

Economics of Insurance

UNDERSTANDING THE VALUE-CREATION

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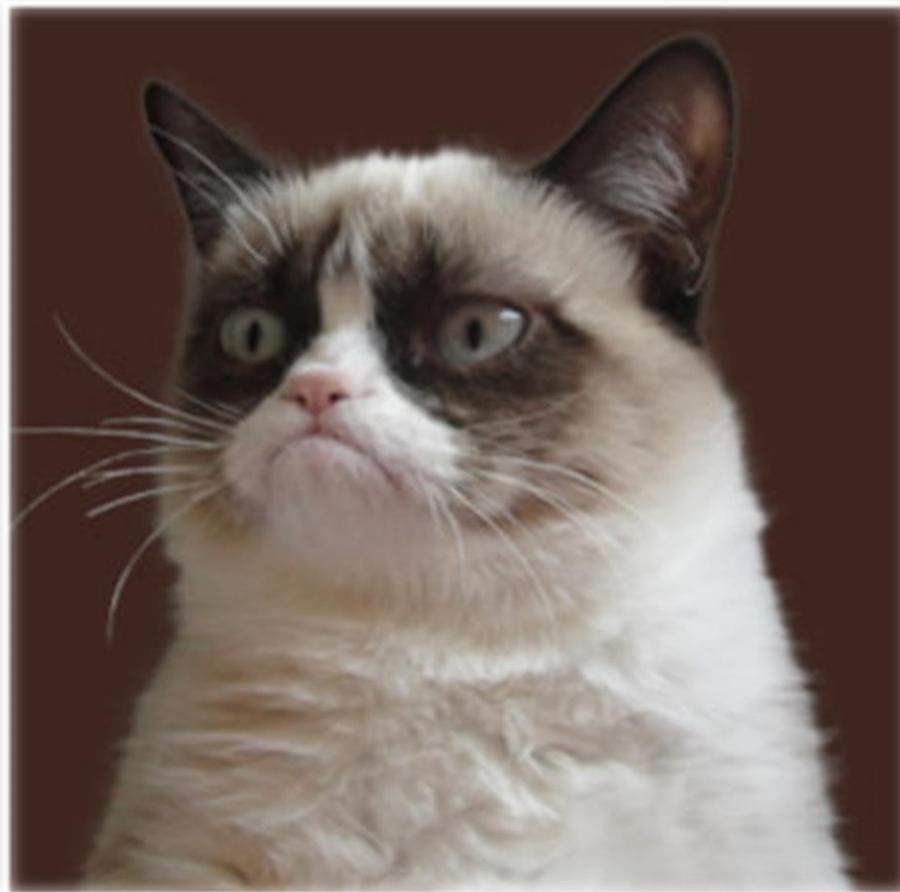
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Sydney, Australia | 7 December 2016

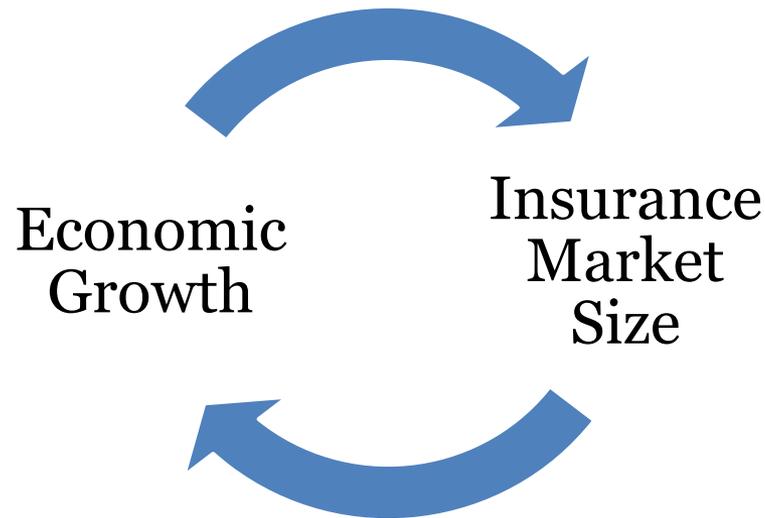
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“Insurance is the stepchild of Economics”

- Emanuel Hermann



The nexus...



- Growth of the insurance sector in developing countries is to be expected as their economies expand (as individuals and business seek to manage their new risk exposures)
- Increase in the presence and availability of insurance should be actively encouraged in order to stimulate economic growth

The economic rationale...

