RESERVING FOR GENERAL INSURANCE LIABILITIES- ADEQUACY OF RESERVES OF INDIAN NON-LIFE INSURERS

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Insurance is "People-centric" business. We deal with people who are our policyholders, beneficiaries, intermediaries and also our employees. Insurance companies need to be pro-active, customer-sensitive, financially strong and solvent. Insurers are also long-term players who build substantial and sufficient reserves over the years from which liabilities of policyholders are discharged.

A substantial portion of the assets of an insurance company is created out of its liabilities, liabilities that are to be discharged at some future uncertain dates. In case of General insurance not only the timing of payment is uncertain but also the quantum of payment. This entails the onerous task of asset liability matching for the Non-Life insurers. The liabilities have to be estimated as accurately as possible and provided for to avoid a rude shock at a future unforeseeable date.

1. GENERAL INSURANCE LIABILITIES:

Non-Life insurers are concerned with the provision for mainly two kinds of liabilities, which are unique to their business, namely:

- Liability for Unexpired Risks
- Liability for Unpaid Claims

Apart from these two liabilities there are other types of liabilities that are reserved by all business enterprises including insurers e.g. provision for bad and doubtful debts, sundry creditors, provision for taxation, provision for dividends etc. However these liabilities are small as compared to Liability for Unexpired risks and Liability for unpaid claims. Furthermore, there is no uncertainty involved in their provisioning, as these can be fairly precisely ascertained and reserved. Hence the ensuing discussion will revolve around liability for unexpired risks and liability for unpaid claims only.

To the uninitiated, ascertaining these liabilities may appear a simple task - first calculate the unearned premium and thereafter ascertain the liability for the unpaid claims that are on the books and keep this amount aside as reserve. If the procedure were so simple as it appears to be, Non-Life Insurers the world over would be a much more happier lot and actuarial assistance would not be of critical importance to them as it is today.

In this paper an attempt has been made to study the adequacy of the reserves being provided by the Non-Life Insurance companies in the area of claims reserves as well as reserves for unexpired risks. The insurance market in the country was liberalised in the year 2000 and some of the new private players who were issued licence by IRDA have completed one year of their operations only in 2000-2001. We have therefore based our study on the data collected from the Nationalised Non-Life Insurance Companies who still control more than 90% of the Non-life market in India.

2. A SNAPSHOT OF INDIAN SCENARIO:

2.1. Regulatory Provisions:

There are mainly two regulations that govern the reserving of Non-Life Insurer's liabilities, namely, **"*The Insurance Regulatory and Development Authority (Assets, Liabilities and Solvency Margins of Insurers) Regulations, 2000"*** and **"*The Insurance Regulatory and Development Authority (Preparation of Financial Statements and Auditor's Report of Insurance Companies) Regulations, 2002"***. We look at the provisions of these two regulations for each type of reserve.

2.1.1. Reserve for Unexpired Risks:

Schedule II B of the Solvency Margin regulations (Valuation of Liabilities) provides:

"*Reserve for Unexpired risks, shall be, in respect of:*

1. *Fire business; 50%*
2. *Miscellaneous business; 50%,*
3. *Marine business other than marine hull business; 50%; and*
4. *Marine Hull business; 100%*

of the premium, net of reinsurance, received or receivable during the preceding twelve months"

Schedule B, Part I of the IRDA (Authority (Preparation of Financial Statements and Auditor's Report of Insurance Companies) Regulations, 2002 stipulates:

"*A reserve for Unexpired risks shall be created as the amount representing that part of the premium written which is attributable to, and to be allocated to the succeeding accounting periods and shall not be less than as required under section 64V(1) (ii) (b) of the Insurance Act, 1938"*

It further defines Premium Deficiency as

"*Premium Deficiency shall be recognised if the sum of expected claim costs, related expenses and maintenance costs exceed related reserve for unexpired risks.*"

The provision for reserve for Unexpired risks as given by solvency regulations take a cue from section 64V(1) (ii) (b) of the Insurance Act, 1938. In effect these two regulations stipulate the minimum reserve for unexpired risks and make it mandatory for every Non-Life Insurer to provide for such reserve.

