The Political Feasibility of Postponing Retirement

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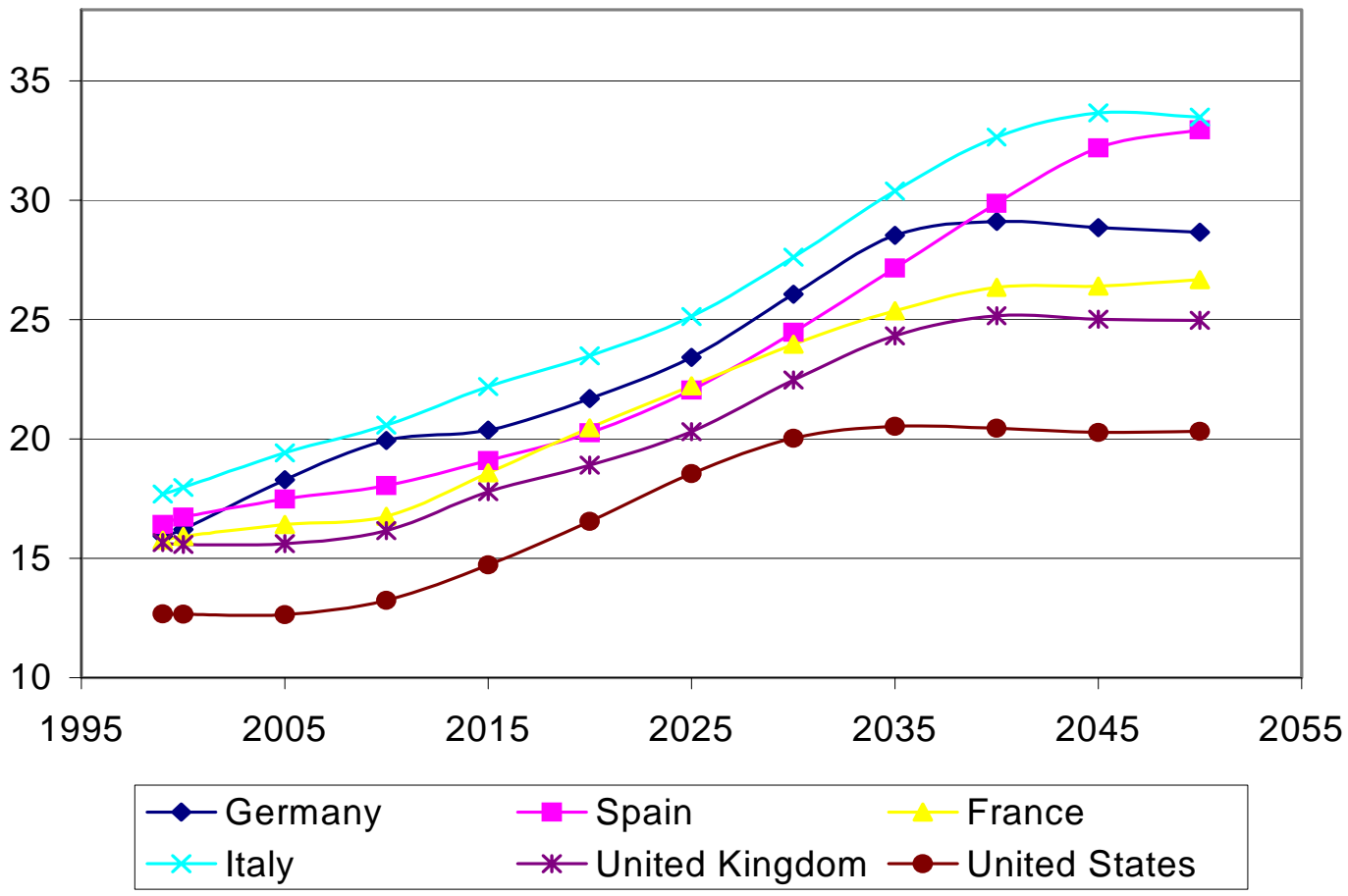Luigi Bocconi

The Political Economy Approach

❑ <u>Conventional Wisdom</u>: Aging – by changing the ratio between Workers and Retirees – may undermine the financial sustainability of PAYG systems

Aging

Figure 2.1: Percentage of Elderly in the Total Population

Financial Sustainability Issues

EC and OECD's Official Projections of Pension Spending

	2000	2050	Old Age Dependency Ratio	Employment Rate	Benefit Formula	Eligibility
			Contribution to changes in spending from 2000 to 2050 of			
France	12.1	15.9	7.6	-0.5	-3.4	0.4
Germany	11.8	16.8	6.4	-0.7	-2.7	2.1
Italy	14.2	13.9	10.1	-3.2	-5.5	-1.5
Spain	9.4	17.4	8.6	-2.6	0	2
UK	4.3	3.6	1.7	0.1	-2.5	0.1
US	4.4	6.2	2.4	-0.1	-0.2	-0.3