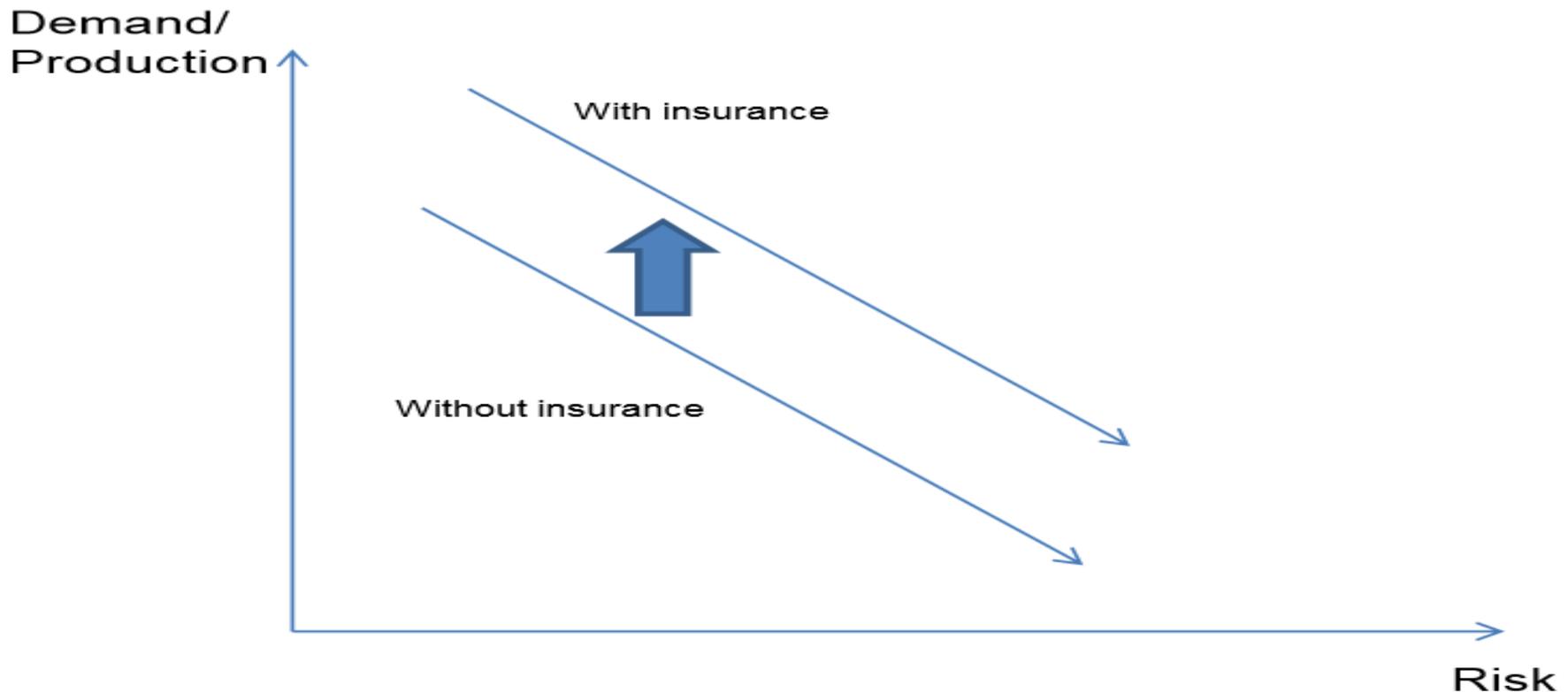
- Research by World Bank in 2006, based on 30 years-data from 56 countries found strong evidence of a causal relationship between insurance market activity and economic growth
- A recent study by Singapore National University proves significant impact of insurers as institutional investors on stock market development and economic growth
- Oversight of the insurance industry is necessary to protect policyholders. Modern regulatory and supervisory regimes tend to take an economic view and if implemented properly, can make insurance industry operate efficiently, promote financial stability and economic growth

How insurance can help in developing countries?

- Insurance generally favors long-term investments that are channeled into job-creating projects and more productive sectors of the economy
- In many countries, life insurance assets provide the basis for investments in long-term projects such as infrastructure, etc.
- Insurance also adds financial depth to the economy by channeling savings into investments in primary and secondary equity markets, corporate bonds and real estate, thus transforming dormant or unproductive capital into more dynamic, long-term capital
- Protecting the investment and businesses from losses, thus entrepreneurial culture

Effects of insurance on supply and demand

- Example, business insurance provides benefits by warding off bankruptcies that could result from non-commercially related outside events
- Product liability insurance helps in the development and manufacture of new products



