

44th India Fellowship Seminar

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Changing Trends

Presented By :

- 1. Harshita Goel**
- 2. Mohit Agrawal**
- 3. Shamoil Loliwala**
- 4. Vinayak Rawat**



Agenda



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Case Study Overview



Context: InsureTrend, a mid-sized Indian insurer, derives about 50% of its Gross Written Premium from the Motor line of business. The company adopts a distribution and underwriting strategy similar to the largest insurer in the country to expand its Motor portfolio, given limited data. Recently appointed as Appointed Actuary after working at the largest insurer, the Appointed Actuary has begun reviewing underwriting performance, reserving numbers, and business mix, and have noticed significant discrepancies in outcomes despite the mirroring strategy.

Analysis:

- Key aspects to analyze for the Motor portfolio for Underwriting, Distribution and Reserving
- Discuss the outcomes from the analysis that can be compared with the largest insurer based on public disclosures, while also noting any limitations

Case Study Overview



Context: Motor third-party claims frequency has shown a long-term decline, but past experience at the largest insurer indicates that this trend has reversed in recent accident years. Despite this, InsureTrend continues to assume a declining trend when estimating claim reserves. Additionally, Motor TP accounts for 60% of the premium volume, while 40% from the Motor Own Damage portfolio.

Analysis:

- Potential impact and risks to InsureTrend due to the above assumption
- Probable risk mitigation strategies that InsureTrend can adopt to minimize the impact on its financials and portfolio sustainability

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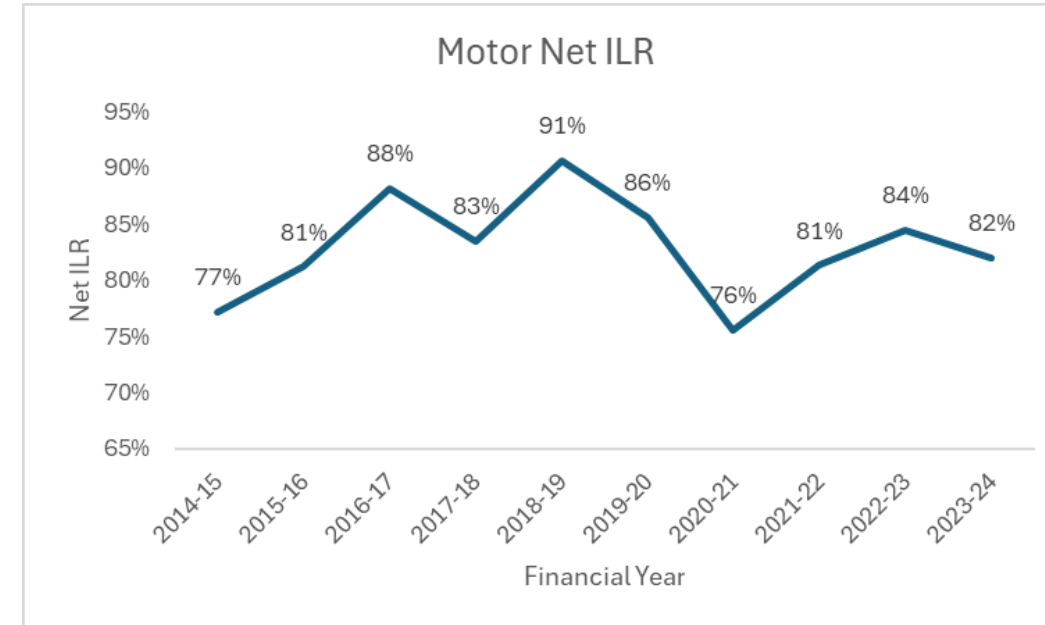
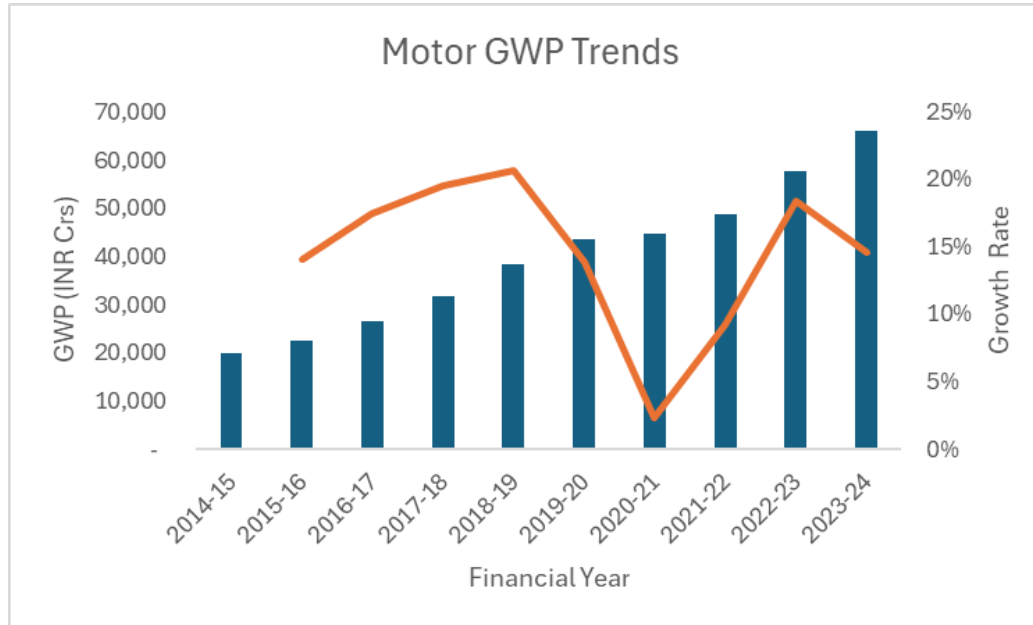
Motor Industry Overview



