

TITLE: PROPERTY-CASUALTY INSURANCE INFLATION INDEXES  
Communicating With The Public

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## INTRODUCTION

An important topic of the general subject of Inflation Implications on Property-Casualty Insurance is Communicating with the Public. The emphasis in this paper will be on influences of general U. S. inflation which are causing severe problems for all lines of insurance, particularly lines which are of critical concern to the policyholder public. The discussion link between general U. S. inflation and the Property-Casualty lines will be the U. S. Consumer Price Index (CPI). The current general knowledge of the U. S. CPI because of much publicized monthly increases make it a good communication link between general inflation and the severe effects on individual lines of insurance.

The adverse inflationary years have resulted in two major problems. First, inflation has caused higher claim settlements and a cost-push in premiums; and second, inflation has changed the attitudes of policyholders, claimants and regulators concerning resultant increases in premium rates during inflation years.

### U. S. CONSUMER PRICE INDEX - CPI

The official CPI of the Bureau of Labor Statistics dates from 1913. Indexes from 1800 to 1912 are estimated by splicing the following series: 1800 to 1851 - Index of prices paid by Vermont Farmers for Family Living; from 1851 to 1890 - Consumer Price Index by Ethel D. Hoover; 1890 to 1912 - Cost of Living Index by Albert Roos.

Exhibit I, U. S. Consumer Price Index - 1967=100, has two parts: The left hand section is a summary of the period, 1800-1980, showing the annual CPI's for selected years in which important historical

events caused major changes in the CPI, such as Wars, Panics, Government Actions and Wage/Price Controls. CPI increases are shown for the periods between each key year.

The right hand section of Exhibit I is a record of CPI's for each year, 1935-1980, with annual increases in inflation rates. A review of the annual increases reveals that double-digit inflation rates have been infrequent in peach years. In fact, for very long periods, such as from 1951 through 1968, the annual inflation rates never exceeded 5%. (1)

To relate lines of Property-Casualty Insurance to the components of the U. S. CPI a new classification of Losses and Loss Adjustment Expenses Incurred facilitates comparisons:

#### PERSONS AND PROPERTY

Industry totals for 1979, as compiled in Best's Aggregates and Averages, are:

		\$ Millions
Premiums Earned		86,917
Losses Incurred	63.9%	55,540
Loss Adjustment Incurred	<u>9.2</u>	<u>7,997</u>
	<u>73.1%</u>	<u>63,537</u>

The major effect of inflation has been to increase claim settlement costs - the 1979 total of \$63,537 million, the industry's economic cost of production. To relate these settlement costs to the components of U. S. inflation, we can re-classify claims into two broad groups:

Persons: Involving physician and surgeon fees, hospital room charges, loss of earnings, pain and suffering, court costs, rehabilitation, and associated insurance company claims adjustment expenses.

Property: Automobiles and parts, residences, commercial buildings and structures, other property, personal effects and property, and associated insurance company claims adjustment expenses.

A reclassification of 1979 Losses and Loss Adjustment Expenses by these two groups is: (\$s in millions)

	<u>Totals</u>	<u>Automobile</u>	
Personal Injuries	27,337	11,481	42.7%
Automobiles	15,390	<u>15,390</u>	<u>57.3</u>
Dwellings	5,210	26,871	100.0%
Buildings & Structures	6,535		
Other Property	<u>2,527</u>		
	56,999		
Accident & Health	2,538		
Miscellaneous	1,833		
Reinsurance	<u>2,167</u>		
	63,537		

In this paper the first four of the above classifications:

Personal Injuries, Automobiles, Dwellings, Buildings and Structures - will be tested for inflation implications.

#### PERSONAL INJURIES

Included in this group are these lines: Auto Bodily Injury, Other Bodily Injury, Workers Compensation, and estimated personal injury payments under Homeowners and Commercial Multi-Peril policies.

#### Auto and Other Bodily Injury

The indexes affecting claims costs for bodily injury are: Physicians Fees and Hospital Room Charges for personal injuries, and Average Personal Income for wage loss. Exhibit II shows these annual indexes for the period, 1935-1980, summarized in the following table:

Table 1

Indexes Affecting Bodily Injury  
1967=100

<u>Year</u>	<u>Physicians Fees</u>	<u>Hospital Charges</u>	<u>Personal Income</u>	<u>CPI</u>
1935	39.2	11.9	15.0	41.1
39	39.6	12.6	17.6	41.6
45	46.0	16.2	38.7	53.9
64	85.2	71.9	81.9	92.9
73	138.2	182.1	158.4	133.1
77	206.0	299.5	222.6	181.5
78	223.1	332.4	246.8	195.4
79	243.6	370.3	275.4	217.4
80	271.0	418.0	300.0	247.6

All three of these indexes affecting Bodily Injury claims settlements show very high increases relative to the Consumer Price Index. Most spectacular has been the escalation of hospital room charges. From 1935 to 1979 the CPI increased 5.3 times, but the Hospital Room Charges increased 31.1 times! (2)

Workers Compensation

In addition to the inflation in Physicians Fees and Hospital Room Charges, Workers Compensation loss costs are also affected by Wage Levels and Law Amendment Factors in the states. Weekly indemnity benefits are based on percentages of wages of injured workers. The benefit levels by states are determined by provisions in state compensation laws with changes being measured by Law Amendment factors. Exhibit II shows these annual indexes for the period, 1935-1980, summarized in the following table:

Table 2

Indexes Affecting Workers Compensation  
1967=100

<u>Year</u>	<u>Physicians Fees</u>	<u>Hospital Charges</u>	<u>Wage Rates</u>	<u>Law</u>		<u>CPI</u>
				<u>Amendment Excluded</u>	<u>Factors Amendments</u>	
1935	39.2	11.9	18.3			41.1
39	39.6	12.6	21.5	1.000	1.000	41.6
45	46.0	16.2	37.6	.756	1.070	53.9
64	85.2	71.9	88.2	.596	1.713	92.9
73	138.2	182.1	145.6	.570	2.434	133.1
77	206.0	299.5	189.0	.748	3.016	181.5
78	223.1	332.4	206.3	.802	3.131	195.4
79	243.6	370.3	222.0	.836	3.197	217.4
80 e	271.0	418.0	236.5			247.6

Workers Compensation claims costs have escalated not only for the obvious reasons - medical costs and wages - but for the Law Amendments which increase under pressure of inflationary conditions.