Economic value-creation by insurance companies

- Have a good understanding of the value-creation process, allowing clear identification of competitive advantages and an unambiguous allocation of incentives to the industry
- Have a framework for measuring value-creation, enabling quantification and allocation of performance incentives
- Have a consistent incentive system aligning the interests of industry with the value-creation goal

Defining value-creation

- Value-creation can be defined from the customers' and economic perspective
- From the customers' perspective, if and to what extent, insurance helps in improving or maintaining the state of policyholders e.g. incidence rate, etc.
- Value can be assessed how and to what extent consumers are using the insurance and renew the policies e.g. analysis of claims statement, etc.
- From economic perspective, sustainability of insurer will be threatened if the product itself is a poor offering or there is a misperception on part of the consumer

Drivers of change in value-creation process

- Insurance markets had tight regulation in past which kept competition low and profit margins high
- Due to the combined effects of deregulation and globalization, competition has intensified, bringing margins down
- Boundaries between banking, insurance and technology have become increasingly blurred
- Value awareness is increasing, so that customers tend to focus less on long-standing relationships than on obtaining the best value for money

Threats to economic value

- Volume is now driving value as insurers are selling covers at non-economical prices and are less cautious in underwriting in order to protect and increase market share
- Most of the insurers in developing markets are writing losses in economic terms
- Sometimes this situation is partially masked by cosmetic accounting practices, such as the release of reserves accumulated in the past. But remember, reserves are not inexhaustible!
- The industry has been selling its products at prices below production cost, thereby threatening the sustainability

What can be done?

- Guiding principles need to be developed or revisited and focus has to be on the value creation process
- An economic value measure will allow products to be priced with built-in value creation targets e.g. Client value vs. Business case
- An economic value measure will also allow strategic capital and risk management decisions to be assessed in terms of their ability to enhance company value

What can be done?

- To create an enabling environment to improve value-creation, the Regulator can also include regulations that strike a balance between client-centric innovation (e.g. claims standards), consumer protection and solvency
- In partnership with the governments, equity can also be enhanced and made efficient through smart subsidies and promote public-private partnerships, especially in health and agriculture insurance sector

Determinants of Demand of Insurance

- Risk Aversion and Utility Theory
- Other Factors Influencing Demand
 - Risk (actual and perceived)
 - Degree of risk aversion
 - Income and assets
 - Other options of managing risk
 - Compulsory insurance requirements
 - Price???
 -

Factors influencing the insurance markets

- **Diversification of Risk**
- **Pooling of Risk**
- **Efficiency and Equity**
- **Adverse Selection**
- **Moral Hazard**
- **Indemnity and Insurable Hazard**

Other factors affecting the Value creation process

- Insurance is a liability-driven business!
- Reliance on diversification and financial markets
- A second distinctive feature of insurers is that they hold risk capital for security, which provides a cushion against unexpected losses

ICP 19 - “Conduct of Business”

Requirements for the conduct of insurance business help to:

- strengthen public trust and consumer confidence in the insurance sector;
- minimize the risk of insurers following business models that are unsustainable or pose reputational risk, thereby complementing the risk management framework of a solvency regime and contributing to overall financial stability; and
- support a sound and vigorous insurance sector by creating level playing fields in terms of the basis on which insurers can compete while maintaining acceptable business practices with respect to the fair treatment of customers.

Role of Governments

- Writes it directly, as with Social Security, reinsurance, etc.
- Subsidizes insurance: quite explicitly in some programs, such as flood or earthquake insurance
- Mandates a residual market for high risks (e.g. insurance programs for flood/ earthquake/ hurricane, etc.)
- Holds down prices in such markets either by creating a state fund to cover losses or by requiring insurers who participate in the voluntary market to pick up a certain portion of this high-risk market
- Regulates matters such as premiums, insurance company solvency, and permissible criteria for pricing insurance (e.g., for auto insurance)

Expected outcomes

- The net result of well-functioning insurance markets should be:
 - better pricing of risk,
 - greater efficiency in the overall allocation of capital, and
 - mix of economic activities and higher productivity.
- Needs to be complementary to banking and financial sector deepening more broadly. For instance, insurance facilitates credit transactions such as the purchase of homes and cars and business operations, while depending in turn on well functioning payment systems and robust investment opportunities

Expected outcomes

- Also, certain insurance types bring specific benefits to economy e.g. Health insurance provides value by improving access to healthcare, utilization of healthcare services and infrastructure

Economic value-creation model from clients' perspective

- **PRODUCT**
 - Coverage, service quality, exclusions, sum insured to risk cost, any value added services, etc.
- **ACCESSIBILITY**
 - Awareness and understanding, Premium payment and policy distribution method, proximity, etc.
- **COSTS**
 - Premium vs. benefit, premium to client income, others fees & costs, etc.
- **EXPERIENCE**
 - Claims procedure, TAT, policy admin, customer care, etc.

