

PS 343: Franzese, *Macroeconomic Policies of Developed Democracies*

I. Outline Overview of the Book:

- A.** *Chapter I:* Postwar governments in all developed democracies committed themselves to some (varying) degree of political provision of social insurance, public goods, and macroeconomic-management.
1. These commitments reflect broader, often conflicting, goals both to foster capitalist efficiency and growth and to ameliorate their distributional consequences.
 2. Democracy and capitalism distribute political and economic resources differently, creating popular pressures on public policymakers that force tradeoffs between these competing goals that typically expanded the public role in the economy.
 3. However, the universal tensions and shared exposure to common political-economic policymaking challenges induce differing policies and outcomes:
 - a. Differing deviations of policies from those that would maximize unweighted citizens' utilities & differing degrees of government growth in different areas in trying to fulfill commitments.
 - b. The differences arose because the incentives for political-economic actors that emerge from these conflicting goals and distributions of interest and influence depend on multiple interactions among the domestic and international political-economic institutions, structures, and conditions within which they interact and to which they respond.
 4. As these (varying) fiscal-policy difficulties evolved, democratic governments turned first toward monetary-policy and then toward institutional-structural "reform", attempting to rebuild broad postwar coalitions behind democratic macroeconomic management (putatively) for aggregate efficiency.
 - a. However, like their predecessors, these new policy paradigms have strong distributional consequences, whatever their efficiency effects.
 - b. The *new* political struggles over institutional-structural "reforms" look remarkably similar to old left-right, EMPL.-INF, efficiency-equity tradeoffs long-familiar to political economists.
 - c. Only the locus of political battle changed: from the policies themselves, to the institutions and structures within which democratic policymakers choose those policies.
- B.** *Chapter II:* Democratic Commitments to Social Insurance, Welfare, Pensions
1. The differential distribution of votes (1-person, 1-vote) and income (few very wealthy, many poor and middle class) in capitalist democracy tends to produce median voters who are poorer than the economy average, generating a general demand for public transfers.
 2. Economic conditions and these differential distributions of political and economic influence broadly explain the common experiences across countries of (rapidly) rising transfers-shares of GDP (since the seventies).
 - a. While economies grew rapidly in the first two postwar decades, expanding demand for

redistribution could be met with only moderately growing transfers-shares of GDP.

b. But, when stagflation hit in seventies & persisted into eighties, costs of maintaining democratic commitment to social-insurance and so transfers-shares of GDP skyrocketed.

3. Political institutions and structures broadly explain the cross-national differences in the paces of transfers-growth reflecting differing responses by policymakers to similar economic conditions and political pressures.

a. Stronger labor organization and more-left governments created more-effective political pressure toward transfer expansion and more government responsiveness thereto.

b. Systems with more frequent elections and slower policy-adjustment, ratchet opportunistic manipulations of transfers around election years into greater long-run transfers levels.

c. Most importantly, electoral institutions that induce greater political participation ↑ range of income distribution, from right (wealthy) to left (poor), represented in electorate, so ↑ effective political pressure on democratic govts from any given distribution of economic resources.

4. Economic Effects and Political Implications:

a. Rising transfers drove growth in government more generally, which, being partially deficit-financed, drove growing public debt as well.

b. Rising transfers increased labor-market rigidities, thereby increasing unemployment and reducing fiscal-policy efficacy in controlling it.

c. However, the rising transfers also ameliorated the economic hardships of those who remained or became unemployed.

d. Therefore, political conflicts over transfer-system “reform” replicate rather than replace familiar left-right conflicts.

C. *Chapter III: Deficit Finance of the Commitments and Public Indebtedness*

1. Common pressures and economic exposure explain the broadly shared path of falling debt through the seventies and dramatic reversal thereafter.

a. Common pressures toward partial deficit-finance of transfers-driven growth in total spending were offset through the seventies by strong GDP growth, allowing simultaneous expansion of public involvement in the macroeconomy and reduction of debt-to-GDP ratios.

b. Common exposure to terms-of-trade shocks in the seventies, which triggered stagnant growth and high unemployment through the eighties, increased the debt costs of continuing expansion of the democratic commitments to macroeconomic involvement.

c. As governments turned toward anti-inflationary monetary policy to redress the inflation aspect of stagflation, real-interest rates on the newly accumulating debt rose sharply, dramatically exacerbating the effects of slowed growth and higher unemployment.

2. Interactions among differing political-economic institutions, structures, and conditions magnified these effects in some and dampened them in other democracies, yielding cross-national and -country-time differences.

a. Presidentialism ⇒ powerful policymaker w/ 1 national constituency, reducing motives for debt-financed distribution projects.

- b. Systems w/ autonomous, conservative central banks diminish govts' access to politically expedient inflationary debt-default, dissuading them from debt-accumulation.
- c. More complicated fiscal systems aggravate voters' difficulties in evaluating the full and true costs of deficit-financing, increasing incentives for policymakers to issue debt.
- d. Systems with more frequent elections and slower policy-adjustment, ratchet opportunistic manipulations of transfers around election years into greater long-run transfers levels.
- e. Most importantly, fractionalized-polarized governments retard policy adjustments, thereby geometrically multiplying the long-run debt-effects of the high real-interest following the terms-of-trade shocks and, indeed, the effects of all other political-economic conditions.

3. Economic Effects and Political Implications

- a. Public debt had little effect on real growth, but strong, opposite effects on inflation (positive) and unemployment (negative).
 - (1) The economic effect of debt, therefore, reflects less any large efficiency difference between public and private investment and more their differing distributional effects.
 - (2) Accordingly, political battles over "reforms" to reduce debt, however couched in the language of efficiency and responsibility, mirror familiar macroeconomic-policy struggles.
- b. ↑ public debts, + transfers-induced ↑ labor-market rigidities, + ↑ international trade & financial exposure, increasingly limited fiscal-policy efficacy & maneuverability.
- c. Accordingly, governments turned to monetary policy, freed from fixed-exchange restrictions, to fulfill their democratic commitments to macroeconomic management...
 - (1) ...to redress the inflation inherited from the oil shocks, and...
 - (2) ...to attempt to rebuild broad postwar coalitions behind political regulation of the economy (putatively) for aggregate efficiency.

D. *Chapter IV: Monetary Regulation of the Macroeconomy*

1. Anti-inflationary effects of monetary conservatism depended on how inflationary political economy would be absent such monetary conservatism. Where institutions and structure of macroeconomy produce small (great) inflationary pressures on governments, monetary-authority conservatism adds little (much) further anti-inflationary bite.
2. The real (e.g., UE) effects of monetary conservatism depend on the credibility with which the monetary authority could threaten to quash inflationary pressures, but also on the incentives and capacity of wage-price bargainers to respond efficiently to those threats.
 - a. More-coordinated bargaining-units encompass greater shares of the economic aggregates to which monetary authorities' threaten responses and so have greater incentives and capacity to respond efficiently.
 - b. Monetary-threat enactment raises interest rates, hindering private investment and appreciating exchange rates, so private-sector and, especially, traded-sector bargainers have greater incentives to respond more efficiently to monetary threats than public-sector bargainers.
3. Thus, both nominal benefits and real costs of govts' conservative monetary-policy shifts were larger where political economies had less-coordinated and more public-relative-to-traded-sector dominated bargaining (and where they were otherwise inflationary).

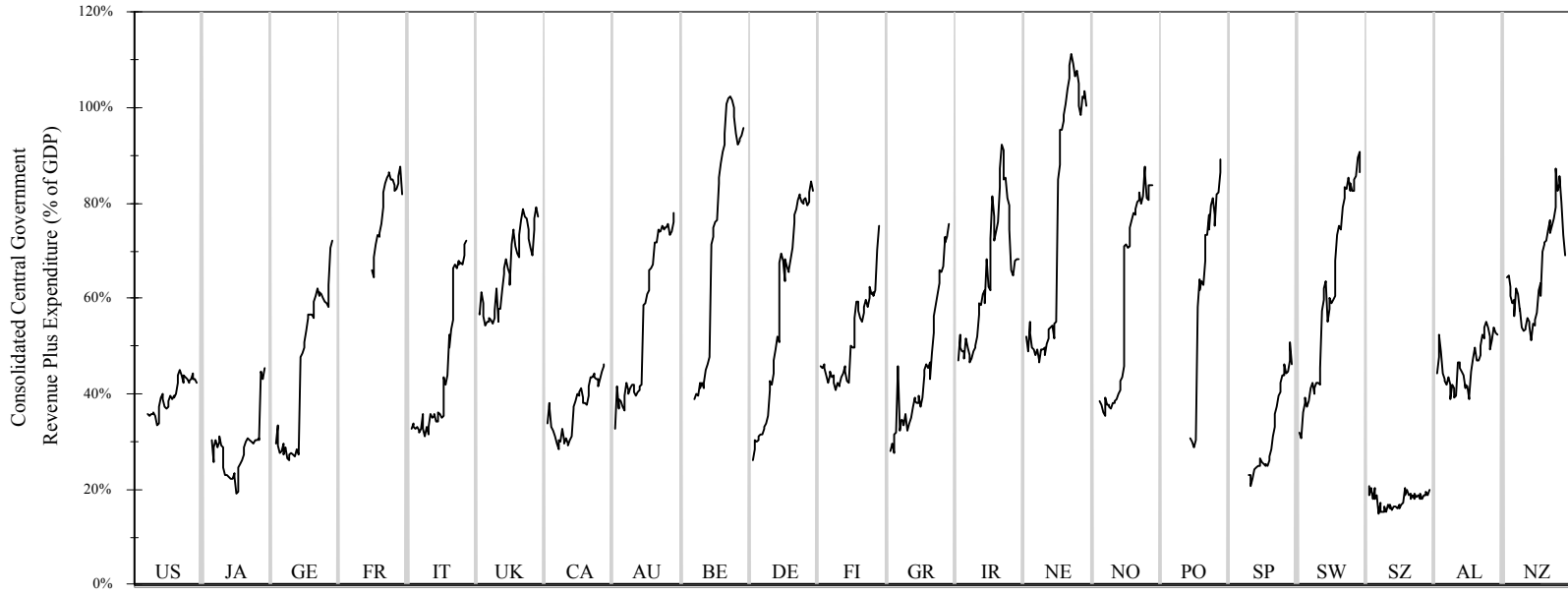
4. Coordinated bargaining tended to equalize wage-growth across low-productivity-growth service and high-productivity-growth industrial sectors, tending to price private sectors out of service provision.
 - a. Govts in such economies \therefore tended to respond \uparrow public-sector service provision & employment
 - b. However, the increasing public-sector employment undermined the efficiency of coordinated bargaining in delivering wage-price restraint and responding to monetary conservatism
5. Therefore, as governments turned toward monetary conservatism to restrain inflation...
 - a. ...the real costs of doing so were growing even where they used to be low and everywhere tended to be larger wherever the nominal benefits of doing so were larger, and...
 - b. ...the inflation effects of public-sector employment-growth were converted into real effects, undermining political support for coordinated bargaining.
6. Again, modern political struggles over institutional “reform”, increasing labor-market flexibility and credible monetary conservatism, merely paraphrase long-familiar macroeconomic-policy debates.