The Political Economy Approach

❑ <u>Conventional Wisdom</u>: Aging – by changing the ratio between Workers and Retirees – may undermine the financial sustainability of PAYG systems
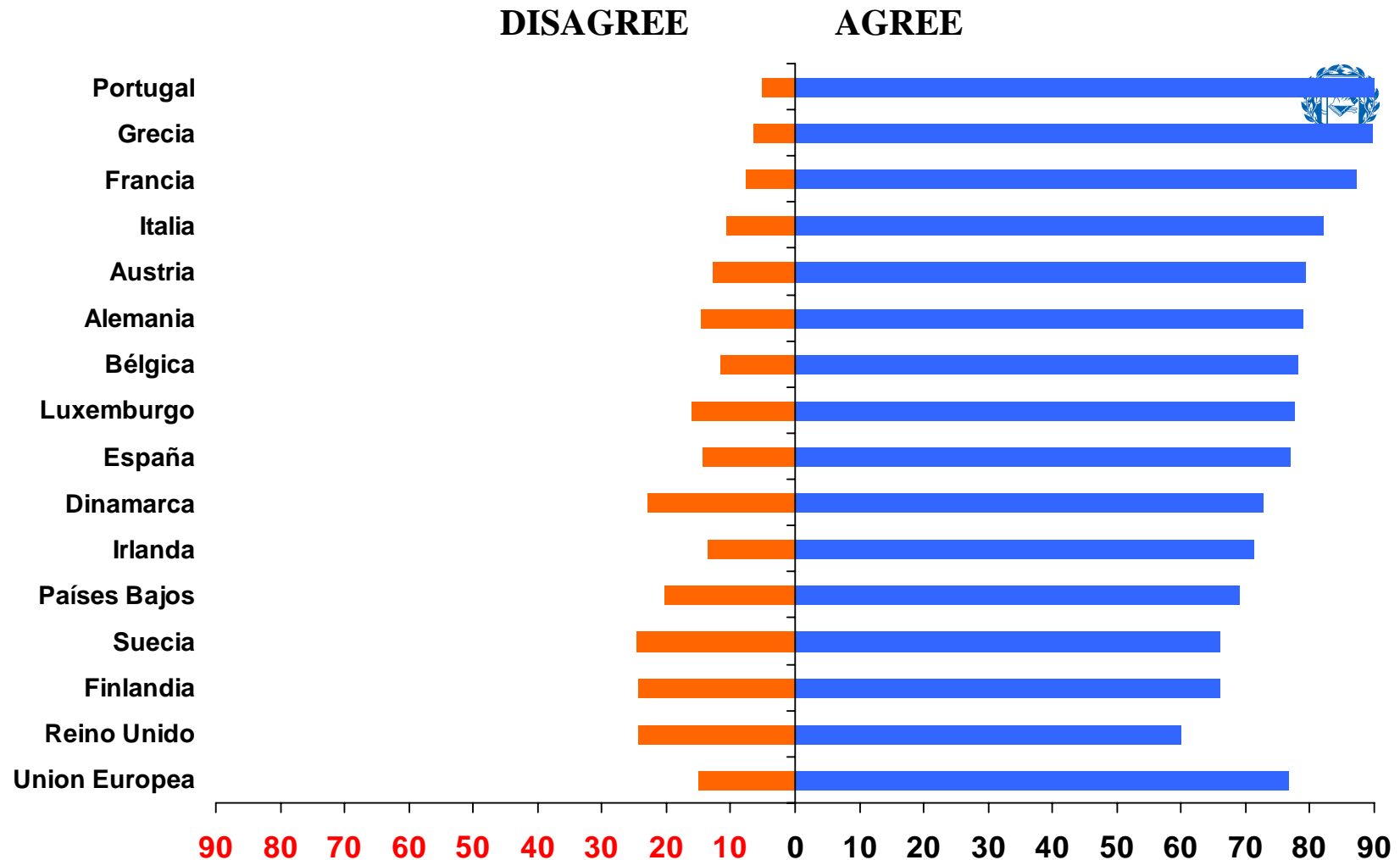
❑ <u>Problem</u>: Systems will have to be Reformed. Possible measures – higher contribution rates, lower pension benefits, postponing retirement, partial funding – differ in how the costs of the reform are distributed across generations.

A Look at Preferences in Europe: Do Pensions Matter?

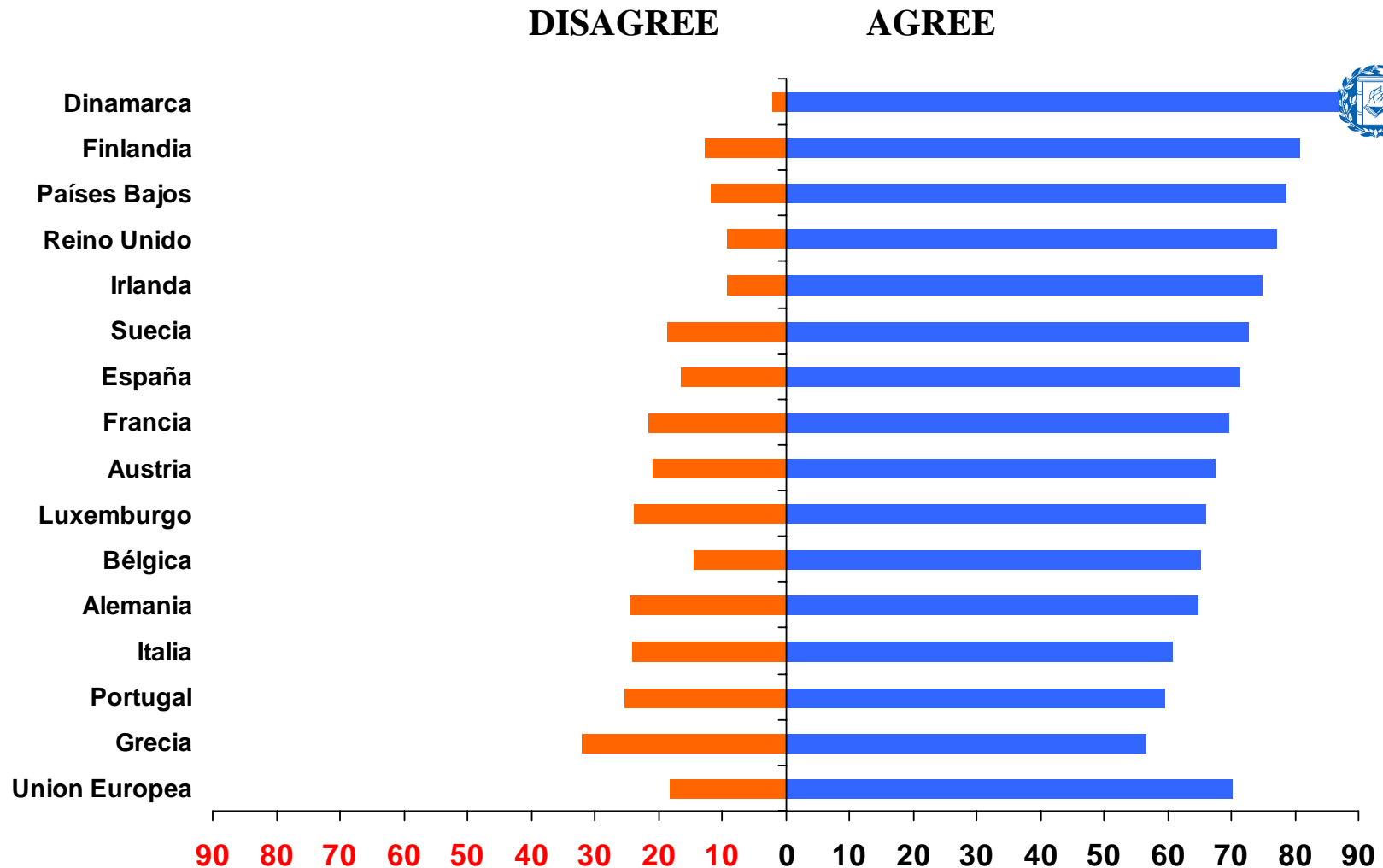Public Resources should be Shifted from other Policies towards Pension

A Look at Preferences in Europe: Higher Taxes?

