

Does accounting for children lead to higher optimal redistribution? OLG model approach.

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Why: income risk affects fertility

The labor market structure and income risk affect fertility decision: **income risk** $\uparrow \Rightarrow$ **fertility** \downarrow .

With PAYG social security, children are merit goods: **by boosting fertility, higher redistribution brings it closer to the socially optimal level.**

The negative link between fertility and income risk affects the size of optimal redistribution.

Filling the literature gaps

The recent literature extensively studied the problem of efficient redistribution via labor income tax.

Accounting for life cycle and family structure has significant implications for the optimal scale of redistribution.

My main contribution is to study optimal redistribution in a framework that accounts for endogenous fertility and family policies.

Optimal redistribution maximize social welfare under the veil of ignorance.

This paper

1. In an OLG model calibrated to the US economy, **search for the optimal labor tax progression** within a class of tax functions from Benabou (2002). The level of progression is measured by parameter λ :

$$\lambda = \frac{\text{Marginal tax rate} - \text{Effective tax rate}}{1 - \text{Effective tax rate}} \Bigg|_{\text{Avg. income}}$$

2.a. Introduce **universal child benefit** (increase in family policy expenditure by 2% of GDP).

2.b. Search for the **optimal labor tax progression with extended family policy.**

Model

Households consist of two individuals and children (0, 1, 2, 3+), choose consumption and labor.

Individuals decide on completed fertility at age 35 and cover child related cost for 20 years.

Child \Leftrightarrow **long term commitment**

Individuals are risk averse and face idiosyncratic productivity risk \Leftrightarrow lower investment in children

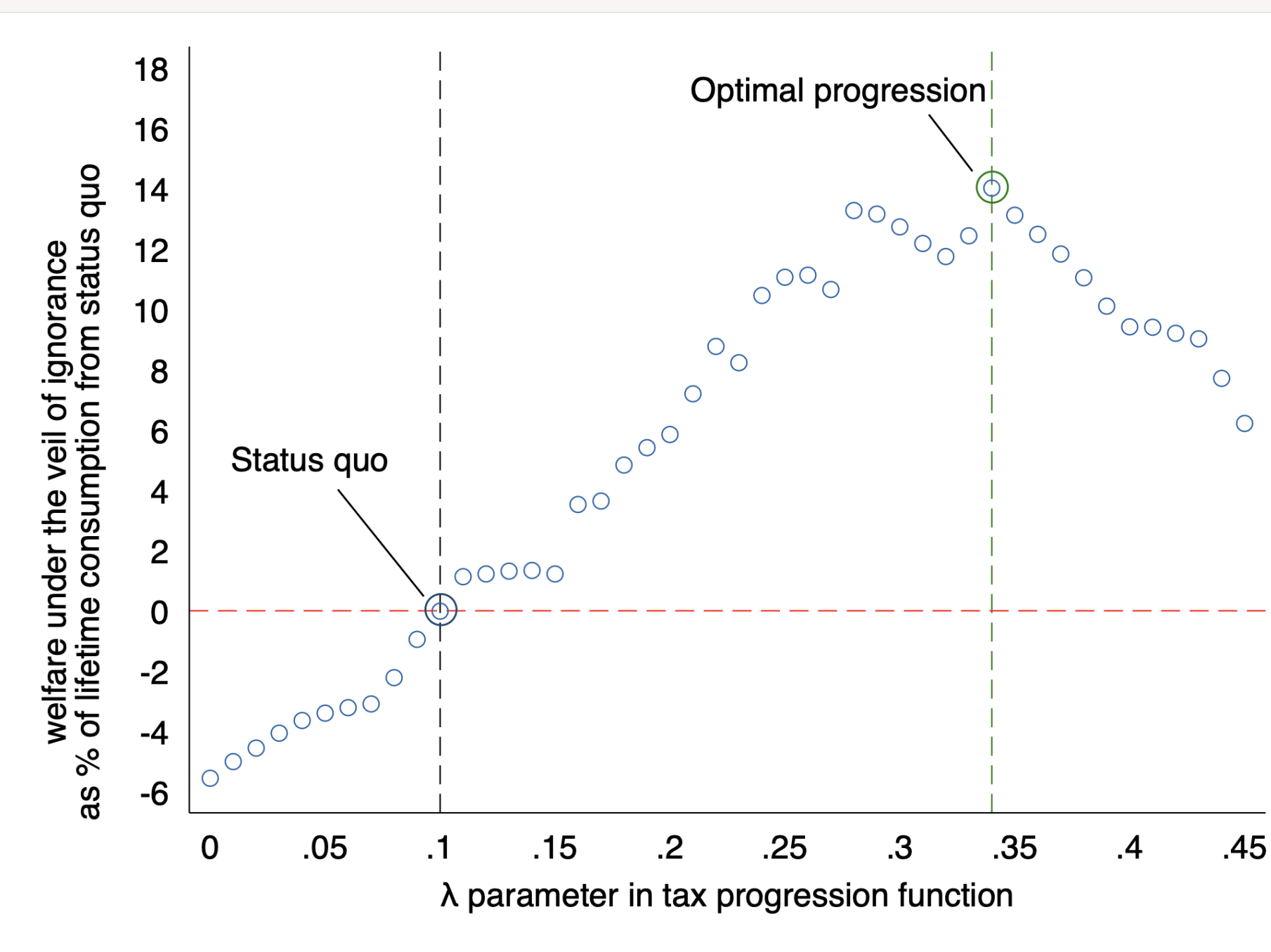
Redistribution via progressive income tax or family policy reduces the income risk.

