence that you acted on it (reading, a project, a conversation), and why this role and firm. Avoid claiming inside knowledge, quoting statistics you cannot source, or naming the role you would prefer to avoid. If you do not know something, say how you would work it out. Firms weigh these areas differently, so practise evidence for all of them.

WORKED EXAMPLE: A SIMPLE SCORECARD FOR TWO CANDIDATES

An invented interview panel at Hollin Re scores each candidate from 1 to 5 on six areas with these weights: why insurance 15%, how insurers make money 20%, numerical comfort 20%, judgement 20%, customer focus 15%, teamwork and resilience 10%. Candidate A scores 3, 4, 5, 3, 4, 4 in that order. Candidate B scores 4, 3, 3, 4, 5, 4. Compute each weighted score and say what the pattern tells a candidate. This is an illustration, not any firm's method.

Answer: Candidate A scores 3.85 and Candidate B 3.75, so the technical strength narrowly beats the people strength under these weights, but each has a visible gap. The lesson is to prepare evidence for every area, not only the one you find easiest.

Interview tip: Open why insurance with a specific hook, back it with one thing you did to test your interest, and close with why this role. Keep it to about 60 to 90 seconds.