Excluding the impact of Law Amendments, the 1979 premium level on a countrywide basis is only 83.6% of the 1939 level. The effect of the Law Amendments has been to increase 1939 bases countrywide by over three times. A disturbing situation in recent years has been the attorney involvement in Workers Compensation claim settlements in several states. Workers Compensation, being a compulsory "No-Fault" form of industrial insurance, was intended to be governed by the authority of Industrial Commissions, instead of adversary or court proceedings, in resolving financial or other settlement differences.

In Exhibit VIII-A, Liability and Property Insurance Claims Costs Indexes, Workers Compensation has suffered the greatest inflationary pressure since the base year, 1967.

## MOTOR VEHICLE DAMAGE

Included in this group, in addition to Auto Physical Damage, is Auto Property Damage (with a minor deduction for other than damage to motor vehicles). In 1979 total automobile loss and loss adjustment expenses incurred were 42.7% for personal injuries and 57.3% for car damages. In 1968 the comparable portions were 49.4% for personal injuries and 50.5% for car damages. Prior to 1967 the personal injury totals always exceeded payments for car damages. When one considers that automobile policyholders carry sizeable deductibles for collision insurance, the relative share of car damages to personal damages is even greater.

Exhibit III shows several Bureau of Labor Statistics indexes which measure cost components in the maintenance and manufacture of automobiles and parts. The following table is a summary: (3)

Table 3

### Motor Vehicle Inflation Factors for Claims Costs 1967=100

<u>Year</u>	<u>Auto Repair &amp; Maint.</u>	<u>M.V. Mfg. Hourly Wage SIC 371</u>	<u>M.V. &amp; Car Body Mfg. Hourly Wage SIC 3711</u>	<u>CPI</u>
1935	43.2	20.3		41.1
39	43.1	25.8		41.6
45	50.4	35.6		53.9
64	92.8	90.4	90.7	92.9
73	142.2	153.8	155.7	133.1
77	203.7	221.1	224.6	181.5
78	220.6	239.4	245.4	195.4
79	242.6	255.8	266.1	217.4
80	268.0	275.5	291.3	247.6

The growing importance of car damage in the Consumer Price Index has caused the Bureau of Labor Statistics to establish a separate division of Automobile maintenance and repair for "Body work" to separate the latter from ordinary maintenance and repair not related to automobile accident damage. This change was effective December 1977 and will provide additional data in the future.

#### Crash-Parts Indexes

A most valuable and significant contribution to the problem of evaluating repair costs for car damages has been the State Farm Crash Parts Index. It is a measure of price changes for automobile parts most commonly damaged in accidents (bumpers, fenders, quarter panels, windshields, grills, headlamp assembly, etc.). Individual prices are weighted by the frequency of involvements in car crashes.

A similar crash parts price index has been developed by the Insurance Bureau of Canada, referred to as the Canadian Crash Parts Price Index (CCPPI). The CCPPI measures changes in the cost of a "market basket" of crash parts normally purchased by auto insurance companies for the repair of damaged vehicles. Included are eight specifically defined crash parts which are weighted according to the actual frequency of their replacement, as determined by the Insurance Bureau Appraisal Centre. Because a great portion of the repair parts are purchased from the United States, a significant factor in recent years in estimating trends in Canada has been the impact of the rate of exchange.

Neither of these Crash Parts Indexes measures the additional labor costs in body shops associated with completion of body repairs.

The following table summarizes these two Crash Parts Indexes: (4)

Table 4

Crash Parts Price Indexes

<u>Date</u>	<u>State Farm U.S. Index</u>	<u>Increase %</u>	<u>Canadian Index</u>	<u>Increase %</u>	<u>US/Can \$ Exchange</u>
1976 Jan. 1	100.0		100.0		1.01
July 1	102.6	2.6	106.1	6.1	.98
1977 Jan. 1	109.3	6.5	107.5	1.3	1.02
July 1	113.2	3.6	119.5	11.2	1.07
1978 Jan. 1	120.6	6.6	128.8	7.8	1.11
July 1	214.4	3.1	135.7	5.4	1.13
1979 Jan. 1	133.0	6.9	138.9	2.4	1.19
July 1	136.0	2.3	150.7	8.5	1.17
1980 Jan. 1	148.1	8.9	167.0	10.8	1.17
July 1	156.3	5.5	183.7	10.0	1.15
Average Annual		10.4		14.5	

All of the separate indexes which measure elements in the total cost of car damage claims show the adverse effects of accelerating inflation. Three-year wage contracts in the automobile manufacturing industry will produce annual cost increases to 1983.

COMMERCIAL AND RESIDENTIAL INDEXES

This group includes these lines of insurance: Fire, Allied Lines, Homeowners and Commercial Multi-Peril. Exhibit IV shows the major indexes reported by the Bureau of Labor Statistics which measure inflation of costs for Residential and Commercial buildings and structures. The following table summarizes two indexes for Commercial buildings and two for Residential buildings and maintenance: (5)

Table 5

Indexes Affecting Construction and Maintenance  
1967=100

<u>Year</u>	<u>American Appraisal</u>	<u>Dept. of Commerce</u>	<u>Boeckh Residential</u>	<u>Home Main. &amp; Repair</u>	<u>CPI</u>
1935	17.8		25.0		41.1
39	22.1	28.0	28.6		41.6
45	29.8	38.4	41.1		53.9
64	88.2	90.3	87.6	89.5	92.9
73	166.7	149.7	159.2	151.9	133.1
77	219.8	216.3	216.5	214.7	181.5
78	239.1	243.1	235.9	233.1	195.4
79	259.3	275.7	257.5	256.4	217.4
80 e	275.2	302.6	270.8	289.0	247.6

The acceleration in inflation indexes measuring construction and maintenance have exceeded the comparable growth in the CPI.

