

# Health, social insurance and the role of the state

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Public Economics Lecture

# Today's lecture

## This lecture will consider:

- The broad role of the state in providing social insurance
- The example of health care
  - Why economists care about it
  - Arguments for government intervention in health care

# The state protects us against lots of different risks



## The National Health Service: the risk of becoming sick

# The state protects us against lots of different risks



## Unemployment insurance: the risk of involuntary unemployment

# The state protects us against lots of different risks



## State pension: the risk of living too long

# The state protects us against lots of different risks



## Disability insurance: the risk of injuries/disabilities

# The state as social insurer

## These are all examples of social insurance

- Government interventions in the provision of insurance against adverse events
  - Transfers typically based on events (e.g. illness, age, disability)
  - Risks are transferred to and pooled by the government
- A large and growing part of government expenditure

# Why social insurance?

- Broad motivation for insurance:
  - Reduction in risk for risk-averse individuals
  - Smooth consumption across different states of the world
- Why is **government** intervention needed?
  1. Market failures
    - e.g. due to asymmetric information, externalities
  2. Paternalism
    - Correct perceived individual optimisation failures (myopia etc.)
  3. Redistribution
    - Society wants to compensate high risk people, as being high risk is often not the fault of the person



# Social insurance: common themes

## Social insurance is provided in a range of contexts

- There are often common factors running through the justification for government intervention in each case
  - With market failure, intervention can improve efficiency and welfare
  - We will consider the specific case of health care

## But there are also common concerns with social insurance

- Central among these is what economists call 'moral hazard'

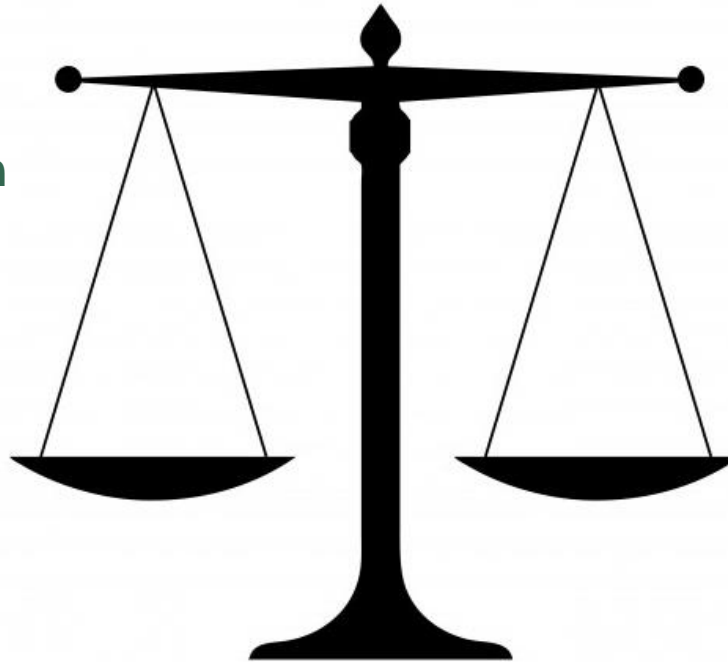
# Moral hazard and social insurance

## Moral hazard

- Insured individuals take adverse actions in response to insurance against adverse outcomes
  - Reduced precaution against entering the adverse state
  - Increased odds of staying in the adverse state
  - Increased costs when in the adverse state
- **The upshot:** Moral hazard increases the cost of providing social insurance, which then requires higher taxes or borrowing to pay for it (at some economic cost)

