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AVIATION TRANSPORTATION TOURISM

TURKISH AVIATION ACADEMY

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Insurance

Istanbul Technical University

Air Transportation Management, M.Sc. Program

Aviation Economics and Financial Analysis

Module 9

21 November 2013

Outline

A. Introduction to insurance

B. Insurance for the aviation industry

C. War risk

Introduction to insurance



Purpose

- **Cover losses due to accident**
    - Loss of property
    - Loss of limbs
    - Loss of life

- **The idea is that “the premiums of the many will pay the losses of the few.”**

Source: Viccars (2001) cited in Hayes, Flouris and Walker (2006)

What is being insured

- **Businesses**
  - Liability for customers and third parties
  - Liability for employees
  - Value of assets

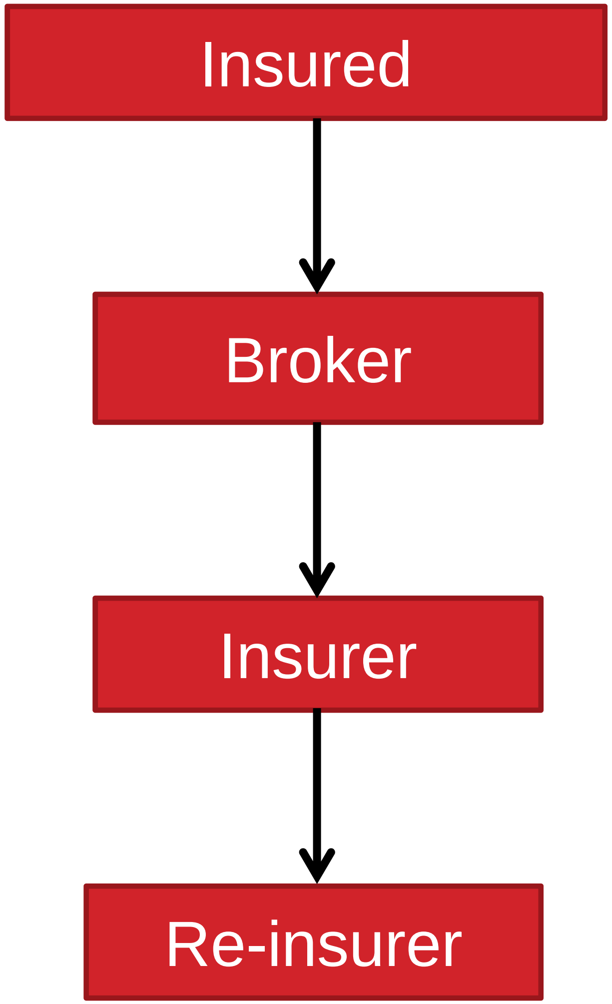
How insurance works

- **Someone who purchases an insurance policy will pay a premium to hold the policy**
  - One-time payments or a series of payments (monthly, yearly, etc.)
- **The policy is purchased from a broker**
- **The broker (acting on behalf of the insured) will find an insurer to take on all or part of the risk**