2.1.2 Reserve for Unpaid Claims:

Schedule IIB of the Solvency Margin regulations (Valuation of Liabilities) provides:

"Reserve for outstanding claims shall be determined in the following manner:

1. *where the amounts of claims of the insurers are known, the amount is to be provided in full;*
2. *where the amounts of outstanding claims can be reasonably estimated according to the insurer, he may follow the 'case by case method' after taking into account the explicit allowance for changes in the settlement pattern or average claim amounts, expenses and inflation;*

Reserve for claims incurred but not reported (IBNR) shall be determined using actuarial principles. In such determination, the appointed actuary shall follow the Guidance Notes issued by Actuarial Society of India*, with the concurrence of the Authority, and any direction issued by the Authority, in this behalf"*

Schedule B, Part I of the IRDA (Authority (Preparation of Financial Statements and Auditor's Report of Insurance Companies) Regulations, 2002 stipulates:

"A liability for outstanding claims shall be brought to account in respect of both direct business and inward reinsurance business. The liability shall include:

1. *Future payments in relation to unpaid reported claims;*
2. *Claims Incurred But Not Reported (IBNR) including inadequate reserves also known as Incurred But Not Enough Reported (IBNER)*

which will result in future cash/asset outgo for settling liabilities against those claims. The accounting estimate shall also include claims cost adjusted for the estimated salvage value if there is sufficient degree of certainty of its realisation."

The regulations also mandate an actuarial valuation of claims made in respect of contracts where the claims payment period exceeds four years.

Prior to these regulations, provisions of Insurance Act, 1938 and Insurance Rules, 1939 governed the reserving for liabilities. Concurrently with the publication of the IRDA regulations, the provisions of the Act have also been amended to be in synchronisation with the current regulations in force.

A look at these regulations is reassuring and the regulations appear to be quite robust. However, these regulations have become effective only for the financial year 2001-2002 onwards and the financial statements of 2001-2002 are the first statements prepared in accordance with these guidelines.

2.2. The Turf:

The Indian insurance market is a developing market and has been growing at an average rate of around 15% over the last 20 years. The market is also an evolving one in terms of best insurance practices. From a highly protected market till 1999 when there were only four Government owned Non-Life insurance companies and one Government owned life insurance corporation, it now has 13 life insurance companies and 13 Non-Life insurance companies, a modest figure but remarkable for the short time span in which this has come about.

2.2.1. Adequacy of Claims Reserves:

Turning our attention to reserving for liabilities, and more particularly reserving for claims, reserving on the basis of case estimates is a relatively simple task and does not require actuarial intervention. Actuarial expertise however is sought in estimating the liability for IBNR (Incurred But Not Reported) claims including the inadequacy of reserves provided on the basis of case estimates, which is a problem area in liability classes of insurance, which are essentially long tail in nature. Property claims are mostly reported within a short span of time and actuaries can fairly accurately estimate liability for IBNR claims for this line. However in liability line of insurance, IBNR estimation calls for a high degree of actuarial skill.

Let us now look at some figures to understand about Liability Insurance portfolio of Indian Insurance market. The figures have been taken from the balance sheets of the companies for the financial year 2001-2002 which also find a mention in the Annual Report of Insurance Regulatory And Development Authority for the year 2001-2002. All the premium figures are earned and net of reinsurance and the reserves are for claims outstanding including IBNR reserves

	Total Net Premium	Liability Premium	% Share	Total Claims Reserves	Liability Claims Reserves	% Share
Rs.in Crore	8920	300	3.36%	11000	163	1.48%
USD in Million (1 USD=Rs.48)	1858	60		2292	33	

With a share of just 1.48% in the total reserves of Non Life insurance, reserving for Liability insurance does not appear a sticky job. A study of delay pattern in claims reporting and claim settlement could give a better idea about the IBNR position of liability claims in India. However unavailability of organised data is a serious problem with the Indian Non-Life Insurance industry.

We at National Insurance Academy have been collecting data for various studies and had also collected some data for Motor Liability claims. Although drawing a parallel between Motor Liability and General Liability/Products/Professional Liability may not be correct because of inherently different nature of claims and reporting patterns of the two classes, yet we have tried to study the claims delay pattern of Motor Liability claims to give us some idea of IBNR provisioning in Motor Liability claims. This data sample comprising of ***claims numbering 2815*** was randomly collected from about 100 offices of the four nationalised non-life insurance companies spread across 6 states and 12 cities of India. The findings of the delay pattern in reporting of claims after the accident are given in the table and the graph shown in ***Annexure I & II***.