# 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**

**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 – see Chetty & Finkelstein (2014) for a discussion

## An example: health care

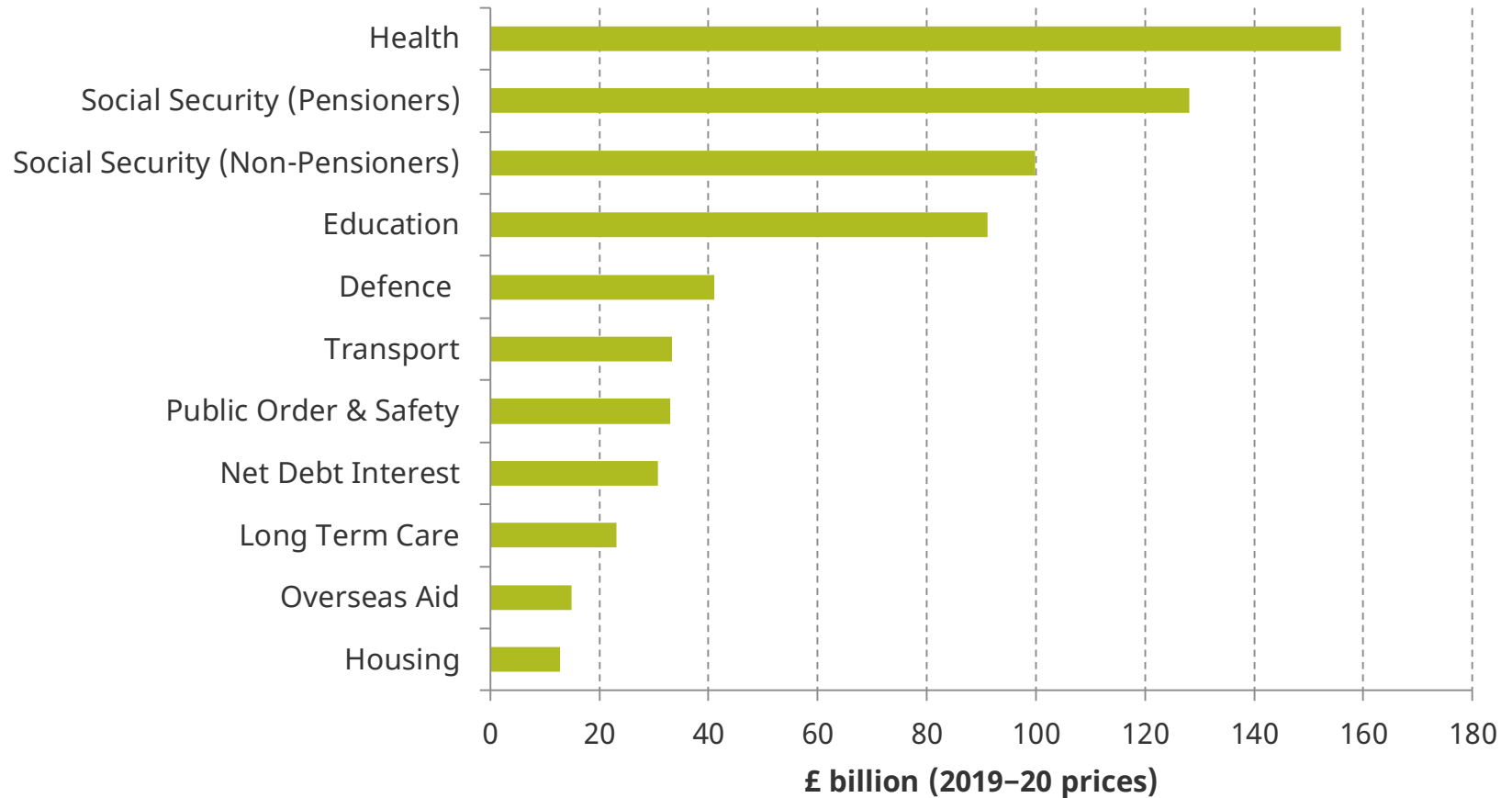
- Why economists care about it
- Why governments intervene

