

INSURANCE REGULATORY AND DEVELOPMENT AUTHORITY OF INDIA

EXPOSURE DRAFT

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Exposure Draft on Revision in Premium Rates for Motor Third Party Insurance Covers for the Financial Year 2017-18

By virtue of powers vested in the Authority under Section 14 (2) (i) of the IRDA Act, 1999, the Authority has been notifying the premium rates applicable to Motor Third Party Liability Insurance covers every year starting from 15.04.2011.

For the financial year 2017-18, the Third Party insurance premiums rates for various categories of vehicles have been arrived at as follows:

I. Data Source:

The data supplied by the Insurance Information Bureau of India (IIBI) for the experience period consisting of Accident years from 2011-12 to 2015-16 in respect of Gross Written Premiums and amount of claims paid up to 31st March 2016 has been made use of for analysis and arriving at the rates.

II. The working of the Rate Revision:

Data Used

1. The paid claims data in respect of each of accident years starting from the year 2011-12 to 2015-16 has been considered.
2. The paid claims data is a cumulative accident year wise data with one line for every combination of 'Class Code' and 'Vehicle CC/PCC/GVW' Code.
3. The paid claim amounts consist of base claim amount, accumulated interest amount and claims management expenses; and
4. Gross Written Premiums data for the FYs 2011-12, 2012-13, 2013-14, 2014-15 and 2015-16 has been considered.

Methodology

1. The ultimate claim costs for each accident year are estimated using actuarial technique of Basic Chain Ladder Method applied to cumulative paid claims data.
2. The main characteristics of the technique is that ultimate claims for each accident year are estimated from the recorded paid values to date, thereby assuming that the future

development of payment of the claims would be similar to the pattern of payment of the claims during prior years.

3. The selection of age-to-age-factors (ATAFs) is done after considering various averages of ATAFs like simple average, weighted average, average of last 3 years etc. Sometimes the ATAFs don't show a consistent movement. If this is the case, some manual adjustments are made to make the flow pattern of ATAFs consistent.
4. It is observed that the ATAFs for the most developed periods available are significantly higher than 1.00. This is not surprising considering the fact that the motor third party insurance is long-tail line of business and complete run-off occurs after a significant period of time.
5. The oldest accident year has only 5 years of the development, which is not sufficient to fully run-off the paid claims for that accident year. ATAFs of further 7 years of development are projected by considering the similar movement of expected future ATAFs as that of last available year of the development. So assume, ATAF of last available year is 1.3 while that of second last year is 1.6, a ratio $((1.3-1)/(1.6-1)) = 0.5$ is determined. By applying this factor, future ATAFs of 7 years is estimated. A multiplication of these 7 ATAFs is considered as 'tail factor'. A tail factor would project the paid claim from the latest development period to the ultimate.
6. The ultimate expected claims for various accident years are estimated by considering cumulative development factors (age-to-ultimate) and the latest cumulative paid amount for a particular accident year. The ultimate claim amount is estimated for each accident year.
7. Based on the class codes and CC/PCC/GVW codes, financial year wise gross written premiums from the premium data are populated. The financial year wise gross written premiums are converted to financial year wise gross earned premiums by applying the formula:

$$\text{GPE for FY } 20(t) - 20(t+1) = (\text{GPW for FY } 20(t-1) - 20(t) + \text{GPW for FY } 20(t) - 20(t+1)) / 2$$

GPE: Gross Premium Earned

GPW: Gross Premium Written

8. By considering movement of the actual unit premiums during the FYs 2011-12, 2012-13, 2013-14, 2014-15 and 2015-16, de-trended earned premiums for the FYs 2012-13, 2013-14, 2014-15 and 2015-16 are estimated with base of FY 2011-12 earned unit premiums. The use of de-trended premium rates takes out the impact of changes in premium rates over the period on the Ultimate loss ratios (ULRs) as determined in next step. This helped in estimating ULRs for AY 2016-17 business and AY 2017-18 business based on FY 2016-17 earned premium rates. The earned unit premium for a financial

year is estimated by considering average of the unit premiums of preceding and current financial years.