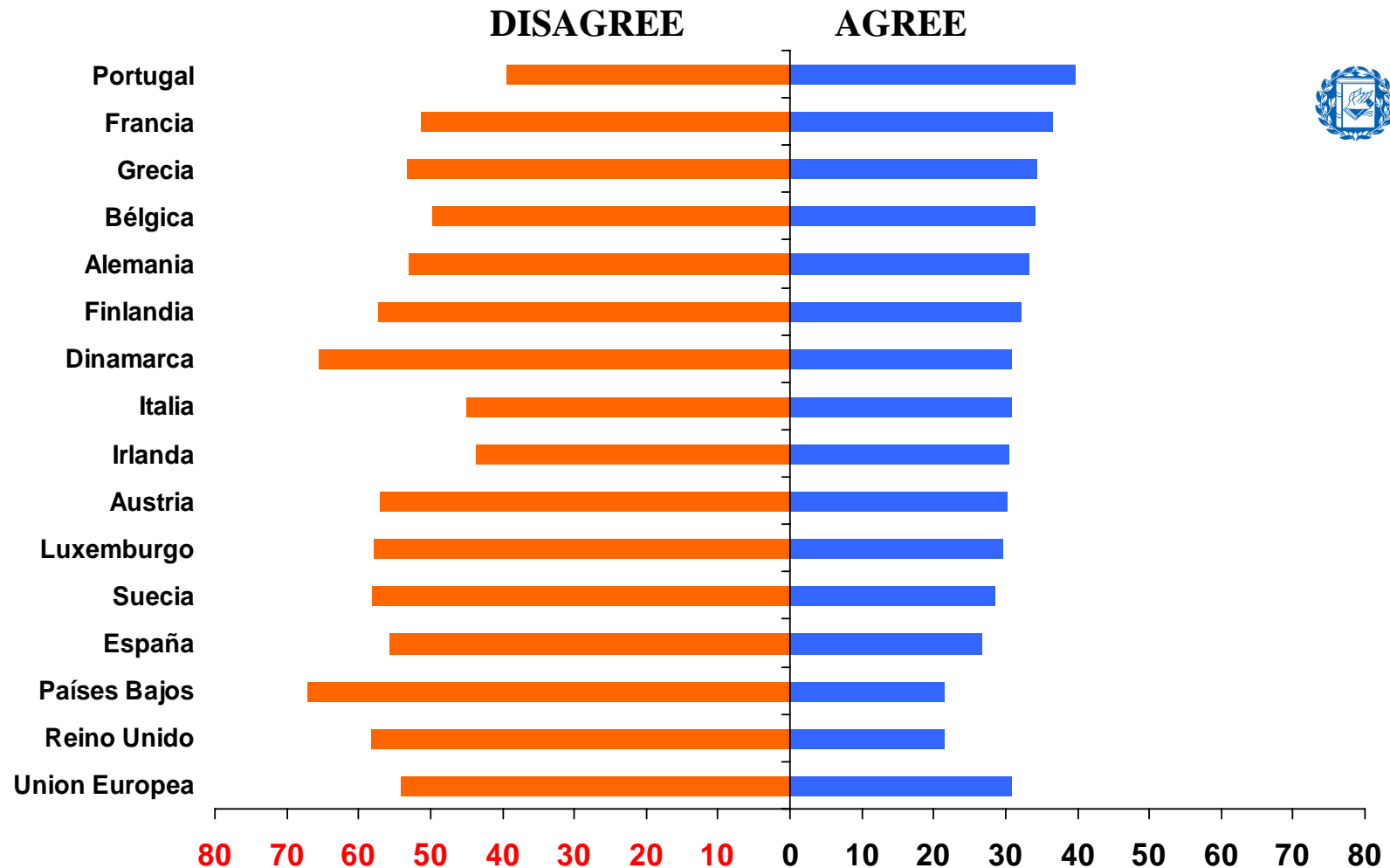Current Pension Levels Should be Maintained even if this Means Raising Taxes or Contributions

A Look at Preferences in Europe: Lower Benefits?

