“Pay It Forward” and Higher Education Subsidies: A Median Voter Model

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Background

- Student loans address capital constraints for user charges for higher education.
- Costs for higher education are shared between students, governments, and donors (especially at private institutions).
- Under cost-sharing, the amount of subsidy provided by governments (and donors) shapes price levels charged to students.
- These price levels shape the need for student loans.
- Our piece considers what happens to government subsidies for public higher education under different types of pricing structures.

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Current Up-front Tuition Model

- The current higher education pricing model with up-front tuition assumes intergenerational transfer.
  - Parents are expected to pay for their children’s education.
  - Students who do not have parental financial support are more likely to need to borrow from future earnings to pay for college (*i.e.* take out student loans).
- Changing the mechanics of user-charges for higher education has the potential to shift the assumptions about which generation pays for college.
- Better alignment with today’s reality for most students.
“Pay It Forward”

- Pay It Forward (PIF) models enable students to pay the price of college upon departure from an institution, as opposed to paying upfront tuition.
- Since 2013, at least 24 states have considered legislation on PIF models of higher education finance.
PIF Legislation in the US States

* 2015 proposal would only apply for nursing students

Our paper develops a median voter model of higher education subsidies under PIF policies.

- Uses a framework in which voters belonging to different income groups vote over the level of subsidies to higher education.

We analyze the impact of two facets of potential PIF policies on college access and on voting equilibria over subsidy levels:

- Deferred tuition approach.
- Income share approach.
A subsidy \( (s) \) to higher education lowers the cost to students to \( (E - s) \).

What level of subsidy will be chosen through majority voting?

- Both High and Low may favor a low subsidy:
  - High does not need subsidies… few members of Low attend college.
PIF Model – Deferred Tuition

3 Income Groups
Deferred Tuition

- Enhances access, as credit constraints become irrelevant.
- Subsidies may still be enacted for redistribution.

Chosen through majority voting? Key factor: does M’s income exceed the mean income in society?
- Subsidies may increase, decrease or tuition.
- Low now attends college, so favors subsidies (which will be enacted whenever Middle and Low both favor them).

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PIF Model – Income Share

3 Income Groups
Graduates pay a share of income not directly related to E

- Enhances access, as credit constraints become irrelevant.
- Subsidies may still be enacted for redistribution.

What level of subsidy will be chosen

Key factor: \( \frac{f(y_i)}{y_i} > \frac{f}{\mu} \)

- Depends on how higher education affects the distribution of income.
  the relative distribution of income…
- but not if college widens the relative distribution of income.

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Extensions

- Add risk-aversion and uncertainty
  - Payoff from college attendance is a random variable.
- Multidimensional heterogeneity
  - In addition to heterogeneity in income, “ability” may differ within an income group.
- Endogenous choice of taxes on post-college incomes
  - Second-period taxes are chosen in political equilibrium, potentially affecting the after-tax payoff from college.

In general, results on voting outcomes are quite robust, albeit with some modifications to the conditions required.
# Deferred Tuition and College Completion: Cross-National Comparisons

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<tr>
<th>Deferred Tuition</th>
<th>Up-front Tuition</th>
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<td>United States of America</td>
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• In general, nations with deferred tuition policies have higher gross graduation ratios than nations with upfront tuition policies.

• All nations with deferred tuition policies have higher ratios than the US.
Conclusions

• Important distinctions between a deferred tuition model and an income share model.
• Important increases in college access can be achieved with either type of deferred tuition system.
• In many of the voting equilibria of our model, changing from an up-front tuition system will not result in a decline of government subsidy values.
• More discussion is needed in both the policy and academic communities about the type of tuition system used in the US.
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Full paper available:
Jennifer Delaney and Dhammika Dharmapala,
'Pay It Forward' and Higher Education Subsidies: A Median Voter Model
SSRN: https://ssrn.com/abstract=2518248

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