9. The Ultimate Loss Ratios (ULRs) for various AYs 2012-13 to 2015-16 are estimated by dividing estimated ultimate claims by de-trended earned premiums. Since de-trended earned premiums are used, projected ULRs of different accident years consider only the impact of movement in frequency and severity over the period AY 2011-12 to 2015-16 while taking out impact of increase in the premiums over these years
10. A compounded annual growth rate (CAGR) in ULRs is calculated from AYs wise ULRs determined in step 10. The determined CAGR is only due to the changes in frequency of claims and severity of claims over the years. Since the estimated CAGRs contain the effect of landmark judicial pronouncements of the past, the estimated CAGRs are moderated to take out the effect of those pronouncements. For some categories, the movement of ULRs is very erratic and CAGR is either negative or very small. For these cases, an CAGR of 10% is assumed which is used to estimate ULRs for AYs 2016-17 and 2017-18.
11. The determined CAGR is applied to de-trended estimated ULR of AY 2015-16 to estimate de-trended ULR of AY 2016-17 business.
12. By applying ratio of FY 2016-17 and FY 2011-12 earned unit premiums to the de-trended ULR of AY 2016-17, ULR of AY 2016-17 based on FY 2016-17 earned premium is estimated.
13. The estimated CAGR is applied to estimate ULR of AY 2017-18 business in case FY 2017-18 earned premiums remain same as of FY 2016-17 earned premiums.
14. The premium for FY 2017-18 should consider following cash-flows:
 - Cash-outflows due to claims cost
 - Cash-outflows on management expenses (variable expenses)
 - Cash-outflow as Fixed expense per policy
 - Cash-inflow as the potential to earn investment income since there is a significant time lag between the payment of claim and the date of accident
 - Cash-outflow as cost of capital. Capital is set aside in order to maintain the required solvency level
15. By considering the estimated ULR of AY 2017-18, FY 2016-17; premium and target ULR based on various cash-flows as mentioned in the premium applicable for FY 2017-18 is estimated. The AY 2017-18 will be having claims for the business written during FYs 2016-17 and 2017-18. Therefore, the estimated premium for FY 2017-18 will be good for the first half of the FY 2017-18.
16. The target ULR and the CAGR determined above are used to estimate AY 2018-19 ULR based on FY 2017-18 premiums (first half of FY 2017-18).
17. By considering the estimated ULR of AY 2018-19, FY 2017-18 premium (first half) and

target ULR based on various cash-flows as mentioned above, the premium applicable for second half of the FY 2017-18 is estimated. The AY 2018-19 will be having claims for the business written during FYs 2017-18 and 2018-19. Therefore, the estimated premium in this step will be applicable for second half of FY 2017-18.

18. An average of premiums determined in above steps is to determine estimate premium for FY 2017-18 and used to estimate premiums for all the categories of business.

Hence, the rates have been arrived on actuarial basis after factoring in the necessary assumptions. These rates have been compared with the rates that were published during the last few years. Based on the IRDAI's past experience in determining the pricing, the data sets used and also looking into those segments where the actuarial pricing is quite high in comparison to previous year's pricing due to apparently volatile loss ratios, the IRDAI has smoothed the rates up suitably.

With respect to Vintage cars segment, there is no substantial data of past experience. Therefore, a discounted price of 25% of the proposed rate based on the erstwhile Indian Motor tariff (IMT) is proposed, for those private cars certified as Vintage cars by Vintage & Classic Car club of India.

The details of proposed rates for the various classes of vehicles are tabulated below:

Table I

Category	Vehicle Type	Existing Rates: FY 2016-17	Proposed Rates : FY 2017-18
	Private Cars*		
	Not exceeding 1000 cc	2,055	2,055
	Exceeding 1000 cc but not exceeding 1500 cc	2,237	3,355
	Exceeding 1500 cc	6,164	9,246
	Two Wheelers		
	Not exceeding 75 cc	569	569
	Exceeding 75 cc but not exceeding 150 cc	619	720
	Exceeding 150 cc but not exceeding 350 cc	693	978
	Exceeding 350 cc	796	1,194
A1	Goods Carrying Vehicles Public Carriers (other than 3 wheelers)		
	GVW not exceeding 7500 kgs	14,390	14,390