# Why do economists care about health care?

- We spend a lot on health care

# We spend a lot on health care: Exhibit A

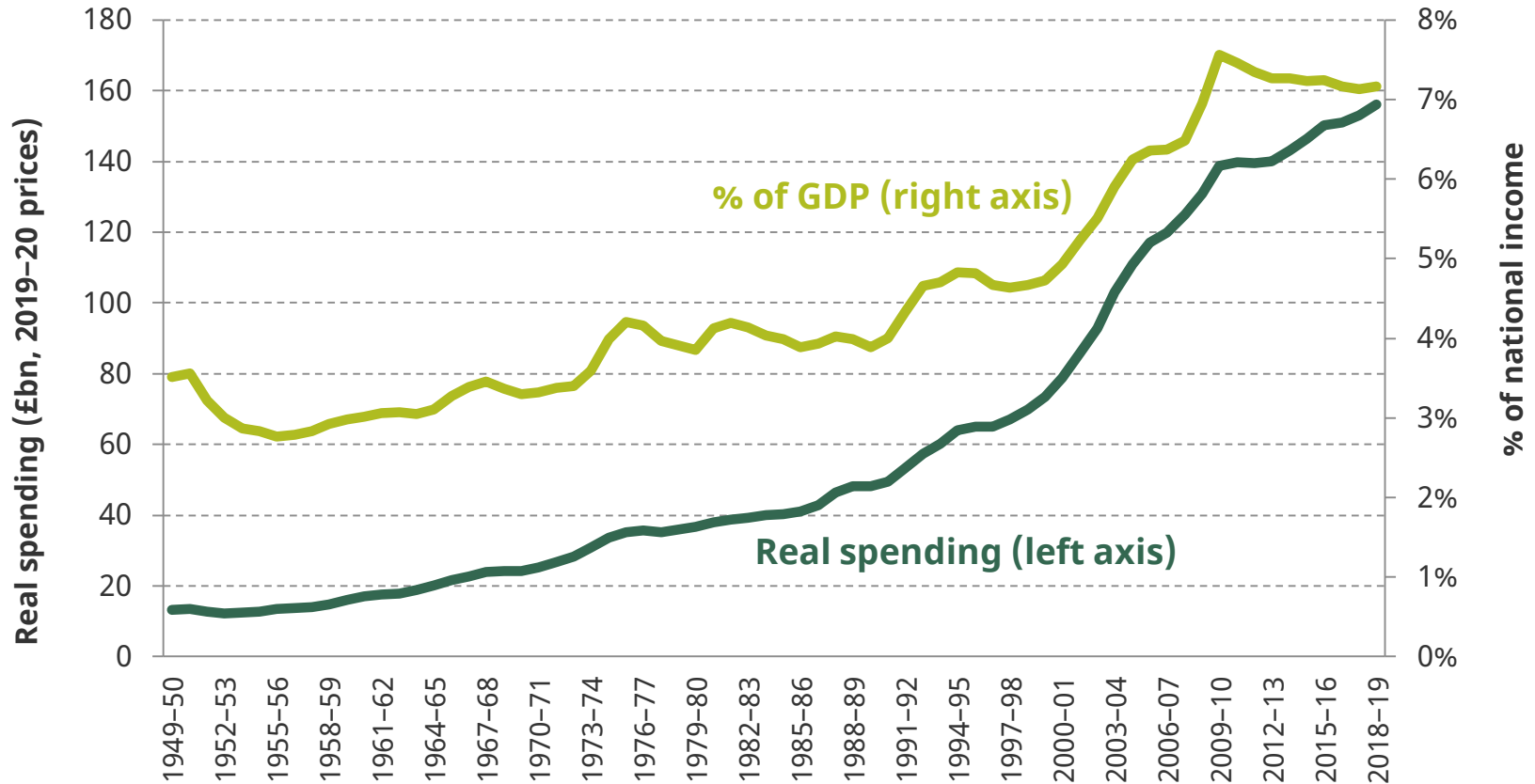
## Government spending by function, 2018–19



Source: ONS and HM Treasury, Public Expenditure Statistical Analyses, July 2019  
(<https://www.gov.uk/government/statistics/public-expenditure-statistical-analyses-2019>)