E. *Chapter V* concludes summarily.

II. Chapter I: Introduction

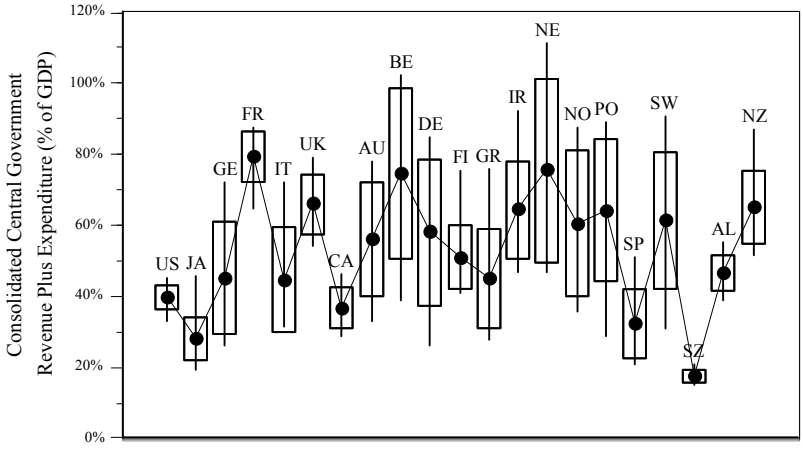
- A.** Explanatory Task: striking commonalities in growth of transfers, debt, and shift toward anti-inflationary monetary policy & *structural reform*, yet at least as striking differences in degree and locus of these trends & shifts
1. Broad explanations for the commonality:
 - a. Shared exposure to global economic conditions & common demographic & structural trends
 - b. Similarly democratic govts shared conflicting commitments to foster capitalist economic development and to alleviate its distributional inequities/personal economic hardship
 - c. Universally conflicting distributions of political and economic influence \Rightarrow responses to these challenges in seeking to fulfill these commitments that induced growth
 2. Broad explanations for the divergences:
 - a. Although broadly similar (democratic), public and private actors responded to these universal pressures differently because they operate in different structures of international and domestic political-economic institutions, interests, and conditions.
 - b. Moreover, incentives that emanate from common pressures filtered through different settings depend on multiple interactions among these structures of interests, institutions, & conditions.
 - (1) Policy & outcome divergence determined by multiple complex political-economic interactions,
 - (2) but theory & theoretically informed empirical exploration can render complexity comprehensible

Figure I.1: Total Public Fiscal Activity by Country-Year



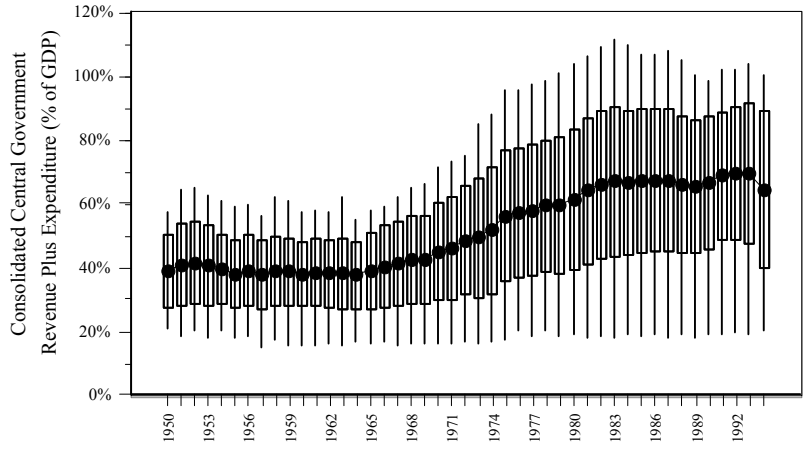
Bars separate annual data for each country, 1948-97 (as available).

Figure I.2: Total Public Fiscal Activity by Country



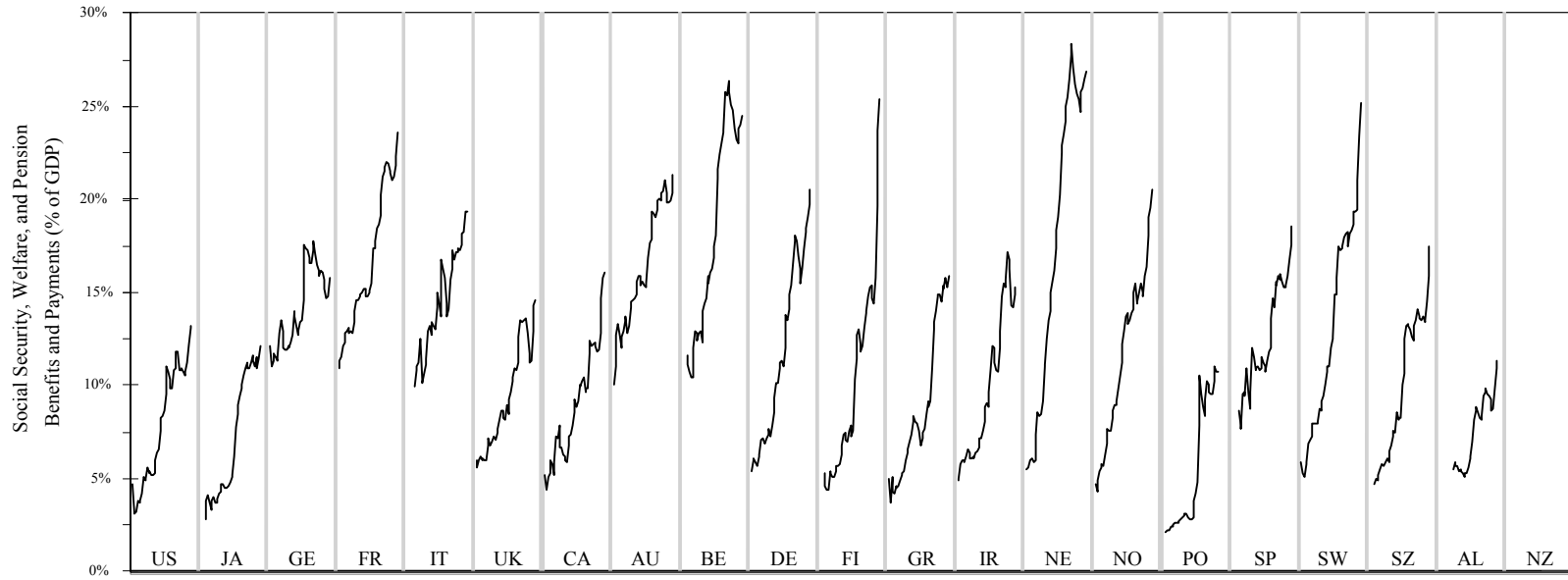
Dot marks postwar mean; box extends plus to minus one standard deviation from mean; lines extend to maximum and minimum.

Figure I.3: Total Public Fiscal Activity by Year



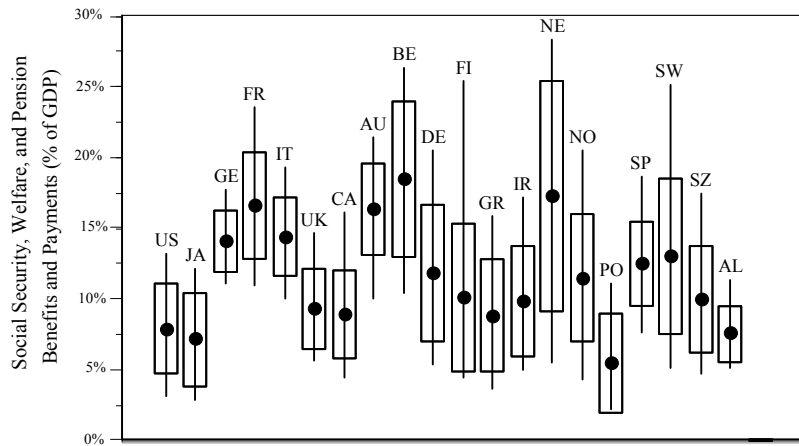
Dot marks 21-country mean; box extends plus to minus one standard deviation from mean; lines extend to maximum and minimum.