#### LOSS ADJUSTMENT EXPENSE INDEXES

To measure inflation factors affecting Loss Adjustment Expenses Exhibit V is a recording of these Bureau of Labor Statistics data: Insurance Company average weekly earnings for early years linked to SIC 633 - Fire, Marine and Casualty Insurance; average weekly earnings for Finance, Insurance and Real Estate; and average annual salaries for Attorneys. The figures for salaried attorneys are reported by the Bureau of Labor Statistics for Selected Professional, Administrative and Technical Occupations. Within the Attorney classification there are six work levels. The figures in Exhibit V are the annual averages for the two middle groups - III & IV - converted to a 1967=100 base. This index is an approximate measure of legal services by company claims employees and outside legal services. The

index of average weekly earnings in insurance companies is a measure of inflation in salaries of non-legal claims processing employees. The mix of legal and non-legal services would vary by line of insurance. The table below summarizes the indexes in Exhibit V: (6)

Table 6  
Loss Adjustment Expense Indexes  
1967=100

<u>Year</u>	<u>Insurance Company Earnings</u>	<u>Attorney Salaries</u>	<u>CPI</u>
1935	23.5		41.1
39	26.2		41.6
45	37.3		53.9
64	90.4	88.6	92.9
73	133.1	168.5	133.1
77	174.3	214.9	181.5
78	187.8	233.4	195.4
79	201.0	256.8	217.4
80 e	222.3	277.6	247.6

Indexes of insurance company office earnings have not increased as the CPI in recent years; but the level of attorney salaries has exceeded the CPI.

An important fact for public consideration relative to these comparative inflation trends is that Loss Adjustment Expenses as reported by insurance companies do not include legal fees of plaintiff attorneys. The latter fees are a deduction from payments for Losses. There is no official recording or filing of these legal expenses comparable to insurance company expense data filed in the Insurance Expense Exhibit.

## UNDERWRITING EXPENSES

There has been a steady decrease in Underwriting Expenses (excluding loss adjustment expenses) during the past 50 years in the property-casualty insurance industry. This is evidence that such expenses have been controlled below the rate of growth of premiums by actual growth and by inflated growth. The following table illustrates this relationship of expenses as a percentage of net premiums written:

Table 7

### Expenses Incurred to Premiums Written

<u>Year</u>	<u>Stock Companies</u>	<u>Year</u>	<u>Stock Companies</u>	<u>Total Industry</u>
1930	43.6	1960	34.8	32.2
35	43.2	65	32.7	30.4
40	42.8			
42	40.8	67	31.7*	29.5
45	38.8	70	29.6	27.6
50	37.5	75	28.7	27.3
55	36.7	79	27.9*	26.0

\* The changes by type of expense from 1967 to 1979 have been:

<u>Year</u>	<u>Commission &amp; Brokerage</u>	<u>Other Acquisition</u>	<u>General Expenses</u>	<u>Taxes &amp; Fees</u>	<u>Totals</u>
1967	17.8%	4.4%	6.6%	2.9%	31.7%
79	14.8	4.0	6.2	2.9	27.9

Source: Best's Aggregates and Averages (7)  
Before Federal Tax since 1942

The reduction in Commission & Brokerage, normally a percentage to written premiums, has been due to lower commission rates plus the shift of some agency functions to centralized data processing. Economies of scale, expense graduation and other methods of expense discounts have kept total expense ratios on a decreasing trend in spite of inflation of the premium base.

## LOSS AND LOSS ADJUSTMENT RESERVES

Inflation of claims costs are a critical concern for casualty companies in establishing Loss Reserves for lines of insurance with long settlement periods: Workers Compensation, Auto Liability, General Liability and Medical Malpractice. The first three columns of Exhibit VI illustrate this "long-tail" character of these lines of insurance. The following table summarizes these data: (8)

Table 8

### Loss and Loss Adjustment Reserves

<u>Incurring Year</u>	<u>Compensation Reserves</u>		<u>Auto Liability Reserves</u>		<u>General Liability Reserves</u>	
		<u>%</u>		<u>%</u>		<u>%</u>
1971 & Prior	\$ 1,030	5.4	\$ 80	.4	\$ 489	3.1
1972-73	857	<u>4.5</u> <u>9.9</u>	239	<u>1.2</u> <u>1.6</u>	751	<u>4.6</u> <u>7.7</u>
74-75	1,875	<u>9.8</u> <u>19.7</u>	1,066	<u>5.1</u> <u>6.7</u>	2,182	<u>13.6</u> <u>21.3</u>
76-77	4,120	<u>21.4</u> <u>41.1</u>	4,125	<u>20.0</u> <u>26.7</u>	4,425	<u>27.7</u> <u>49.0</u>
78	4,059	21.2	4,982	24.2	3,631	22.7
79	<u>7,221</u>	<u>37.7</u>	<u>10,128</u>	<u>49.1</u>	<u>4,526</u>	<u>28.3</u>
Totals	\$19,162	100.0	20,620	100.0	16,004	100.0

\$s in millions

The above time classification of the inventory of Loss Reserves at the close of 1979, indicates the need to anticipate such time spreads and inflation factors in reserving for Loss and Loss Adjustment Expenses. In the next section, Inflation Hedges, the relationships between Loss Reserves and the investment exposure of returns on Assets supporting such reserves will be discussed.

## INFLATION HEDGES

Two types of inflation hedges operate to reduce the impact of inflation on claims costs. There are built-in factors in some insurance rates and rating plans. Also, there are external factors which operate to alleviate, in part, the financial effects of inflation.

Examples of built-in factors are the following: Workers Compensation lost time benefits are percentages of employee wages affected by inflation; but such wages are also the exposure base for Workers Compensation premiums. Homeowners rates are based on hour values which are increased annually to raise premiums to inflated level at which losses may be paid.