The figures show that nearly 86% of all the claims are reported within 1 year of the occurrence of accident and the average delay is nearly 7 months (216 days).

Does this mean that the provision of IBNR is not a big issue for Indian market and the reserve being provided by the Indian Non-Life Insurance companies is adequate to meet the losses? Actual facts need to be further examined to ascertain the correct picture.

Typically the nationalised non-life insurance companies have been following the following formula for estimating IBNR reserves:

- 10.5% of reserves for Motor and Engineering insurance, and
- 5.5% of reserves for other lines of business

For the year 2001-2002 also the nationalised non-life insurance companies have presumably relied on the same formula for estimating their IBNR reserves.

However, a look at the balance sheet of some of the private sector companies reveals that they do not stick to this formula for their IBNR provisions and their

IBNR provisions are much higher and perhaps based on either actuarial principles or the reserving philosophy of their foreign partner. We therefore tried to analyse the data to find if the reserves being provided by the nationalised non-life insurance companies in the past have been adequate. For this we have analysed the delay pattern of the claims after the occurrence. All these claims are settled through courts and the findings of the analysis are indicated in the table and the graph at ***Annexure III & IV***.

The graph shows a peak between 1-2 years and then a bigger peak at 6-10 years. This means that either a good number of claims are settled between 1-2 years or if not settled between 1-2 years then they are settled between 6-10 years. A possible explanation for this could be that a number of claims are settled through the conciliatory process of ***Lok Adalat*** between 1-2 years and a majority of those, which are settled through the court award (Motor Accident Claims Tribunal), are settled between 6-10 years. This indicates that there could be a possibility of deficiency in case reserves due to case developments during the years the claims remain unpaid.

We then looked at the ultimate amount of each claim paid, including the interest awarded and the expenses of litigation. This ultimate amount was discounted to the end of the accounting year date for the year in which the claim occurred. The discounting factor was taken for an investment rate of return of 13% since the yield of Non-Life insurance companies on investment has been in the range of 12-14% for the period prior to 2001. The discounted amount of ultimate claims paid was compared with the liability reserved for each claim and the deficiency of reserve was calculated. Similarly, for claims occurring in a particular year but reported any time after that year, the ultimate claim paid amount was discounted. The total of these two figures gave the IBNR reserve that should have been provided.

The resulting table and the graph are given on ***Annexure V & VI***, where discounted IBNR is the figure of IBNR that should have been reserved for that year. The table reveals that the IBNR provisions estimated by the nationalised non-life insurance companies using the flat percentage formula discussed above have been <u>inadequate</u>. ***It may be seen that the actual IBNR that should have been provided varies from (–) 18.96% to 38.87% whereas the provisioning was done @ 10.5% of the claims outstanding as per the earlier formula***.

The negative IBNR shows that in those years the reserve for outstanding claims itself was heavily overestimated to the extent that it took care of the IBNR claims and still left some balance amount. In the later years viz. 1999 and 2000 the correct IBNR that should have been provided seems to be decreasing. This is because of the fact that the data collection work was undertaken in the year 2001 and all claims of the year 1999 and 2000 might not have been reported by this time. This analysis shows that the IBNR provisions have been arbitrarily estimated without any relationship to the actual situation. This study has been done only for one line of insurance namely Motor Liability insurance and inadequacy of reserve in this line is an indicator to an aberration which needs to be examined in depth so as to ensure correct IBNR estimation in other lines of business.

This further underlines the importance of IRDA's stipulation that IBNR reserves should be actuarially estimated and the earlier the companies shun this flat percentage formula for estimating IBNR reserves in favour of estimation by actuarial principles, the better it will be for all concerned.

2.2.2. <u>Adequacy of Reserve for Unexpired Risks</u>:

This term itself is a misnomer in the Indian context where the non-life insurance companies are providing an unearned premium reserve rather than reserve for unexpired risks. The reserve for unexpired risks actually includes the unearned premium reserve and the premium deficiency reserve.