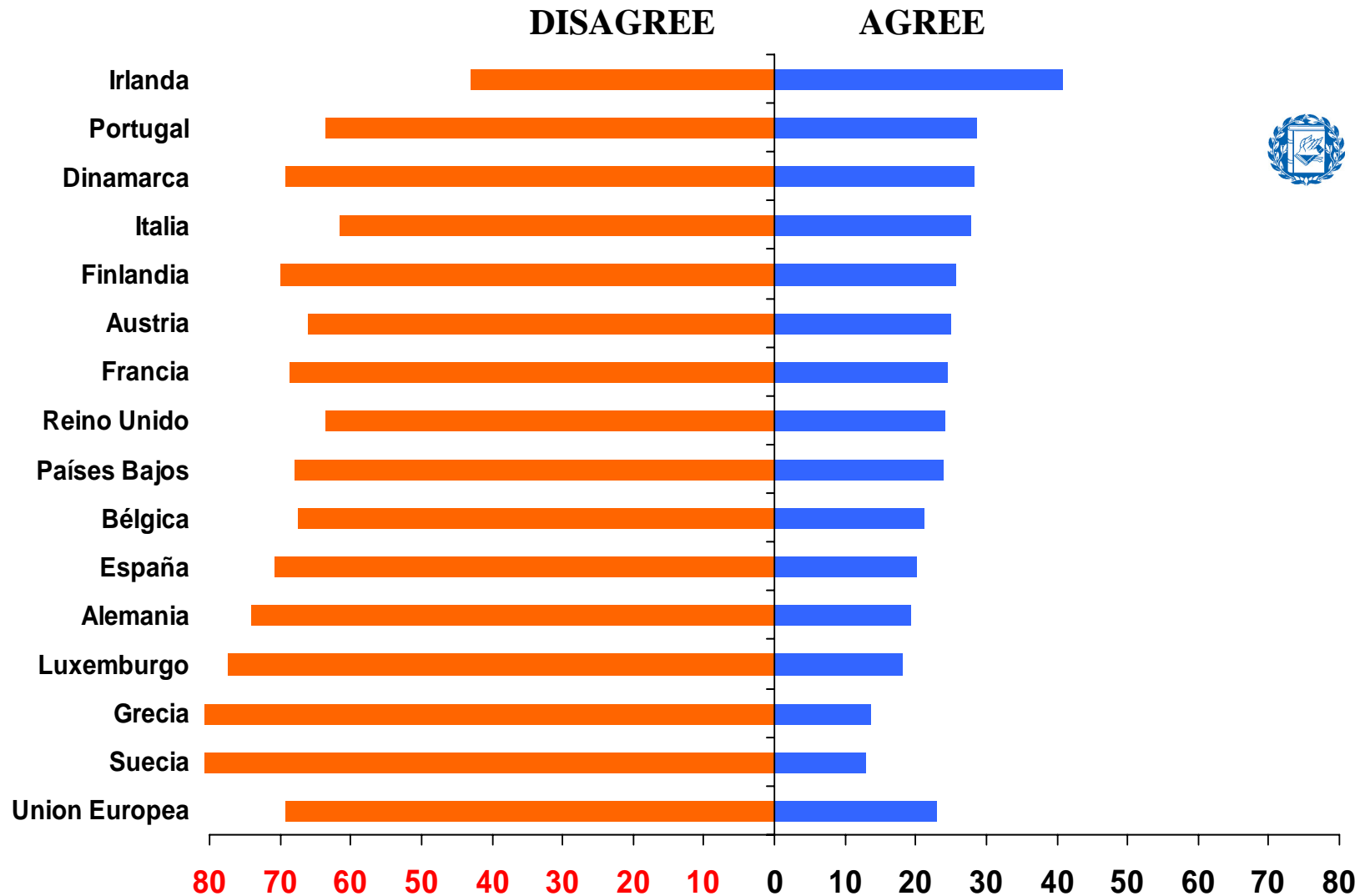Current Taxes or Contributions Should NOT be Increased even if this Means Lower Pension Levels

A Look at Preferences in Europe: Work More?

Retirement Age should increase so people work more and enjoy less old age leisure

The Political Economy Approach

❑ <u>Conventional Wisdom</u>: Aging – by changing the ratio between Workers and Retirees – may undermine the financial sustainability of PAYG systems

❑ <u>Problem</u>: Systems will have to be Reformed. Possible measures – higher contribution rates, lower pension benefits, postponing retirement, partial funding – differ in how the costs of the reform are distributed across generations.

❑ <u>This research project's view</u>: the political process will have to reconcile the opposite interests of subsequent generations.

Key Issue: Political Sustainability

➢ *Political Sustainability*: Existence of a majority of the voters in favor of the existing social security system

➢ Galasso and Profeta (2004)

  ➢ Political sustainability of the social security contribution rate for a given retirement rate.

  ➢ Individual preferences over social security contribution rate depend on age and income

  ➢ How does aging affect political sustainability of the social security contribution rate?

Politico-Economic Effects of Aging

Aging induces (at least) two crucial effects:

❑ <u>Economic</u>: An increase in the Dependency Ratio reduces the average long run return of the system

→ Since pensions represent a saving device, Portfolio Rebalancing: agents *reduce* the size of pension system.

❑ <u>Political</u>: Aging Increases the Political Weight of the Elderly

→Generates "political pressure" to *increase* the generosity of the system

Aging and Politics

Median Age among Voters
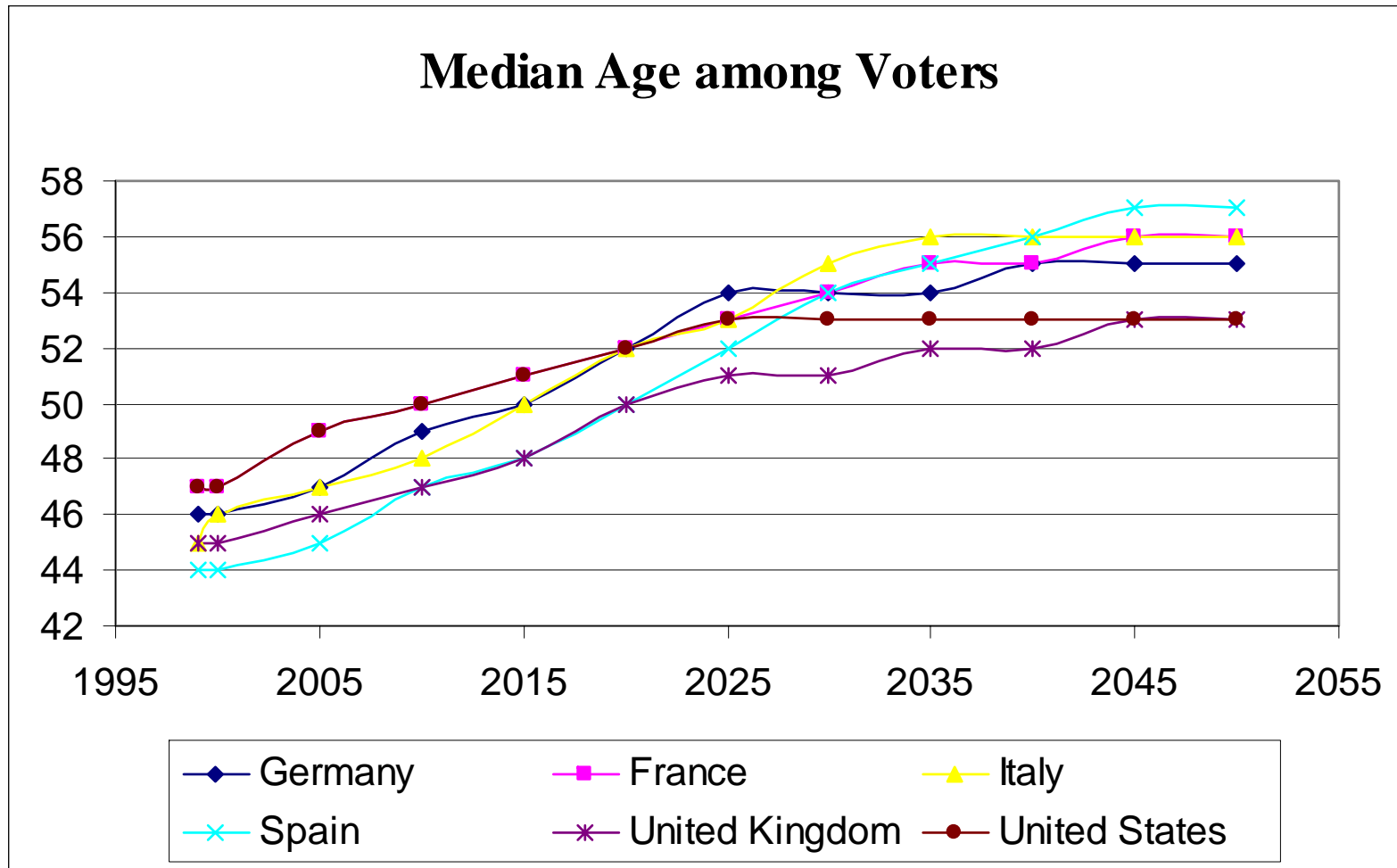
Simulations' Results: Direct Impact of Aging

