"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.

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“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.

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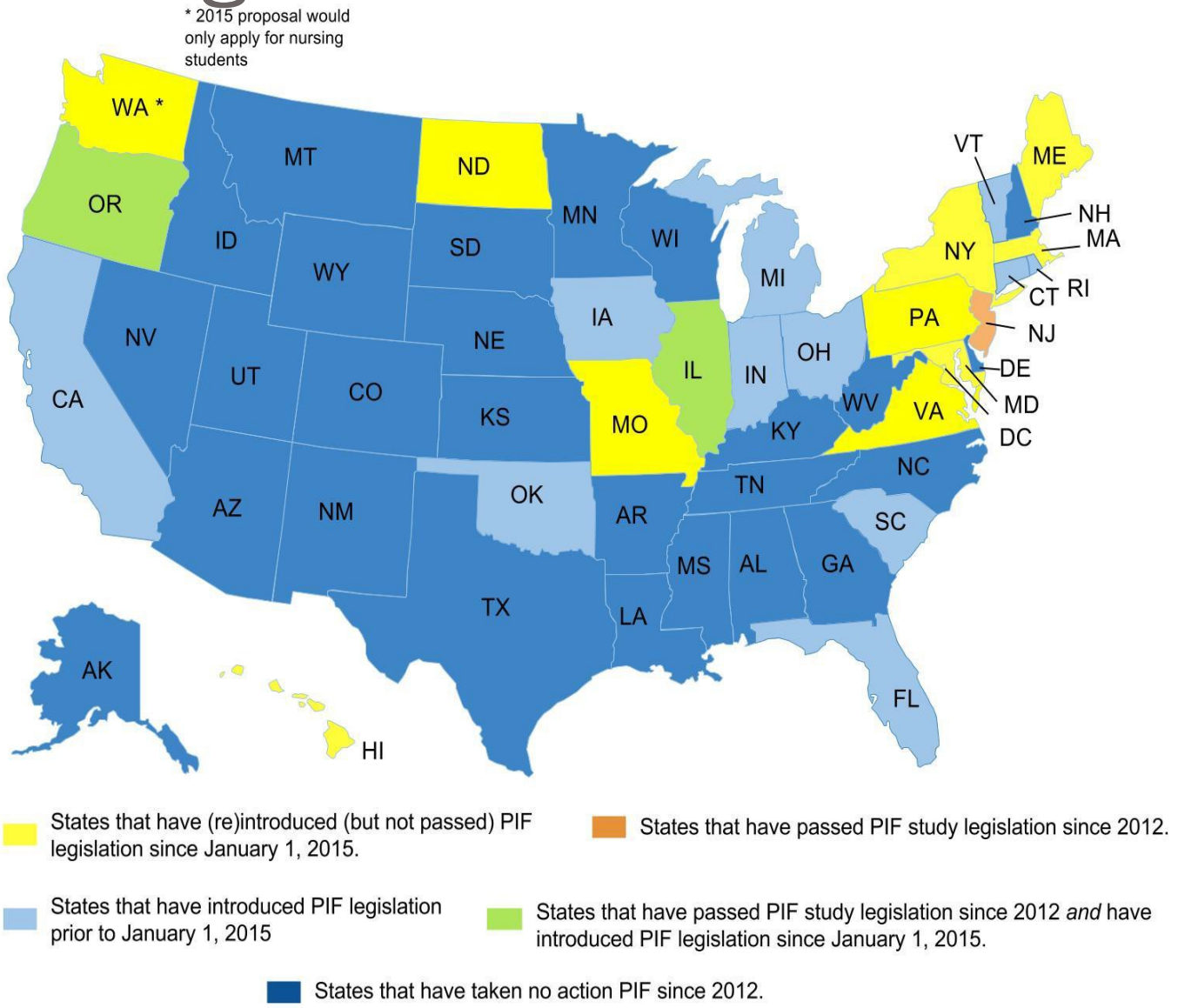
PIF Legislation in the US States



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Source: National Association for College Admissions Counseling (2015) *What is "Pay It Forward?"* http://www.nacacnet.org/issues-action/LegislativeNews/Pages/Pay-It-Forward.aspx (accessed 3/11/2015).

"Pay It Forward"

- 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.

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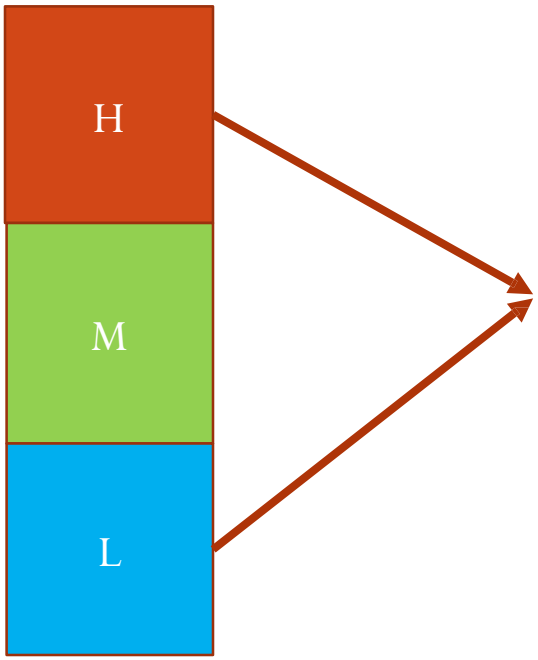
Fernandez and Rogerson (1995) Model

The FR model derives the outcomes of a majority voting political process over the extent of subsidies to higher education and addresses central issues of efficiency and equity in higher education.

UpfrontTuition



- 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.