A look at the total earned premium and the total reserve for outstanding claims for the financial year 2001-2002 indicates that the reserve for claims at Rs.11000 crores was much in excess of the net earned premium of Rs.8920 crores for the Indian market and this has been the situation for past many years. The table given below shows the inadequacy of premium to cover all the losses for the past 5 years of the nationalised non-life insurance companies.

Year	**2001-2002**	**2000-2001**	**1999-2000**	**1998-1999**	**1997-1998**
Net EarnedPremium (Rs in Crore)	8920	8086	7477	6692	5847
Net Earned Premium (Million USD)	1858	1685	1558	1394	1218
Underwriting Loss(Rs in Crore)	572	1387	985	585	321
Underwriting Loss(Million USD)	119	289	205	122	67

This implies that each year the unearned premium reserve (or the reserve for Unexpired risks) has been falling short of meeting the liabilities of the risks covered by it.

What is interesting is that the balance sheet of none of the non-life companies, including those in the private sector have made a provision for Premium Deficiency in their 2001-2002 accounts despite regulatory guidelines.

3. <u>ISSUES IN RESERVING FOR GENERAL INSURANCE MARKET IN INDIA</u>:

- India is acutely short of actuarial expertise in the area of property, casualty and liability insurance. That is perhaps the reason why the regulators whilst notifying the Appointed Actuary Regulations indicated that the Appointed Actuary in the life side has to be an employee of the life company. While for a Non-life company he could be a consulting actuary. Once the actuarial expertise in the Non-life develops in the Indian market-say in the next 3-5 years, perhaps it may also become necessary for the Non-life companies to have an Appointed Actuary on their rolls.

- Insurers all over the world exist on data. Unlike the pricing of other products where major elements of costs are generally known in advance, in some classes of insurance, the actual claims cost, which is the major element of cost, may be known many years after the expiry of the policy period. This is a unique feature in the pricing of insurance products. Insurers make estimate of claims cost based on past experience while fixing premium rates which have to be revised from time to time based on actual data. To this, business acquisition cost, management expenses, margins for adverse fluctuations in claims and profit element are added to arrive at a realistic price. In India, unfortunately, collection of data and its dissemination have not been a strong point with Non-life insurance companies. Even Tariff Advisory Committee, the statutory body under the Insurance Act, 1938 does not get regular statistics from the Non-life companies.

- The recurring premium deficiency, year after year entails premium increase to tide over the adverse claims experience. However 70% of business in Non-life insurance in India falls under Tariff. Increasing the rates under the tariff is not a simple matter. It has political overtones. In Motor Third Party, despite the Incurred Claims Ratio having been over 230% over the last four years (1998-1999 to 2001-2002), the increase has not been in tune with the adverse experience mainly because of the various provisions of the Motor Vehicles Act, 1988 and its amendments. In fact India is perhaps the only country in the world where automobile third party liability is unlimited. Even in motor own damage section our rates are around 3.5% whereas the rates prevailing in other developing and developed markets vary from 7-12%.

We therefore need to address these issues before we can make actuarially adequate provisioning for the liabilities of Non-Life insurance companies in India. India has just started its journey in a liberalised insurance scenario where insurance rightly becomes a way of life and insurers believe more in self-regulation rather than looking only to the regulator. This however cannot come about overnight. One needs to be not just an actuary but also an astrologer to predict when this will actually take place.

The need for the industry therefore is to build a team of qualified actuaries within a short time span so that by the time we are out of the tariff regime- say in the next 3-4 years, the non-life market where competition and profitability will be the buzzword, the companies will be in a position to vie with each other in formulating insurance products which would not only be innovative and customer–sensitive but also adequately priced.

