PANDEMICS: AN INSURANCE POINT OF VIEW

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“A pandemic is a global disease outbreak”

“A flu pandemic occurs when a new influenza virus emerges for which people have little or no immunity. The disease spreads easily from person to person, causes serious illness and can sweep around the world in a very short time”

Source: OECD
Pandemics occur at regular intervals: every 30-50 years
Since 1700: 10-13 pandemics in the world
The question in not if it will occur but when and how

AON (2005)
Three pandemics in the 20th century:

- Spanish flu (1918-1919):
  * 50 million deaths (4% of the global population)
  Infection rate: 30%

- Asian flu (1957-1958):
  * 2 - 4 million deaths

- Hong Kong flu (1968-1969):
  * 1 million deaths

Last pandemic:

- SARS (Severe Acute Respiratory Syndrome). 2003
  People infected: 8,000 (fatality rate: 9.6%)
  Economic losses: USD 60 billion

WHO (2005)
Current WHO phase of pandemic alert

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<th>Inter-pandemic phase</th>
<th>Low risk of human cases</th>
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<td>New virus in animals, no human cases</td>
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<td>No or very limited human-to-human transmission</td>
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<td>Efficient and sustained human-to-human transmission</td>
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Nowadays

– Factors for increased vulnerability:
  - More urbanized population
  - High population densities
  - Modern transportation (globalization)
    More long-distance contacts
    More journeys
  Higher vulnerability in poor areas

– Factors for decreased vulnerability:
  - Control and test (ability, tools and coordination)
  - Information and data transmission
    (distance, dissemination and speed)
  - Scientific knowledge and research
  - Remedies distribution
Foreseeable effects (based on SARS experience)

Pandemic Scenario (worldwide impact)

- Mild scenario:
  - 1.42 million deaths (0.022 % mortality)
  - Economic losses: USD 330 billion (0.8 % of PDG)

- Moderate scenario:
  - 14.2 million deaths (0.22 % mortality)

- Severe scenario:
  - 71.08 million deaths (1.1 % mortality)

- Ultra scenario:
  - 142.2 million deaths (2.21 % mortality)
  - Economic losses: USD 4.4 trillion (12.6 % of PDG)

Factors conditioning the pandemic impacts

- Severity (morbidity and mortality)
- Spread (and speed)
- Age range more vulnerable
- Duration (all phases)
- Prevention, cure and protection measures

Uncertainty about the pandemic nature and behaviour

Uncertainties about severity and nature of the impacts
Pandemic effects

- Illness  $\rightarrow$ Infection rate: 25 - 30%
- Fatalities  $\rightarrow$ Fatality rate: 0.1 – 2.5%
- Quarantines
- Compulsory closure of installations and facilities
- Travels and journeys restrictions
- Public and goods transport restrictions
- Large scale employee absenteeism
  - Employees infected
  - Family care
  - Fear of infection (or quarantine)
- Deep shifts in social, economic and political relations

Losses in every sector of activity

Pandemic effects

These effects would also affect insurance carriers

- Operational Risks → Contingency plans
- Asset Risks → High vulnerability
- Insurance Liability Risks
Impact on insurance and reinsurance companies

- Life
- Health
- Property...

Pandemic impact on

- Insurance portfolio
- Investments

Balance sheet and liquidity concerns

- Legal risks

- Uncertainties on coverage
- Judicial and regulatory coverage invalidation
Insurance liability risks

Policies affected:

- **Life insurance.** The greater risk exposure: depending on range of age affected
- **Health insurance**

Lower incidence:

- **General Liability.** Negligence and measures adopted by public policymakers
- **Products Liability.** Claims against prevention equipment manufacturers or vaccine makers because ineffective remedies...
- **D&O.** Claims from shareholders against companies because lack of or deficiencies in contingency plans.
- **Property.** More incidence in regular risks –fire, theft- due to reduced risks management; civil unrest...
- **Cargo.** Goods refused, transport interruption...
- **Workers compensation.** Only special services: medical attention, poultry farms, education...
- **Business Interruption.** Uncertain trigger

Jonathan Hewitt (2006); Endurance (2006); Munich Re America (2007)
Impact of a pandemic on U.S. life insurance sector
(based on 1918 influenza)

Severe scenario 90 million people affected (30% of US population)
1,9 million would die

Value of death claims:
- Group life insurance: $ 58,8 billion
- Individual life insur. : $ 96,6 billion

TOTAL $ 155,4 billion

- Policy reserves of U.S. life insurance (end 2005): $ 3,3 trillion
- Capital and surplus: $256 billion

Insurance Information Institute
Low frequency

High severity

Natural catastrophes $\rightarrow$ Natural trigger

Usually confined to a limited geographic area, but potential impact on a country or a region (storms) in a short time frame.

- Property insurance losses
- Personal insurance losses
Mega-terrorism → Human trigger

Potential impact on an entire country or region in a short time frame.

- Property insurance losses
- Personal insurance losses
Low frequency
High severity

Potential impact on a region, or worldwide, in a short time frame.

- Personal insurance losses
- Property insurance losses

Uncertainties on
- Nature and behaviour (morbidity, mortality, age range)
- Geographical widespread
- Official declaration (when)
- Duration (every phase)

Natural trigger
- Pandemic influenza
- Human trigger (terror.)

Pandemic influenza
WAR

Great impact

↓

Uninsurable risk

PANDEMIC

Great impact

↓

Uninsurable risk

Great impact

↓

Personal losses (life, health)

Moderate impact

↓

Low or moderate effect in lot of lines

Wide geographic areas affected
Three main questions

Is pandemic an insurable risk?

Is the private market willing to cover pandemic risk?

Should public authorities take part in the insurance solutions?