# We spend a lot on health care : Exhibit B

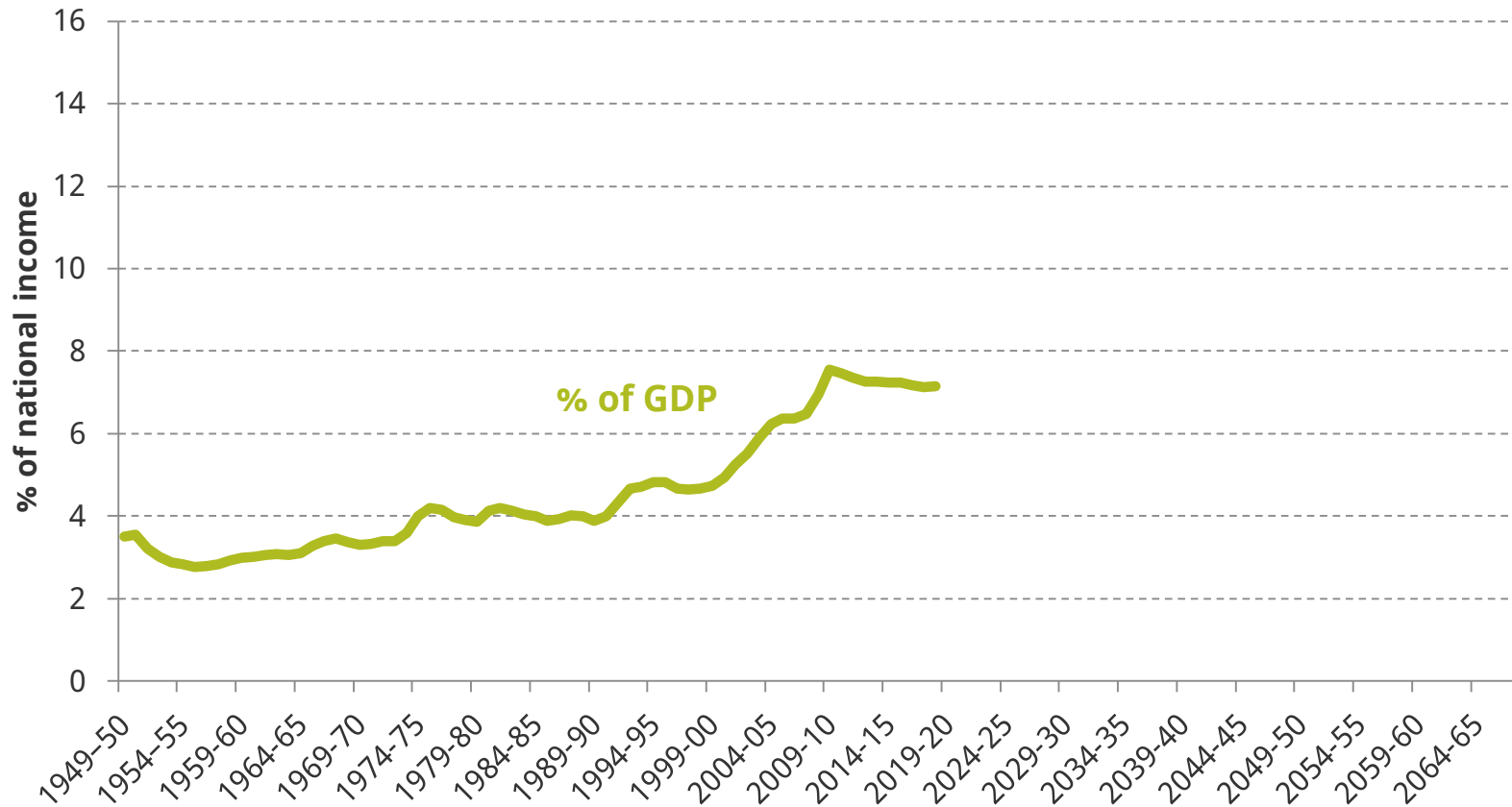
## Annual UK public spending on health in real terms and as a percentage of national income



Source: Author's calculations using various HM Treasury Public Expenditure Statistical Analyses, Office for Budget Responsibility Public Finances Databank and HM Treasury June 2019 GDP Deflators