Overview

- Motor insurance is a vital segment of the overall insurance industry in India, driven by the country's growing vehicle population and increasing awareness of insurance products.
- It is primarily divided into two categories: third-party liability insurance, which is mandatory under the Motor Vehicles Act, and own damage insurance.
- Despite its growth, the sector faces challenges, including high claim ratios, fraud, and competition among insurers. Technological advancements, such as telematics and digital platforms, are transforming the industry, enhancing customer experience and operational efficiency.
- Overall, the motor insurance market in India is poised for further growth, driven by evolving consumer needs and regulatory support.

Motor Industry Overview



- Motor industry Gross Written Premium for FY24 stands at ~INR 66,000Cr
- Premiums have grown at a 10 year CAGR of 13%

- Net incurred loss ratios have declined from its peak of 91% in FY19 to 82% in FY24

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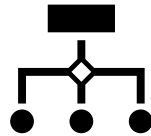


Underwriting, Distribution & Reserving Analysis



Underwriting

- Motor Third Party premiums are regulated under the Motor Vehicles Act.
- Motor Own Damage premiums are market-driven, enabling risk-based pricing. However, highly competitive in the industry.



Distribution

- Motor insurance is distributed through multiple channels, including Agents, Brokers, MISPs, Online, and PoSPs.
- Understanding channel-wise GWP and policy share is key to tracking shifts in sourcing trends.



Reserving

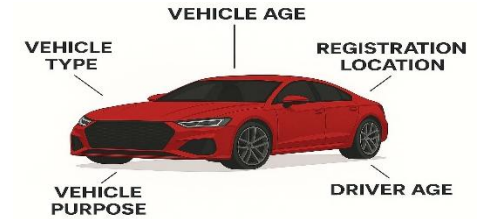
- Motor Own Damage is short-tailed, with claims typically reported within 1 year.
- Motor Third Party is long-tailed, representing the bulk of reserves, with a reporting lag of 10-15 years.

Underwriting, Distribution & Reserving Analysis



Underwriting Analysis

Analysis can be carried out on multiple rating factors which could assist in pricing for own damage risks and analyse loss ratio trends for motor third party to improve underwriting strategy.