Government collects taxes, finances public goods (fixed *per capita*) and family policy, operates PAYG DB pension system.

Child is a public good \Leftrightarrow **place for intervention**

Calibration to match US economy 2010-2015.

Results 1: With endogenous fertility optimal redistribution increases



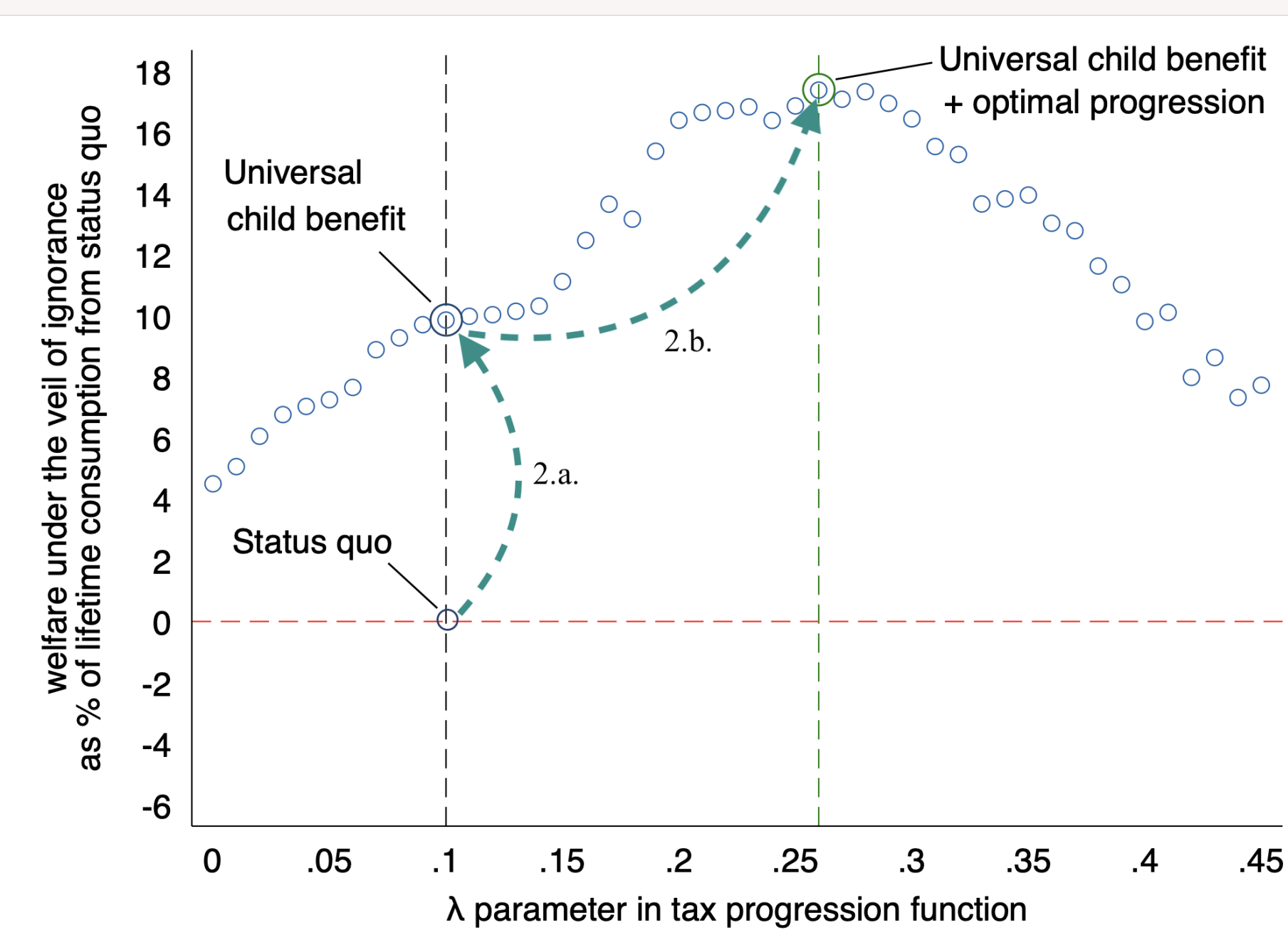
Endogenous fertility increases optimal insurance under the equity–efficiency trade-off.