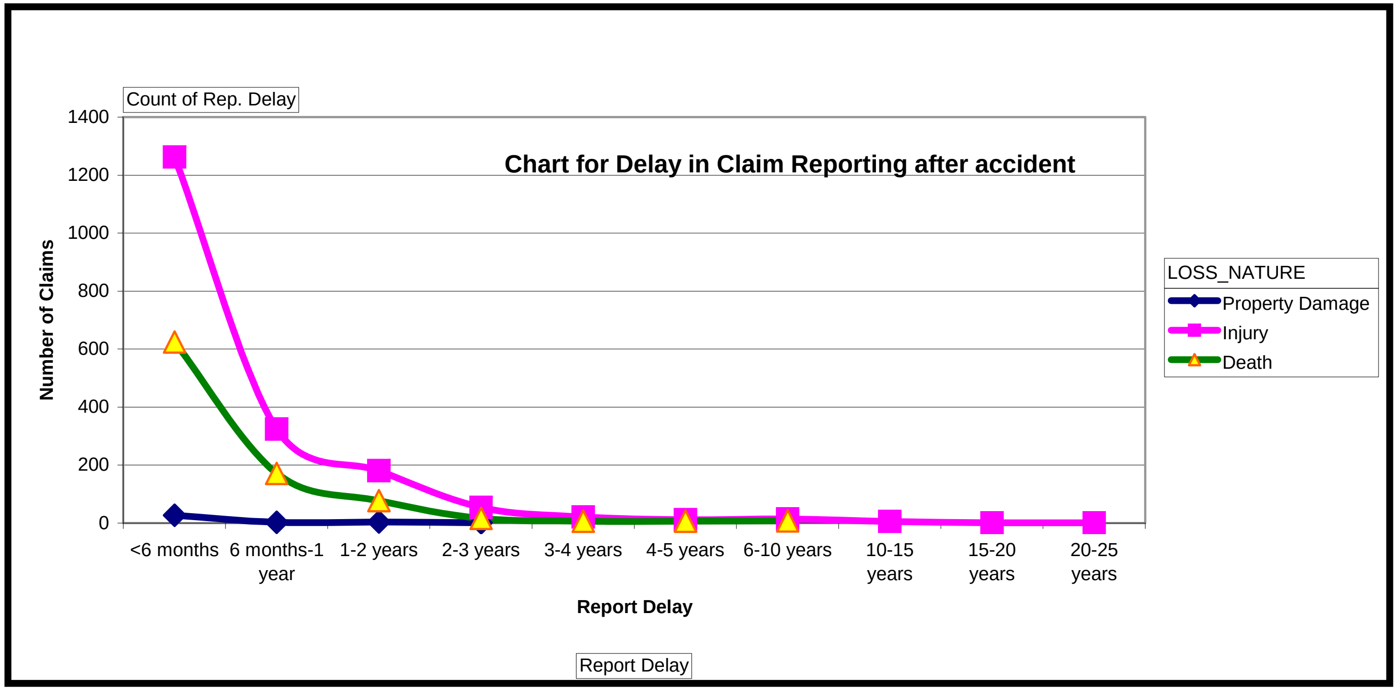
Annexure-I

Table for Report Delay Pattern of Motor Liability claims

Report Delay	Data	LOSS_NATURE			Grand Total
		Property Damage	Injury	Death	
<6 months	No. of claims	27	1263	624	1914
	% of Total	77.14%	67.54%	68.57%	67.99%
	Average Report Delay	109	84	83	84
6 months-1 year	No. of claims	3	324	171	498
	% of Total	8.57%	17.33%	18.79%	17.69%
	Average Report Delay	220	257	257	257
1-2 years	No. of claims	4	181	77	262
	% of Total	11.43%	9.68%	8.46%	9.31%
	Average Report Delay	465	507	474	496
2-3 years	No. of claims	1	54	16	71
	% of Total	2.86%	2.89%	1.76%	2.52%
	Average Report Delay	976	892	916	899
3-4 years	No. of claims		21	7	28
	% of Total	0.00%	1.12%	0.77%	0.99%
	Average Report Delay		1238	1279	1248
4-5 years	No. of claims		12	7	19
	% of Total	0.00%	0.64%	0.77%	0.67%
	Average Report Delay		1628	1618	1625
6-10 years	No. of claims		15	8	23
	% of Total	0.00%	0.80%	0.88%	0.82%
	Average Report Delay		2503	2673	2562
Total No. of claims		35	1870	910	2815
Total % of Total		100.00%	100.00%	100.00%	100.00%
Total Average Report Delay		184	220	207	216

Note: Average Report delay is given in days

Annexure-II



Count of Rep. Delay
Chart for Delay in Claim Reporting after accident
Number of Claims
1400
1200
1000
800
600
400
200
0
<6 months
6 months-1 year
1-2 years
2-3 years
3-4 years
4-5 years
6-10 years
10-15 years
15-20 years
20-25 years
Report Delay
LOSS_NATURE
Property Damage
Injury
Death
Report Delay