Vehicle Type	Sub-segments
Private Car	Cubic capacity (1000cc, 1500cc, etc)
Two-Wheeler	Scooters, Cruiser, Mopeds, etc
Goods Carrying Commercial Vehicle	Tonnage (0-2500, 2500-3500, etc)
Passenger Carrying Commercial Vehicle	Buses, taxis, autorickshaws

Underwriting, Distribution & Reserving Analysis



Underwriting Analysis

- Understand the split between new, renewal, portable, long term business which has an impact on the loss ratios
- Analyse the region/states which contribute to majority of the business
- Analyse pricing for Motor OD against the largest insurer for different vehicle types to understand the deviation in premiums via broker, online marketplaces, etc.
- Analyse loss ratios against the industry and other emerging trends
- Risk appetite covering the type of risks the Company accepts or avoids.
 - Limits on insuring high value/high risk vehicles
 - Imposing higher deductibles/excess on drivers with poor records basis claims history for the vehicle

Underwriting, Distribution & Reserving Analysis

Underwriting Analysis

- Examine the proportion of Own-Damage (OD) versus Third-Party (TP) premiums, noting the competitive pricing of OD in India.
- Ensure compliance with IRDAI's Expense of Management (EoM) limit (30% of GWP) for overall acquisition + operating cost
- Review existing underwriting guidelines and ensure alignment with IRDAI rating norms
- Review how InsureTrend's growth focus (OEM tie-ups, luxury segments, fleet CVs) aligns with industry leader's strategy

Underwriting, Distribution & Reserving Analysis

Breakdown of Motor Business By Channel



Agents



Bancassurance



OEM/Dealerships



Online/Direct



Point of Sale Persons

Underwriting, Distribution & Reserving Analysis

Distribution Analysis

- The common distribution channels include brokers, agents, direct sales, online marketplaces & dealerships

Channel	Pros	Cons
Direct	Lower cost, direct customer relation, control over branding	Limited reach, higher acquisition cost, more customer service resources
Agents & Brokers	Wider reach, personalized service, reduced marketing cost	Higher commission, lower control over experience, conflict of interest
Aggregator/online	Aggregators expand market reach and reduce distribution costs through digital scalability	They drive price-based competition, eroding margins and weakening brand differentiation