Figure I.4: Public Transfer Payments by Country-Year



Bars separate annual data for each country, 1948-97 (as available).

Figure I.5: Public Transfer Payments by Country



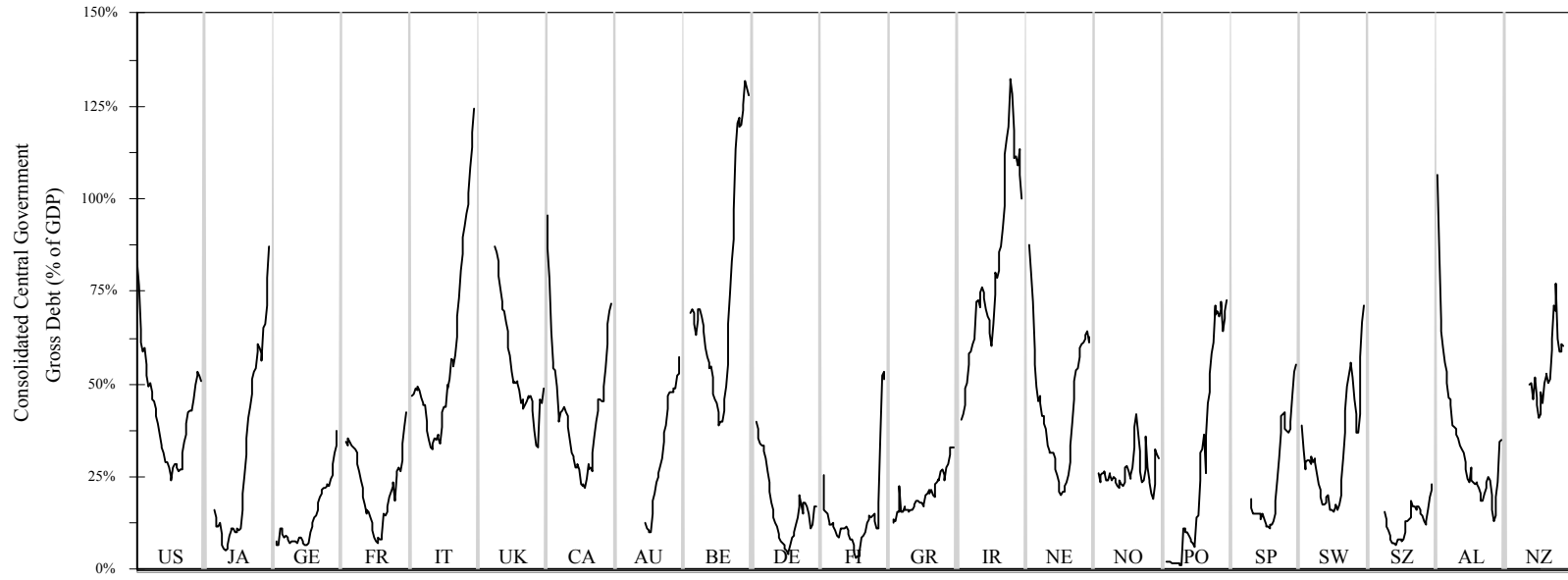
Dot marks postwar mean; box extends plus to minus one standard deviation from mean; lines extend to maximum and minimum.

Figure I.6: Public Transfer Payments by Year



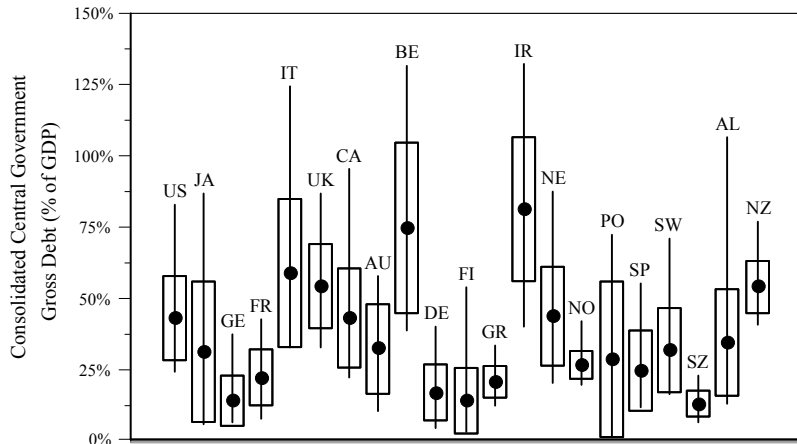
Dot marks 21-country mean; box extends plus to minus one standard deviation from mean; lines extend to maximum and minimum.

Figure I.7: Public Debt by Country-Year



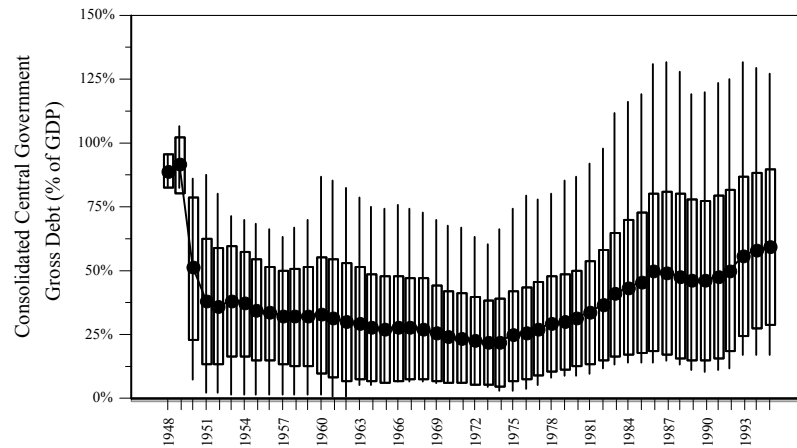
Bars separate annual data for each country, 1948-97 (as available).

Figure I.8: Public Debt by Country



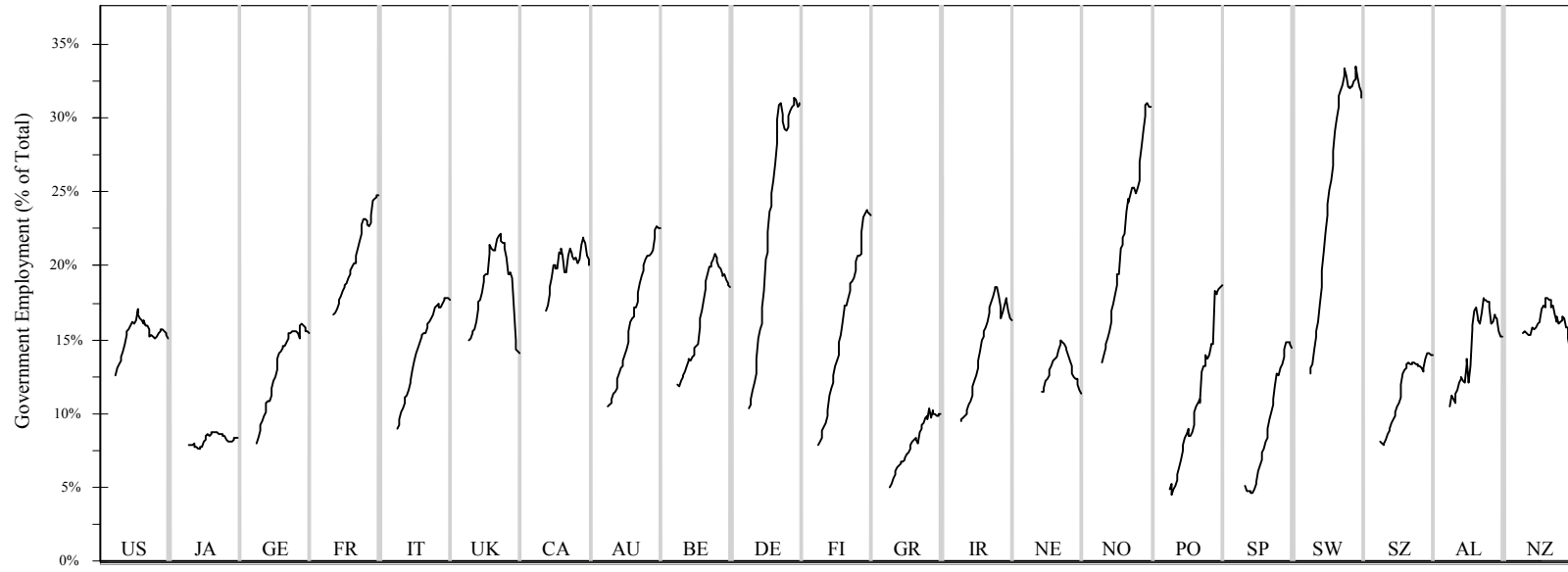
Dot marks postwar mean; box extends plus to minus one standard deviation from mean; lines extend to maximum and minimum.

Figure I.9: Public Debt by Year



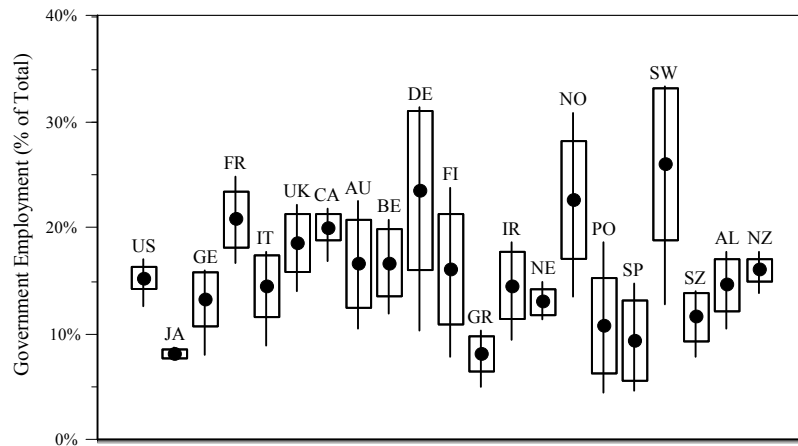
Dot marks 21-country mean; box extends plus to minus one standard deviation from mean; lines extend to maximum and minimum.