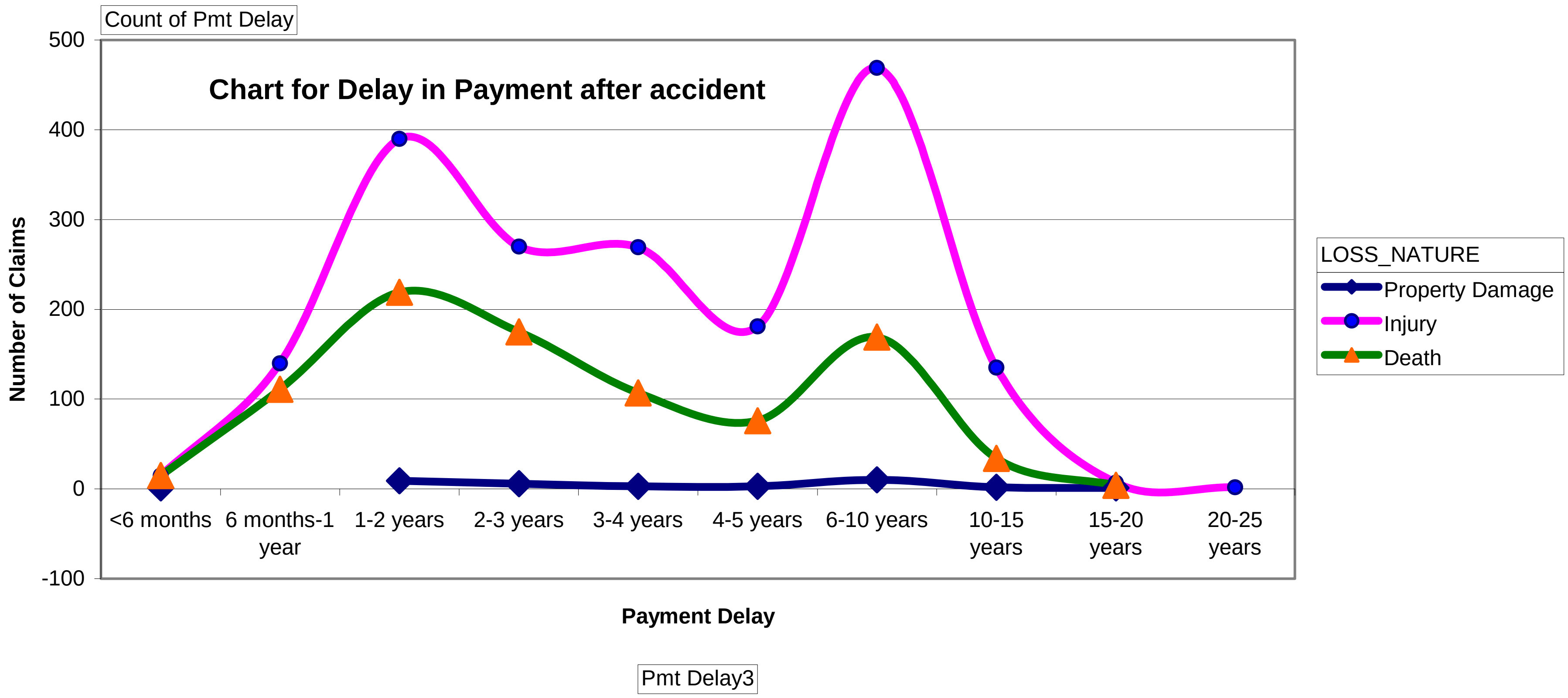
Annexure-III

Table of Payment Delay Pattern of Motor Liability claims

Payment Delay	Data	LOSS_NATURE			Grand Total
		Property Damage	Injury	Death	
<6 months	No. of claims	1	15	15	31
	% of Total	2.86%	0.80%	1.65%	1.10%
	Average Payment Delay	126	137	128	132
6 months-1 year	No. of claims		140	111	251
	% of Total	0.00%	7.45%	12.20%	8.89%
	Average Payment Delay		287	282	285
1-2 years	No. of claims	9	390	219	618
	% of Total	25.71%	20.77%	24.07%	21.89%
	Average Payment Delay	522	549	543	546
2-3 years	No. of claims	6	270	175	451
	% of Total	17.14%	14.38%	19.23%	15.98%
	Average Payment Delay	997	919	911	917
3-4 years	No. of claims	3	269	107	379
	% of Total	8.57%	14.32%	11.76%	13.43%
	Average Payment Delay	1357	1265	1260	1264
4-5 years	No. of claims	3	181	76	260
	% of Total	8.57%	9.64%	8.35%	9.21%
	Average Payment Delay	1742	1626	1629	1628
6-10 years	No. of claims	10	469	169	648