Underwriting, Distribution & Reserving Analysis

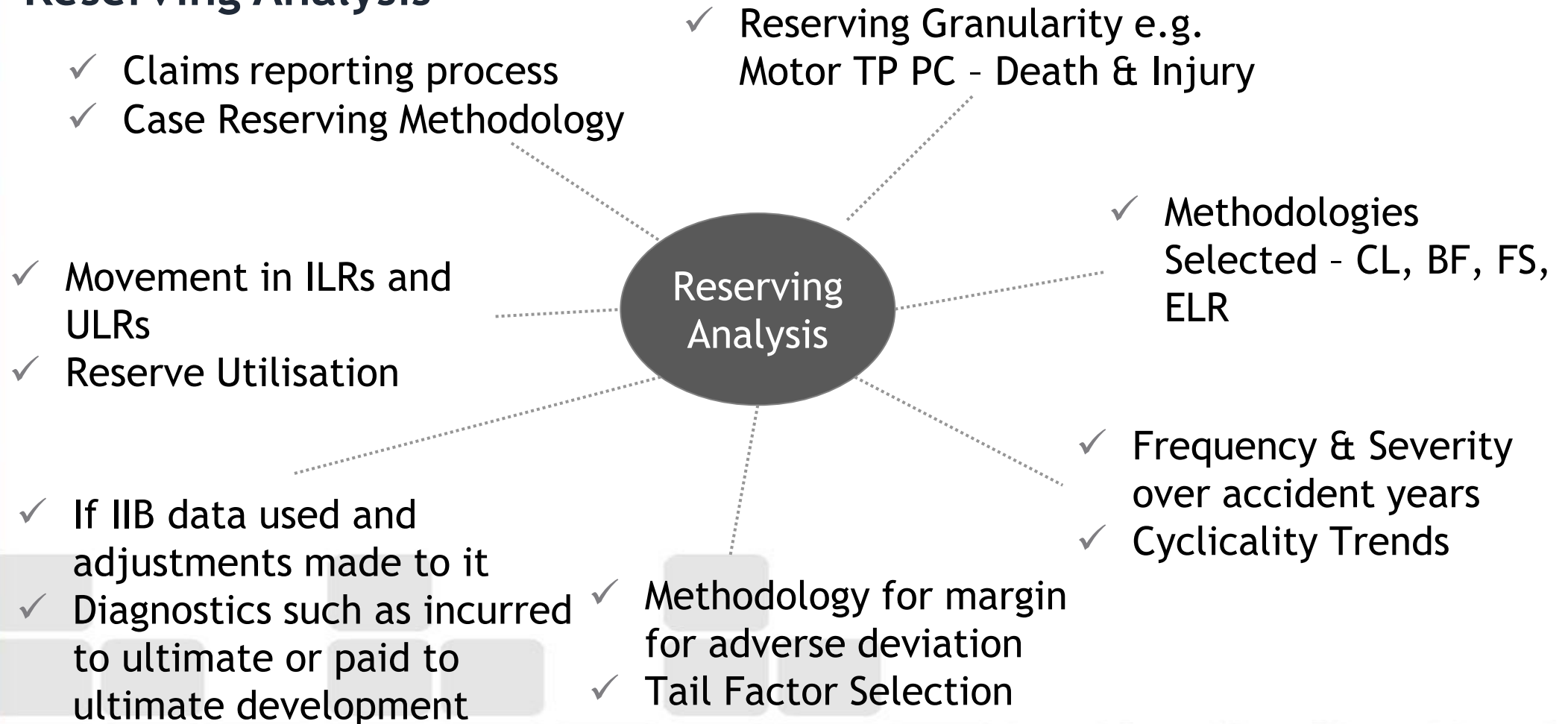


Distribution Analysis

- **Breakdown GWP and policy count by channel and region to identify high-volume vs. underperforming segments.**
- **Calculate loss ratio, expense ratio, and combined ratio per channel to assess underwriting profitability.**
- **Benchmark commission rates against IRDAI limits and peer practices to spot overpayment or inefficiencies.**
- **Assess channel-specific marketing and operational spend (platform fees, training, staffing, etc.) impacting EoM.**
- **Review historical trends in channel mix shift (e.g., agent to broker/corporate) to align with market evolution.**

Underwriting, Distribution & Reserving Analysis

Reserving Analysis



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Public Disclosures Benchmarking & Limitations



Public Disclosures

- Benchmarking of key metrics can be performed with public disclosures of general insurers including premiums, claims, expenses, commissions, ultimate triangles, solvency margin, etc.
- These include disclosures such as NL 4 (Premiums), NL 5 (Claims), NL 6 (Commissions), NL 20 (Analytical Ratios), NL 37 (Claim Counts), NL 38 (Ultimate Triangles)

Public Disclosures Benchmarking & Limitations



Snapshots of Benchmarking Data from Public Disclosures

NL 4	Motor OD		Motor TP		Motor	
	For Q4	Upto FY	For Q4	Upto FY	For Q4	Upto FY
Particulars	2023-24	2023-24	2023-24	2023-24	2023-24	2023-24
Gross Direct Premium	135,228	473,971	142,635	489,394	277,863	963,365
Add: Premium on reinsurance accepted	-	-	-	-	-	-
Less : Premium on reinsurance ceded	6,235	22,656	6,271	21,809	12,506	44,465
Net Written Premium	128,993	451,315	136,364	467,585	265,357	918,900
Add: Opening balance of UPR	226,774	211,323	234,401	242,455	461,175	453,778
Less: Closing balance of UPR	246,272	246,272	256,198	256,198	502,470	502,470
Net Earned Premium	109,495	416,366	114,567	453,842	224,062	870,208

NL 5	Motor OD		Motor TP		Motor	
	For Q4	Upto FY	For Q4	Upto FY	For Q4	Upto FY
Particulars	2023-24	2023-24	2023-24	2023-24	2023-24	2023-24
Claims Paid (Direct)	78,256	277,236	47,592	207,483	125,848	484,719
Add : Re-insurance accepted to direct claims	-	566	-	-	-	566
Less : Re-insurance Ceded to claims paid	5,871	14,181	2,662	12,087	8,533	26,268
Net Claim Paid	72,385	263,621	44,930	195,396	117,315	459,017
Add : Claims Outstanding at the end of the period	90,221	90,221	1,743,308	1,743,308	1,833,529	1,833,529
Less : Claims Outstanding at the beginning of the period	98,686	89,547	1,704,174	1,635,508	1,802,860	1,725,055
Net Incurred Claims	63,920	264,295	84,064	303,196	147,984	567,491