	Median Voter's Age	Effective Retirement Age	Social Security Contribution Rate	Replacement Rate
France				
2000	47	58	22.4%	49.2%
2050	56	58	40.8%	54.6%
2050	56	65	29.7%	72.2%
Germany				
2000	46	61	23.8%	68.3%
2050	55	61	37.7%	55.4%
2050	55	65	32.6%	81,2%
Italy				
2000	44	58	38.0%	73.6%
2050	56	58	50.0%	55.5%
2050	56	65	38.0%	74.2%
Spain				
2000	44	62	21.3%	67.9%
2050	57	62	45.5%	64.6%
2050	57	65	40.7%	77.3%
UK				
2000	45	63	14.5%	75.8%
2050	53	63	33.2%	95.2%
2050	53	65	31.1%	114.3%
US				
2000	47	63	9.7%	41.9%
2050	53	63	21.6%	55.7%
2050	53	65	18.3%	53.9%

- <u>Political aspect dominates</u>: contribution rates increase everywhere although (generosity) replacement rates may decrease

- <u>Policy Implications</u>: Higher effective retirement age limits the increase of the size while increasing the generosity of the system

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The Main Lessons

❑ Aging affects the financial as well as the *political sustainability* of PAYG pension systems.

❑ *Political* effect *dominates*: the size of the social security system will increase in all countries, albeit with differences.

❑ Policy implication: an increase in the *effective retirement age* decreases the size of the system while increasing its generosity

❑ Next research question: Will voters be willing to support an increase in the effective retirement age?

Key Issue: Political Sustainability

> *Political Sustainability*: Existence of a majority of the voters in favor of the existing social security system (contribution and retirement age)
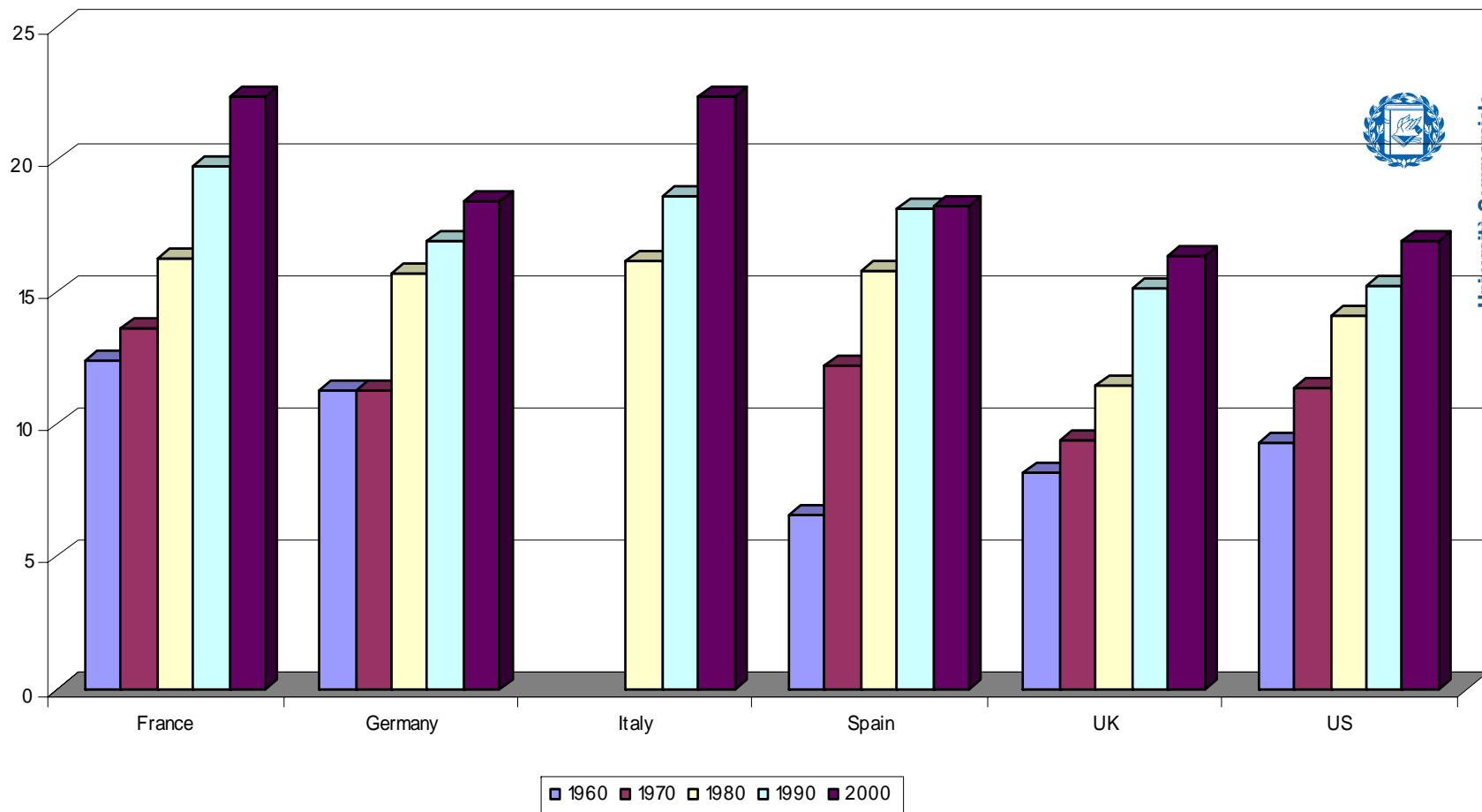
> This paper:

> > Preferences on social security contribution rate for a given retirement rate.

