Overview

- Reasons for state intervention in the HE sector
- An overview of how HE is funded in England
- Focus on the 2012 reform to HE funding and implications for:
  - universities
  - students
  - graduates
  - public finances
  - access
- Current policy environment and ongoing research
Why might the market alone lead to inefficient outcomes?

1. Externalities
2. Credit market failure
3. Risk and uncertainty
4. Information problems

- If the government is going to intervene, what is the correct level of intervention?
1. Externalities

- Education may create benefits to society over and above those that accrue to the individual
  - Total return to education = private return + social return
  - Private returns:
    - Large “graduate premium” - 17% for men and 37% for women – Blundell et al 2000
    - Britton, Shephard & Vignoles (2015) show graduates earn more than twice that of non-graduates and are much more protected against recessions
  - Social return
    - Higher employment and earnings
    - Improve productivity and wage of other workers (Moretti 2004)
    - Better health, lower crime, more open, well informed, engaged society.
- Individuals won’t take social returns into account when making decisions implying inefficient overall level.
- So government should subsidise – but for some the return is so large they will acquire the efficient level of education anyway!
2. Credit market failure

- HE study by students requires cash for fees and living expenses

- With perfect credit markets, students borrow now and repay from future income

- But credit markets are *not* perfect:
  1. Lack of collateral to secure debt against
  2. Asymmetric information: borrower has more information than lender, exposing lender to adverse selection/moral hazard.

  - These factors lead to:
    - Higher interest rates or credit rationing
    - Inefficiently small amount of borrowing and investment

- So government should provide state-backed loans. But how cheap should these be?
3. Risk and uncertainty

- Students are risk averse...
- ...and be reluctant to borrow if they have mortgage-style repayments
  - Uncertain returns to a degree: positive on average but high variance
  - Perceived risk of failing the degree (or getting a bad grade)
  - Might need high risk premium to make them invest (so high returns) or insurance that may not be efficient for the market to provide (such as income-contingent repayments).
- So government should insert insurance into these state backed loans. But how much?
4. Information problems

• To make rational decisions, individuals must be informed about
  – Nature of product (e.g. university and/or subject quality, HE experience)
  – Prices (e.g. fees, living costs, foregone earnings, debt repayments)
  – Future benefits (e.g. earnings, health, happiness....)

• Would the market be able to provide this information appropriately?
  – And would they want to? They might not want to encourage certain types of ‘high risk’ students from attending.

• There are also considerable concerns about debt aversion

• So government should intervene to improve information available to prospective students (this one is a bit easier).
How is HE funded in England?
HE funding in England – overview

- Since 1998, student contributions to the cost of their education have increased considerably
  - Upfront (but means-tested) fees of £1,000/year introduced in 1998
  - Fees rose to £3,000/year in 2006 and were subsequently increased in line with inflation; paid by all students but no longer upfront
  - Maximum fees rose to £9,000/year in 2012 and cap has stayed there since

- Meanwhile teaching grants paid directly from government to universities have fallen; only clinical and lab-based years funded now
HE funding in England – student support

• England is relatively unusual in offering students financial support to help cover living costs as well as tuition fees

• Grants
  – Those with family income of up to £25,000/year are entitled to the maximum grant which was expected to reach £3,489 in 2016-17
    • 41% of students received this, with 16% receiving a partial grant
  – Scrapped last year, replaced with loans for 2016/17.

• Loans
  – All students are entitled to borrow some money from the government
  – Amount depends on where you live (higher for London, lower for those at home)
    • Used to depend on grant allowance, now decreases with parental income (maximum of around £8,000 per year).
Overview of 2012 reform
# England’s HE funding system: 2011-12 vs. 2012-13

<table>
<thead>
<tr>
<th></th>
<th>2011-12</th>
<th>2012-13</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Fees</strong></td>
<td>Max £3,375</td>
<td>Max £9,000</td>
</tr>
<tr>
<td></td>
<td>Deferred via fee loan</td>
<td>Deferred via fee loan</td>
</tr>
<tr>
<td></td>
<td>No exemptions</td>
<td>Partial fee waivers for poorest students</td>
</tr>
<tr>
<td><strong>Maintenance grants</strong></td>
<td>Up to £2,906, plus bursaries</td>
<td>Up to £3,250</td>
</tr>
<tr>
<td><strong>Maintenance loans</strong></td>
<td>Up to £4,950</td>
<td>Up to £5,500</td>
</tr>
<tr>
<td><strong>Loan repayment</strong></td>
<td>9% of earnings above £15,795 in 2012 (uprated with inflation)</td>
<td>9% of earnings above £21,000 (in 2016) (uprated with earnings)</td>
</tr>
<tr>
<td></td>
<td>Interest rate = RPI + 0%</td>
<td>Interest rate = RPI + 0% rising to RPI + 3% for income of £41,000+ RPI + 3% while studying</td>
</tr>
<tr>
<td></td>
<td>Debt write off after 25 years</td>
<td>Debt write off after 30 years</td>
</tr>
</tbody>
</table>
IFS analysis of the reforms

• Simulate future graduate earnings using survey data and imposing structure on earnings dynamics

• From this we can estimate repayments through the lifecycle.
  – This is a difficult exercise and results are sensitive to assumptions!