Limitations: (NL 4 - Premiums & NL 5 - Claims)

- Premiums and Claims only available at business level without any data for analysing at the granular rating factors for analysing business mix, loss ratio trends, initial case reserves

**Numbers are for representational purposes only*

Public Disclosures Benchmarking & Limitations



Snapshots of Benchmarking Data from Public Disclosures

NL 37	Claim Counts			NL 6	Motor OD		Motor TP		Motor	
Parameters	Motor OD	Motor TP	Motor	Particulars	For Q4 2023-24	Upto FY 2023-24	For Q4 2023-24	Upto FY 2023-24	For Q4 2023-24	Upto FY 2023-24
Claims O/S at the beginning of the period	52,128	65,307	117,435	Commission & Remuneration	52,524	170,142	19,290	60,849	71,814	230,991
Claims reported during the period	1,197,407	36,029	1,233,436	Rewards	-6	8,990	-14	597	-20	9,587
(a) Booked During the period	1,194,608	33,123	1,227,731	Distribution fees	6,881	12,773	372	7,327	7,253	20,100
(b) Reopened during the Period	2,799	2,906	5,705	Gross Commission	59,399	191,905	19,648	68,773	79,047	260,678
(c) Other Adjustment	-	-	-	Add: Commission on Re-insurance Accepted	-	-	-	-	-	-
Claims Settled during the period	1,057,485	24,174	1,081,659	Less: Commission on Re-insurance Ceded	804	5,954	293	1,856	1,097	7,810
Claims Repudiated during the period	45,284	1,290	46,574	Net Commission	58,595	185,951	19,355	66,917	77,950	252,868
Other Adjustment (i) Claim closed without payment	105,366	6,690	112,056	Break-up of the expenses (Gross) incurred to procure business to be furnished as per details indicated below:						
Unclaimed (Pending claims which are transferred to Unclaimed A/c. after the mandatory period as prescribed by the Authority)	16,561	3,348	19,909	Individual Agents	2,727	13,877	5,175	10,775	7,902	24,652
				Corporate Agents-Banks/FII/HFC	2,976	10,266	1,102	2,364	4,078	12,630
				Corporate Agents-Others	218	1,622	234	350	452	1,972
				Insurance Brokers	42,189	128,335	8,322	36,154	50,511	164,489
				Direct Business - Online	-	-	-	-	0	0
				MISP (Direct)	6,881	21,325	372	8,462	7,253	29,787
Claims O/S at End of the period	41,400	69,182	110,582	Web Aggregators	-	-	-	-	0	0
Less than 3 months	40,502	7,552	48,054	Insurance Marketing Firm	64	150	32	46	96	196
3 months to 6 months	745	6,365	7,110	Common Service Centers	6	60	21	63	27	123
6 months to 1 year	136	12,626	12,762	Micro Agents	-	-	-	-	0	0
1 year and above	17	42,639	42,656	Point of Sales (Direct)	4,338	16,270	4,390	10,559	8,728	26,829
				Others	-	-	-	-	0	0
				Total Gross Commission	59,399	191,905	19,648	68,773	79,047	260,678

Limitations: (NL 37 - Claims Count & NL 6 - Commission)

- Claim count available at financial year not accident year breakup and only at over portfolio level
- Information unavailable on the business mix, loss ratios, expense ratio by distribution channel