# We spend a lot on health care now...

## Historic health spending as % GDP

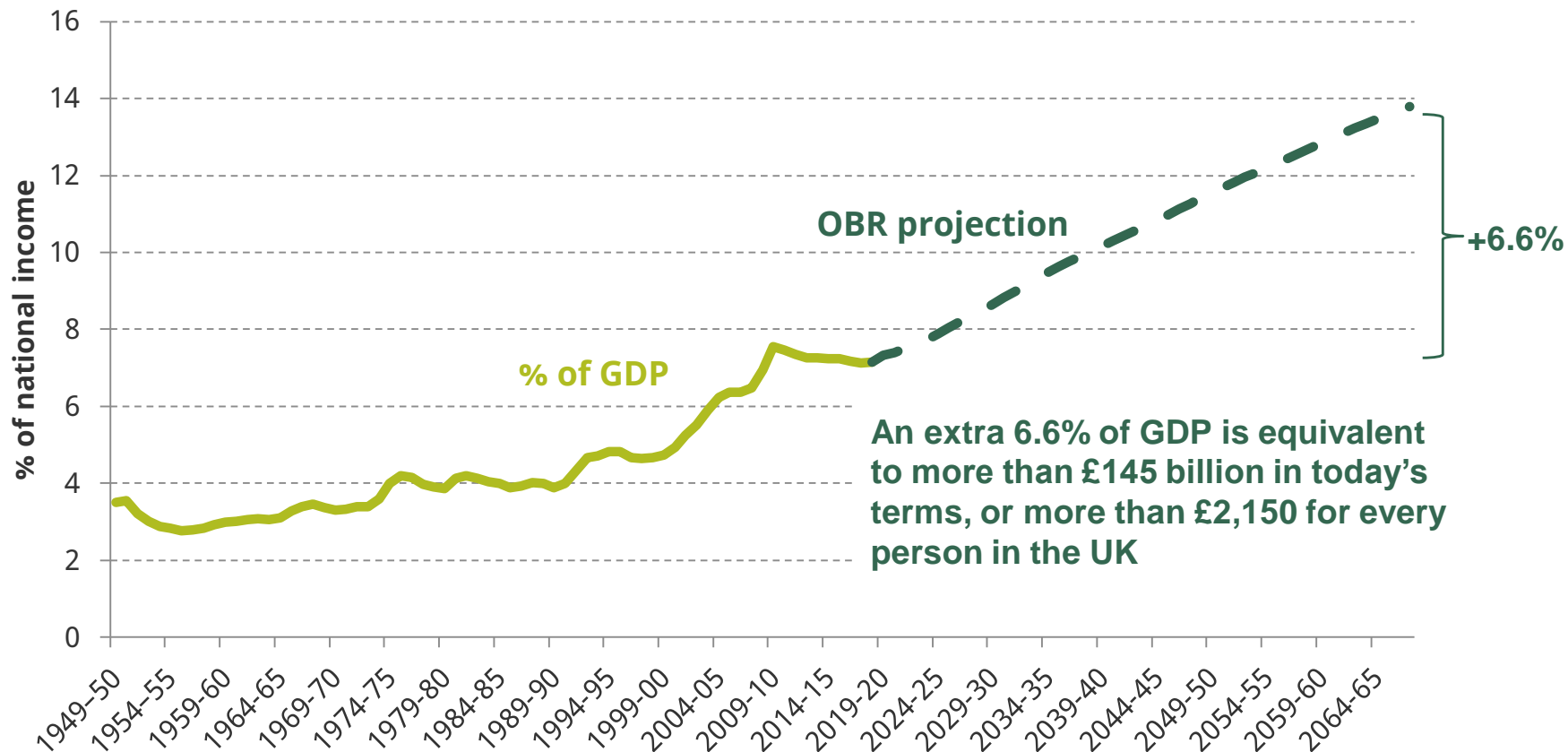


Source: Data underlying previous chart and OBR Fiscal Sustainability Report, July 2018  
(<http://obr.uk/fsr/fiscal-sustainability-report-july-2018/>)