The major external inflation hedge is investment income. Economic factors which increase claims costs also operate to "inflate" the investment returns on assets held for loss reserves. Exhibit VI shows the investment exposure of "long-tail" loss reserves, summarized in the table below: (8)

Table 9

### Investment Exposure of Loss Reserves

<u>Line</u>	<u>Loss Reserves</u>	<u>Investment Exposure</u>	<u>Average Years</u>
Workers Compensation	\$ 19,162	\$ 47,548	2.48
Auto Liability	20,620	31,725	1.54
General Liability	16,004	41,265	2.57

\$s in millions

Thus these Loss Reserves, as of December 31, 1979, had investment exposures of: 2.48 years for Compensation, 1.54 years for Auto Liability and 2.57 years for General Liability including Medical Malpractice. The much lower exposure for Auto Liability is due to

the Auto Property Damage claims which have faster settlement patterns when not associated with Auto Bodily Injury claims on the same accidents.

Exhibit VII is a reporting of Bond Yields, Interest Rates and Common Stock Prices for selected years. The following table is a summary of some of these investment returns, indexed to 1967=100: (9)

Table 10

Selected Investment Returns  
1967=100

Year	U. S. Treasury		Bonds		Common Stocks	CPI
	3 yrs.	10 Yrs.	Corporate	Municipal		
1953	49.1	56.2	58.1	68.3	26.9	80.1
64	80.1	82.6	79.9	80.9	86.2	92.9
73	138.2	134.9	135.0	130.2	113.1	133.1
77	133.0	146.4	145.6	139.7	105.8	181.5
78	164.8	165.9	158.4	148.2	105.8	195.4
79	193.0	186.2	174.8	160.6	114.9	217.4
1980						
July	184.3	202.2	200.9	203.0	135.0	247.6

Compared with the trend in U. S. Inflation as measured by the Consumer Price Index, the types of investment returns in Table 10 have not kept pace, as indexed by the CPI 1967=100 base. Contrary to prior conventional wisdom that Common Stocks are a good inflation hedge, such is not the case during this current inflation.

INDEXES OF CLAIMS COSTS

Claims costs are the "economic cost of production" for Property-Casualty Insurance. Exhibit VIII, A & B, is a revision and up-date of the Liability and Property Insurance Claims Costs Indexes, published in the Proceedings, Volume LV - 1968. (10)

This revised Index is on the present base for U. S. Government indexes, 1967=100, and is re-based from the 1957-59 base in effect when the original paper was published. The up-dated period is 1935 to 1980.

These indexes measure inflation factors affecting loss and loss adjustment expenses in the settlement costs after the claims have been incurred. They measure direct loss costs; and the insured excess losses would be more adversely affected by inflation than these Indexes portray.

These Claims Costs Indexes are based on about fifty individual inflation indexes, the major ones being reported in Exhibits II through V.

#### COMMUNICATING WITH THE PUBLIC

In this paper, the communication link with the Public relative to Inflation Implications on Property-Casualty Insurance was stated to be the Consumer Price Index, the official index of measurement of inflation in the United States. The elements of the loss costs - the economic cost of production - for a property-casualty insurance industry were assigned individual inflation components in the over-all U. S. CPI and compared with the Public's inflation "bench mark" - the total CPI.

As stated in the introductory section of this paper, Inflation has changed the attitudes of policyholders, claimants and regulators, concerning increases in premiums in these severe inflation years. This has been true of two lines of insurance subject to political

pressures. These are private passenger automobile and homeowners coverages, both of direct concern by "voter" policyholders.

For these two lines of insurance we should communicate with the public in terms, not only for insurance costs, but for the broader costs of private automobile transportation and homeownership.

A U. S. Department of Transportation study of the Cost of Owning and Operating Automobiles in 1979 reported that insurance costs per mile averaged only between 10% and 12% of the total cost of owning and operating private automobiles. (11)

A 1980 study by the U. S. League of Savings Associations of the impact of inflation on homeownership found that home insurance represented only 2.9% of the total monthly housing expense in 1979. (12)

In communicating with the public on the impact of inflation on insurance costs, we must evaluate the latter in relation to the total costs of private automobile transportation and homeownership.

Exhibit I

U. S. C O N S U M E R P R I C E I N D E X

1967 = 100

1800 - 1980				1935 - 1980			
Year	CPI	Increase %	Historical Events	Year	CPI	Increase %	
1800	51		War of 1812; Mexican War, 1846-48	1935	41.1	2.5	
1860	27	-1.1	Gold in California, 1848	36	41.5	0.9	
1865	46	11.2	War between the States, 1861-65	37	43.0	3.6	
1873	36	-3.0		38	42.2	-1.9	
1897	25	-1.5	Panic of 1893 Panic of 1897	39	41.6	-1.4	
1912	29	1.0	Spanish-American War, 1898	1940	42.0	1.0	
1913	29.7		Financial panic, 1907	41	44.1	5.0	
1920	60.0	10.6	Federal Reserve System, 1913	42	48.8	10.7	
1929	51.3	-1.7	Federal Income Tax, 1913	43	51.8	6.1	
1935	41.1	-3.6	World War I, U.S. 1917-18	44	52.7	1.7	
1940	42.0	0.4		45	53.9	2.3	
1946	58.5	5.7	Stock Market Crash, October 29, 1929	46	58.5	8.5	
1953	80.1	4.6	Social Security Act	47	66.9	14.4	
1964	92.9	1.4	NRA Unconstitutional	48	72.1	7.8	
1973	133.1	4.1	Public Utility Act	49	71.4	-1.0	
1976	170.5	8.6	Wagner Act	1950	72.1	1.0	
1977	181.5	6.5	all in 1935	51	77.8	7.9	
1978	195.4	7.7	World War II, U.S. 1941-45	52	79.5	2.2	
1979	217.4	11.3		53	80.1	.8	
1980 e	247.6	13.9	Korean War, 1950-53	54	80.5	.5	
				55	80.2	-0.4	
			Vietnam War, 1964-73	56	81.4	1.5	
			Wage/Price freeze, 1971	57	84.3	3.6	
			Wage/Price controls lifted, 1974	58	86.6	2.7	
			OPEC Oil embargo, 1973	59	87.3	0.8	
			Wage/Price guidelines, December 1978	1960	88.7	1.6	
			Double-digit Inflation	61	89.6	1.0	
				62	90.6	1.1	
				63	91.7	1.2	
				64	92.9	1.3	
				65	94.5	1.7	
				66	97.2	2.9	
				67	100.0	2.9	
				68	104.2	4.2	
				69	109.8	5.4	
				1970	116.3	5.9	
				71	121.3	4.3	
				72	125.3	3.3	
				73	133.1	6.2	
				74	147.7	11.0	
				75	161.2	9.1	
				76	170.5	5.8	
				77	181.5	6.5	
				78	195.4	7.7	
				79	217.4	11.3	
				1980 e	247.6	13.9	