Figure I.10: Public Employment by Country-Year



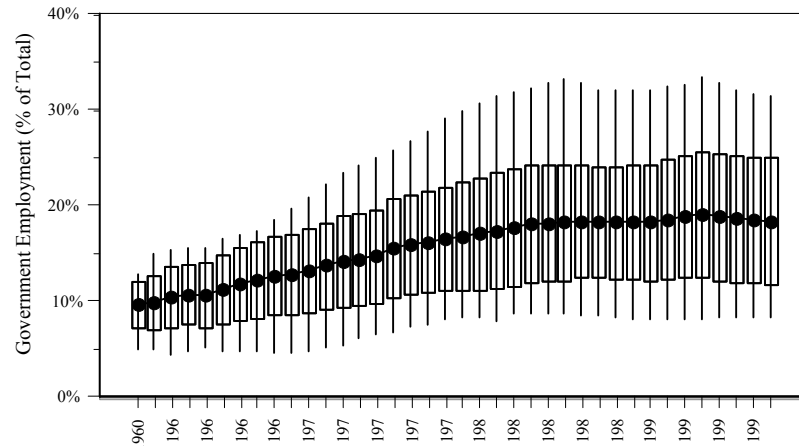
Bars separate annual data for each country, 1948-97 (as available).

Figure I.11: Public Employment by Country



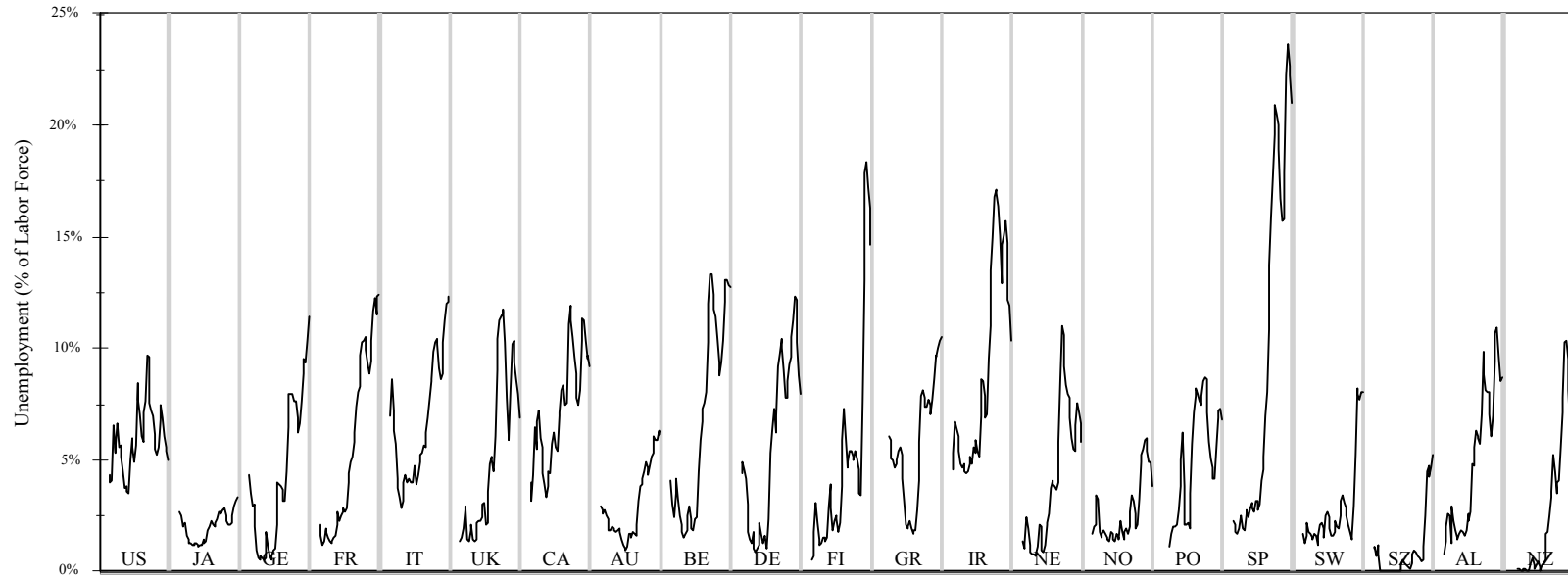
Dot marks postwar mean; box extends plus to minus one standard deviation from mean; lines extend to maximum and minimum.

Figure I.12: Public Employment by Year



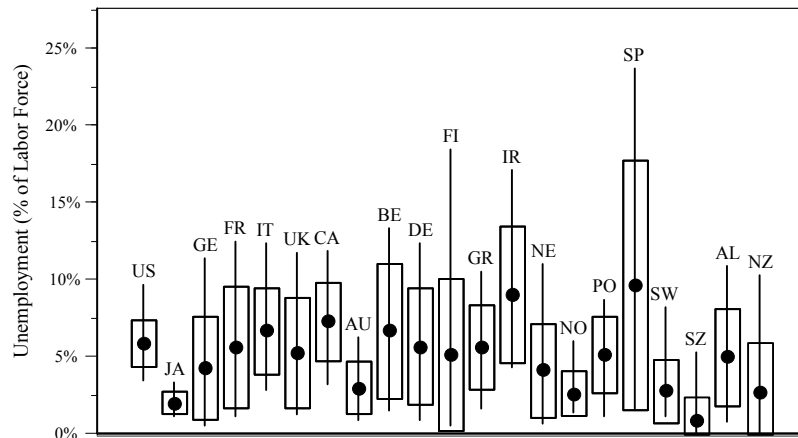
Dot marks 21-country mean; box extends plus to minus one standard deviation from mean; lines extend to maximum and minimum.

Figure I.13: Unemployment by Country-Year



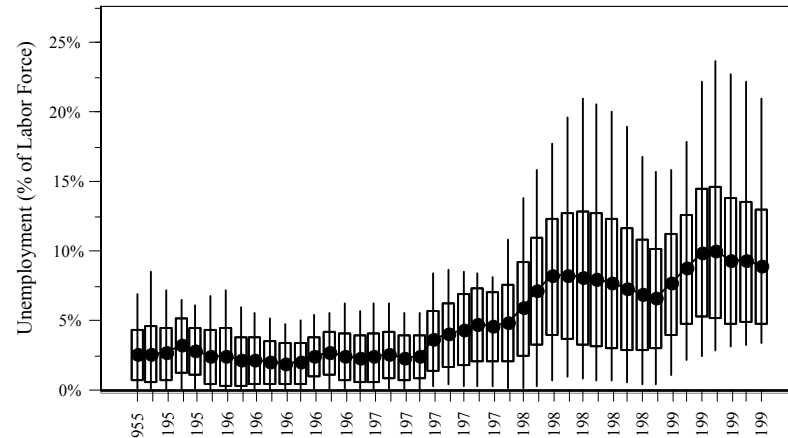
Bars separate annual data for each country, 1948-97 (as available).

Figure I.14: Unemployment by Country



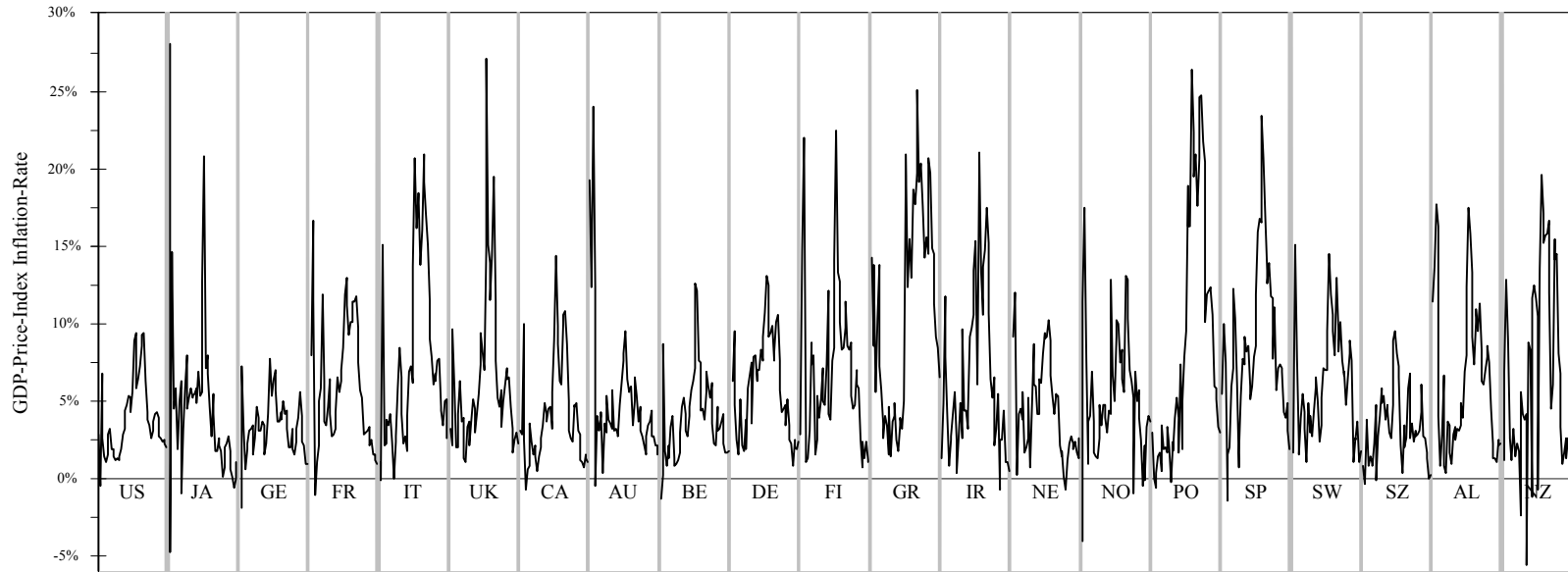
Dot marks postwar mean; box extends plus to minus one standard deviation from mean; lines extend to maximum and minimum.

