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IFS Public Economics Lecture Day 2025

Health, social insurance and the role of the state

@TheIFS

This lecture

This lecture will consider:

- The broad role of the state in providing social insurance
- The example of health care
  - Why you as economists should care about it
  - Why governments intervene in health care
  - How different countries address the same challenges in different ways

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Outline

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- Social insurance
  - **Examples and definition**
  - Why social not private insurance
  - Moral hazard and trade-offs
- Health care
  - Why economists care about healthcare
  - Economics of healthcare
  - Adverse selection
  - Moral hazard
  - Theoretical role of government
  - International comparisons
  - Charging for care

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The state protects us against lots of different risks

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- The NHS: the risk of becoming (or being born) sick
- Unemployment insurance: the risk of involuntary unemployment
- State pensions: risk of living too long
- Disability insurance: the risk of injuries/disabilities
- Energy price guarantee: the risk of a global spike in energy prices

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The state as social insurer

These are all examples of social insurance

- Government interventions to provide insurance against adverse events
  - Risks that individuals would otherwise struggle to protect themselves against, transferred to and pooled by the government
  - Funded by current and future taxpayers

- Social insurance is a broad umbrella term and it takes many forms

- A large and growing part of public expenditure

- World is becoming riskier, increasing importance?

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Why social insurance?

- Broad motivation for insurance:
  - Reduction in risk for risk-averse individuals
  - Equalise marginal utility across different states of the world and across time

- But why might **government** intervention be needed? Will cover
  1. Market failures
  2. Types of risk
  3. Redistribution

- There may also be political and behavioural economics reasons for social insurance

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Market failures

Social insurance may be necessary because of ‘market failures’

- Asymmetric information
  - Buyers and sellers have different information
  - Individuals know their risk better than insurers
  - → adverse selection

- Externalities
  - Insurance may have benefits for individuals other than the insured party
  - This may mean the private level of insurance is too low
  - E.g. vaccination

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Types of risk

Social insurance may be necessary because of the types of risks that individuals face

- Some risks are hard to insure against even with symmetric information

- Insurance markets are good at pooling cross-sectional, independent risks
  - e.g. % of drivers who will have an accident in a given year can be estimated with some precision at the start of the year
  - Risk can be diversified within a cohort
  - Overall risk for the insurance firm is low

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Types of risk

- But some risks are correlated or common to individuals
  - E.g. rising life expectancy, cyber security, natural disasters
  - Cannot pool/diversify away risk in the same way
  - Government can make a ‘loss’, insurance firms can’t

- And some risks occur prior to being able to purchase insurance
  - Markets only work if you can buy prior to receiving the shock
  - But some shocks are received too early to buy insurance
  - E.g. genetic health conditions

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Redistribution

Social insurance may be desirable for redistribution

- We may want to redistribute from low risk to high risk individuals
  - Being high risk is often not the fault of the person
  - Being high risk is often associated with lower utility
  - Being high risk is often associated with lower income
    - Unemployment, health, disability

- Examples of redistribution
  - Community rating – insurance payments not based on medical characteristics
  - The NHS – tax payments, not based on health or usage

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Social insurance: concerns

- So far, we have focused on the benefits of social insurance
- **But there are also common concerns with social insurance**
- Central among these is what economists call ‘moral hazard’
- Other concerns
  - Requires either higher taxes or higher debt (distortionary)
  - Can the government provide insurance efficiently?
  - Crowding out of private insurance
  - Limited personal choice (can’t opt out of the NHS)

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Moral hazard and social insurance

Moral hazard

- Insured individuals take adverse actions in response to insurance against adverse outcomes
  - Reduced precaution against entering the adverse state (ex-ante)
  - Increased odds of staying in the adverse state (ex-post)
  - Increased costs when in the adverse state (ex-post)

- Moral hazard increases the cost of providing social insurance, which then requires higher taxes or borrowing to pay for it (at some economic cost)

- This is also a problem with private insurance

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Social insurance: the central trade-off

Social insurance is desirable to smooth consumption and reduce risk

Social insurance can create moral hazard – which increases the cost of providing it and social insurance is costly to provide