Exhibit II  
PERSONAL INJURY INDEXES  
1967 = 100

Year	LIABILITY & W.C. LIABILITY			WORKERS COMPENSATION			
	Physi- cians	Hosp. Room	Pers. Income	W.C. Wages	Law Excluded	Amendment	Changes Included
1935	39.2	11.9	15.0	18.3			
36	39.4	12.0	16.9	19.9			
37	39.6	12.3	18.2	21.9			
38	39.5	12.6	16.6	21.0			
39	39.6	12.6	17.6	21.5	1.000	1.000	1.000
1940	39.6	12.7	18.8	22.3	.932	1.003	.935
41	39.8	12.9	22.7	25.8	.907	1.011	.917
42	40.6	14.0	28.8	31.1	.903	1.012	.914
43	43.2	15.1	35.0	35.9	.862	1.037	.895
44	44.9	15.7	37.8	38.2	.792	1.043	.828
45	46.0	16.2	38.7	37.6	.756	1.070	.811
46	48.3	18.5	40.0	38.0	.738	1.111	.822
47	51.4	23.1	42.0	42.8	.712	1.141	.815
48	53.4	27.0	45.4	46.5	.675	1.198	.811
49	54.4	29.3	44.0	47.8	.630	1.240	.784
1950	55.2	30.3	47.5	49.9	.597	1.265	.758
51	57.3	33.5	52.5	54.9	.611	1.309	.803
52	59.8	36.6	54.9	58.2	.644	1.330	.860
53	61.4	38.6	57.2	60.8	.636	1.355	.866
54	63.2	40.6	56.6	61.8	.606	1.386	.844
55	65.4	42.3	59.5	64.2	.572	1.435	.825
56	67.4	44.9	62.7	67.9	.555	1.458	.813
57	70.3	48.4	64.9	70.5	.547	1.531	.841
58	72.7	51.2	65.6	72.3	.549	1.540	.849
59	75.1	53.6	68.5	76.1	.547	1.612	.886
1960	77.0	57.3	70.2	78.2	.554	1.635	.910
61	79.0	61.1	71.8	80.8	.561	1.663	.937
62	81.3	65.3	75.0	84.0	.574	1.686	.972
63	83.1	68.6	77.7	86.9	.582	1.706	.997
64	85.2	71.9	81.9	88.2	.596	1.713	1.025
65	88.3	75.9	87.5	92.0	.595	1.785	1.067
66	93.4	83.5	93.8	96.1	.596	1.844	1.104
67	100.0	100.0	100.0	100.0	.588	1.920	1.134
68	105.6	113.6	108.4	106.3	.573	1.962	1.129
69	112.9	128.8	117.0	113.7	.568	2.044	1.166
1970	121.4	145.4	124.3	119.5	.561	2.101	1.183
71	129.8	163.1	131.4	128.1	.557	2.162	1.208
72	133.8	173.9	139.6	136.5	.564	2.290	1.295
73	138.2	182.1	158.4	145.6	.570	2.434	1.391
74	150.9	201.5	171.4	153.6	.583	2.578	1.505
75	169.4	236.1	184.1	164.4	.624	2.777	1.735
76	188.5	268.6	202.0	177.0	.685	2.963	2.030
77	206.0	299.5	222.6	189.0	.748	3.016	2.257
78	223.1	332.4	246.8	206.3	.802	3.131	2.512
79	243.6	370.3	275.4	222.0	.836	3.197	2.673
1980 e	271.0	418.0	300.0	236.5			