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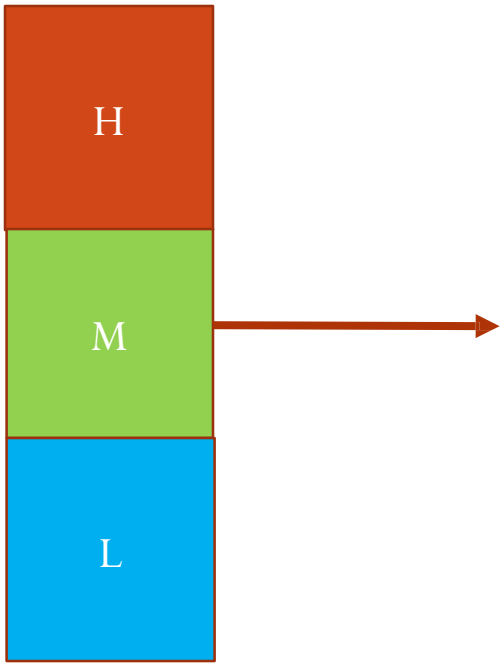
PIF Model – Deferred Tuition

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

3 Income Groups

DeferredTuition



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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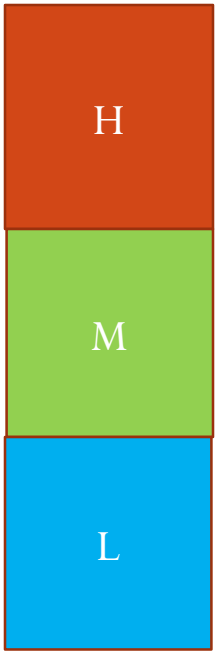
PIF Model – Income Share

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.

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Deferred Tuition and College Completion: Cross-National Comparisons

Deferred Tuition	Up-front Tuition
Australia	Austria
New Zealand	Bulgaria
United Kingdom	Costa Rica
	Indonesia
	Italy
	Japan
	Malaysia
	Mongolia
	Netherlands
	Spain
	Switzerland
	Turkey
	United States of America

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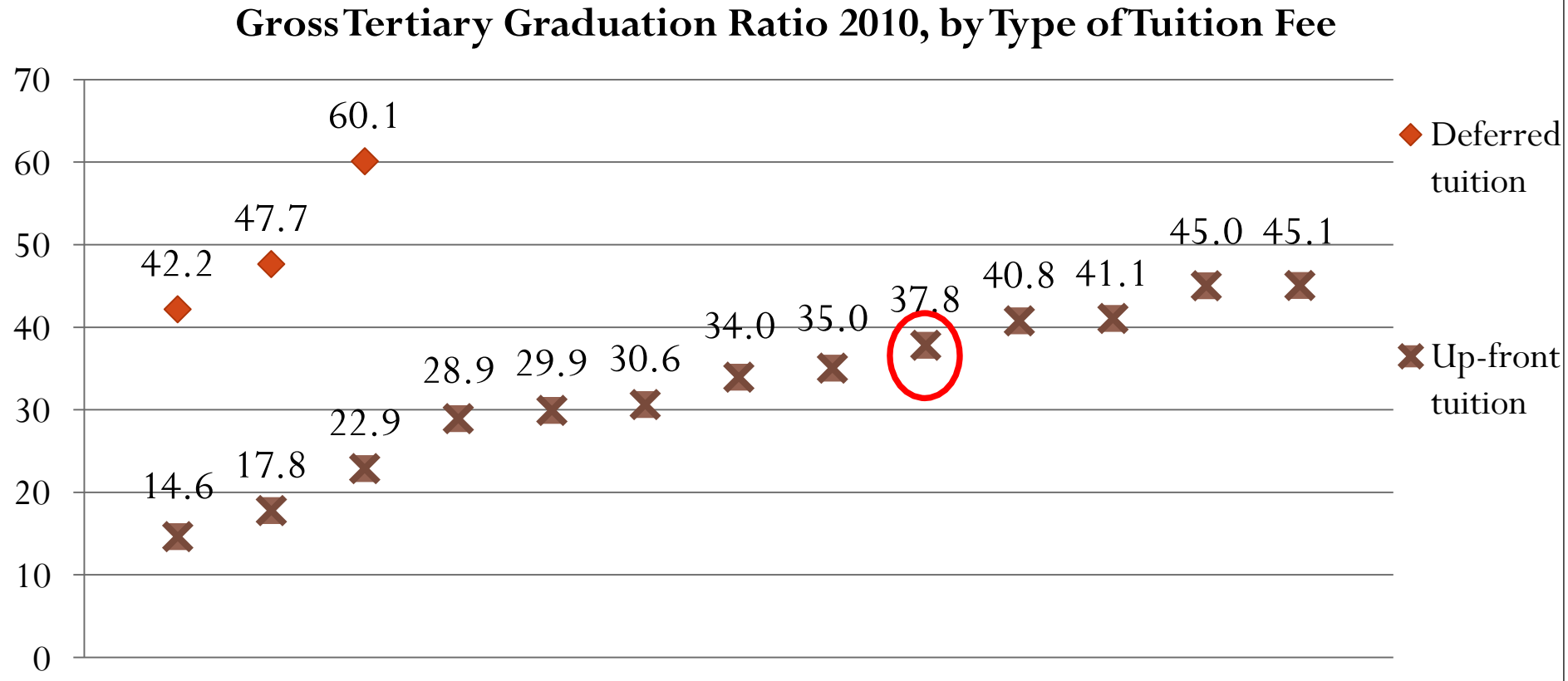

- In general, nations with deferred tuition polices have higher gross graduation ratios than nations with upfront tuition policies.
- All nations with deferred tuition policies have higher ratios than the US.

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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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