# ... and we're going to spend more in future

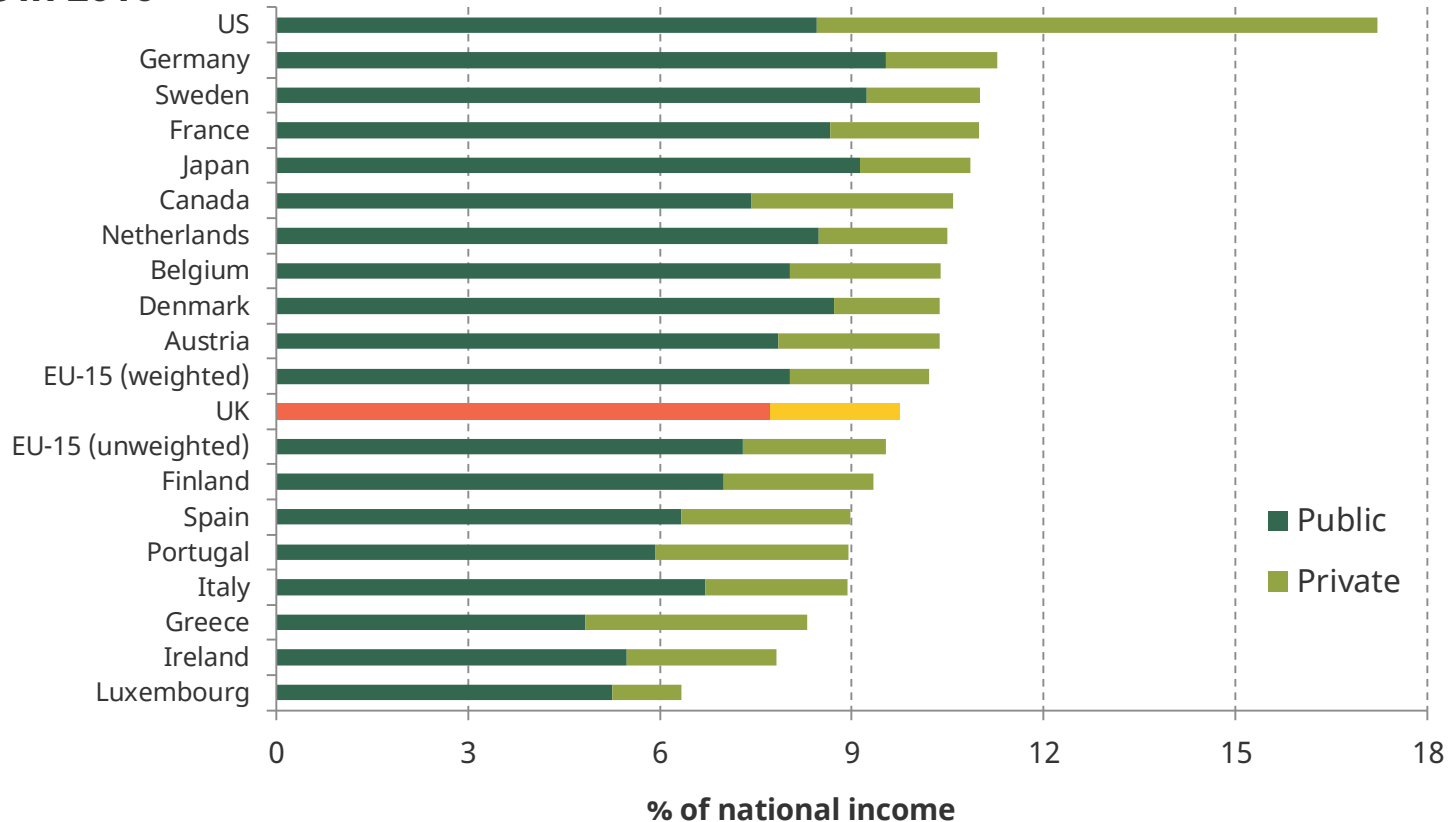
## Historic and Office for Budget Responsibility's projected health spending as % GDP



Source: Data underlying previous chart and OBR Fiscal Sustainability Report, July 2018  
(<http://obr.uk/fsr/fiscal-sustainability-report-july-2018/>)

# We spend a lot on health care: Exhibit C

## Public and private health spending as a percentage of national income in 2016



Note: Figures shown here are using the OECD's measure of health spending, which differs from that used in previous slides.

Source: OECD Health Statistics

([http://stats.oecd.org/index.aspx?DataSetCode=HEALTH\\_STAT](http://stats.oecd.org/index.aspx?DataSetCode=HEALTH_STAT))