Public Disclosures Benchmarking & Limitations



Snapshots of Benchmarking Data from Public Disclosures

NL 38	Accident Year Cohort										
Particulars	YE 31-Mar-2014	YE 31-Mar-2015	YE 31-Mar-2016	YE 31-Mar-2017	YE 31-Mar-2018	YE 31-Mar-2019	YE 31-Mar-2020	YE 31-Mar-2021	YE 31-Mar-2022	YE 31-Mar-2023	YE 31-Mar-2024
A] Ultimate Net loss Cost - Original Estimate	285,965	126,322	159,707	170,509	199,848	244,138	315,517	251,512	280,658	353,857	380,681
D] Ultimate Net Loss Cost re-estimated											
one year later - 1st Diagonal	291,785	127,598	160,082	171,761	198,853	244,461	312,315	251,512	280,658	353,857	
two year later - 2nd Diagonal	298,210	129,856	161,113	171,291	196,542	241,425	312,315	251,512	280,658		
three year later - 3rd Diagonal	306,119	129,275	161,040	169,400	189,431	238,674	303,511	251,512			
four year later - 4th Diagonal	311,997	129,550	158,806	165,643	182,010	225,902	277,645				
five year later - 5th Diagonal	315,503	126,458	157,578	164,492	172,726	206,773					
six year later - 6th Diagonal	314,977	126,153	157,506	159,544	158,047						
seven year later - 7th Diagonal	320,533	124,792	154,689	151,519							
eight year later - 8th Diagonal	321,338	123,499	149,308								
nine year later - 9th Diagonal	321,329	120,985									
ten year later - 10th Diagonal	318,951										
Favourable / (unfavorable) development	-32,986	5,337	10,399	18,990	41,802	37,365	37,871	-	-	-	

Limitations: (NL 38 - Ultimate Triangles)

- Unavailable at vehicle type or death/injury basis
- Claim incurred amounts and count triangles along with frequency & severity analysis unavailable
- Reserving methodology cannot be gauged from public domain data

Public Disclosures Benchmarking & Limitations



Additional Limitations:

- Company's underwriting strategies including the focus areas in terms of vehicle segment, region of business, rural or urban areas
- Profitability and business strategy by distribution channels
- Case Reserving methodology adopted by Companies and the initial case reserve estimates held
- Reserving being performed independently for gross and net or using retention factors
- Treatment of large and catastrophe claims in reserving process
- Claims settlement and reporting patterns by reserving class

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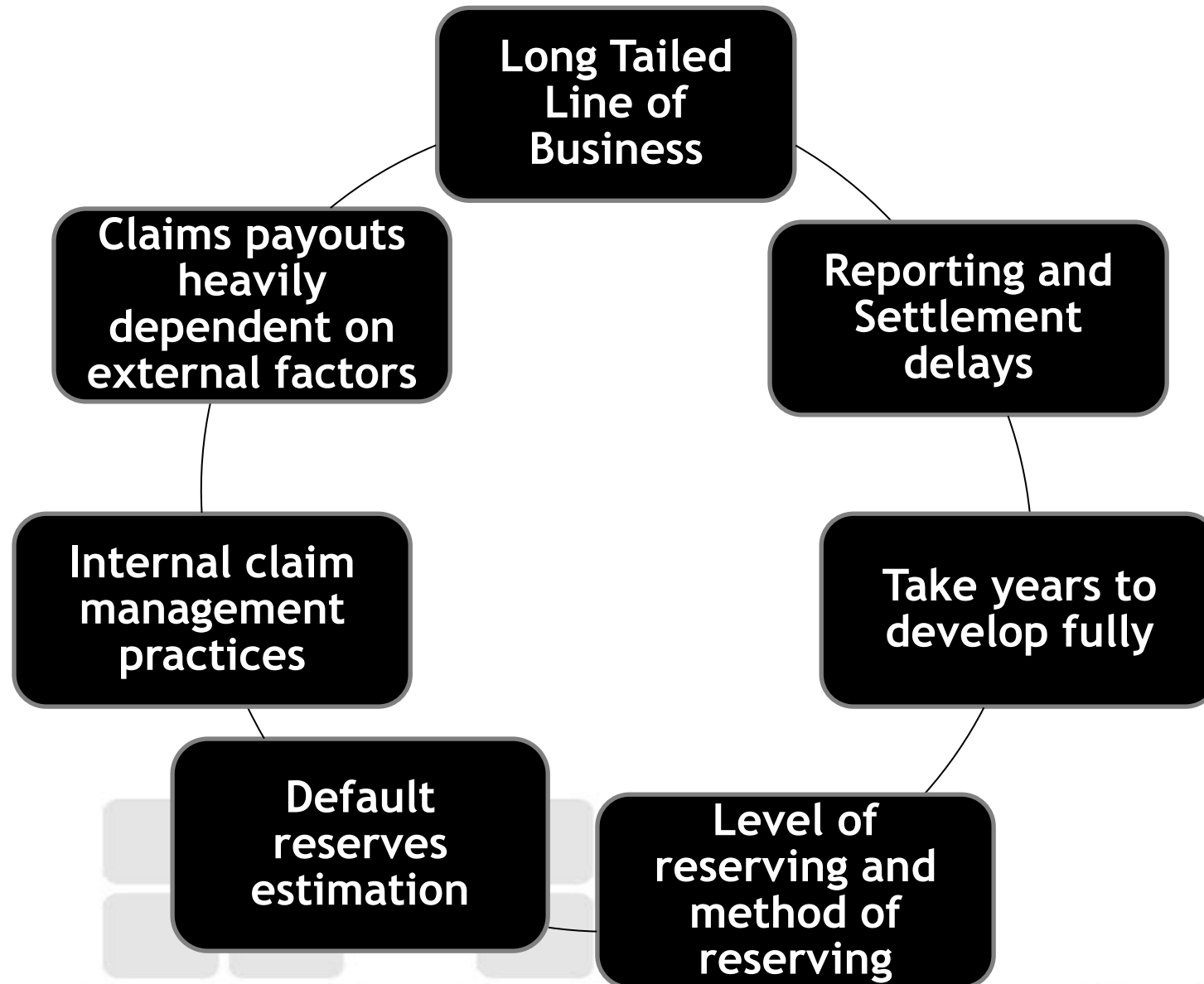