Optimal policy may be to partially, but not completely, insure individuals against adverse events

Key challenge for economists is determining the optimal level of insurance benefits. Suggested further reading: Chetty & Finkelstein (2014)

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Social insurance: the central trade-off

Examples of this trade-off in practice

- The NHS doesn't provide all the healthcare that individuals want
- Unemployment benefits only partly offset lost earnings
    - UK has one of the lowest replacement rates in OECD
    - For example, a single person without children earning average wage will receive 35% of their prior earnings
    - Often have job search requirements
- Disability benefits only partly offset lost earnings

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An example: health care

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Why do economists care about health care?

- We spend a lot on health care

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We spend a lot on health care

Annual UK **public** spending on health as a share of GDP

Share of GDP

12%
10%
8%
6%
4%
2%
0%

1955-56 1961-62 1967-68 1973-74 1979-80 1985-86 1991-92 1997-98 2003-04 2009-10 2015-16 2021-22

Source: https://ifs.org.uk/taxlab/taxlab-data-item/ifs-spending-composition-shee and OBR Fiscal Risks and Sustainability Report, September 2024 t

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We spend a lot on health care now…

Historic **government** health spending as % of GDP

Share of GDP

16%
14%
12%
10%
8%
6%
4%
2%
0%

1955-56
1967-68
1979-80
1991-92
2003-04
2015-16
2027-28
2039-40
2051-52
2063-64

Source: Data underlying previous chart

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…and we're going to spend more in future

Historic **government** health spending as % of GDP

Share of GDP
16%
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12%
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1955-56
1967-68
1979-80
1991-92
2003-04
2015-16
2027-28
2039-40
2051-52
2063-64

OBR Projection

+6.7%

An extra 6.7% of GDP is equivalent to £182 billion in today's terms, or £2,700 per person

Source: Data underlying previous chart

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We spend a lot on health care

Public and private health spending as a percentage of national income in 2019

Public ■ Private ■

United States
Germany
France
Netherlands
Denmark
Belgium
United Kingdom
Austria
Canada
New Zealand
EU-14 average
OECD average
Australia
Spain
Italy
Portugal
Ireland
Greece
Luxembourg

0 2 4 6 8 10 12 14 16 18

Per cent of GDP

Note: Public expenditure is expenditure by government or compulsory healthcare schemes. Private expenditure is expenditure by voluntary schemes and household out-of-pocket payments. 2018 levels used for New Zealand's private percentage. Source: OECD Health Statistics

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Why do economists care about health care?

- We spend a lot on health care
  - Important part of fiscal policy position
  - Increasing macroeconomic importance

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Why do economists care about health care?

- We spend a lot on health care

- Health is an important input or component of human capital
  - e.g. Fetal conditions have been shown to have substantial impacts on economic outcomes later in life (Almond & Currie, 2011)
    - Almond (2006): individuals who were in utero at the peak of 1918 US influenza pandemic have lower educational attainment, income, socioeconomic status and increased physical disability
    - Black et al (2019): prenatal exposure to low-dose radiation in Norway associated with reduced educational attainment, earnings and cognitive ability
  - Poor health → economic inactivity → smaller workforce → reduced economy-wide productive potential?

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Health and labour supply

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- Poor health → economic inactivity → smaller workforce → reduced economy-wide productive potential?

- Major policy focus for UK govt & BoE post-Covid

- Reduction in labour force participation since start of pandemic
  - Increase in those inactive because of poor health
  - In 2023, 2.6 million people out of labour force for health reasons
  - Large increase in new disability claims
  - Ongoing debate about causes and solutions, see OBR Fiscal risks and sustainability report, July 2023

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Why do economists care about health care?

- We spend a lot on health care
- Health is an important input or component of human capital
- It’s a politically contentious issue that people really care about

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Why do economists care about health care?