# Why do economists care about health care?

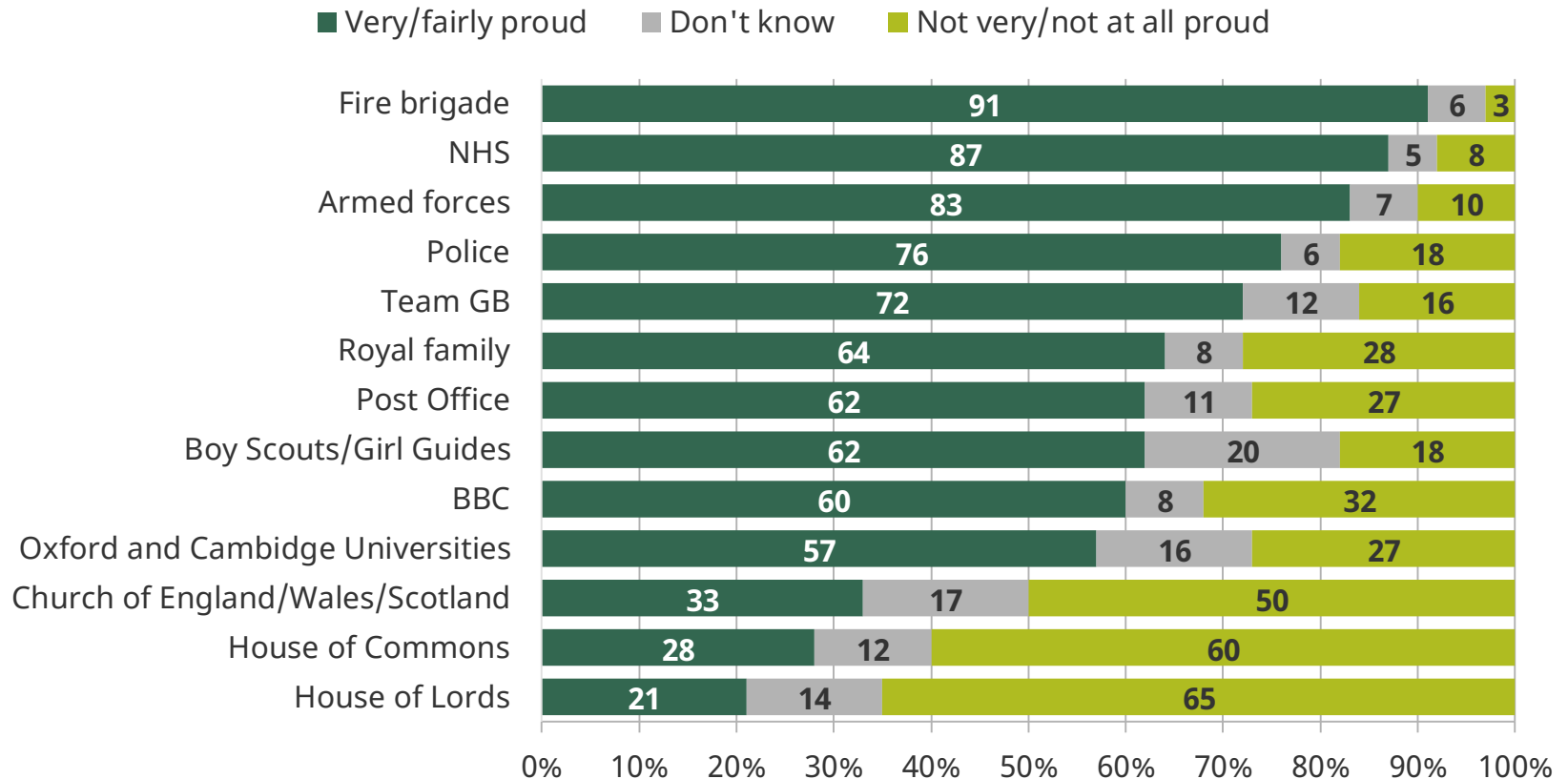
- We spend a lot on health care
- Health is an important input or component of human capital
  - e.g. Fetal conditions have been shown to have substantial impacts on economic outcomes later in life (Almond & Currie, 2011)
    - Almond (2006) found that individuals who were in utero at the peak of the 1918 influenza pandemic in the US typically display reduced educational attainment, lower income, lower socioeconomic status and increased rates of physical disability
    - Black et al (2013) find that prenatal exposure to low-dose radiation in Norway (from Soviet weapon testing) was associated with reduced educational attainment, earnings and cognitive ability

# 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

# The National Health Service is highly popular

To what extent would you say you are proud of each of the following institutions?



Source: YouGov, July 2018, <https://yougov.co.uk/topics/politics/articles-reports/2018/07/04/nhs-british-institution-brits-are-second-most-prou>

# Why do economists care about health care?

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  - Brits consistently report health as being one of the most important issues facing the country (typically second only to Brexit)
  - Economists can make a valuable contribution to a high-profile debate

# 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
- It's complicated – which makes it interesting!
  - *“Now, I have to tell you, it's an unbelievably complex subject. Nobody knew health care could be so complicated.”* – Donald Trump

# The economics of health care

- 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*)
- At the heart of the issue are a number of fundamental economic problems



# What if we just left it to the market?

## We'd expect people to demand insurance against health risks

- But how would a private insurance market work? Would it run into problems? Why does the government have to get involved?