	% of Total	28.57%	24.97%	18.57%	22.95%
	Average Payment Delay	2988	2569	2495	2556
10-15 years	No. of claims	2	135	34	171
	% of Total	5.71%	7.19%	3.74%	6.06%
	Average Payment Delay	4254	4282	4195	4264
15-20 years	No. of claims	1	7	4	12
	% of Total	2.86%	0.37%	0.44%	0.43%
	Average Payment Delay	6774	5937	6036	6040
20-25 years	No. of claims		2		2
	% of Total	0.00%	0.11%	0.00%	0.07%
	Average Payment Delay		8238		8238
Total No. of claims		35	1878	910	2823
Total % of Total		100.00%	100.00%	100.00%	100.00%
Total Average Payment Delay		1865	1587	1273	1489

Note: Average Payment delay is given in days

Annexure IV



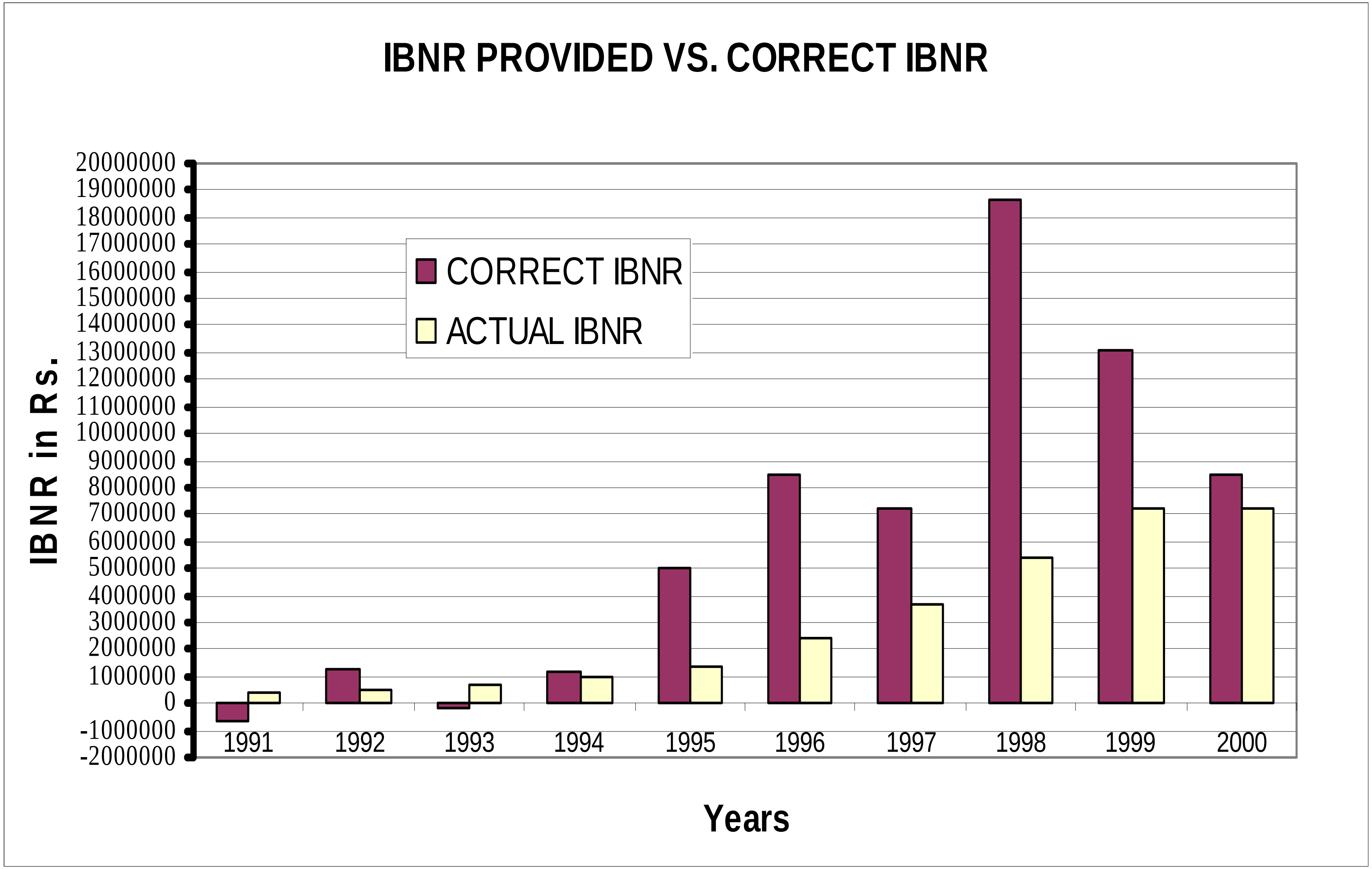
Count of Pmt Delay
Chart for Delay in Payment after accident
Number of Claims
500
400
300
200
100
0
-100
<6 months
6 months-1 year
1-2 years
2-3 years
3-4 years
4-5 years
6-10 years
10-15 years
15-20 years
20-25 years
Payment Delay
Pmt Delay3
LOSS_NATURE
Property Damage
Injury
Death