Exhibit III  
MOTOR VEHICLE DAMAGE INDEXES  
1967 = 100

Year	Auto Repair Maint.	Mot. Veh. Mfg. SIC 371		M.V. & Car Body Mfg. SIC 3711		M.V. Parts Mfg. SIC 3714	
		Weekly	Hourly	Weekly	Hourly	Weekly	Hourly
1935	43.2	18.8	20.3				
36	43.2	20.8	21.3				
37	43.2	22.5	24.7				
38	43.2	21.1	25.7				
39	43.1	23.2	25.8				
1940	43.0	25.3	26.4				
41	44.9	29.5	29.2				
42	48.8	37.4	33.0				
43	49.4	40.8	34.8				
44	50.0	41.5	35.8				
45	50.4	38.2	35.6				
46	52.0	36.1	38.1				
47	56.4	40.5	41.5				
48	59.6	43.6	45.4				
49	61.1	46.5	47.8				
1950	62.3	51.7	50.1				
51	67.0	53.2	53.8				
52	68.6	58.6	57.7				
53	72.3	62.1	60.3				
54	74.8	63.0	62.0				
55	76.5	68.9	64.5				
56	79.5	66.8	66.2				
57	82.4	69.5	69.3				
58	83.7	69.9	71.8	72.1	72.1	67.2	71.4
59	85.5	76.9	76.3	77.8	76.5	75.2	75.9
1960	87.2	79.4	79.2	81.1	79.5	77.2	78.2
61	89.3	79.2	80.6	81.3	81.1	76.8	79.9
62	90.4	88.1	84.2	91.4	84.7	84.7	83.6
63	91.6	91.6	87.3	94.7	88.0	88.8	87.0
64	92.8	95.3	90.4	97.5	90.7	94.0	90.4
65	94.5	101.7	94.1	104.3	94.3	100.4	94.3
66	96.2	101.7	96.9	102.8	97.0	100.9	97.5
67	100.0	100.0	100.0	100.0	100.0	100.0	100.0
68	105.5	116.1	109.6	117.7	109.8	114.9	110.2
69	112.2	117.8	115.5	119.0	115.6	117.8	116.4
1970	120.6	117.4	118.9	119.3	120.8	116.4	118.1
71	129.2	134.3	133.0	137.3	135.2	132.0	131.2
72	135.1	152.3	144.5	154.9	146.2	151.5	143.9
73	142.2	164.0	153.8	166.9	155.7	163.8	153.5
74	156.8	164.5	165.4	167.7	170.2	165.3	164.6
75	176.6	179.2	181.4	184.5	186.3	176.5	178.8
76	189.7	210.0	199.7	218.7	203.6	203.7	197.2
77	203.7	238.5	221.1	248.0	224.6	235.2	221.0
78	220.6	254.2	239.4	263.3	245.4	251.6	238.5
79	242.6	257.7	255.8	272.7	266.1	250.8	251.6
1980 e	268.0	261.3	275.5	275.4	291.3	253.0	266.6

Exhibit IV  
COMMERCIAL AND RESIDENTIAL INDEXES  
1967 = 100

Year	American Appraisal	Eng. News Bldg. Constr.		Dept. of Commerce	Residential	
					Boeckh Main. &	Repair
1935	17.8					25.0
36	18.7					25.7
37	21.8					27.3
38	21.8					28.1
39	22.1	29.4	22.0	28.0		28.6
1940	22.5	30.2	22.6	28.8		29.5
41	24.0	31.5	24.1	31.2		31.9
42	26.5	33.1	25.9	35.2		33.8
43	27.7	34.1	27.1	37.6		35.2
44	28.7	34.9	27.9	36.8		38.3
45	29.8	35.6	28.9	38.4		41.1
46	35.4	39.1	32.3	44.8		45.1
47	47.3	46.6	38.6	54.0		54.6
48	53.9	51.3	43.0	60.5		61.4
49	53.9	52.4	44.6	59.7		59.7
1950	55.0	55.9	47.6	62.1		63.0
51	58.5	59.7	50.7	67.7		67.9
52	60.8	61.9	53.2	69.4		69.7
53	63.3	64.2	56.1	71.0		71.0
54	65.0	66.4	58.7	71.0		72.4
55	66.9	69.8	61.6	72.6		74.1
56	69.9	73.1	64.7	72.0		77.3
57	72.9	75.8	67.6	79.8		80.5
58	75.0	78.1	70.9	80.6		81.8
59	77.4	81.6	74.5	82.3		83.2
1960	79.4	83.3	76.9	83.1		81.8
61	81.5	84.6	79.1	83.9		85.9
62	83.2	86.4	81.5	86.3		86.5
63	85.8	88.5	84.2	87.9		87.7
64	88.2	91.1	87.5	90.3		89.5
65	90.6	93.3	90.7	92.7		91.3
66	95.4	96.9	95.2	96.0		95.2
67	100.0	100.0	100.0	100.0		100.0
68	106.7	107.4	107.8	105.1		107.3
69	115.5	117.7	118.7	114.2		116.2
1970	124.5	124.4	128.9	122.0		122.4
71	138.4	140.5	146.7	130.3		132.8
72	150.6	155.2	163.0	138.3		145.8
73	166.7	168.4	176.5	149.7		159.2
74	176.9	178.4	188.0	174.2		172.0
75	188.8	193.3	205.7	190.0		183.5
76	205.7	210.9	223.4	198.2		198.6
77	219.8	228.6	240.0	216.3		216.5
78	239.1	247.7	258.4	243.1		235.9
79	259.3	269.3	279.5	275.7		257.5
1980 e	275.2	289.0	303.5	302.6		270.8
						289.0

Exhibit V  
L O S S     A D J U S T M E N T     I D E X E S  
1967=100

Year	Average Weekly Earnings			Attorney Salaries	
	Insurance		Finance & Insurance	Annual III & IV	
	BLS	SIC 633		\$s	1967=100
1935		23.5			
36		25.0			
37		26.3			
38		26.0			
39		26.2			
1940		25.9			
41		27.6			
42		30.2			
43		33.5			
44		35.9			
45		37.3			
46		40.5			
47		46.3	45.3		
48		48.4	47.6		
49		49.7	50.0		
1950		51.6	52.9		
51		54.1	57.3		
52		55.8	58.8		
53		59.3	62.4		
54		61.7	65.0		
55		64.6	67.0		
56		68.3	68.8		
57		71.1	70.7		
58		73.0	73.5		
59		75.7	76.2		
1960			78.2		
61			81.2	10,704	81.5
62			84.5	10,944	83.3
63			87.4	11,298	86.0
64			90.4	11,640	88.6
65			93.4	12,078	92.0
66			97.0	12,516	95.3
67	100.0	100.0	100.0	13,131	100.0
68		104.8	106.6	13,943	106.2
69		110.3	113.9	17,521	133.4
1970		116.3	118.7	18,594	141.6
71		121.3	126.4	19,844	151.1
72		125.6	132.9	20,920	159.3
73		133.1	138.4	22,129	168.5
74		143.5	146.9	23,519	179.1
75		155.5	157.9	25,359	193.1
76		163.5	167.2	27,017	205.7
77		174.3	176.4	28,217	214.9
78		187.8	186.5	30,643	233.4
79		201.0	199.8	33,726	256.8
1980 e		222.3	219.9	36,449	277.6

