How Societies Manage Risks: Economic, Legal, and Cultural Context

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Agenda

• Introduction
• Nuclear liability
• The World Trade Center loss
Introduction
Risk, prevention, and liability caps
Statements about risk

1) Risk management has been there for ages.

2) Modern society trades off:
   • innovation vs. risk avoidance,
   • liability vs. collective risk sharing,
   • equity vs. practicable claims settlement.
Prevention and mitigation of accidents

More or less visible, e.g.

• Dikes
• Fire brigades
• Safety codes
• Insurance (and its regulation)
• Legal system

Problem: How much prevention/protection is enough?

• Hard to decide for novel risks
Types of risk

risk vs. uncertainty

Frank H. Knight, Economist, USA, 1921

small worlds vs. large worlds

Leonard J. Savage, Statistician, USA, 1954

known unknown vs. unknown unknown

Donald H. Rumsfeld, Politician, USA, 2002

D. H. Lawrence, Poet, UK, ca. 1915

Ibn Yamin, Poet, Persia, 13th cent.

insurable vs. uninsurable
Liability ... and its restrictions

The ideal (under the rule of law):

- Accountability, polluter-pays principle

The reality:

- Who would take a large-world risk if one is fully liable?

How liberal societies cope:

- Let (all) people innovate
- Spread certain risks on many shoulders, e.g. via public funds
- Lax or limited liability, limited company, insolvency
(almost / partly) uninsurable risks

- Certain natural hazards:
  - storm surge Netherlands, earthquake Japan, hurricane Florida
- War etc.
- NBC (nuclear, biological, or chemical) weapons
- Terrorism
- Software errors
- Nuclear liability
Nuclear Liability

Public-private partnership for (restricted) liability
The setting

- Complex framework of operator liability, public guarantees … and possibly insufficient limits
- Trend towards increased operator liability (no fault), but slow

Background:
- Nuclear energy is of “national interest” in many countries
- Private operators don’t build/run plants if they are fully liable
- The public shall believe that mayor accidents are *impossible* (at least with the locally used technology)
Layers of protection per event: high end

Germany (in principle unlimited liability, in € billions)

- 0.256 xs 0 insurance
- 2.244 xs 0.256 operators’ pool
- unlimited xs 2.5 operator (self-insured)

USA (Price-Anderson Act, in $ billions)

- 0.45 xs 0 insurance
- 11-12 xs 0.45 operators’ pool
- unlimited xs ≈12 at discretion of Congress
Layers of protection per event: international “standard”

2004 Protocol to Paris convention on Nuclear TPL (minimums, in € billions)

- 0.7 xs 0 operator (or its insurance)
- 0.5 xs 0.7 country of plant
- 0.3 xs 1.2 pool of signatory countries

The UK plans to pass its (medium) layer to operators

Problems:

- No protection xs € 1.5 billion required
- Protocol not yet in force, ratification by EU upcoming – for several years
- Protection still a magnitude lower in many countries
Adequacy of guarantees

- Loss potential in populated areas: controversial, say € 500-5.000 (!?) billion
- Operators won’t be *able* to pay that, governments possibly won’t be *willing*
- Consumers can’t protect themselves by insurance

**Bottom line:** The risk is on many shoulders in an undesirable way

*Would full TPL insurance be feasible?*

In principle (probably) yes, but:

- this would involve the whole financial market – in *(re)insurance* about $ 12 billion per event seems to be the maximum placeable amount
- many *(re)insurers* are not keen on business in “political” areas
The World Trade Center loss
Successful risk management “after the event”
Main facts

- Four airliners hijacked, used as missiles
- WTC’s Twin Towers destroyed, Pentagon damaged
- About 3,000 people killed, 250 seriously insured
- Many victims highly paid and married (matters for compensation)
- Insured loss about $40 billion
- Economic damage $1,000 (?) billion
Potentially responsible (i.e. suable)

- Airlines (UA, AA)
- Airports, security firms
- The authorities, the City of New York
- Police, fire brigade
- Motorola
- Terrorist groups
- Members of the Saudi-Arabian government
- ...
Sources of compensation

Not mutually exclusive:

• Own insurance covers
• Tort system (by suing someone)
• Government programs
• Charity
Measures taken by government

- Quick
- Unorthodox
- 3 steps
1. Ensuring survival of institutions

*Air Transportation Safety and Stabilization Act (ATSSA):*

- in force 11 (!) days after the attack
- Exclusive jurisdiction: Southern New York
- Retroactive (!) liability cap for U.S. institutions: according to existing TPL covers
- Tax breaks for victims
- *Victims Compensation Fund (VCF)*
2. Channeling of benefits through VCF

The VCF was not compulsory, but came with incentives … and conditions:

- Claims regulation within 3 years
- Compensation according to loss of income, onus of proof relaxed
- Stricter rules for very high incomes
- Awards for noneconomic loss capped
- No punitive damages
- Own insurance (Life, WC) deducted (*contradicts* legal practice)
- Waiver of legal actions for damage
3. Creation of an atmosphere of solidarity and patriotism

The (re)insurance industry feared *adverse selection*, i.e. that very well-off victims would ignore the VCF and go to court.

Plausible scenario: years of legal proceedings, constant negative press, …, social self-destruction with huge economic consequences

Instead:

- Mayor Rudy Giuliani: *We’re going to rebuild. … Do things. Go to restaurants.*
- Strong spirit of national solidarity – rather than revenge, opportunism
Key figures

• 97% of affected families opted for the VCF, average compensation $3 million
• VCF saved $2 billion (>20%) by deducting insurance benefits
• Only 70 families went to court, received $7 million on average (i.e. not much more – after deduction of legal fees)
Bottom line

• In administrative and economic terms, the U.S. coped well with the 9/11 attack.

• Measures taken were unorthodox, partly unfair – but very effective.

• Impressive, though perhaps singular, example of a society’s ability to take action post crisis – by briefly breaking its own rules.
Thanks

For details see paper.

Feedback welcome, now or later.

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