• Evaluate the financial impact of the 2012 reform for students, graduates, universities and for the taxpayer
  – A lot of political and media interest in the “RAB” charge – i.e. the % of student loans the government will have to write off.

• Investigate not only average changes but also distributional effects of policy changes
## Implications of the reforms: Sources of funding and spending per student

<table>
<thead>
<tr>
<th>Source</th>
<th>2011 system</th>
<th>2012 system</th>
<th>% change</th>
</tr>
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<tbody>
<tr>
<td>Taxpayers contribution</td>
<td>£25,847</td>
<td>£24,592</td>
<td>–5%</td>
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<tr>
<td>HEFCE funding grants</td>
<td>£12,012</td>
<td>£2,010</td>
<td>–83%</td>
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<td>National Scholarship Programme</td>
<td>£0</td>
<td>£198</td>
<td></td>
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<td>Maintenance grants</td>
<td>£4,741</td>
<td>£4,941</td>
<td>4%</td>
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<td>£ loan subsidy</td>
<td>£9,094</td>
<td>£17,443</td>
<td>92%</td>
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<td>% loan subsidy</td>
<td>37.6%</td>
<td>43.3%</td>
<td></td>
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<tr>
<td>Graduates repayments</td>
<td>£15,075</td>
<td>£22,843</td>
<td>52%</td>
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<td>Universities</td>
<td>£22,143</td>
<td>£28,250</td>
<td>28%</td>
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<tr>
<td>Students</td>
<td>£18,779</td>
<td>£19,185</td>
<td>2%</td>
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Implications for graduates: initially lower annual repayments, but made for longer . . .

Implications for graduates: NPV of total real repayments across distribution of graduate lifetime earnings
Implications for graduates: percentage of graduates with real debt write-offs across distribution of graduate lifetime earnings.
Estimated costs of student loans and future earnings: sensitive to earnings growth assumptions

<table>
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<th>Real earnings growth assumption</th>
<th>Average loan subsidy</th>
<th>Total loan subsidy for intake of 300,000 students</th>
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<tr>
<td>−1% per year</td>
<td>51.6%</td>
<td>£20,806</td>
</tr>
<tr>
<td>0% per year</td>
<td>46.8%</td>
<td>£18,859</td>
</tr>
<tr>
<td>1% per year</td>
<td>43.7%</td>
<td>£17,596</td>
</tr>
<tr>
<td>Baseline (1.1% per year)</td>
<td>43.3%</td>
<td>£17,443</td>
</tr>
<tr>
<td>2% per year</td>
<td>40.0%</td>
<td>£16,121</td>
</tr>
<tr>
<td>3% per year</td>
<td>36.7%</td>
<td>£14,795</td>
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Note: Figures are for the total cost over the course of a student’s degree and are in 2014 prices discounted to 2012. Source: IFS report “estimating the public cost of student loans”
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Implications for access
HE participation overall and at high status institutions for all pupils first eligible to go in 2010-11, by SES

% pupils going to university at age 18/19: highest SES quintile group including state and private school pupils

- Lowest SES quintile group: 19% HE participation overall, 2.9% HE participation at a high status institution
- 2nd quintile group: 26% HE participation overall, 4.8% HE participation at a high status institution
- 3rd quintile group: 34% HE participation overall, 7.7% HE participation at a high status institution
- 4th quintile group: 43% HE participation overall, 12.2% HE participation at a high status institution
- Highest SES quintile group: 61% HE participation overall, 28.2% HE participation at a high status institution
- Difference (highest - lowest): 42.0pppts for HE participation overall, 25.3pppts for HE participation at a high status institution

Source: authors’ calculations based on linked schools and universities administrative data for the cohort first eligible to start university in 2010-11 (who sat their GCSEs in 2007-08)
The SES gap in university applications

<table>
<thead>
<tr>
<th>Year</th>
<th>POLAR Q1</th>
<th>POLAR Q5</th>
<th>Percentage point difference (Q5-Q1)</th>
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<td>2004</td>
<td></td>
<td></td>
<td>31.5</td>
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<td>2005</td>
<td></td>
<td></td>
<td>38.5</td>
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<td>2006</td>
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<td>2011</td>
<td></td>
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<td>32.5</td>
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<tr>
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<td>31.5</td>
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<td>2013</td>
<td></td>
<td></td>
<td>30.5</td>
</tr>
<tr>
<td>2014</td>
<td></td>
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<td>29.5</td>
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BUT: SES gap in terms of % getting 5 A*-C grades in GCSEs and equivalents has fallen substantially.

% pupils getting 5 A*-C grades in GCSEs and equivalents

2010-2012 figures based on SFR 04/2013: GCSE and Equivalent Attainment by Pupil Characteristics in England.
2004-2005 figures based on authors’ calculations using Key Stage 4 and PLASC data.
AND: the socio-economic gaps in participation are smaller for non white-British ethnic groups...
Current policy environment & ongoing research
Summarising the trends in government reforms

Gone from an entirely government funded system to an almost entirely fee funded system. Why?