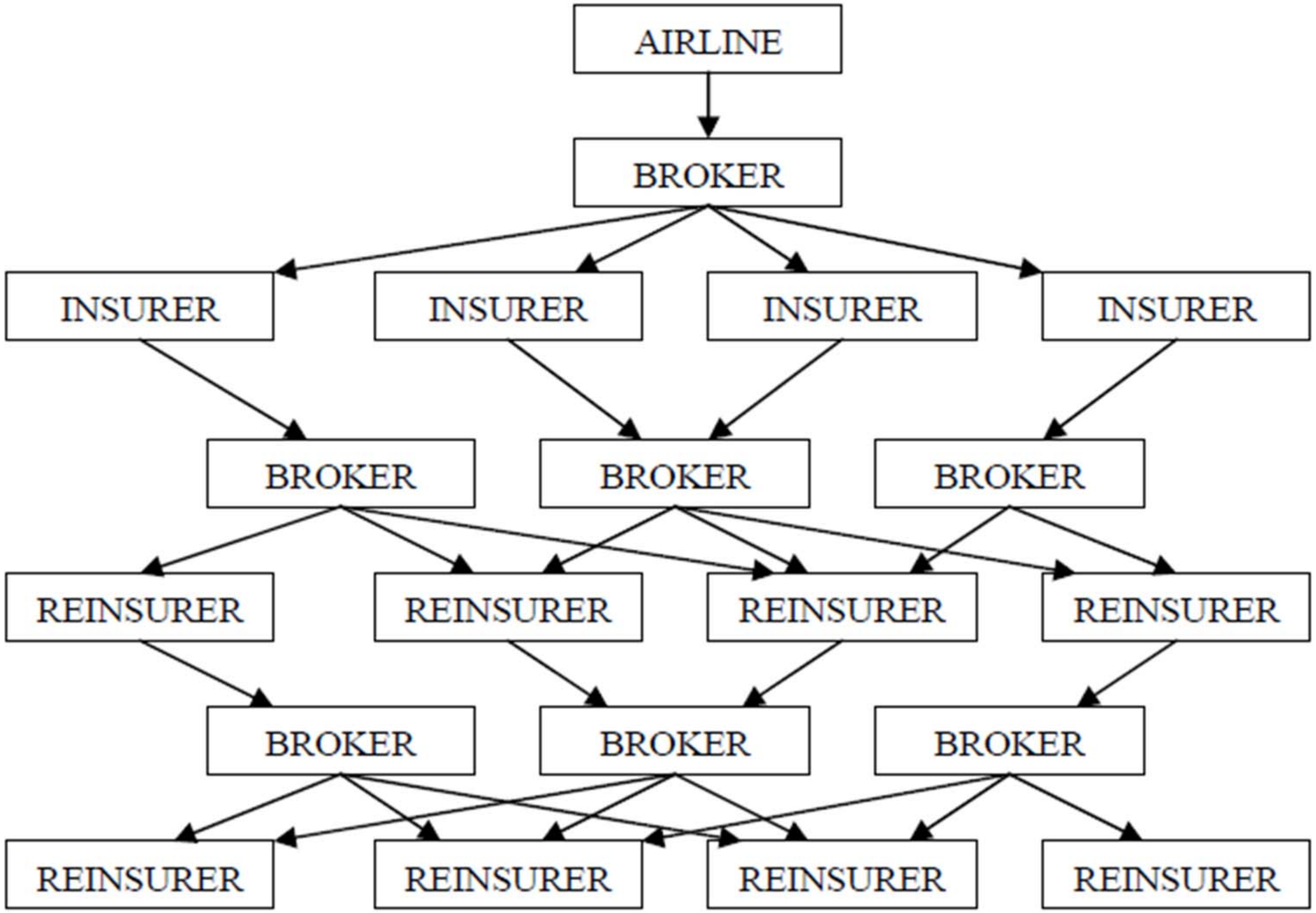
How insurance works – cont.

- **Depending on the type of policies, the insurer may also seek insurance (Re-insurance)**
  - i.e., insurer limits its liability
- **The insurer will go through a broker to a re-insurer**
  - Either another insurance company or a re-insurance specialist
- **The re-insurer may also seek insurance, to cover in the case of catastrophic loss**

The simple case



The airline insurance market



Source: Hayes, Flouris and Walker (2006)

Insurance vs. re-insurance

- **Both have the same underlying idea…**
  - Spread the risk
- **Re-insurance also has the purpose of limiting exposure**
- **Re-insurance is generally used as a way to mitigate loses in the case of fluctuations and catastrophic events**
  - The form of re-insurance will be dependent on the type of risk and insurer's level of exposure

Source: Hayes, Flouris and Walker (2006)

Types of re-insurance

- **Proportional**
  - The re-insurer takes a portion (or tier) of the risk – i.e. a portion of the premiums and losses
- **Non-proportional**
  - The re-insurer has only a tier of the risk
    - The premium paid to the re-insurer is not equal to the risk they take
  - Excess of loss – the re-insurer pays if loses are above a set amount, up to another set amount

Source: Hayes, Flouris and Walker (2006)

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Insurance for the aviation industry



Insurance in the aviation industry

- **Insurance is important for the members of the aviation value chain**
  - Airports – liability, infrastructure, etc.
  - ANSPs
  - Manufacturers – liability (third party and employees)
  - Airlines
  - Ground Handlers/Forwarders

Characteristics of the aviation insurance market

- **Three important differentiating characteristics**
  1. Limited number of risks to be insured
     - A risk is what is being insured, i.e. aircraft
       - Although there are many aircraft, many are insured in groups
       - # aircraft small relative to
         life insurance, autos, buildings/homes…
  2. The aviation insurance market is small in comparison to other markets
     - $3b per year
  3. Exposure to catastrophic events
     - The “Aviation Collision” event has a $4b liability

Source: Hayes, Flouris and Walker (2006)

Aviation direct gross insurance premiums

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Sector	2003($m)[1]	1994($m)[2]	1994 current ($m)[3]	2003 increase above inflation
Airlines	$3,000	1,750	2,100	43%
Products & Services	1,000	675	810	23%
Space	650	525	630	3%
General Aviation	2,500	1,960	2,350	6%
Hull (War) & other	210	180	216	-3%
	7,360	5,090	6,106	

[1] Estimates by 'a leading aviation insurer' (name withheld for confidentiality reasons) for the 2003 underwriting year.
[2] Sigma 1/1996, Swiss Reinsurance Company, Economic Research Department.
[3] Adjusted to 2003 $ using US calendar year GDP inflators.