Exhibit VI

LOSS AND LOSS ADJUSTMENT EXPENSE RESERVES

INVESTMENT EXPOSURE

Line	Incurred Year	Age	Loss Reserves *	Per Cent	Investment Exposure *
Workers Compensation	1971 & Prior	10.5	\$ 1,030	5.4	\$ 10,815
	1972	7.5	326	1.7	2,445
	73	6.5	531	2.8	3,452
	74	5.5	780	4.1	4,290
	75	4.5	1,095	5.7	4,928
	76	3.5	1,617	8.4	5,660
	77	2.5	2,503	13.0	6,258
	78	1.5	4,059	21.2	6,089
	79	<u>0.5</u>	<u>7,221</u>	<u>37.7</u>	<u>3,611</u>
	Totals Average		2.48	19,162	100.0
Automobile Liability	1971 & Prior	9.0	80	.4	720
	1972	7.5	74	.4	555
	73	6.5	165	.8	1,073
	74	5.5	356	1.7	1,958
	75	4.5	710	3.4	3,195
	76	3.5	1,374	6.7	4,809
	77	2.5	2,751	13.3	6,878
	78	1.5	4,982	24.2	7,473
	79	<u>0.5</u>	<u>10,128</u>	<u>49.1</u>	<u>5,064</u>
	Totals Average		1.54	20,620	100.0
General Liability including Medical Malpractice	1971 & Prior	10.0	489	3.1	4,890
	1972	7.5	263	1.6	1,973
	73	6.5	488	3.0	3,172
	74	5.5	899	5.6	4,945
	75	4.5	1,283	8.0	5,774
	76	3.5	1,738	10.9	6,083
	77	2.5	2,687	16.8	6,718
	78	1.5	3,631	22.7	5,447
	79	<u>0.5</u>	<u>4,526</u>	<u>28.3</u>	<u>2,263</u>
	Totals Average		2.57	16,004	100.0

\* 000,000 omitted

Source: Best's Casualty Loss Reserve Development Reports  
Loss and Loss Adjustment Expense Reserves  
1979 Annual Statement - Schedule P  
Selected 200 Companies

Exhibit VII

INTEREST RATES COMMON STOCK PRICES  
BOND YIELDS

Year	U.S. Treasury		Bonds		Banks		Common
	Constant Maturities		Corporate	Municipal	Prime	New York	Stocks
	3 Yrs	10 Yrs	Moody's Aaa	Standard & Poors	Rate	Fed. Res. Discount	N.Y.S.E. Comp. Index
1929			4.73	4.27		5.16	
33			4.49	4.71		2.56	
40			2.84	2.50		1.00	
46			2.53	1.64		1.00	
53	2.47	2.85	3.20	2.72	3.17	1.99	13.67
64	4.03	4.19	4.40	3.22	4.50	3.55	43.76
1967	5.03	5.07	5.51	3.98	5.61	4.19	50.77
73	6.95	6.84	7.44	5.18	8.03	6.45	57.42
75	7.49	7.99	8.83	6.89	7.86	6.25	45.73
76	6.77	7.61	8.43	6.49	6.84	5.50	54.46
77	6.69	7.42	8.02	5.56	6.83	5.46	53.69
78	8.29	8.41	8.73	5.90	9.06	7.46	53.70
79	9.71	9.44	9.63	6.39	12.67	10.28	58.32
1980 July	9.27	10.25	11.07	8.08	12-11	11-10	68.56
<u>Indexed</u>							
1929			85.8	107.3		123.2	
33			81.5	118.3		61.1	
40			51.4	62.8		23.9	
46			45.9	41.2		23.9	
53	49.1	56.2	58.1	68.3	56.5	47.5	26.9
64	80.1	82.6	79.9	80.9	80.2	84.7	86.2
1967	100.0	100.0	100.0	100.0	100.0	100.0	100.0
73	138.2	134.9	135.0	130.2	143.1	153.9	113.1
75	148.9	157.6	160.3	173.1	140.1	149.2	90.1
76	134.6	150.1	153.0	163.1	121.9	131.3	107.3
77	133.0	146.4	145.6	139.7	121.7	130.3	105.8
78	164.8	165.9	158.4	148.2	161.5	178.0	105.8
79	193.0	186.2	174.8	160.6	225.8	245.3	114.9
1980 July	184.3	202.2	200.9	203.0	205.0	250.6	135.0