Figure I.15: Unemployment by Year



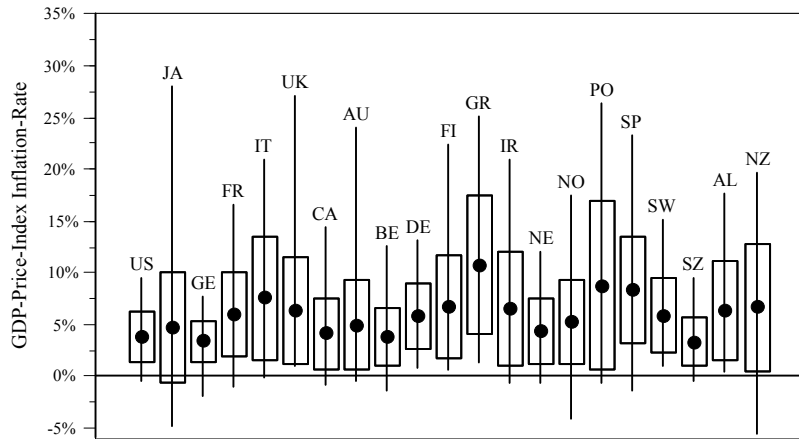
Dot marks 21-country mean; box extends plus to minus one standard deviation from mean; lines extend to maximum and minimum.

Figure I.16: Inflation by Country-Year



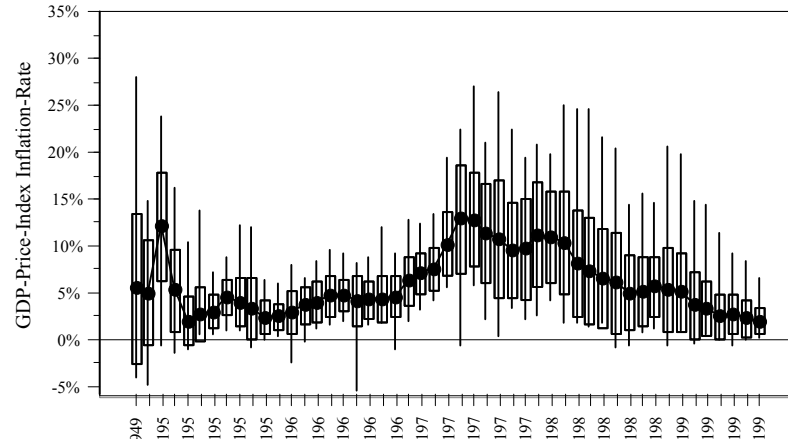
Bars separate annual data for each country, 1948-97 (as available).

Figure I.17: Inflation by Country



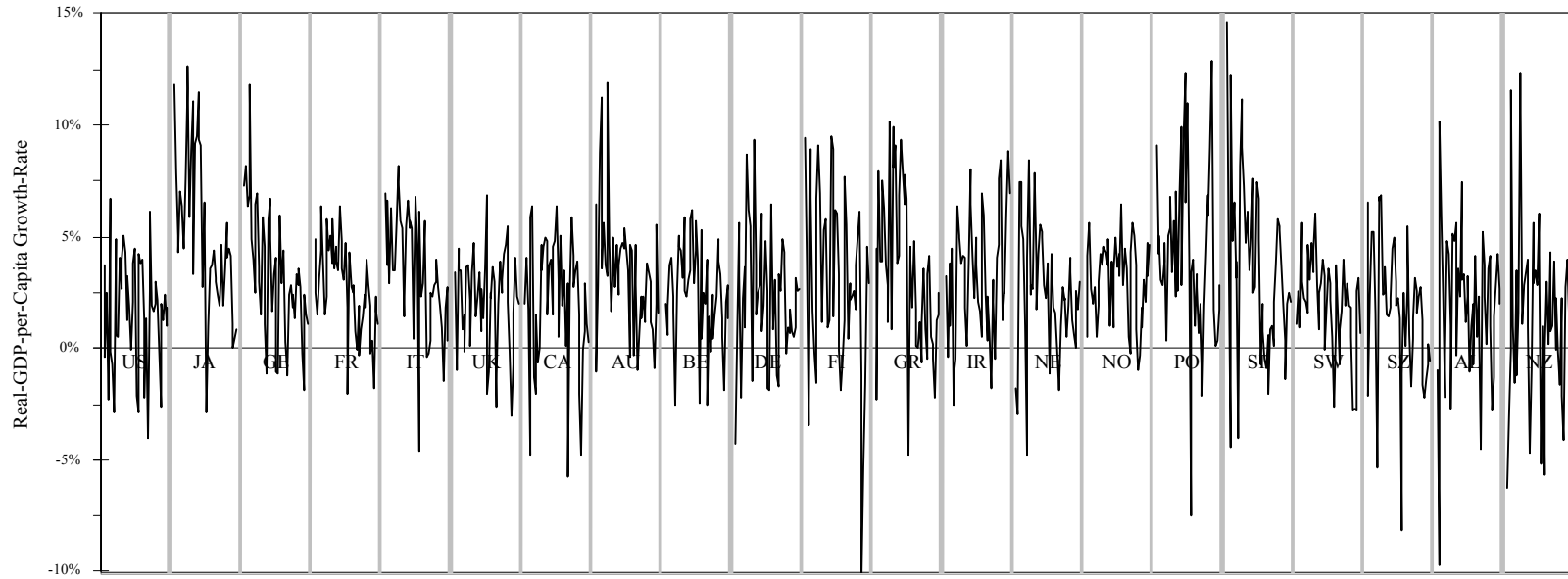
Dot marks postwar mean; box extends plus to minus one standard deviation from mean; lines extend to maximum and minimum.

Figure I.18: Inflation by Year



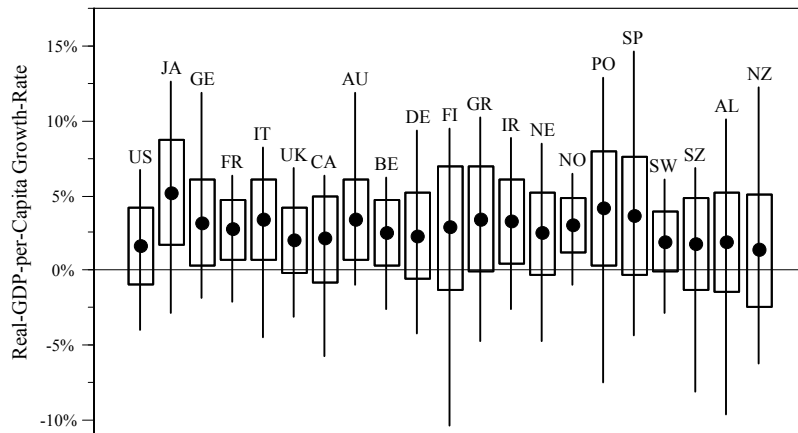
Dot marks 21-country mean; box extends plus to minus one standard deviation from mean; lines extend to maximum and minimum.

Figure I.19: Real Per-Capita Growth by Country-Year



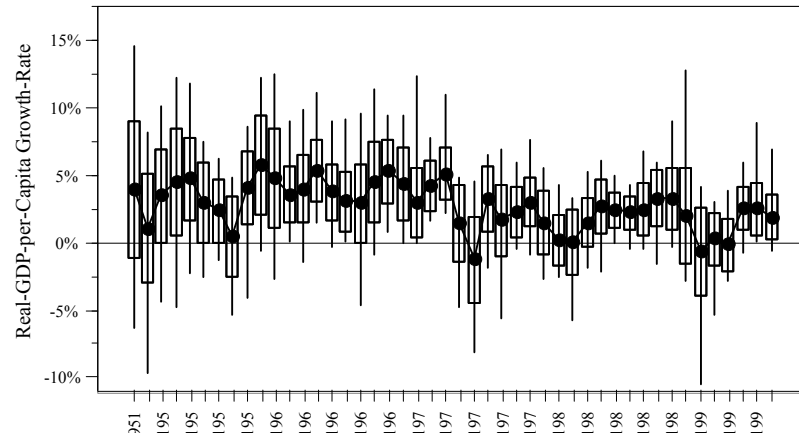
Bars separate annual data for each country, 1948-97 (as available).