Methods of economic value assessment

- Key Performance Indicators
- Market Study
- Client Satisfaction Study
- Impact Study

Methods of economic value assessment

- Key Performance Indicators
 - Raise red flags about current economic value and performance; Help set priorities for improvement
- Market Study
 - Understand needs and preferences of target population
- Client Satisfaction Study
 - Understand client satisfaction, renewal behaviors and client loyalty
- Impact Study
 - Assess outcomes/ impacts on indicators related to behavior change or wellbeing of policyholders

Regulatory Ways

- Statement of premium
- Statement of claims
- Analysis of claims

Competition in insurance markets

- **Perfect competition:** Number of insurers selling homogeneous products is so large, and each insurer's market share is so small, that it is unable to affect the price
- **Workable competition:** Workable competition exists when the structural characteristics of a market reasonably approximate the conditions for perfect competition and government intervention cannot improve the performance of the market
- **Alternative market structures:** Monopoly and Oligopoly
- **Cyclical and excessive competition:** Too much competition and negative profits for insurers. Unexpected increases in claim costs and aggressive price competition can also adversely affect operating results

Assessing the Competition

The Herfindahl Index (HHI) - measures size of firms in relation to industry, widely applied in competition law and an indicator of the level of competition

Take the sum of squares of market shares of the insurers within the industry, whole numbers.

Square the market share of each insurer, then sum up the resulting numbers, this will range from close to 0 to 10,000

The closer a market is to monopoly, the higher the market's concentration (and the lower its competition)

For example, there is only one insurer in industry, having 100% market share, and the HHI would equal 10,000, indicating the monopoly. If, there were thousands of insurers competing, each would have nearly 0% market share, and the HHI would be close to zero, indicating nearly perfect competition

HHI - Example

The HHI is calculated by taking the market share of each insurer, squaring them and summing the result:

$$\text{HHI} = (s_1)^2 + (s_2)^2 + (s_3)^2 + \dots + (s_n)^2$$

Example with four insurers:

Insurer 1 = 40%; Insurer 2 = 30%; Insurer 3 = 15%; Insurer 4 = 15%

$$\text{HHI} = (40)^2 + (30)^2 + (15)^2 + (15)^2 = 1,600 + 900 + 225 + 225 = 2,950$$

This is highly concentrated as there are only four insurers. But the number of insurers does not necessarily indicate anything about market concentration, which is why calculating the HHI is important

For example, assume an industry with 20 insurers. Insurer 1 has market share of 48.59% and each of the 19 remaining insurers have a market share of 2.71% each. The HHI would be exactly 2,500, indicating a highly concentrated market. If insurer 1 had market share of 35.82% and each of the remaining insurers had 3.38% market share, the HHI would be exactly 1,500, indicating a competitive market place

Conclusions

- Utility theory - Risk averse people will be willing to pay risk premium above the expected payout. This makes insurance feasible when risk premium exceeds the loading for expenses that insurers must add to expected loss
- Social welfare is maximized when insurance markets function efficiently and the costs of different activities are equal to their benefits

Conclusions

- Adverse selection - when high-risk individuals are more likely and low-risk individuals are less likely to buy insurance. Risk-based pricing, proper underwriting selection and policy design can diminish adverse selection
- Moral hazard - when insureds stand to gain from causing a loss or have diminished incentives to prevent losses. Insurers combat moral hazard by having insureds bear a portion of their losses and declining to offer insurance in situations where the insured would gain financially from having a loss

Conclusions

- The supply of insurance is determined largely by the cost of providing coverage and should be relatively price-elastic over the long run
- The demand for insurance is determined principally by consumers' risk and degree of risk aversion and will be somewhat less sensitive to price, particularly for essential or mandatory insurance coverages
- The concepts of perfect and workable competition provide a benchmark for evaluating the structure and performance of insurance markets. A competitive market structure leads to competitive conduct and good market performance that maximizes the economic value of insurance to consumers

Conclusions

- Many insurance markets may be characterized by competitive structure where insurers compete on both price and product. This will generally be efficient, assuming that consumers value the product differentiation provided by insurers
- Insurers may engage in excessive competition, underpricing, and cyclical pricing. Underpricing should be a short-run phenomena but may require regulatory intervention if it persists and threatens insurers' solvency

Suggested References/ Readings

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Thank you

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