

Compensation & Insurance Schemes and Whiplash- Associated Disorder

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Create change



Whiplash and Compensation

- Whiplash: a compensable injury in many jurisdictions.
- Injury compensation
 - legislative provisions include mandatory insurance
 - may affect incentives and behaviour
 - Of consumers, practitioners, insurers, regulators, etc.

Why Are Economists Interested in Insurance?

- Economics is about
 - Social welfare maximisation
 - Constrained resources
- Uncertainty is a source of welfare loss for many people
- Efficient insurance markets improve welfare.
- Unregulated insurance markets are prone to **market failure**.

Insurance: Risk-Pooling, Welfare-Improving

- Insurance enables **risk-averse** people to pool risks of uncertain events; and
- at **fair** prices, insurance policies give risk-averse people a welfare gain; so
- **well-functioning insurance markets** are also social welfare-improving.

Concepts

- Risk-averse
 - individuals prefer a certain income to an uncertain equivalent income
- (Actuarially) fair premiums
 - the premium for the insured event is equal to the probability of the loss times its size

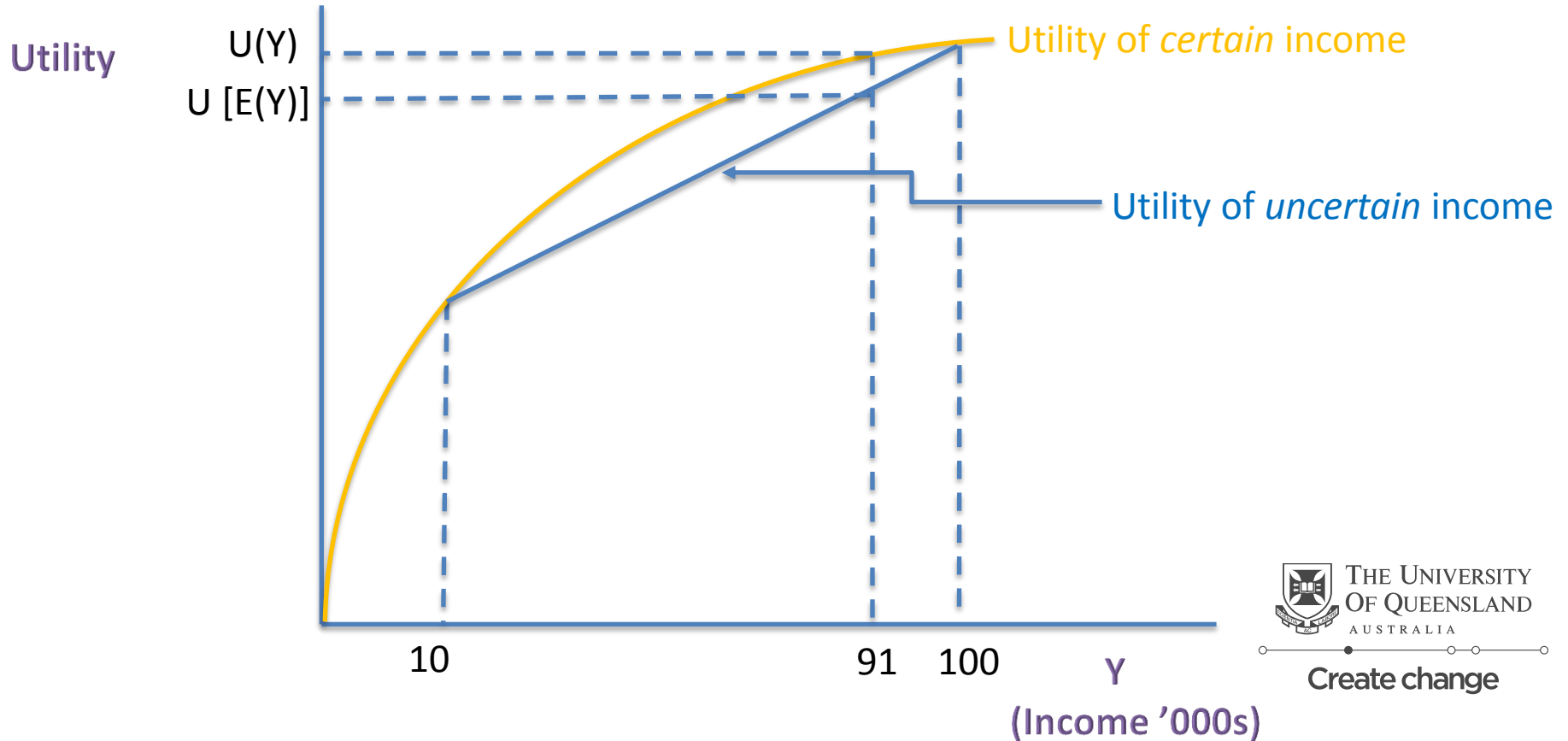
Example

- Think about an insurable loss (say cost of medical care if you become ill).
- Suppose, annually, that:
 - income without loss is \$100K.
 - income with loss is \$10K ($L=\90K)
 - probability of loss ($p=$) 0.10 (10%, or 1 in 10 years)
- Your **expected income** is $0.10(\$10\text{K})+0.90(\$100\text{K})=\$91\text{K}$

Example

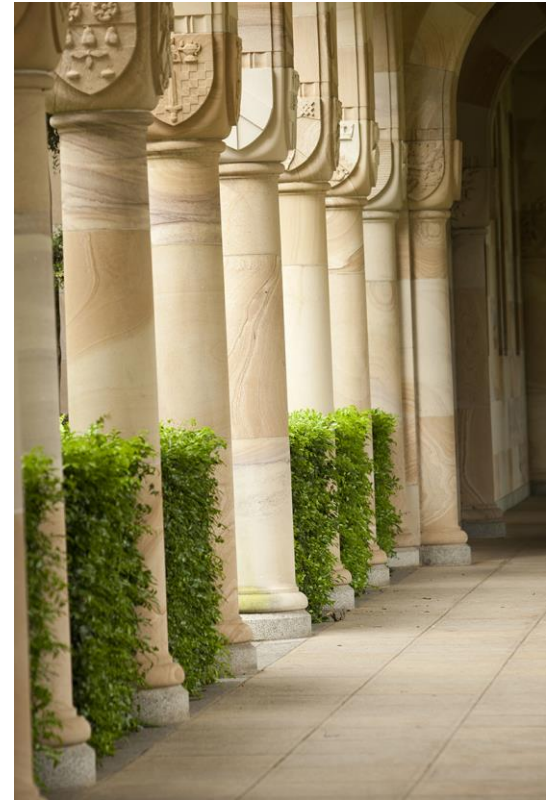
- *If* you are risk-averse
 - you prefer to pay an annual premium of 9K
 - This is the **fair premium**: it is calculated as $pL = 0.10(\$90K) = \$9K$
 - to earn a certain income of \$91K
 - than to bear the uncertainty yourself
 - (i.e., than to **“self-insure”**)

Risk-Aversion



Welfare implications

- Efficient insurance markets are social-welfare improving
– and *vice-versa*