Figure I.20: Real Per-Capita Growth by Country



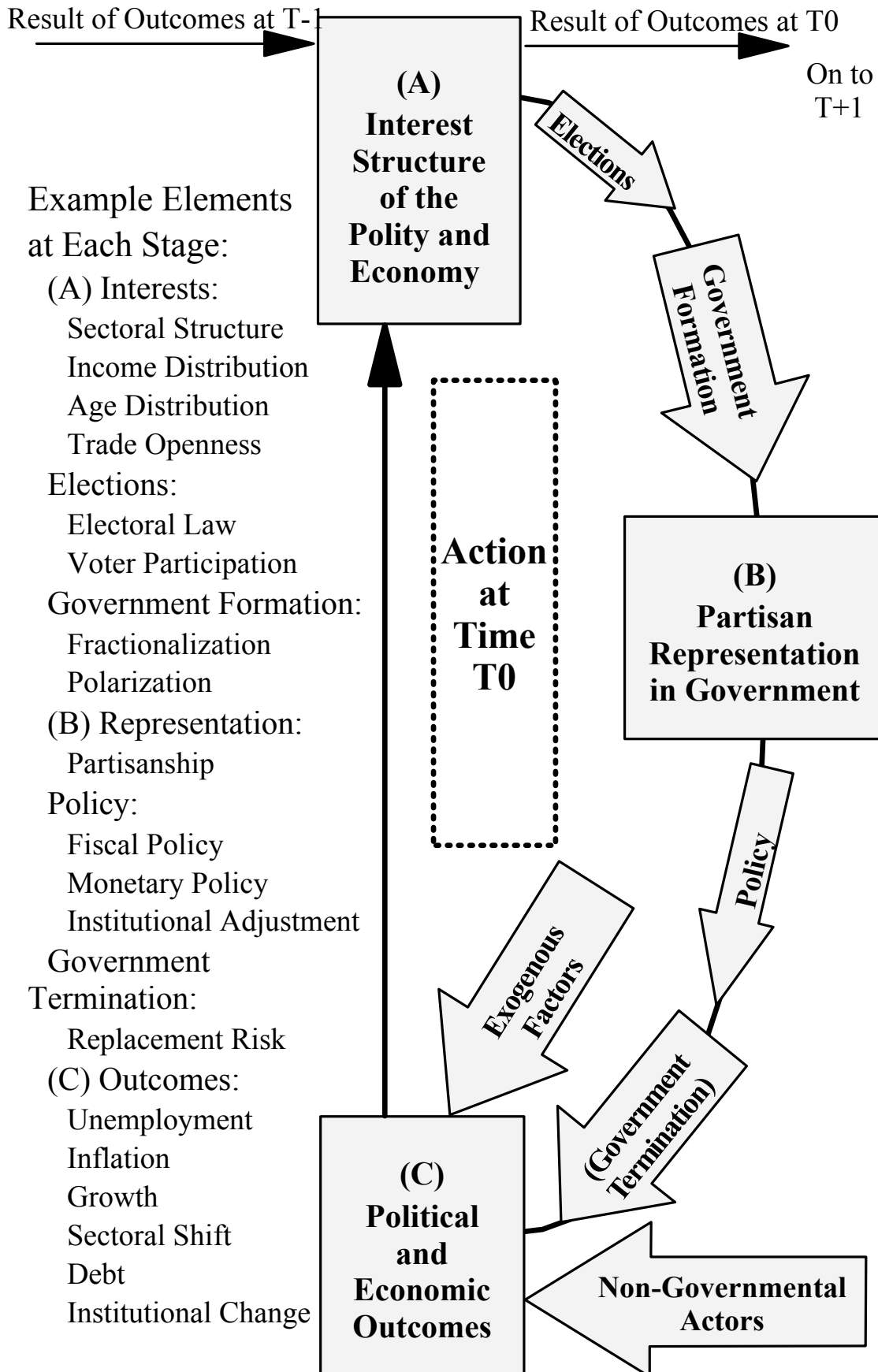
Dot marks postwar mean; box extends plus to minus one standard deviation from mean; lines extend to maximum and minimum.

Figure I.21: Real Per-Capita Growth by Year



Dot marks 21-country mean; box extends plus to minus one standard deviation from mean; lines extend to maximum and minimum.

Figure I.22: The Cycle of Political Economy



B. Five Contributions:

1. Self contained studies of transfers, debt, and monetary *cum* wage/price management
 - a. Transfers: how pro-/anti-participatory institutions shape democratic response to inequality
 - b. Debt: how veto actors retard policy adjustment-rates, implying multiple political-economic interactions in long-run debt determination
 - c. Monetary/Wage-Price Management: how shared policy control implies multiple interactions in policy determination, and how effects of policy depend on multiple interactions among the characteristics of policymakers and key private actors.
2. Offer a view of comparative and international political economy
 - a. Universal tensions b/w liberal democracy & free-market capitalism, arising from different distribution of political (votes) and economic (wealth) influence induce differentiated responses from policymakers and private actors depending on institutional, interest-structural, and political-economic conditional settings.
 - b. Multiple interactions among these institutions, interests, and conditions.
3. Methodology: how to model theoretical interactive complexity empirically in compact, intuitive, and powerful manner, and how to present such substantively effectively
4. Theoretically guided aggregate empirical history of postwar evolution of macroeconomic policy, policymaking, and outcomes in developed democracies.
5. Substantive Story:
 - a. Evolution involved ↑ difficulty in democratic management of macro-economy, exacerbated distributional conflicts inherent in tradeoffs while undermining efficiency (&/or belief therein) of such management.
 - b. In response, democratic policymakers shifted from emphases on fiscal, to monetary, and then to institutional-structural *reform* to rebuild broad postwar coalitions behind econ management.
 - c. *Reforms*, however, retained strong distributional implications whatever (partisan) protagonists claim, so...
 - d. ...modern political *reform* struggles reflect rather than replace traditional left-right conflict.

C. Democratic Commitments to Government Involvement in Macroeconomy

1. All made commitments, to varying degree, to
 - a. Social “insurance” for disability, illness, unemployment, old-age
 - b. Provision of “public” goods
 - c. Public management of macroeconomic cycle
 - d. E.g., UK 1942 Beveridge Report (universal health) and 1944 White Paper (govt responsibility for macroeconomic management).
2. Postwar-Settlement, Neoclassical, and Class-Compromise Views of Commitments
 - a. Postwar-settlement: commitments arose from immediate postwar interest-group struggles over appropriate role of govt in economy (Katzenstein, Hall, Gourevitch).

- b. Neoclassical: common interest in *efficiency*-enhancing macro management and public policy, hindered by “purely political” distributional conflicts ⇒ concern that democracy endangers capitalism (heritage: Aristotle, Mill, Marx, Tocqueville, Hamilton; modern: Olson, Buchanan & Wagner, Meltzer & Richard, public-choice school).
- c. Class-Compromise: commitments serve to co-opt working class sufficiently to enable capital accumulation. Core conflict to reconcile necessary efficiency of capitalism w/ its equally necessary consequence of working-class impoverishment. (modern: Esping-Andersen, Offe).

3. Emerging Challenges:

- a. Burgeoning social-insurance systems, health care, debt.
- b. Economic Stagnation
- c. ⇒ *Crisis of the KWS*
 - (1) KWS intends to buttress and to facilitate capitalist economic development while alleviating its harshest individual and distributional consequences
 - (2) Victim of its own success:
 - (a) in succeeding at the latter, it undermines the harsh incentives that largely the source of the former,
 - (b) yet to continue to succeed at (i.e., to fund) the latter, needs continued success on the former.
- d. What results from potential conflict between distribution of political and economic influence, which results in relatively unmoderated growth KWS, is empirical question.
 - (1) Cannot simply count votes: rational ignorance, money influence, organizational capacity, etc.
 - (2) ARG: some general democratic tendency toward over-provision, but manifestation highly institutionally contingent, and under-provision also possible. I.e., differing deviations from econ textbook *optimal*
- e. ⇒ Alternative Title for Book: *Comparative Democratic Mismanagement of the KWS*

D. Evolution of Policy Commitments and of Macroeconomic Performance

1. Figures 1.1-3: Size of Government, common trends, country-persistent and temporal-unique divergence
2. Figures 1.4-6: Transfers, common trends and divergence...
 - a. Economic conditions largely explain commonality
 - b. One key source of divergence: interaction of participation and inequality
3. Figures 1.7-9: Public Debt, common trends and divergence...
 - a. Economic conditions & responding growth of govt from above largely explain commonality,
 - b. One key source of divergence: interaction of veto players with pro-debt political economy
 - c. Combination of above, plus increasing international exposure, increasingly limits fiscal-policy maneuverability and efficacy ⇒ shift to (anti-inflationary) monetary policy
4. Figures 1.10-12: Public Employment, common trends and divergence...
 - a. However, structural changes in domestic interests & esp. in labor markets ⇒ increasingly difficult to manage monetarily the nominal macroeconomy with low real cost

- b. I.e., nominal and real effects of anti-inflationary shift, highly conditional
- c. *Reform*, in fact, reflects familiar nominal-real tradeoffs, but tradeoffs that vary with political-economic structure.

5. Figures 1.14-21: Macroeconomic Performance

E. The Cycle of Political Economy Framework (Figure 1.22)

F. The Political-Economic Implications

1. Economic effects

a. Transfers

- (1) Alleviate inequality (more or less as intended), but also
- (2) Hinder labor-market flexibility, contribute to UE, esp. long-term UE \Rightarrow \downarrow effect macro-policy
- (3) \Rightarrow Reform \approx familiar tradeoff
- (4) Also drove growth in govt more generally, and through deficit-finance, debt.

b. Debt

- (1) Crowding Out (or In) v. Ricardian Equivalence
- (2) Not much real effect there, but seems appreciable effect on UE (-) v. INF (+)
- (3) \Rightarrow Reform \approx familiar tradeoff

c. Public Employment

- (1) Reduces productivity (growth)-ch. IV support—but also alleviates UE & ineq—previous support.
- (2) However, also exacerbates tradeoff inherent in monetary control of inflation

2. Political Consequences

a. Economic effects *are* political effects!

b. Developments created some new cleavages & reinforced some others

- (1) E.g., public-debt asset-holders v. those deriving benefits from debt-financed public activity
- (2) E.g., generational conflict, class conflict, and esp. the interaction of the two.

c. Trends undermined or reinforced support for certain economic-policymaking institutions

- (1) Those restraining or otherwise shaping fiscal activity
- (2) Those restraining or otherwise shaping monetary policy, etc.

d. Govt shifting policy emphases (active fiscal to anti-inflationary monetary to *structural reform*) perhaps traceable to the dynamics of popular preferences in response to these policy and outcome developments.