Sources: Economic Report of the President, 1980  
Economic Indicators, 1980

Exhibit VIII A  
 LIABILITY AND PROPERTY INSURANCE CLAIMS COSTS INDEXES  
 1967=100

Year	All Lines	Auto Bodily Injury	Auto Prop. Damage	Auto Phys. Damage	Workers Comp.	Other Bodily Injury	Other Prop. Damage
1935	20.8	21.3	21.3	21.2	16.4	23.4	23.2
36	21.6	22.2	22.3	22.6	17.1	24.0	23.2
37	22.7	22.9	23.1	23.4	17.9	24.5	24.4
38	22.3	22.3	22.2	22.2	17.5	24.2	23.9
39	22.7	22.7	22.9	23.3	17.7	24.4	24.3
1940	23.3	23.2	23.9	24.6	17.8	24.6	25.0
41	25.2	24.8	26.2	27.5	19.1	25.8	26.9
42	27.3	27.6	28.0	28.6	21.3	27.8	28.0
43	29.3	31.1	29.5	29.0	23.8	30.7	29.4
44	31.1	33.3	31.0	30.0	25.5	32.6	30.4
45	32.1	34.4	31.8	30.8	25.8	33.7	31.7
46	35.1	35.0	35.8	36.5	26.8	35.2	36.8
47	40.7	38.7	40.5	42.2	30.3	38.3	42.7
48	44.3	41.7	43.9	45.5	33.4	41.4	46.7
49	45.4	42.2	45.1	47.4	35.5	42.3	48.0
1950	48.0	44.1	48.4	51.9	37.6	43.7	51.2
51	51.2	47.3	50.8	53.6	41.0	46.6	54.0
52	53.3	49.8	52.7	55.2	44.2	49.0	55.4
53	55.7	51.8	55.9	59.4	46.5	51.0	58.5
54	57.0	53.1	57.0	60.3	48.4	52.9	59.2
55	60.1	55.7	60.8	64.9	51.5	55.6	63.2
56	62.4	58.0	62.4	66.0	54.6	57.6	65.3
57	65.2	60.8	65.3	68.9	57.7	60.7	68.3
58	66.6	62.5	66.0	68.7	61.0	62.5	68.7
59	69.7	65.1	69.5	73.2	64.1	65.1	72.5
1960	71.9	67.3	71.4	74.8	68.0	67.3	73.8
61	74.4	70.4	73.5	75.8	71.6	71.2	76.1
62	77.4	73.4	77.0	79.8	75.0	74.0	79.1
63	80.6	76.6	80.7	83.8	79.2	77.6	82.6
64	83.7	80.2	84.3	87.6	81.2	80.4	86.1
65	87.7	84.5	88.8	92.3	85.1	85.2	90.4
66	92.9	90.3	94.0	96.4	91.8	90.6	94.8
67	100.0	100.0	100.0	100.0	100.0	100.0	100.0
68	109.6	108.5	112.4	113.5	109.6	108.2	107.9
69	118.1	118.2	120.1	120.5	119.6	117.8	115.8
1970	126.2	128.3	125.5	124.6	130.9	128.3	122.5
71	138.4	139.4	139.3	139.0	143.8	139.8	133.2
72	148.5	147.1	150.9	152.2	155.0	147.7	142.1
73	160.7	157.1	163.3	164.5	171.4	157.2	153.7
74	173.8	171.8	172.7	172.3	189.0	171.8	161.9
75	192.5	191.9	190.1	189.1	218.4	192.2	177.0
76	213.4	214.5	210.3	210.2	244.7	214.8	197.2
77	235.1	236.2	228.7	228.1	275.4	235.8	214.3
78	257.5	258.5	249.6	244.3	304.1	256.9	232.7
79	281.8	284.6	272.3	265.5	336.6	282.1	252.7
1980 e	310.2	316.4	302.3	295.5	367.3	314.5	271.0

Exhibit VIII B  
LIABILITY AND PROPERTY INSURANCE CLAIMS COSTS INDEXES  
1967=100

Year	Glass	Burg.& Theft	Boiler & Mach.	Fire	Allied Lines	Home- owners	Commer. Multi- Peril	Inland Marine
1935	18.6	23.2	19.6	22.6	22.8			23.0
36	20.4	24.9	21.3	23.5	23.9			24.2
37	22.6	26.1	23.1	25.5	25.6			25.4
38	21.9	24.8	21.5	25.8	25.9			24.4
39	21.5	25.8	27.0	26.0	26.2			25.1
1940	22.5	26.8	27.9	26.7	26.8			25.8
41	26.9	30.5	30.4	28.8	28.8			28.7
42	32.2	33.9	34.0	31.0	31.1			32.2
43	37.5	36.8	35.7	32.6	32.9			34.9
44	39.9	39.6	36.7	34.6	35.0			37.3
45	38.9	41.1	36.7	36.6	37.0			38.7
46	38.5	45.6	37.9	40.9	41.1			42.4
47	45.8	50.2	43.0	49.9	50.0			47.1
48	49.5	54.2	46.8	54.2	53.8			51.1
49	51.4	54.2	48.0	55.0	54.7			51.7
1950	53.4	57.5	50.7	57.7	57.3			54.8
51	57.5	60.4	56.8	62.2	61.6			58.5
52	60.1	61.4	58.9	64.1	63.5			59.6
53	64.6	63.8	61.2	65.5	65.0			62.1
54	66.6	63.7	61.9	66.2	66.0			62.9
55	70.0	67.0	65.2	68.1	68.2	69.2		66.1
56	72.3	68.7	69.8	71.3	71.3	72.2	66.8	68.6
57	74.4	71.0	72.5	73.9	74.0	74.4	69.9	71.3
58	74.9	71.3	74.3	75.2	75.1	75.3	71.8	72.4
59	79.6	74.5	78.4	77.7	77.9	77.7	74.5	75.7
1960	79.6	75.7	79.6	79.5	80.0	79.2	76.4	77.2
61	80.5	76.8	82.1	81.2	81.6	80.6	78.7	78.5
62	82.5	80.0	84.9	83.2	83.6	82.2	81.2	81.4
63	86.1	82.7	87.0	85.4	86.2	84.2	84.0	84.1
64	90.3	93.9	89.9	87.9	88.6	86.6	86.6	87.9
65	92.8	91.2	93.0	90.9	91.5	89.3	89.9	91.7
66	96.2	95.5	97.8	95.2	96.1	93.6	94.6	95.8
67	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
68	105.6	106.9	105.2	106.3	106.3	107.0	106.4	106.6
69	113.3	113.2	111.0	115.6	115.3	115.8	115.9	112.7
1970	120.5	119.0	116.8	123.8	123.8	123.4	125.0	118.4
71	129.6	127.0	123.3	135.5	134.9	133.6	137.4	125.7
72	135.2	132.9	131.9	146.0	145.2	144.0	147.0	132.1
73	142.8	146.4	140.5	159.3	158.5	156.8	160.8	143.1
74	149.5	155.4	153.9	172.4	171.5	170.4	172.6	153.4
75	159.2	167.3	166.0	185.5	184.7	183.5	187.4	166.2
76	175.6	180.3	181.7	199.8	199.2	199.9	202.0	179.1
77	185.2	198.5	198.9	216.1	215.2	217.0	216.6	192.8
78	202.2	215.9	218.2	235.1	233.6	235.9	236.9	209.2
79	216.1	235.9	235.2	256.8	254.7	257.7	259.5	227.5
1980 e	230.7	256.8	254.3	281.0	280.1	280.7	284.7	248.1

NOTES

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