Highlights of the case study



- Motor TP overall frequency trend has been reducing year-on-year
- Basis experience working with largest insurer, the Appointed Actuary has seen a reversal of trends in the recent accident years
- InsureTrend continues to assume a declining frequency trend in recent years while estimating of claim reserves
- Motor TP share is 60% by premium volume while 40% of overall Motor insurance premium is from Motor Own Damage portfolio.

Motor TP Reserving: Key Aspects



Potential Impact and Risks of trend assumptions

Reducing trend
may be
appropriate for
Insuretrend

- Business Mix different from largest insurer e.g. generally GCV has worse claim experience than a Two wheeler or Private Car
- The Company may have favorable frequency experience on account of better underwriting or portfolio management

Under
estimation of
IBNR

- With the assumption of declining frequency trends, the estimation of the ultimates would be on a lower end
- This would lead to under reserving of IBNR and IBNER reserves
- Also critical to evaluate the severity assumption taken by the Company

Potential Impact and Risks of trend assumptions

Asset Liability Cash Flow Management

- The Company is required to maintain adequate assets to match the term of the liabilities
- Motor TP reserves being long-tailed, this would lead to lesser assets being held of longer duration
- This will create an asset-liability mismatch when these liabilities are required to be settled

Higher profitability for current years

- Under reserving of reserves will lead to higher retained profits for the current year
- The Company might even pay higher dividends than usual
- However, in future years once Insuretrend need to build reserves, it will result in drain on future profits

Potential Impact and Risks of trend assumptions

May invoke
regulatory
questioning

- An assumption of trend being significantly different might invoke regulatory questioning
- The Company would have to justify the reason for the assumption

Risk of Long-term
solvency

- Current solvency may be overestimated due to underestimation of RSM
- However long-term solvency may be impacted

Impact on share
price

- Impact on solvency and capital resources in times of need of reserves would impact share prices
- Valuation of the company might be impacted

Potential Impact and Risks of trend assumptions

Change in Business Mix

- With assumption of declining trends, the Motor TP Loss ratios carried by Insuretrend would be lower.
- May lead to writing of more business which is loss making
- Due to this the future business mix would worsen

Requirement of Capital Infusion

- Motor TP reserves may be undervalued due to declining frequency trend assumptions
- Although Motor TP forms 30% of GWP ($50\% \times 60\%$), due to long tailed nature and reporting and settlement delays, technical reserves for Motor TP will form a higher proportion.
- Any shortfall in Motor TP reserves will lead to building up those by infusing additional capital.