Progressivity of labor tax \uparrow income risk \downarrow welfare \uparrow

Fertility \uparrow when income risk $\downarrow \Rightarrow$ with PAYG soc. sec. **additional motive for redistribution** in the tax system

Optimal redistribution \gg *status quo*

Results 2: Family policy substitute for redistribution via income tax



2.a. Universal child benefit \Rightarrow redistribution via family policy \uparrow & cost of children $\downarrow \Rightarrow$ income risk \downarrow & fertility $\uparrow \Rightarrow$ welfare \uparrow

2.b. With universal child benefit, optimal labor tax progression \gg *Status quo* **BUT** \ll opt. prog. in no family policy change scenario (Results 1)

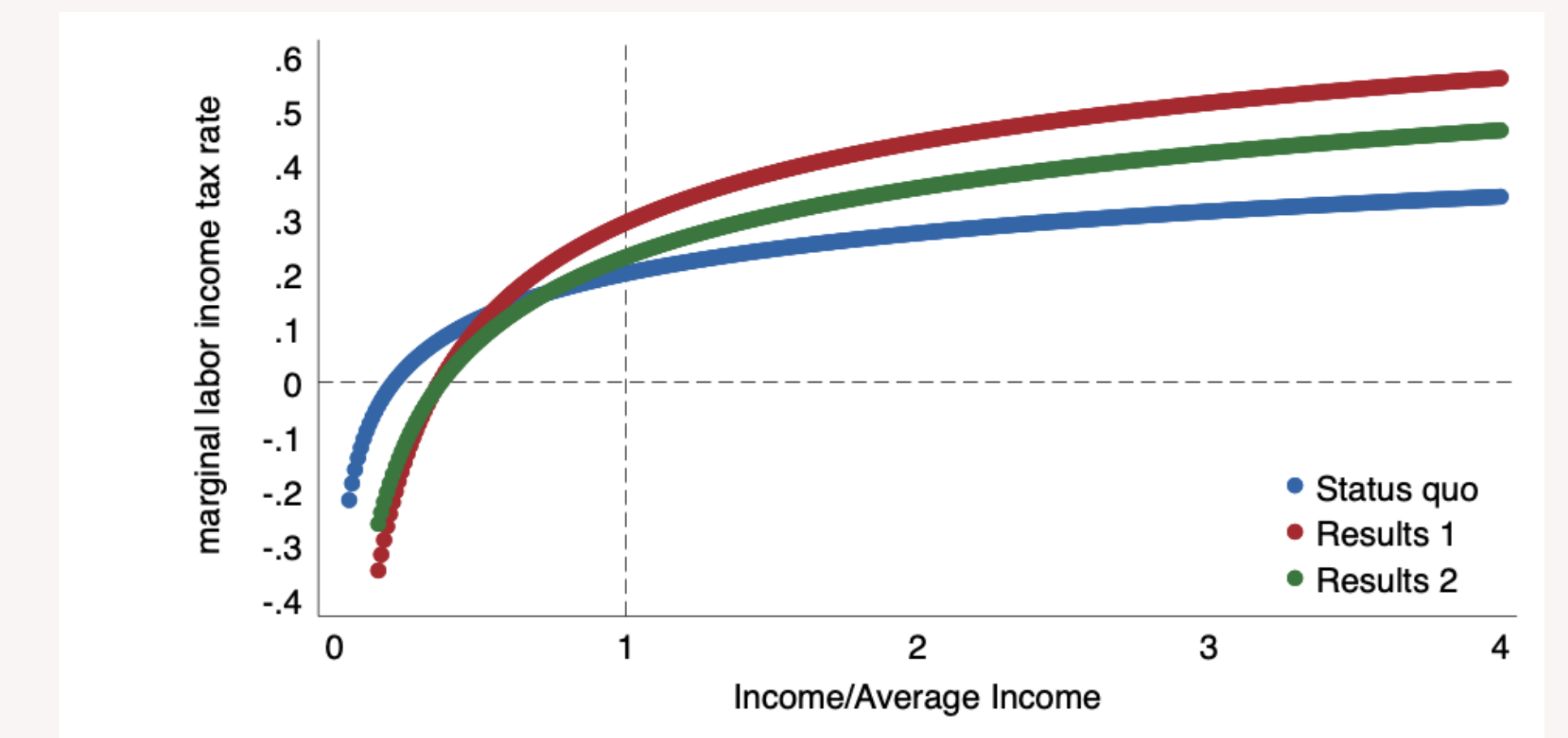
Redistribution via family policy substitute for labor tax progression.

Conclusion

Using OLG model with productivity risk, endogenous fertility, family policy, and progressive labor income tax, I show that:

1. increasing the progression of labor income tax would lead to welfare gains,
2. the optimal tax-schedule depends on the form of family policy.

How big labor tax changes are



Average income: marginal tax rate \uparrow by 3-9 p.p. **BUT** average tax rate even \downarrow .

Highest income: marginal tax rate \uparrow by 10 - 20 p.p.

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