- We spend a lot on health care
- Health is an important input or component of human capital
- It's a politically contentious issue that people really care about
  - Economists can make a valuable contribution to a high-profile debate

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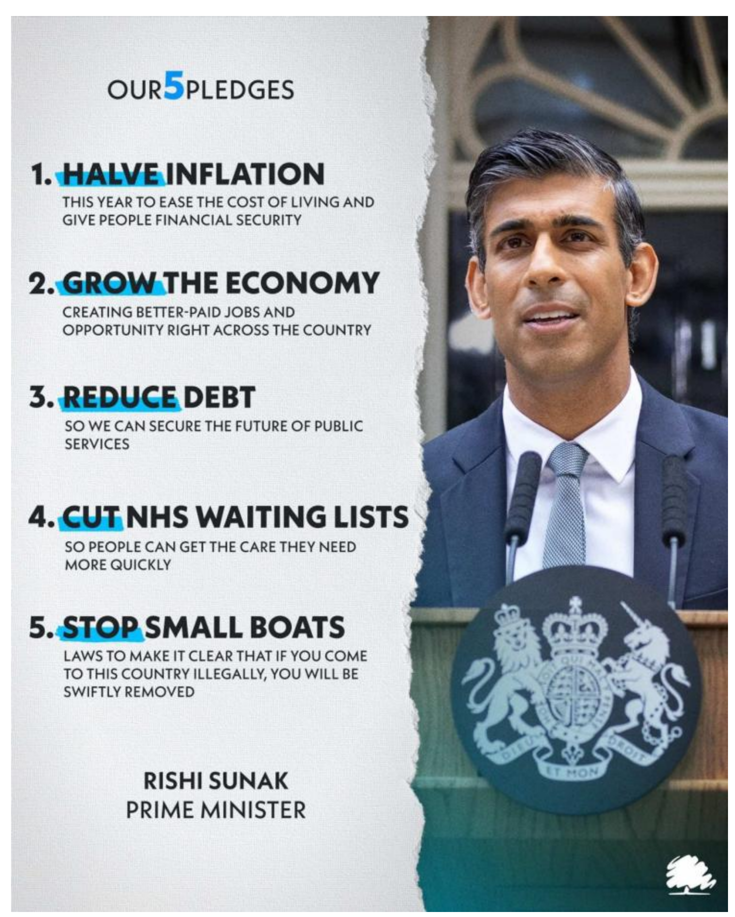
Why do economists care about health care?

- It's a politically contentious issue that people really care about



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Why do economists care about health care?

- We spend a lot on health care
- Health is an important input or component of human capital
- It’s a politically contentious issue that people really care about
- Important when studying individual or social welfare

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Why do economists care about health care?

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- Important when studying individual or social welfare
- It’s complicated – which makes it interesting!

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The economics of health care

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- There are a number of reasons why we need to think especially carefully about how to provide medical care
- Kenneth Arrow wrote the seminal paper on this topic in 1963
  - ‘Uncertainty and the Welfare Economics of Medical Care’, *American Economic Review*
- We’d expect people to demand insurance against health risks
- For the same reasons discussed earlier in the context of social insurance, a private insurance market may face some issues

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Adverse selection

Adverse selection

- Asymmetric information: individuals know more about their risk level than the insurer
- Different individuals are likely to have different levels of health risks
  - Genetics
  - Lifestyle
- First best: if insurer knows individual risks, they can offer personal insurance plans (but redistribution?)
  - (Or nobody knows individual risks)
- With asymmetric info: what if firm just offers one plan for everyone? (pooling equilibrium)

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Adverse selection

Highest risk

Lowest risk

Whole population

Insurance firm sets price based on average risk

Too expensive for the lowest risk

Firm makes a loss → price goes up

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Adverse selection

Adverse selection

- Can lead to market failure where no equilibrium supports provision of insurance
- Classic papers: Akerlof (1970), Rothschild and Stiglitz (1976)

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Adverse selection

- Insurance firms may respond by offering different products (separating equilibrium)
  - Designed so each individual risk type selects into a different one
  - In two risk type case, either results in under-insurance for low-risk type or no equilibrium, Rothschild and Stiglitz (1976)

Adverse selection is not just a theoretical problem

- Olivella and Vera-Hernández (2013): people who buy private health insurance in the UK have higher usage than those provided with the same coverage by their employers
- Geruso, Layton, Prinz (2019): US insurance firms make drugs that are used by less profitable customers more expensive