Applicable Regulatory guidelines

Regulation	Details
Insurance Regulatory and Development Authority of India (Actuarial, Finance and Investment Functions of Insurers) Regulations, 2024	Highlights duties and obligations of the Appointed Actuary for certifying IBNR and IBNER reserves
IRDAI guidelines on Estimation of IBNR Claim Provisions	Provides guidelines for allowance of trends and factors to be studied for adequate reserving, including frequency and severity trends
Actuarial Practice Standard 21	Highlights duties of Appointed Actuary, use of appropriate methods and sensitivity of key assumptions

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Risk Mitigation Strategies

Review Reserving Methodology and Assumptions

- Review the current reserving methodologies to understand the appropriateness of frequency, severity assumptions adopted basis available information (internal and external)
- May also explore appropriateness of other methods such as IELR in absence of sufficient information
- Build margin for adverse deviation based on higher percentile of the reserve distribution.

Reinsurance Strategy

- Adjust reinsurance treaties to protect against spikes. Consider lowering retention or adding proportional cover on motor business.
- Ensure adequate reinsurance placements with strong reinsurer in compliance with the IRDAI Reinsurance Regulations.

Risk Mitigation Strategies

Strict Underwriting Control

- Screen policies more strictly for fraud/high-risk profiles.
- Limit new business in segments with spike in claims (e.g. certain commercial vehicle lines).
- Provide training/guidance to agents and brokers to ensure proper risk assessment (e.g. verifying driver history).

Better Claims Management

- Deploy advanced analytics, AI, and machine learning models to **identify potential fraud patterns** (e.g. multiple claims by the same party).
- **Strengthen and audit third-party loss assessors** to ensure consistency, efficiency, faster claim reporting and integrity in claims evaluation, particularly for Motor TP cases.

Risk Mitigation Strategies

Peer Review

- As per the **Actuarial Practice Standard (APS) 33**, all relevant and significant aspects of the actuarial work relating to the annual statutory actuarial valuation needs to be peer reviewed by an external Actuary. Seek comment of the peer reviewer in regards to the changing trend.

Distribution channel optimization

- Conduct a granular **profitability analysis by channel** (e.g., agent, dealer, aggregator) to identify loss-making partnerships and optimize channel mix.
- Link commissions and renewals to claim experience and persistency rather than pure sales, discouraging high-loss-ratio business origination.

Risk Mitigation Strategies

Higher Solvency

- As per the IRDAI (Actuarial, Finance and Investment Functions of Insurers) Regulations, 2024, one of the key duties of the Appointed Actuary is to ensure the **maintenance of the control level of solvency margin**, which is currently set at **150% of the required solvency capital**.
- InsureTrend can proactively maintain a **solvency margin higher than the minimum regulatory threshold** to strengthen its financial resilience and absorb adverse deviations in claim experience—particularly relevant given the rising frequency risk in the Motor TP portfolio.
- A higher solvency/capital buffer provides additional protection against volatility in underwriting and reserving outcomes, enhances stakeholder confidence and positions the company favorably in the eyes of the regulator, rating agencies, and policyholders.

Risk Mitigation Strategies

Stress Testing

- **Conduct stress tests** on the Motor portfolio under adverse scenarios (e.g., spike in frequency) to understand impact on reserves, solvency and liquidity.

Investment Optimization

- Match investment durations and liquidity profiles with the claims outflow pattern, especially for long-tail Motor TP liabilities, to reduce reinvestment and liquidity risks.
- This approach also ensures compliance with **IRDAI Circular No. IRDA/ACTL/CIR/ALM/006/01/2012 on Asset-Liability Management (ALM) and Stress Testing**, which mandates that all insurers maintain a comprehensive **Board-approved ALM policy**.
- Explore higher-yield fixed income instruments (e.g., corporate bonds rated AA and above) while maintaining regulatory compliance and liquidity buffers.

Risk Mitigation Strategies

Risk Based Capital

- With the advent of the **Risk-Based Capital (RBC) regime**, companies are required to hold capital in accordance with the underlying risk profile of their business, rather than applying a uniform capital charge.
- This means insurers must assess and quantify risks across underwriting, reserving, investment, operational, and market domains, and hold sufficient capital buffers to absorb potential losses arising from adverse scenarios.
- For a motor-heavy portfolio like InsureTrend's, RBC regime ensure more accurate modeling of reserve volatility to ensure solvency is maintained even under stressed conditions.

Thank You 😊