Category	Vehicle Type	Existing Rates: FY 2016-17	Proposed Rates : FY 2017-18
	Exceeding 7500 kgs but not exceeding 12000 kgs	15,365	23,047
	Exceeding 12000 kgs but not exceeding 20000 kgs	22,577	33,865
	Exceeding 20000 kgs but not exceeding 40000 kgs	24,708	37,062
	Exceeding 40000 kgs	25,800	38,700
A2	Goods Carrying Vehicles Private Carriers (other than 3 wheelers)		
	GVW not exceeding 7500 kgs	7,849	7,938
	Exceeding 7500 kgs but not exceeding 12000 kgs	11,528	14,330
	Exceeding 12000 kgs but not exceeding 20000 kgs	9,390	9,871
	Exceeding 20000 kgs but not exceeding 40000 kgs	12,821	14,805
	Exceeding 40000 kgs	16,655	24,982
A3	Goods Carrying Motorized Three Wheelers and Motorized Pedal Cycles – Public Carriers		
	except e-carts	5,680	5,680
	e-carts	3,969	3,969
A4	Goods Carrying Motorized Three Wheelers and Motorized Pedal Cycles – Private Carriers		
	except e-carts	4,200	4,200
	e-carts	3,438	3,438
B	Trailers		
	Agricultural Tractors upto 6 HP	510	765
	Other vehicles including Miscellaneous & Special Type of Vehicles (Class-C), (For each trailer, for more please multiply by no. of trailers)	1,307	1,960
*Vintage cars: A discount of 25% shall be allowed for private cars under Vintage Cars segment certified as Vintage cars by Vintage & Classic Car club of India as per the erstwhile IMT.			

Table II

Category	Vehicle Type	Existing Rates: FY 2016-17		Proposed Rates: FY 2017-18	
		Basic Rate	Per Licensed Passenger	Basic Rate	Per Licensed Passenger
C1a	Four wheeled vehicles used for carrying passengers for hire or reward with carrying capacity not exceeding 6 passengers				
	Not exceeding 1000 cc	6,396	1,230	6,396	1,230
	Exceeding 1000 cc but not exceeding 1500 cc	8,408	1,035	8,408	1,035
	Exceeding 1500 cc	11,144	1,183	11,144	1,183
C1b	Three wheeled vehicles used for carrying passengers for hire or reward with carrying capacity not exceeding 6 passengers				
	except e-rickshaw	1,733	829	2,476	1,185
	e-rickshaw	1,125	538	1,607	769
C2	Four or more wheeled vehicles used for carrying passengers with carrying capacity exceeding 6 passengers for hire or reward	10,294	629	13,584	830
C3	Motorized three wheeled passenger vehicles used for carrying passengers for hire or reward with carrying capacity exceeding 6 passengers but not exceeding 17 passengers	4,155	829	6,233	1,244
C2	Three wheeled passenger vehicles used for carrying passengers for hire or reward with carrying capacity exceeding 17 passengers	10,294	629	12,189	745
C4	Motorized Two wheelers used for carrying passengers for hire or reward				
	Not exceeding 75 cc	702	473	790	532
	Exceeding 75 cc but not exceeding 150 cc	702	473	790	532
	Exceeding 150 cc but not exceeding 350 cc	702	473	790	532
	Exceeding 350 cc	1,615	473	2,423	532

Table III

Category	Vehicle Type	Existing Rates: FY 2016-17	Proposed Rates : FY 2017-18
D	Special Types of Vehicles		
	i) Pedestrian controlled Agricultural Tractors with Horse Power rating not exceeding 6HP, Hearses and Plane Loaders	897	1,346
	ii) Other Misc & Spl types of vehicles	3,822	5,733
E	Motor Trade (Road Transit Risks)		
	i) Distance not exceeding 2400 kms	1,088	1,088
	ii) Distance exceeding 2400 kms	1,308	1,308
F	Motor Trade (Road Risks) (Excluding Motorized Two Wheelers) – (Named Driver or Trade Certificate)		
	1st named driver or certificate	985	1,108
	For additional drivers/ certificates up to 5 (per driver/certificate)	476	536
	For additional Drivers/ Certificates exceeding 5 but not exceeding 10 (per driver/ certificate)	307	345
	For additional Drivers/ Certificates exceeding 10 but not exceeding 15 (per driver/ certificate)	266	299
F	Motor Trade (Road Risks) (Motorized Two Wheelers) – (Named Driver or Trade Certificate)		
	1st named driver or certificate	530	530
	For each additional Driver/ Certificate	264	264

In view of the above, all stakeholders are invited to provide their comments on this draft exposure. The comments should reach the Authority physically or by e-mail addressed to KGPL Ramadevi, DGM (e-mail: kgplramadevi@irda.gov.in) and a copy (e-mail) marked to srihari.a@irda.gov.in, on or before **18th March 2017**.

Sd/-
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