ANNEXURE -V

Motor Liability IBNR

YEAR	DESCRIPTION	AMOUNT IN RUPEES
1991	DISCOUNTED IBNR	-699800
	O/S LIABILITY PROVIDED	3690866
	% IBNR	-18.96%
	ACTUAL IBNR PROVIDED@10.5%)	387541
1992	DISCOUNTED IBNR	1262981
	O/S LIABILITY PROVIDED	4373851
	% IBNR	28.88%
	ACTUAL IBNR PROVIDED@10.5%)	459254
1993	DISCOUNTED IBNR	-205230
	O/S LIABILITY PROVIDED	6767698
	% IBNR	-3.03%
	ACTUAL IBNR PROVIDED@10.5%)	710608
1994	DISCOUNTED IBNR	1129235
	O/S LIABILITY PROVIDED	9266426
	% IBNR	12.19%
	ACTUAL IBNR PROVIDED@10.5%)	972975
1995	DISCOUNTED IBNR	4984215
	O/S LIABILITY PROVIDED	12824051
	% IBNR	38.87%
	ACTUAL IBNR PROVIDED@10.5%)	1346525
1996	DISCOUNTED IBNR	8469988
	O/S LIABILITY PROVIDED	22761638
	% IBNR	37.21%
	ACTUAL IBNR PROVIDED@10.5%)	2389972
1997	DISCOUNTED IBNR	7251692
	O/S LIABILITY PROVIDED	35166073
	% IBNR	20.62%
	ACTUAL IBNR PROVIDED@10.5%)	3692438
1998	DISCOUNTED IBNR	18658191
	O/S LIABILITY PROVIDED	51339515
	% IBNR	36.34%
	ACTUAL IBNR PROVIDED@10.5%)	5390649
1999	DISCOUNTED IBNR	13056929
	O/S LIABILITY PROVIDED	68886977
	% IBNR	18.95%
	ACTUAL IBNR PROVIDED@10.5%)	7233133
2000	DISCOUNTED IBNR	8513790
	O/S LIABILITY PROVIDED	68849483
	% IBNR	12.37%
	ACTUAL IBNR PROVIDED@10.5%)	7229196

Annexure-VI


IBNR PROVIDED VS. CORRECT IBNR
CORRECT IBNR
ACTUAL IBNR
IBNR in Rs.
20000000
19000000
18000000
17000000
16000000
15000000
14000000
13000000
12000000
11000000
10000000
9000000
8000000
7000000
6000000
5000000
4000000
3000000
2000000
1000000
0
-1000000
-2000000
1991
1992
1993
1994
1995
1996
1997
1998
1999
2000
Years