• Partly because of issues with fairness
  – “Free is just another word for somebody else pays”. Nick Barr

• Primarily it is because of concerns about quality:
  – University funding becomes part of government finances and inevitably gets squeezed.
  – No fees weakens competitive incentives for universities.

However they got some of this wrong:

– Demand exceeds supply, loans reduce price sensitivity, information is incomplete.
– Consequently almost all universities set fees equal to £9k.
Impact of 2012 reforms on subsequent policy

• This blew up the government cost resulting in:
  – Freezing of fees from 2012, recreating funding pressures.
  – Freezing of the repayment threshold
  – Cuts to bursaries (nurses, NSP) and maintenance grants.
  – Cutting of the discount rate applied to future repayments

• Meanwhile, competition remains on the agenda:
  – Removal of the cap in student numbers
  – Reduced barriers to entry for private providers
  – Teaching excellence framework.
Ongoing research

• Further issues associated with the current system:
  – Almost all of the subsidy coming through unpaid loans
  – Consequently, subsidy is not targeted efficiently. Also open question of how effective an uncertain subsidy is.
  – There remain information failures

• With Anna Vignoles (Cambridge), Neil Shephard (Harvard) I have developed a new data source that addresses these issues
  – We link all borrowers from the Student Loan Company to HMRC administrative tax records. We therefore get:
    • For 2.6 million borrowers, institution, subject and amount borrowed.
    • We can use this to estimate much more precisely where the loan subsidy is targeted.
    • Also addresses information failures.
Female earnings age 31/32 by subject

- 20th Perc.
- No University (20th Perc.)
- Median
- No University (Median)
- 90th Perc.
- No University (90th Perc.)
Male earnings age 31/32 by subject

[Graph showing earnings distribution by subject, with various markers representing different percentiles and educational backgrounds.]
Male earnings age 31/32 by institution

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- 90th Perc.
- Median
- No University (20th Perc.)
- No University (Median)
- No University (90th Perc.)

1 = Cambridge
2 = Manchester
3 = Newc
4 = Bristol
5 = Cardiff
6 = Nottingham
7 = Southampton
8 = York
9 = Warwick
10 = Exeter
11 = Oxford
12 = Liverpool
13 = Durham
14 = Edinburgh
15 = Kings
16 = Imperial
17 = LSE

Male annual earnings (£000's) 2012/13 tax year

HEP ranked on median annual earnings
Male earnings age 31/32 by institution

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HEP ranked on median annual earnings

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Summary

- Good economic justification for intervention in HE.
- Also good reasons to reform the system to make graduates pay.
  - Fairness, competitive incentives
- 2012 reforms successfully increased university funding, primarily by increasing the graduate contribution considerably
  - Uncertain, but it did not appear to significantly harm access to HE, although this remains an issue.
- However reforms did not succeed in considerably lowering the taxpayer contribution and there were design flaws:
  - Namely, almost all universities moving the cap meant the subsidy is not necessarily well targeted.
  - Creates cost pressures, without properly addressing competitive issues.
  - Recent reforms may resolve some of these.
Additional Slides
Female earnings age 31/32 by institution

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1 = Cambridge  7 = Southampton  13 = Durham
2 = Manchester  8 = York  14 = Edinburgh
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Female earnings age 31/32 “rich vs. rest”

- High Income HH
- Low Income HH
- No University

Female annual earnings (£000's) 2012/13 tax year

HEP ranked on median annual earnings
Male earnings age 31/32 “rich vs. rest”

- High Income HH
- Low Income HH
- No University

HEP ranked on median annual earnings

Male annual earnings (£000's) 2012/13 tax year
Freezing the repayment threshold
More students at university?

- Until 2015-16, universities faced limits on the no. of undergraduate students they could recruit . . . but now the cap has been lifted
- Government predicted up to 60,000 more students would enter
- How much this increases the cost of HE depends on how likely the new students are to repay their loans

<table>
<thead>
<tr>
<th>If the extra students are similar to ...</th>
<th>Average loan subsidy per extra student</th>
<th>Total loan subsidy for extra 60,000 students</th>
<th>Total taxpayer contribution for extra 60,000 students</th>
</tr>
</thead>
<tbody>
<tr>
<td>... the current graduate population</td>
<td>£17,443</td>
<td>£1,047m</td>
<td>£1,476m</td>
</tr>
<tr>
<td>... the bottom 25% of graduate lifetime earners</td>
<td>£33,514</td>
<td>£2,011m</td>
<td>£2,455m</td>
</tr>
<tr>
<td>... the bottom 50% of graduate lifetime earners</td>
<td>£28,275</td>
<td>£1,697m</td>
<td>£2,126m</td>
</tr>
<tr>
<td>... the bottom 75% of graduate lifetime earners</td>
<td>£22,564</td>
<td>£1,354m</td>
<td>£1,780m</td>
</tr>
</tbody>
</table>