- Total global premiums, as reported by Swiss Re, were approx. $2.9 trillion in 2003
- Aviation would account for well under 1% of the total premiums in 2003

Sources: Aviation - Hayes, Flouris and Walker (2006); Global – Swiss Re (2004) Sigma No 3/2004

Insurance needs of air carriers

- **Air carriers need insurance for:**
  - Aircraft
  - Liability
    - Passengers
    - Third parties
  - Health insurance for employees
  - Other business insurance needs
    - Will be dependent on airline and country

Insurance policy exclusions

- **Most airlines consolidate their insurance needs into one policy**
  - Loss of aircraft
  - Passenger liability
  - Third party liability
- **There are common exclusions**
  - Failure to perform
  - Noise and pollution hazards
  - War and allied perils
  - Nuclear risks

Insurance policy exclusions – cont.

- **Most exclusions can be "written back" into policies – purchasing extra insurance**
  - The availability of the extra insurance will be dependent on the characteristics of the airline
- **War and allied peril insurance can be purchased**
  - The AVN52 clause allows for this
- **Nuclear risk is the one exclusion that cannot currently be purchased as extra insurance**
  - This will be discussed later

Pricing airline insurance

- **A number of factors go into premium prices**
  - Airline's country of origin
  - Total reach of its network
  - Airline size
  - Safety record
  - Fleet characteristics (age, manufacturers, maintenance, etc.)
  - Amount of deductible airline is willing to pay

Source: Steer Davies Gleave (2012)

Pricing airline insurance – cont.

- **There are also market factors – out of the airline's control**
  - Accessibility of capital
  - Current interest rates and investment RoR
  - Price and availability of re-insurance
  - Level of competition in the market

Source: Hayes, Flouris, Walker (2006)

Insurance costs for airlines

- **In 2011, the cost of aircraft (hull) and liabilities insurance ("all-risk") was estimated at US$2 billion**
  - Estimate total for the world's airlines
  - This is a large portion of an airline's insurance costs

- **The additional aircraft insurance for war risk was an estimated US$100 million in 2011**
  - Total premiums paid in the market

Source: Steer Davies Gleave (2012)

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War risk

War risk

- **As stated before, general airline policies exclude acts of war**
  - High risk exposure

- **This is clause AVN48B, “the War, Hi-Jacking and other Perils Exclusion Clause”**

Source: Hayes, Flouris, Walker (2006)

What additional insurance can be included

- **Additional “War and Allied Perils” policy can be purchased to cover aircraft**
  - Separate market
  - Covers loss or damage to aircraft
- **Clause AVN52 “Extended Coverage Endorsement”**
  - Allows liability to be written back into the original all-risk policy
  - This has an additional premium added

Source: Hayes, Flouris, Walker (2006)

What is not covered

- **Excludes nuclear or atomic weapon use**
  - This is not insured
  - Very large catastrophic loss potential

- **Also excludes loss or damages from “war amongst the Great Powers”**
  - The United Kingdom, the United States, France, Russia and the Peoples Republic of China

Source: Hayes, Flouris, Walker (2006)

Pre - 9/11

- **Extended liability insurance was often worked into the original policies or added back for a low additional premium**
  - In some cases, free of additional charge

- **Allowed for full coverage for both passengers and third party liabilities**

Post - 9/11

- **A full review of the current policies was needed**
  - There were clearly unpredictable risks
- **The previous AVN52 policy holders were given cancellation notice**
  - A new version was quickly brought in
  - Set a limit third party liability of $50 million
    - This is too low
- **Additional surcharges were introduced**
  - Injecting capital to the market
    - $1.25 per pax, generates $1.25 billion for 1 billion pax

Post – 9/11- cont.

- **Governments had to supply additional liability insurance for airlines**
  - Airlines would have not been able to fly after 9/11 with such a low insurance limit for liability
  - In some cases, governments gave indemnity rather than forms of insurance
- **War risk is still under review**
  - The events of 9/11 showed that there are new forms of weaponry that are difficult to predict, and therefore, insure

Thank You!

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