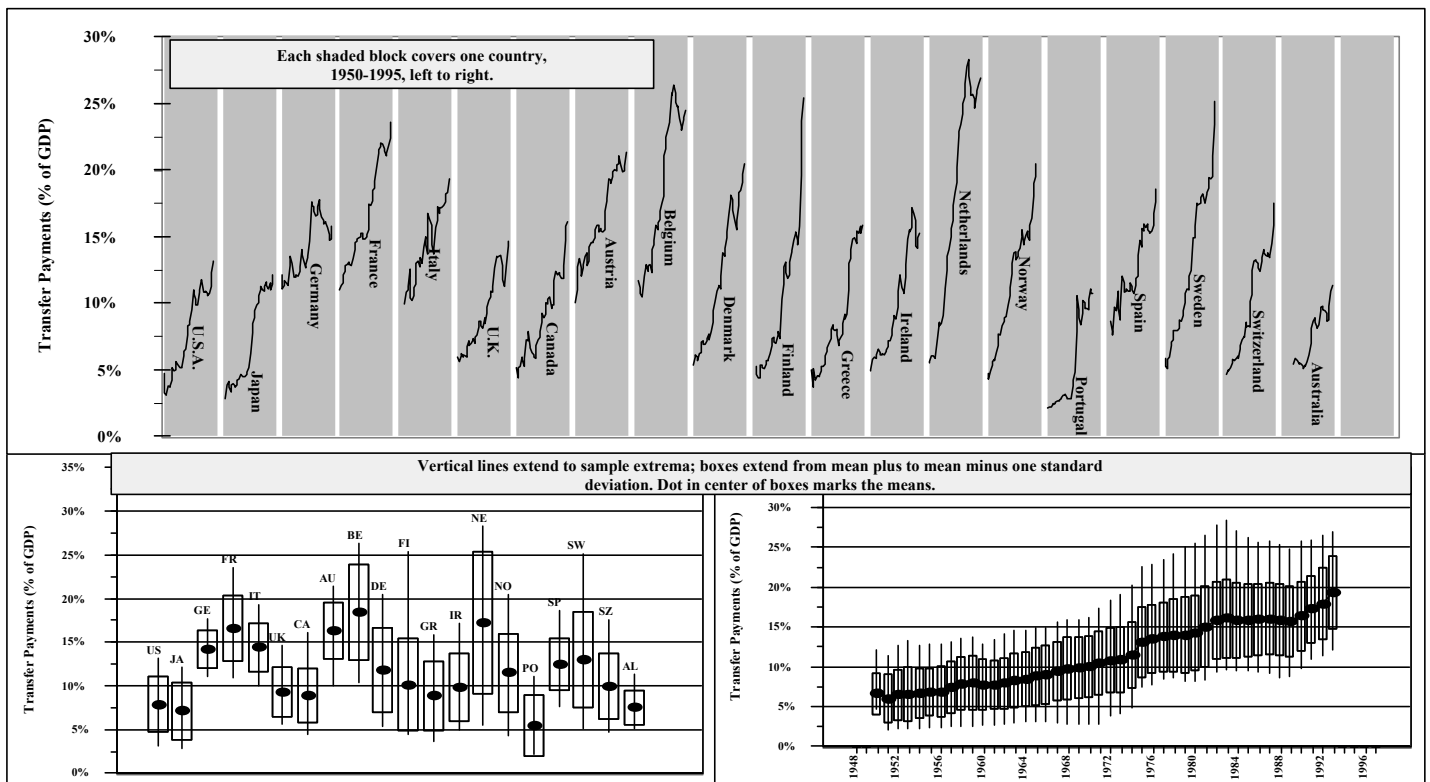
G. Conclusion & Situating the Contribution in Recent Literature

III. *Chapter II: The Democratic Commitment to Social Insurance*

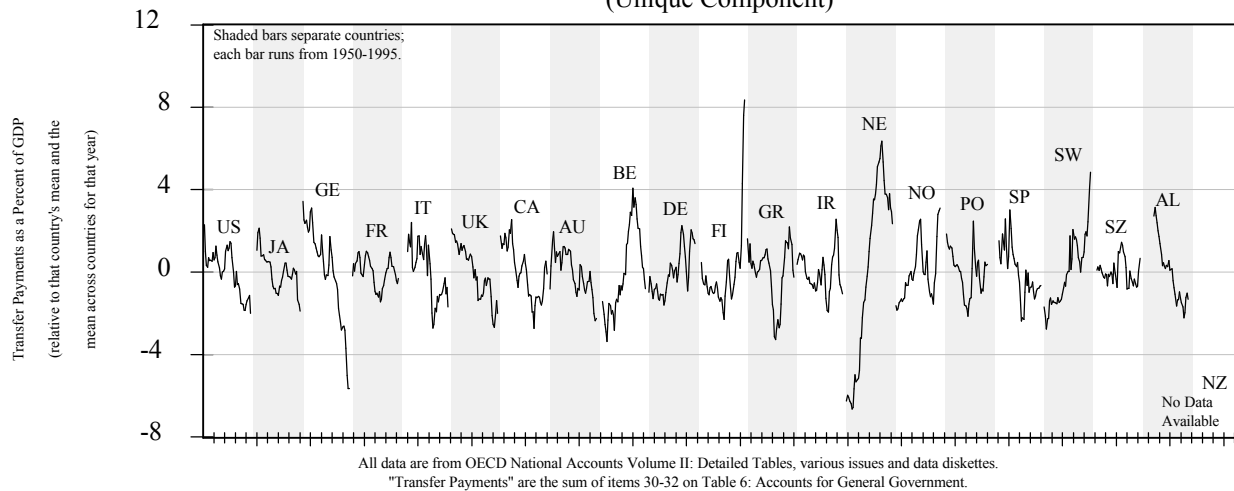
A. *Chapter Abstract:*

- 1. Until recently, public-transfer GDP-shares \uparrow dramatically in every developed democracy.

2. Much positive theory purports to explain this as a direct consequence of differing distributions of political (votes) and economic (money) resources, concluding, *inter alia*, that tax-and-transfer-system (T&T) size \uparrow with the income-distribution skew.
3. Building from that, chapter suggests theoretical additions and amendments deriving from further consideration of democratic processes that transform resources into influence.
 - a. Esp.: not everyone participates politically & participants/non-participants are not randomly selected. Together \Rightarrow aggregate participation rates mediate T&T responses to inequality, and, conversely, inequality mediates T&T responses to participation.
 - b. Spec'ly, relatively wealthy = higher propensity to participate politically \Rightarrow
 - (1) higher aggregate participation rates generally coincide w/ \uparrow democratic representation of relatively less well-off, suggesting democratic govts respond to greater inequality with larger T&T increases the higher the participation rate &, *vice versa*,
 - (2) \uparrow participation \Rightarrow larger T&T increases the more unequal the underlying income distribution.
 - c. The postwar T&T experiences of developed democracies support that hypothesis empirically.



Transfer Payments as a Fraction of GDP
(Unique Component)



B. Lecture Overview:

1. Chapter explores differential development since 1950 in size of tax-and-transfer systems (T&T) in developed democracies. [Figure above]
2. Much positive theory purports to explain these differences & commonalities, as direct conseq. of diff. distributions of political (votes) & economic (money) resources. Crudely:
 - a. Democracies respond to median voter's interests because political influence is, in principle, distributed evenly (1 person, 1 vote) and because majorities rule.
 - b. Free-market capitalism tends to distribute income such that median person is poorer than average person (*i.e.*, income distribution is skewed right).

- c. Median voter thus desires positive T&T. Specifically, more T&T the greater the income difference between median and mean.
- d. \implies *cet. par.*, T&T increases in (pre-T&T) income or wealth distribution skew.

3. This chapter:

- a. Considers more carefully connection b/w distribution of political and economic *resources* on one hand and policy *influence* on other.
 - (1) Pure fully-participatory median-voter democracy describes no actual political system.
 - (2) Translation of resources into influence occurs in highly institutionalized environments amplifying voice of some and muting that of others.
- b. Having made these extensions, consider how well the argument, so-modified, can explain the postwar T&T experiences of developed democracies.
- c. Consider the implications of this (differential) T&T expansion for the evolving politics and economics of economic policymaking in developed democracies.

C. *Median-Voter Models of Tax-&-Transfer Systems, Baseline Model:*
 static, median-voter model of democratic choice over strictly proportional T&T system, intended as simplified, reduced-form of Romer (1975) / Meltzer-Richard (1978). Has Three Main Elements:

1. Output is decreasing in the T&T rate (at least beyond some point):

$$y_i = y_i(\tau) \quad ; \quad y' < 0 \quad , \quad y'' < 0$$

2. Considers only “strictly proportional” T&T systems: i.e., tax all persons and income equally and redistribute all the revenue in equal shares.

- a. Individuals are taxed at rate, τ , on all income, y_i , and resulting revenues are redistributed equally, $\tau \cdot \sum_{i=1}^N y_i(\tau) / N \equiv \tau \bar{y}$, to each person (N is total population).