## Adverse selection

- Asymmetric information: individuals know more about their risk level than the insurer
  - At average fair price, individuals with higher risk of getting sick are more likely to buy health insurance than people with low risk
  - Insurers make losses → raise the price of insurance further → only very high risk people buy it → insurers make losses again
  - Can lead to market failure where no equilibrium supports provision of insurance
- Classic papers: Akerlof (1970), Rothschild and Stiglitz (1976)

# What if we just left it to the market?

## Moral hazard

- With full health insurance, people might behave in such a way that makes them more likely to need (expensive) health care
  - Prior to hospital: bad diet, dangerous sports, smoking, etc.
  - In hospital: excessive number of medical tests, demanding expensive treatments, staying for longer than needed
- The result: higher costs for insurers

# What if we just left it to the market?

## Externalities

- Infectious disease
- Healthy workers are more productive and absent less

## A competitive market?

- A large number of buyers and sellers

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# Publicly funded health care

## Almost all OECD countries have universal health insurance

- Desirable if health risks are outside people's control (age, genetics)
  - Perhaps less so if due to choices (diet, exercise)
- Government intervention can improve market efficiency and take into account positive externalities – but this involves redistribution

## Can address adverse selection, but moral hazard issue remains

- Moral hazard exists with both private and social insurance as long as the insurer cannot perfectly monitor the person insured
  - Recall: we might want to partially, but not completely, insure individuals against risks (Cutler and Zeckhauser, 2000)
  - One (controversial) way to do that is through user charges



# Key things to take away

- The government steps in to provide social insurance against a range of adverse events
- The optimal policy may be to partially, but not fully, insure individuals against these adverse events: the devil is in the detail
- Universal health care is just one example of this, but a particularly prominent one

# Thank you

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# References

- Akerlof, George A. (1970), "The Market for "Lemons": Quality Uncertainty and the Market Mechanism", *The Quarterly Journal of Economics*, 84 (3): 488-500
- Almond, Douglas (2006), "Is the 1918 Influenza Pandemic Over? Long-Term Effects of In Utero Influenza Exposure in the Post-1940 U.S. Population", *Journal of Political Economy*, 114(4): 672-712
- Almond, Douglas, and Currie, Janet (2011), "Killing Me Softly: The Fetal Origins Hypothesis", *Journal of Economic Perspectives*, 25 (3): 153-72
- Arrow, Kenneth (1963), "Uncertainty and the welfare economics of medical care", *American Economic Review*, 53: 941-973
- Chetty, Raj & Finkelstein, Amy (2014), "Social Insurance: Connecting Theory to Data", NBER Working Paper No. 18433 (<http://www.nber.org/papers/w18433>)
- Black, Sandra E., Bütikofer, A., Devereux, Paul J. & Salvanes, Kjell (2013), "This Is Only a Test? Long-Run Impacts of Prenatal Exposure to Radioactive Fallout", NBER Working Paper 18987 (<http://www.nber.org/papers/w18987.pdf>)
- Cutler, David M. (1996), "Why Don't Markets Insure Long-Term Risk?", Unpublished working paper ([https://scholar.harvard.edu/files/cutler/files/ltc\\_rev.pdf](https://scholar.harvard.edu/files/cutler/files/ltc_rev.pdf))

# References

- Cutler, David M. & Zeckhauser, Richard J. (2000), “The anatomy of health insurance”, in: Culyer & Newhouse (ed.), Handbook of Health Economics, chapter 11, pages 563-643. (<http://www.nber.org/papers/w7176>)
- Einav, Liran & Finkelstein, Amy (2017), “Moral Hazard in Health Insurance: What We Know and How We Know It”, Alfred Marshall Lecture (<https://economics.mit.edu/files/14545>)
- O’Dea, Cormac & Sturrock, David (2018), “Subjective expectations of survival and economic behaviour”, IFS Working Paper W18/14
- Oster, E., Shouldon, I., Quaid, K., Dorsey, E. (2010), “Genetic adverse selection: Evidence from long-term care insurance and Huntington disease”, Journal of Public Economics, 94, 1041-1050
- Rothschild, Michael & Stiglitz, Joseph (1976), “Equilibrium in Competitive Insurance Markets: An Essay on the Economics of Imperfect Information”, The Quarterly Journal of Economics, 90(4), 629-649
- YouGov (2018) (<https://yougov.co.uk/topics/politics/articles-reports/2018/07/04/nhs-british-institution-brits-are-second-most-prou>)