> > Preferences on retirement rate for given social security contribution rate.

> > What do individual preferences over retirement rate depend on?

> > How does aging affect political sustainability of retirement age?

Retirement Behavior Matters!

Remaining Road Map of the Talk

- ➢ Methodology
- ➢ Economic Environment
- ➢ Voting Game
- ➢ Calibration of the Model
- ➢ Simulations Results
- ➢ Conclusions

Methodology

➢ Introduce a general equilibrium politico-economic model, calibrated to the economic, demographic and political aspects in four countries: France, Italy, UK and US

➢ Simulate the expected economic, demographic and political for 2050 and assess the political sustainability of postponing retirement (and of the social security contribution rate)

➢ Steady state comparison and issue-by-issue voting

Economic Environment

➢ 77-Generations OLG Model: Agents may Live from 18 to 95 and face age-specific probability of survival

➢ CES Utility Function (on consumption and retirement leisure)

➢ CD Production Function

➢ No Labor-Leisure Decision (intensive margin)

➢ Demographic Structure:

    ➢Survival Probability;

    ➢Dependency Ratio (Growth Rate of Population)

➢ Unfunded, Budget Balanced DB Social Security System

➢ Political system: issue-by-issue voting.

Economic Model

Preferences -- Life-Time Utility Function:

$$\sum_{j=0}^{G} \beta^j \left[\prod_{i=0}^{j} \pi_{t,i} \right] \left(\frac{\left(c_{t+j}^t \right)^{1-\rho} - 1}{1-\rho} + \upsilon_{t+j}^t \right)$$

Budget Constraint:

$$c_{t+j}^t + a_{t+j+1}^t = a_{t+j}^t R_{t+j} + y_{t+j}^t + H_{t+j}^t$$

Income:

$$y_{t+j}^t = h \varepsilon_{t+j}^t w_{t+j} \left(1 - \tau_{t+j} \right) \qquad \text{Workers}$$

$$y_{t+j}^t = P_{t+j} \qquad \text{Retirees}$$

Economic Model

Technology:-- Production Function:

$$Q_t = f\left[(1+\lambda)^t \cdot l_t, k_t\right] = k_t^{\theta}\left[l_t(1+\lambda)^t\right]^{1-\theta}$$

Capital

$$k_t = \sum_{i=1}^{J}\sum_{q=1}^{Q}\frac{a_t^{t-i,q}\,\mu_{t,i}^{q}}{1+n}$$

Wages and Rates of Returns:

$$w_t = f_1\left[(1+\lambda)^t \cdot l_t, k_t\right],$$

$$R_t = 1 + r_t = f_2\left[(1+\lambda)^t \cdot l_t, k_t\right] + 1 - \delta$$

Calibration

2000	France	Italy	UK	US
Population growth	1.04%	0.7%	0.5%	1.35%
Retirement Age	58	58	63	63
SS Contribution Median Voter Age	43	44	45	47
Capital share	31%	38%	30%	36%
Capital-output ratio	2.21	3.18	1.81	2.43
Productivity growth	1.6%	1.92%	2.6%	1.94%

	France	Italy	UK	US
Leisure	1.7	1.8	2.9	0.75
CRRA	2.24	2.67	3.65	4.17
SDF	1.01	1.07	1.04	1.08

Key Issue: Political Decision over two issues

➢ Bi-dimensional Policy Space: Voting on social security contribution rate and retirement age

➢ Condorcet cycles may arise and median voter cannot be used

➢ Issue-by-issue voting (Shepsle, 1979):

  ➢ Voting on social security contributions for a given retirement age

  ➢ Voting on retirement age for a given social security contribution rate

  ➢ The intersection of these "reaction functions" is a (Structure-induced) equilibrium
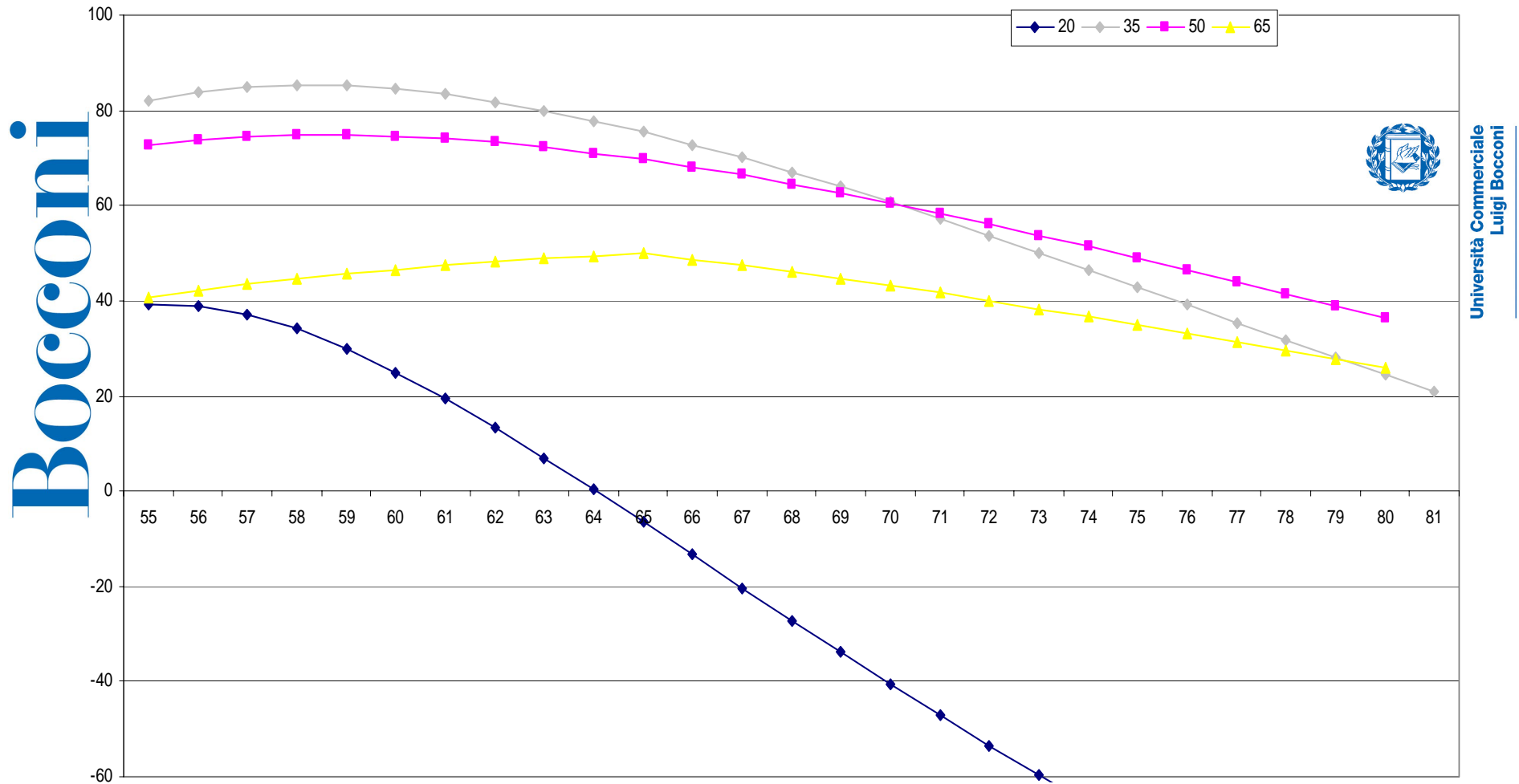
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How do individuals vote?