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Adverse selection

- Adverse selection means a private insurance market will offer limited or no insurance
- **How can the government solve this?**
- The government also doesn't know everyone's risk types…
- But can force everyone to have insurance → no selection possible
  - Either provide healthcare via taxation – UK approach
  - Or make some level of insurance mandatory (maybe with subsidies) – France, Germany and US approach

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Moral hazard

Moral hazard

- Recall moral hazard can be ex-ante and ex-post
- In the context of healthcare, this might mean
  - Reduced precaution against entering the adverse state
    - e.g. bad diet, dangerous sports, smoking, etc.
  - They may incur increased costs when in the adverse state
    - e.g. excessive number of medical tests, demanding expensive treatments, staying in hospital for longer than needed

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Moral hazard

Price

Demand curve

Actual marginal cost

Deadweight loss

Quantity

Consumers face zero cost

Optimal quantity

Actual quantity

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Moral hazard

- Private insurers respond by offering partial insurance
  - Commonly use co-payments
  - See Einav & Finkelstein (2017) for a discussion in a US context
- **What can the government do about this?**
- Not much – most of the issues are the same
  - See Cutler and Zeckhauser (2000), Chetty & Finkelstein (2014)
- Governments may ration access in a different way
  - Waiting lists, waiting times, doctor not patient decisions
- Can encourage better health behaviours
  - Sin taxation, information campaigns

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Theoretical role for government

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- So theory says the government may intervene
  - To reduce adverse selection by mandatory coverage
  - To offset externalities by providing more care than individuals demand for certain types of care
  - Because the market wouldn't be competitive
  - (To redistribute)
- Moral hazard problem remains whether insurance is public or private
- Have focused on **funding**, but also questions about **provision**

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What happens in practice?

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Virtually all OECD countries provide universal health care, but the way in which that care is provided varies drastically

- Trade-offs between different approaches
  - Public vs. private providers
  - Single vs. multiple insurers
  - Rationing by need/waiting vs. rationing by price
  - Insurance premiums vs. funded from general taxation
  - Centralisation vs. localisation

Often for historical, non-economic, reasons

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Three types of approach

Different countries solve the same underlying problems in different ways

- Beveridge systems (e.g. the UK, Sweden, Australia, Spain, Canada)
  - Universal, single payer insurer
  - Public health care provision
  - Care (mainly) free at the point of use
  - Some private market

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Three types of approach

Different countries solve the same underlying problems in different ways

- Bismarck systems (e.g. Germany, France)
  - Universal insurance, many funds
  - Community rating – premiums not based on medical risk
  - Regulated private healthcare provision

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Three types of approach

Different countries solve the same underlying problems in different ways

- The USA
  - Two public systems that cover very poor, disabled and 65+
  - Private insurance market, normally provided by employers
  - Fines for no insurance and insurance exchanges (Obamacare)

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To charge or not to charge?

Co-payments mean individuals are partially but not fully insured

- Raises money
- Reduces with moral hazard problem

But charging also has downsides

- Delaying treatment → individuals present to the health system later in a worse state of health → higher costs
- Delaying or avoiding treatment can have negative externalities
- Inequity of linking access to health care to ability to pay

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To charge or not to charge?

There are alternative approaches to the moral hazard problem

- Regulation: government picks treatments based on cost-effectiveness
  - National Institute for Health and Care Excellence (NICE)
- Rationing of care, information campaigns, etc.

But many of the issues with charging apply to alternatives

- Waiting lists delay treatment too
- Inequity of being able to pay for private treatment

Care has to be rationed in some way – not obvious which is best

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Key things to take away

- The government provides social insurance in all sorts of contexts
- At the core is a trade-off between benefits of insurance against risk and costs incurred via moral hazard → full insurance likely not optimal
- Universal health care is just one example of social insurance and its trade-offs
- Different countries deal with the same underlying challenges in different ways
- In today's crisis-ridden world (COVID-19, geopolitical risks, climate change) social insurance is enormously important

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Thank you

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