ARM – 56
Risk Financing

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Chapter 11

Allocating Costs of Managing Hazard Risk

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Educational Objectives

After learning the content of this assignment, you should be able to:

- Describe the purposes of allocating hazard risk management costs.
- Describe the types of hazard risk management costs an organization may want to allocate.
- Describe the prospective and retrospective approaches to allocating hazard risk management costs.
- Describe the exposure bases and experience bases used to allocate hazard risk management costs.
- Describe the practical considerations when selecting a hazard risk management cost allocation basis.
- Given a case, justify how hazard risk management costs may be allocated among an organization's departments.

Purpose of Allocating Hazard Risk Management Costs

- Cost allocation system should focus on the following risk management costs
  - Retained losses
  - Insurance premiums
  - Risk control costs
  - Administrative expenses

- Effective risk management programs require that most costs be allocated to the department that generate them

Cost Allocation Principles

- Effective program should serve the following purposes
  - Promote risk control
  - Facilitate risk retention
  - Prioritize risk management expenditures
  - Reduce costs
  - Distribute cost fairly
  - Balance risk-bearing and risk-sharing
  - Provide managers with risk management cost information

Cost Allocation Principles

- Promote risk control
  - Primary purpose of cost allocation is to promote risk control by allocating costs of loss or potential loss to responsible department.
  - Each Dept. is held accountable or rewarded for risk control efforts
- Facilitate Risk Retention
  - Program needs to be balanced so departments are not exposed to excessive fluctuations in cost and are encouraged to increase risk retention
  - Raley's example
    - Claim cost allocation of 3 years or $50,000 per claim. Program started with 2 years $10,000 and was expanded over time.

Cost Allocation Principles

- Prioritize Risk Management Expenditures
  - Encourages departments to prioritize risk management expenditures and to fund
  - Focuses on risks that are driving claims and which has best ROI.
    - UC Be Smart About Safety Program based on same principle
- Reduce Costs
  - As risks are better managed (less claims), allows organization to retain more risk, thereby reducing cost
  - Total Cost of Risk (TCOR) is also reduced over time

Cost Allocation Principles

- Distribute Cost Fairly
    - Should administrative departments pay claims that occur in maintenance departments
    - Should have direct correlation between losses and risk management costs that are allocated

- Provide Managers with Risk Management Cost Information
    - Managers are more likely to manage those things that can be measured or have a direct impact on bottom line
    - Need to ensure that system cannot be manipulated (injury hiding)

Risk-Bearing and Risk-Sharing

- Most organizations balance between the two systems.
  - Risk-Bearing System
    - Cost allocation system that allocates losses to the individual department that generates them.
    - Organizations that focus on risk control focus on risk bearing systems
  - Risk-Sharing System (socialized)
    - Cost allocation system that allocates losses among all of an organization's departments.

Types of Costs to be Allocated

- Costs of accidental losses not reimbursed by insurance or other outside sources
- Insurance premiums
- Cost of risk control techniques
- Costs of administering risk management activities

Types of Cost to be Allocated

- Cost of Accidental Losses
  - Allocated and Unallocated Loss Adjustment Expenses
    - ALAE identified with a specific claim and includes investigation, negotiation, legal, and other costs associated with administering the claim
    - ULAE are not identified with a particular claim

Types of Cost to be Allocated

- Cost of Accidental Losses
  - Allocating Retained Losses
    - **Incurred loss basis** – paid and reserves for pending claims, plus estimate of IBNR
    - **Claims made basis** – adding actual claims payments to changes in reserves during accounting period
      - Example – Raley's – stores charged for 3 years or up to $50,000 per claim
    - **Claims paid basis** – amount paid on losses during account period, regardless of when losses occurred.