➢ Voting on social security contributions for a given retirement age depends on age (and possibly income/education)

  ➢ Negatively sloped reaction function

➢ Voting on retirement age for a given social security contribution rate depends on

1. Individual labor-leisure trade-off due to retirement

2. Impact of retirement age on pension benefits via dependency ratio (given the contribution rate)

3. General equilibrium effects on wages and returns

  ➢ No clear pattern with respect to the individuals' age

Preferences over retirement age

How do individuals vote?

➢ Voting on social security contributions for a given retirement age depends on age (and possibly income/education)

    ➢ Negatively sloped reaction function

➢ Voting on retirement age for a given social security contribution rate depends on

1. Individual labor-leisure trade-off due to retirement

2. Impact of retirement age on pension benefits via dependency ratio (given the contribution rate)

3. General equilibrium effects on wages and returns

    ➢ No clear pattern with respect to the individuals' age

    ➢ Ambiguous reaction function: higher contributions (and pensions) create a substitution (lowering RA) and an income effect (increasing RA)

Issue-by-Issue Bidimensional Voting Italy 1992
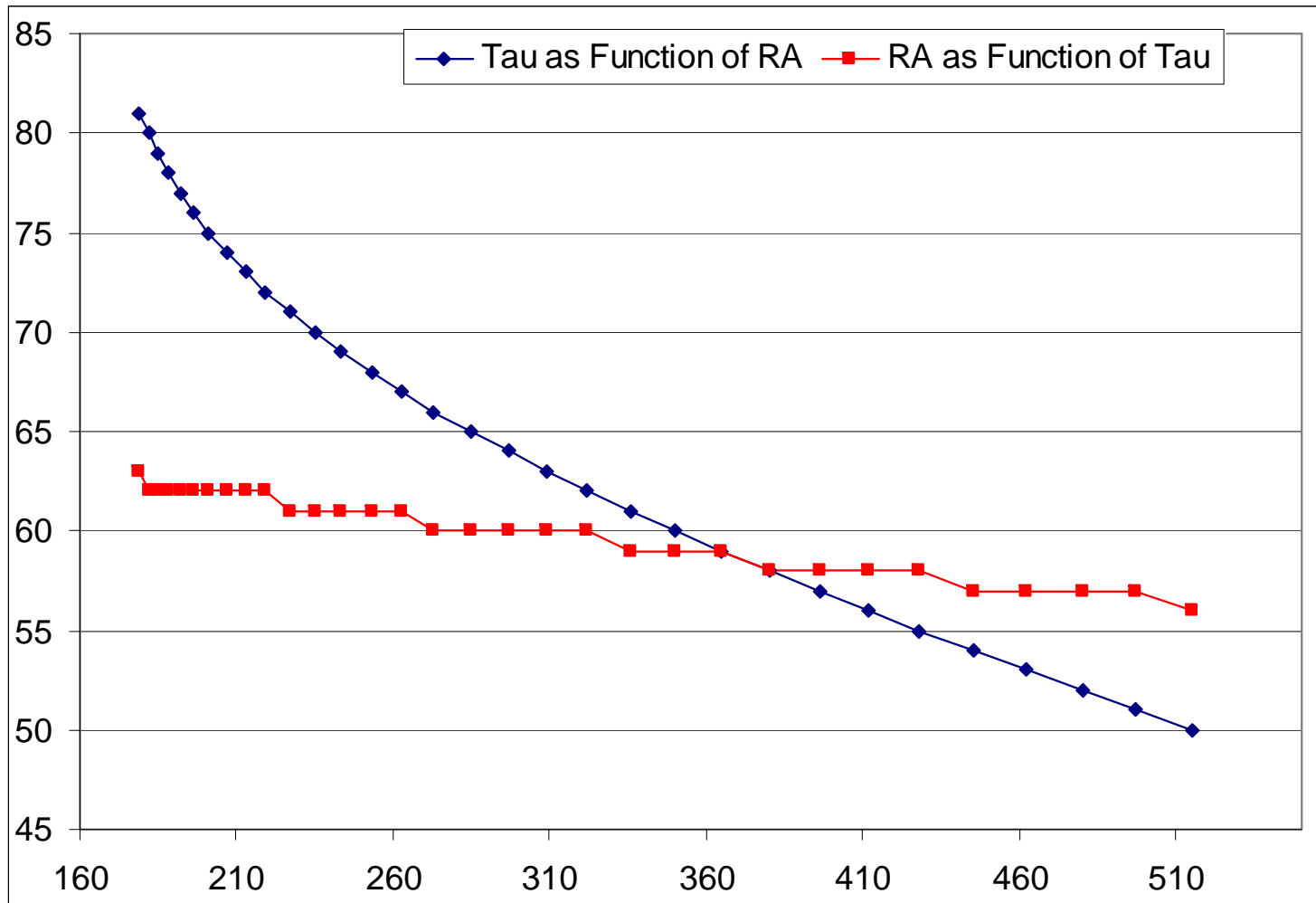
How does Aging affect individuals vote?