- So when **markets fail**, public intervention may improve social welfare.



Market Failure and Insurance

The “Judgement-Proof” Problem

- Personal injury insurance
- Different in some respects
- Influence over loss?
- Judgement-proof problem
 - Shavell (1986)
- Mandated CTP, workers’ comp. insurance
 - to remove the judgement-proof problem.



Information Asymmetry

A (Potential) Source of Market Failure

- Insurance markets can fail due to **information asymmetries** (and “agency problems”) – specifically, when insurers and policy-holders have different information/knowledge about
 - probability of insured loss
 - size of insured loss
 - effort to reduce expected loss

Information Asymmetry and WAD

- Pervasive in healthcare markets?
 - Who knows? Patients? Clinicians? Insurers?
- Particularly so
 - for WAD and PTSD?
 - in the presence of “external gain” incentives
 - e.g., financial compensation?

Moral Hazard

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A HISTORY OF THE TERM “MORAL HAZARD”

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ABSTRACT

The term “moral hazard” when interpreted literally has a strong rhetorical tone, which has been used by stakeholders to influence public attitudes to insurance. In contrast, economists have treated moral hazard as an idiom that has little, if anything, to do with morality. This article traces the genesis of moral hazard, by identifying salient changes in economic thought, which are identified within the medieval theological and probability literatures. The focus then shifts to compare and contrast the predominantly, normative conception of moral hazard found within the insurance-industry literature with the largely positive interpretations found within the economic literature.

Moral Hazard

- Having insurance increases the expected loss $[E(L)]$ when being insured increases
 - p (i.e., the chance the insured event occurs);
 - L (i.e., the loss *when* the insured event occurs);
 - or both of these;
 - due to a **change in behaviour**.

