Public Insurance Design and Coverage Gaps under Electoral Competition

Extended Abstract

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1. Introduction

Public debates on health insurance often frame policy as a binary choice between universal public coverage and reliance on private insurance. In practice, however, public insurance systems span a continuum of coverage levels and frequently target specific population groups. Understanding the political determinants of these policies requires a framework that jointly accounts for income heterogeneity, private health risk, and the interaction between public and private insurance provision.

This paper develops a political economy model of health insurance in which policy design is determined endogenously through electoral competition. Voters differ in income and privately observed health risk. Candidates choose policies to maximize electoral support, taking into account how policy affects both redistribution and insurance across heterogeneous agents.

We analyze three environments of increasing richness: (i) a one-dimensional policy space with proportional public coverage financed by linear taxes; (ii) an extension with competitive private insurance markets under adverse selection; and (iii) a multidimensional policy space in which candidates compete over income-contingent menus of insurance contracts. Across these environments, we characterize equilibrium policies and the forces shaping political support for public coverage.

2. One-Dimensional Policy Benchmark

We begin with a benchmark in which candidates propose a proportional public insurance system: a fraction $t \in [0, 1]$ of health expenditures is publicly covered and financed through a linear income tax. Voters have single-peaked preferences over t, implying that equilibrium policy is determined by the median voter.

A key insight is that political support for public coverage is summarized by a simple sufficient statistic: each voter's ratio of expected health losses to income. This statistic captures the trade-off between insurance benefits and tax costs. Voters with high expected losses relative to income favor greater public coverage, while those with lower ratios prefer more limited provision.

We show that full public coverage arises in equilibrium if and only if the median of this ratio exceeds the tax rate required to finance coverage. This condition depends only on the joint distri-

bution of income and health risk and is independent of preferences. Thus, the political feasibility of universal coverage can be evaluated using a transparent, empirically tractable statistic.

A calibration using U.S. data predicts strong support for public insurance: the median voter's preferred coverage level is approximately 0.81. Despite substantial heterogeneity and polarization in preferences, political equilibrium features high (though not necessarily full) public coverage.

3. Private Insurance and Political Support

We next introduce a competitive private insurance market with adverse selection. After public coverage is chosen, individuals may purchase supplemental private insurance from competitive firms offering screening contracts.

Public policy affects equilibrium outcomes in the private market. Higher public coverage reduces the scope for private insurance and mitigates adverse selection, while lower public coverage increases reliance on private contracts. This interaction generates a general equilibrium effect: changes in public policy alter not only direct insurance provision but also the structure of private market allocations.

We show that voters' preferences over public coverage remain single-peaked, so the median-voter characterization continues to apply. However, the presence of private insurance reduces political support for public provision. Intuitively, private markets partially substitute for public insurance, lowering the marginal benefit of expanding public coverage.

Quantitatively, this effect is modest. In our calibration, the median preferred coverage falls from 0.81 to 0.78. While the availability of private insurance increases support for low coverage among some voters, it has limited impact on those who already favor high public provision.

4. Electoral Competition over Mechanisms

We then generalize the policy space to allow candidates to offer arbitrary income-contingent menus of insurance contracts. Because health risk is privately observed, policies must satisfy incentive compatibility constraints, turning the problem into an electoral competition version of a screening model.

In this multidimensional environment, standard median-voter logic breaks down. We adopt a probabilistic voting framework to ensure equilibrium existence and tractability. Candidates choose mechanisms to maximize expected vote shares, taking into account how policy affects both voters' utilities and their responsiveness to policy differences.

Our main result is that political equilibrium implements the solution to a social planner's mechanism-design problem with endogenous welfare weights. Each voter is weighted by their probability of being pivotal in the election, which depends on how sensitive they are to policy changes. These weights are themselves determined endogenously by the political environment.

This characterization yields sharp predictions for the structure of equilibrium policies. Unlike

the one-dimensional benchmark, equilibrium coverage is no longer uniform. Instead, policies feature income-contingent allocations: some groups receive full public coverage, while others receive partial baseline coverage combined with the option to obtain additional insurance.

In particular, we show that equilibrium policies exhibit pooling among relatively healthy individuals, who receive a common baseline level of coverage. Higher-risk individuals obtain additional coverage by paying an extra premium. This structure resembles an income-contingent insurance mandate, in which individuals are required to purchase a minimum level of coverage but may supplement it at increasing marginal cost.

5. Political Foundations of Targeted Public Insurance

The model provides a political-economy rationale for targeted public insurance programs such as Medicaid. The equilibrium allocation depends on the correlation between health risk and political responsiveness within each income group. When higher-risk individuals are more sensitive to policy changes—because they rely more heavily on public insurance—political competition leads to more generous coverage for those groups.

Conversely, when healthier individuals are more responsive—because they bear a larger share of the tax burden—equilibrium policies provide less public coverage. Thus, the distribution of coverage reflects the interaction between redistribution, incentives, and political pivotality, rather than purely utilitarian considerations.

6. Conclusion

Our analysis shows that public health insurance policy cannot be understood without integrating political economy and information economics. Electoral competition does not simply select among exogenous policy options; it determines the structure of optimal insurance mechanisms in the presence of private information and market imperfections.

Even when private insurance markets are available, political forces can sustain substantial public coverage. However, the form and distribution of that coverage reflect the distribution of politically pivotal voters rather than standard welfare criteria. This framework provides a unified way to interpret both the political sustainability of public insurance and the design features of observed programs.