➢ Voting on social security contributions, given retirement age:

  ➢ Economic Effect (lower IRR): lower contributions

  ➢ Political Effect (older median voter): higher contributions

  ➢ Overall result is ambiguous

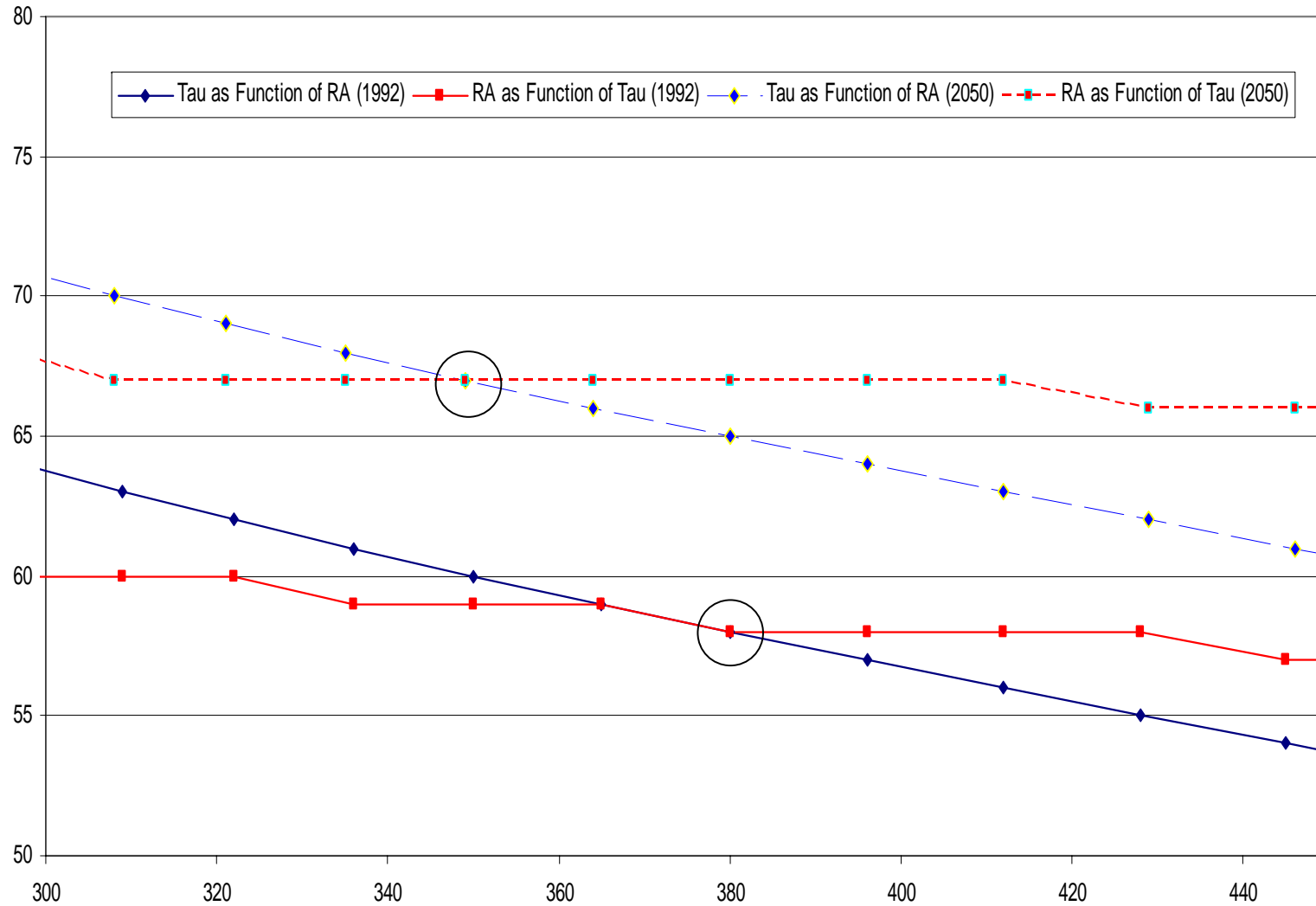➢ Voting on retirement age, given social security contribution

  ➢ Negative Income effect: aging reduces returns from social security. Retirement Age increases

  ➢ Negative Substitution effect: for a given contribution rate, aging reduces pension benefit. Retirement Age increases

  ➢ Overall result: Retirement Age increases

Issue-by-Issue Bidimensional Voting in 2050

Bidimensional Voting Simulations' Results

		Age of the median voter over contribution rate	Effective retirement age	Social security contribution rate
France	2000	47	58	22.4%
	2050	56	67	27.1%
Italy	1992	44	58	38.0%
	2050	56	67	34.9%
UK	2000	45	63	14.5%
	2050	53	70	27.1%
US	2000	47	63	9.7%
	2050	53	68	13.5%
	2050	53	69	11.9%

- When voting over RA and SS contribution rates, the political economic equilibrium is associated with lower contribution and higher RA.

- WHY? With aging and large social security systems individuals will be "poorer" and will need to work longer years.

The Main Lessons

❑ Aging affects the *political sustainability* of PAYG pension systems leading to larger systems.

❑ <u>Policy implication</u>: an increase in the *effective retirement age* decreases the size of the system while increasing its generosity

❑ Voters will be willing to support an increase in the effective retirement age. Why? with aging and large social security systems individuals will be "poorer" and will need to work longer years.

❑ Hence, less increase in social security contribution and higher retirement age (in 2050 in Italy retirement at 67 and contributions <u>only</u> at 34.9%)

The Political Future of Social Security in Aging Societies

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the political future
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