Moral Hazard

- For example
 - if I drive less carefully because I am insured (*ex ante moral hazard*) ($\uparrow p, \uparrow L$, or both)
 - if I seek more extensive or more expensive repairs once I damage my vehicle (*ex post moral hazard*) ($\uparrow L$)

Moral Hazard

- Once insured for a loss (perhaps completely indemnified), insureds exert less effort to
 - prevent the insured event occurring
 - to limit the cost of the event once it has occurred.
- Moral hazard affects consumers and producers
- *and* increases premiums.

The Journal of Risk and Insurance

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TWO TESTS FOR *EX ANTE* MORAL HAZARD IN A MARKET FOR AUTOMOBILE INSURANCE

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ABSTRACT

Empirically separating the phenomena of moral hazard and adverse selection in insurance markets has occupied researchers in this field for decades. Recently, the potential benefits of using survey data instead of claims data to control for the different dimensions of private information when testing

Moral Hazard and WAD (Health Services)

- Heuristically, under insurance:
 - health care services cost less to the consumer than they cost to produce
 - Price-sensitivity is “compromised”
 - People consume more than they would if paying the full market value.

Moral Hazard and WAD

- Imperfectly observable:
 - effort
 - latent health states (and recovery)
- *And* claimants may be *incentivised* to *claim more* health care expenditure, rather than less
 - for “external gain”.

Moral Hazard and WAD

- More generous insurance arrangements for claimants
 - may decrease consumer sensitivity to price;
 - increase low-value health care consumption;
 - lead to relatively greater provision of services, by providers, to claimants.

Moral Hazard, WAD and PTSD

- Asymmetry of information may be acute for these conditions
 - verifiable pathology?
 - verifiable cause?
 - verifiable fault (where relevant)?
 - etc.

Moral Hazard and WAD

- So, while insurance is a potential source of welfare gain...
- it gives rise to a source of welfare loss and inefficiency
- Ways to limit moral hazard?

Risk-Rate (or Risk-Adjust) CTP Insurance?

- Why determine CTP premiums solely on the basis of *class of vehicle*?
- Why not p ?
 - cf France *bonus/malus*



Source: Pinterest (2017, [link](#))

Reduce \$ Benefits Available?

- Globally (i.e., reduce “compensation”)?
 - benefits for buyers of insurance
 - imposes costs on *bona fide* claimants
 - inefficient coverage (e.g., too little cover) and ramifications?
- For health care services (co-pays)?
 - secondary prevention costs?

Regulation?

- Regulation (e.g. caps on quantities)?
 - homogenous treatment problem
 - administrative costs (>benefits?)
 - etc.
- Co-payments with (ultimately) complete subvention
 - a contradiction in terms?

Adverse Selection

Adverse Selection

- In voluntary insurance markets, adverse selection can arise when insureds know $E(L)=pL$ better than insurers, and
- policies disproportionately attract high-risk individuals because their expected losses exceed the fair (group-rated) premium

Adverse Selection

- Some risk-averse, low-risk individuals will choose not to buy insurance, because their expected losses are less than the fair premium...
- so average $E(L)$ on the market rises, and does the premium:
 - adverse selection “death spiral”?
 - Akerlof (1970) “Market for Lemons”

Adverse Selection

- No adverse selection in compulsory insurance markets (*per se*).
- But adverse selection may still be important in markets for treatment.

Adverse Selection

- An adverse selection of practitioners?

“[CTP and Workers’ Compensation] Claimants constitute about 5% of my business...and 50% of my paperwork”

Adverse or Favourable Selection?

- For instance, if
 - transactions costs reduce (increase) profitability of treating claimants?
 - practitioners believe (rightly or wrongly) that claimants have worse outcomes (*ceteris paribus*)?
 - (potentially) a self-fulfilling prophecy?

Discussion

- Moral hazard is empirically important
 - more acute for conditions where symptoms and impact (handicap, disability, functioning) are difficult to verify.
- Adverse selection does not affect CTP markets, but may be important in markets for health care treatment for WAD.

Discussion

- Attempts to limit moral hazard are prone to unintended consequences
 - some initiatives (auspiciously) designed to help claimants may *encourage* moral hazard.
 - limiting compensation penalises *bona fide* claimants
 - etc.

Discussion

- Empirical work in this area is difficult
 - consumers not usually randomised to insured/uninsured states
- Reduce payments for general damages?
 - at odds with “make whole” principle.

Forthcoming

Connelly LB (2017) The Nature of Whiplash in a Compensable Environment - Injury, Disability, Rehabilitation, and Compensation Systems, *Journal of Orthopaedic and Sports Physical Therapy*.