Types of Cost to be Allocated

- Cost of Accidental Losses
  - Risk Charges are an amount added to an organization's expected losses to cover potential adverse fluctuations in experience.
    - Helps pay for unexpected losses

Types of Cost to be Allocated

- Insurance premiums
  - Can be allocated to one department if that department has the only exposure
  - Premiums that cover all departments can be allocated evenly
- Cost of Risk Control Techniques
  - Typical long-term capital investments that can be allocated to a particular department
  - If a risk control expenditure cannot be allocated to a particular department, it is usually treated as overhead
- Costs of Administering Risk Management Activities
  - Operating budget of risk management department
  - Cost of executives' time from other departments
  - Other resources from other departments devoted to risk management

Approaches to Cost Allocation

- Prospective
  - Allocation approach in which estimated costs are allocated at beginning of the accounting period during which they are expected to be incurred
  - Advantages
    - More stable budget
  - Disadvantages
    - Actual costs can differ substantially from what was allocated
    - Risk control activity/results separated by several accounting periods, which can delay positive influence of cost allocation

Approaches to Cost Allocation

- Retrospective
  - Estimated costs are allocated at beginning of accounting period during which they are expected to be incurred but can then be reallocated one or more times during or after the close of the period, with payments or returns made retrospectively according to changes in loss experience.
  - Advantages
    - Costs are more accurately attributed to the accounting period and the department
    - More responsive to risk control activity
  - Disadvantage
    - Ultimate costs to department are (usually) not known until end of accounting period
    - Can be more complicated to manage

Bases for Cost Allocation

- Exposure Based System
  - Allocates cost to departments on the basis of their exposures, regardless of loss experience

- Experience Based System
  - Allocates costs to departments according to their pro rata portion of past losses

- Most organizations use a blended approach

- Managers of larger organizations prefer more emphasis on experience because they can control or impact their loss experience.

Exposure Based System

- Allocation of costs depends on the type of exposure
  - General liability
    - Square footage, sales, payroll, annual budget
  - Auto Liability
    - # of vehicles, miles driven
  - Workers' Compensation
    - Payroll, FTE, job classification
  - Property
    - Square footage and property values
  - Other exposures
    - Activities within risk management related to other exposures, crime and fidelity

Experienced Based System

- Often used as an indicator of the success of a risk management program and is measured by frequency or aggregate severity limited to some dollar amount.
  - Frequency is a better indicator as it is easier to control
  - Aggregate severity – cumulative losses for a given period
    - Each loss charged to a dept. is limited to a certain amount ($25,000 per occurrence)

- Considerations in calculating aggregate severity
  - Per occurrence per limit – makes mgmt focus on frequency
  - Aggregate limit
  - Experience period

Practical Considerations for Cost Allocation

- Accounting system
- Tax system for organization’s operations
- Minimum charge amount for risk management services
- Determination if cost allocation is insignificant
- Penalties or rewards for department managers
- Inclusion of managers in development of system
- Risk Management Information System
- Changes in organization’s structure

Allocation of Costs Based on Square Footage

(1) Location	(2) Occupancy	(3) Square Footage	(4) Percentage of Total	(5) Cost Allocation
Los Angeles	Hotel	200,000	20%	$ 60,000
Los Angeles	Apartment building	300,000	30	90,000
Denver	Hotel	200,000	20	60,000
Denver	Office building	100,000	10	30,000
Houston	Hotel	200,000	20	60,000
Total		1,000,000	100%	$300,000

The program recommended by the outside consultant includes a $10,000 per occurrence liability deductible for the general liability coverage. Lorac's acceptance of the deductible induced the underwriter to lower the guaranteed-cost premium for the coming year to $250,000. The risk management professional determines that annual losses within the $10,000 per occurrence deductible could be expected to aggregate to $150,000. She consequently estimates that the total primary general liability risk financing cost for the coming year would be $400,000, consisting of $250,000 in premiums and $150,000 in retained losses (including loss adjustment expenses for both insured and uninsured claims). The risk management professional also concludes that maintaining a prospective cost allocation system is important because property managers want risk management costs that can be determined in advance. As a result, changes in loss experience for each year will influence only cost allocations for the next year.

Allocation of Retained Claims by Three Years' Cumulative Claim Experience Capped at $10,000 per Occurrence

(1) Location	(2) Occupancy	(3) Least Recent Year 1	(4) Year 2	(5) Most Recent Year 3	(6) Total Claims (Col. 3 + Col. 4 + Col. 5)	(7) Percentage of Total	(8) Cost Allocation (Col. 7 × $150,000)
Los Angeles	Hotel	$ 75,000	$ 75,000	$40,000	$190,000	47.5%	$ 71,250
Los Angeles	Apartment building	30,000	25,000	15,000	70,000	17.5	26,250
Denver	Hotel	40,000	40,000	20,000	100,000	25.0	37,500
Denver	Office building	8,000	2,000	0	10,000	2.5	3,750
Houston	Hotel	2,000	10,000	18,000	30,000	7.5	11,250
Total		$155,000	$152,000	$93,000	$400,000	100.0%	$150,000

Allocation of Insurance Premium Based on Adjusted Square Footage

(1) Location	(2) Occupancy	(3) Square Footage	(4) Rate	(5) Adjusted Square Footage (Col. 3 × Col. 4)	(6) Percentage of Total	(7) Allocation of Insurance Premium
Los Angeles	Hotel	200,000	0.225	45,000	30%	$75,000
Los Angeles	Apartment building	300,000	0.100	30,000	20	50,000
Denver	Hotel	200,000	0.200	40,000	27	67,500
Denver	Office building	100,000	0.050	5,000	3	7,500
Houston	Hotel	200,000	0.150	30,000	20	50,000
Total		1,000,000		150,000	100%	$250,000

Allocation of Insurance Premium Based on Five Years of Claim Experience Between $10,000 and $50,000 per Occurrence

(1) Location	(2) Occupancy	(3) Least Recent Year 1	(4) Year 2	(5) Year 3	(6) Year 4	(7) Most Recent Year 5	(8) Cumulative Total Claims	(9) Percentage of Total	(10) Allocation of Insurance Premium
Los Angeles	Hotel	$0	$60,000	$60,000	$30,000	$30,000	$180,000	45%	$112,500
Los Angeles	Apartment building	20,000	0	10,000	10,000	40,000	80,000	20	50,000
Denver	Hotel	40,000	10,000	20,000	40,000	10,000	120,000	30	75,000
Denver	Office building	0	0	0	0	0	0	0	0
Houston	Hotel	10,000	0	0	0	10,000	20,000	5	12,500
Total		$70,000	$70,000	$90,000	$80,000	$90,000	$400,000	100%	$250,000

Allocation of Insurance Premium Based on Experience and Exposure

(1) Location	(2) Occupancy	(3) Exposure Percentage	(4) Exposure Percentage (80% of Col. 3)	(5) Experience Percentage	(6) Experience Percentage (20% of Col. 5)	(7) Total Percentage Allocation (Col. 4 + Col. 6)	(8) Premium Allocation (Col. 7 × $250,000)
Los Angeles	Hotel	30%	24.0%	45%	9%	33.0%	$ 82,500
Los Angeles	Apartment building	20	16.0	20	4	20.0	50,000
Denver	Hotel	27	21.6	30	6	27.6	69,000
Denver	Office building	3	2.4	0	0	2.4	6,000
Houston	Hotel	20	16.0	5	1	17.0	42,500
Total		100%	80.0%	100%	20%	100.0%	$250,000

Comparison of Final to Initial Cost Allocation

(1) Location	(2) Occupancy	(3) Final Premium Allocation	(4) Final Retained Claim Allocation	(5) Final Total Cost Allocation (Col. 3 + Col. 4)	(6) Initial Cost Allocation	(7) Percentage Change
Los Angeles	Hotel	$82,500	$71,250	$153,750	$60,000	156%
Los Angeles	Apartment building	50,000	26,250	76,250	90,000	(15)
Denver	Hotel	69,000	37,500	106,500	60,000	78
Denver	Office building	6,000	3,750	9,750	30,000	(67)
Houston	Hotel	42,500	11,250	53,750	60,000	(10)
Total		$250,000	$150,000	$400,000	$300,000	33%