- b. Assume utility for each person i is increasing in (log) disposable income. \implies

$$u_i \equiv \ln \left[y_i(\tau) + \tau \cdot \left\{ \sum_{i=1}^N \frac{y_i(\tau)}{N} - y_i(\tau) \right\} \right] = \ln \left[y_i(\tau) + \tau \cdot \{ \bar{y}(\tau) - y_i(\tau) \} \right] \quad (1)$$

3. Optimal T&T rate for median voter (MV) will be implemented in pure democracy and is given by maximizing (1) with respect to $\tau \implies$

$$t^* = - \frac{\bar{y}(t) - y_m}{\bar{y}'(t) - y'_m} - \frac{y'_m}{\bar{y}'(t) - y'_m} \equiv a + b \cdot \{ \bar{y}(t) - y_m \} \quad \text{with } a < 0 \quad , \quad b > 0 \quad (2)$$

- a. MV increases T&T rate until negative impact of tax on total output just outweighs increased redistribution garnered.

b. \Rightarrow MV's optimal T&T rate increases in income distribution skew: $\{\bar{y} - y_m\}$.

c. = Central result of such models, that primarily emphasized here and elsewhere.

4. Several ancillary results surround the magnitudes of y' , y'' , and $\frac{\partial(\frac{\partial y}{\partial t})}{\partial y}$; e.g.:

a. The more negative the cross derivative, the smaller the MV's desired T&T.

b. *Distribution-neutral* increases in aggregate wealth reduce MV's desired T&T.

5. H1: MV's desired T&T \uparrow in skew of income distribution (*cet. par.*).

a. **H2:** MV's desired T&T decreases w/ distrib.-neutral increases in agg. wealth.

b. **H3:** The more negatively output responds to taxes and more responsiveness increases (absolutely) with income, the less T&T the MV desires.

D. *Dynamic Considerations: the Optimal Plan*

1. Examining the inter-temporal equivalent of the static utility, (1), suffices:

$$U_i \equiv \sum_{t=0}^{\infty} (1 + \mathbf{d})^{-t} (1 + \mathbf{g}(\mathbf{t}))^t \ln[y_i(\mathbf{t}) + \mathbf{t} \cdot \{\bar{y}(\mathbf{t}) - y_i(\mathbf{t})\}] \quad (3)$$

2. Main differences from static case:

a. Individuals discount the future (at rate δ), and

b. Beyond output-level concerns above, *growth-rate* also \downarrow by \uparrow T&T rate: $\gamma = \gamma(\tau)$; $\gamma' < 0$, $\gamma'' < 0$.

3. Thus, given positive discount and growth rates, MV prefers lower T&T rate in dynamic than in static model. Alternatively, and with more empirical relevance:

a. **H4:** The less the MV discounts the future, the less T&T she desires.

b. **H5:** The more negatively sensitive growth to taxes, the less T&T the MV's desires.

Democratic Transformation of Resources into Influence:

E. *Time Inconsistency:* Once capital investments that \uparrow future income fixed based on existing τ , MV can $\uparrow \tau$ *ex post* \Rightarrow no-distortion redist. Implications (Kydland&Prescott 1977):

1. MV \uparrow T&T relative to infinite-horizon optimum as uncertainty re: i.d. of future MV \uparrow . Intuitively, \uparrow uncertainty about i.d. of next period's median analogous to \uparrow discount rates:

2. **C4a:** More uncertain MV that will be MV in future, more T&T MV desires.

3. Logic should extend to horizon-length of any policymaking entity (parties, gov).

4. **C4b:** Longer policymakers' expected policy-control, less T&T they seek.

F. *Parties and Partisan Representative Democracy:*

1. *Partisan Representative Democracy* \downarrow time-inconsistencies inherent in pure MV democracy:

- a. In any dynamic economy, individual MV's unlikely to remain MV's for long.
- b. Parties agg. voters into smaller #'s of competing interests, yielding correspondingly larger spaces between median incomes of each party than b/w each voter.
- c. Perturbations in voters' income-distribution alter which party controls policy in part. rep. dem. much less than they would which voter would control it in pure MV.
- d. Parties long-&indefinitely-lived entities, reputationally tied to future (Kreps 1990).
- e. ∴ part. rep. dem. mitigates time-inconsistency problems relative to pure MV dem. by replacing agenda-control by finitely-lived, rapidly-changing individuals with control by longer-lived less-rapidly-changing parties.

2. Partisan Redistributive Politics: MV in median party of govt (*the govt's median*) may not correspond to median-income voter in society.

- a. *E.g.*, parties may not converge to society's median, rather jointly straddle it, b/c must appeal to activists generally more extreme than MV (Aldrich *et al.*). Thus, MV in left party typically be left of (poorer than) polity's MV, and right party's MV right (richer). ==>
- b. **H6:** Left governments implement more T&T than right.
- c. Obviously, same prediction emerges from class-based views of P.E. that rely less heavily on MV principles (Castles, Epsing-Andersen, Hecllo, Hibbs, Korpi).
- d. Point simply that, part. rep. dem., unlike MV models, do not imply that partisan i.d. of govt is irrelevant controlling for MV's interests.

G. Political Participation & Redistribution: not everyone votes even in most-participatory of democracies, & several (*e.g.*, Dye) argue that higher voter participation ⇒ more T&T.

1. Two previous theoretical/empirical observations:

- a. Verba *et al.*, Rosenstone & Wolfinger, Conway, Harrop & Miller, Nagel, and subsequent all demonstrate that: *relatively wealthy greater propensity to vote than relatively poor.*
- b. *Voter-participation rates vary* considerably across dem.'s &, less so, over time.
- c. Do these obs. link more generally & comparatively to imply that country-times w/ higher VP have wealthier MV's relative to median persons than at lower VP so can derive relationship b/w VP and T&T Dye hypothesized & Pampel-Williamson and Hicks-Swank from above?

2. Simple heuristic model in which...

- a. ...citizens vote or not based on cost-benefit analysis (C's & B's can be largely subjective) that may vary by country, by election, and by individual, and in which...
- b. ...individual net benefits to voting are, as above references established, increasing in individual's income, *inter alia*....
- c. ...other factors that increase (decrease) an individual's propensity to vote are not too highly positively (negatively) correlated with income...
- d. ...demonstrates so: *the proportion of the income distribution comprising the electorate increases from right (wealthy) to left (poor) as voter participation increases (on average and controlling for aggregate wealth).*

3. \implies given underlying distribution, *effective* median income represented by electoral input into democratic process decreasing in VP rate, *ceteris paribus*. \therefore skew of raw income distribution and VP rates interact to determine T&T \implies

4. **H7: Positive effect of inc.-dist. skew on T&T (H1) \uparrow in VP.**

5. **C7a: VP effect on T&T \uparrow in skew of underlying inc. dist.**

6. *The Simple Voting Model:*

a. Vote if: (4A) $b(y_{ijt}, X_{ijt}) \geq 0$, otherwise abstain.

b. Define:

(1) $y_{ijt} \equiv i$'s income at time t relative to country j 's mean income at time t ,

(2) $X_{ijt} \equiv$ vector of other char's of i, j, t relevant to i 's voting decision.

c. Assume:

(1) — $b(\cdot)$, the net-benefit-of-voting function, is the same for all i, j, t

(2) — $E[\partial b / \partial y] > 0$

(3) — $E[\partial^2 b / \partial y \partial x] = 0$ for all $x \in X$

(a) Empirical regularity that rel. wealthy higher voting propensity $\implies E[\partial b / \partial y] > 0$.

(b) Assumption $E[\partial^2 b / \partial y \partial x] = 0 \forall x \in X$ is workhorse. (Need that other factors that affect vote propensity fall not too dissimilarly on relatively well-off & poor.)

d. Voter participation \equiv (4B) $VP_{jt} = \sum_i [b(y_{ijt}, X_{ijt}) > 0]$

e. \therefore , if (4A) and (4B), then (4C): $VP_{oo} > VP_{11} \implies E(y_{ioo} | b_{ioo}=0) < E(y_{i11} | b_{i11}=0)$

7. **Other modes of political participation** (e.g., contributions, lobbying, contacting representatives, letters to editors, etc.) also \implies political influence.

a. Strengthens rather than undermines empirical relevance of **H7** and **C7a**.

(1) As VP \downarrow , prevalence & influence of alt. participation modes logically must \uparrow , at least relatively

(2) Second, S.E. status correlates even more strongly with other forms of political participation than with voting (see e.g. Verba et al., Conway, Rosenstone-Hansen).

b. \implies as VP \downarrow , not only does electoral representation of relatively less-well-off \downarrow , but political influence of non-voting participation \uparrow and there relatively poor even less well represented.

c. \implies *Voter-participation may be legitimate summary statistic for participation more generally* (I intend it so in above theoretical & ensuing empirical analyses).

H. The Data

1. *Dependent Variable:* T&T system-size (TT) \equiv “social security benefits, social assistance grants, & unfunded employee pension & welfare benefits” as share of GDP (items 30-32 in OECD National Accounts Vol. II: Detailed Tables).

2. *Economic Controls:*

a. Unemployment (UE: internationally comparable annual figures: OECD sources).

b. Age (POP65: population 65+ as share of total: *UN Demographic Yearbook*).

- c. Inflation (CPI: consumer-price inflation: IMF sources).
- 3. *Other Controls*: Many P.E. theories don't distinguish whether impacts should occur in T&T or elsewhere on budget; many have arg. & counters in lit., but controlling seems prudent:
 - a. Wealth and Wagner's Law {Y: $\ln(\text{real GDP per capita})$: *Penn World Tables 5.6*}
 - (1) If law applies specifically to T&T, it works contrary to **H2**.
 - (2) If transfers luxuries (poorer countries generally eschew, so probably) T&T effect of wealth will reflect net of these countervailing but not logically exclusive, forces.
 - b. Trade Openness: (Cameron, Katzenstein, Garrett, Rodrik) (OPEN: exports + imports as share of GDP: IMF sources).
 - c. Labor-Organizational (i.e., Union) Strength: (UDEN: union members as share of labor force: Golden, Lange, and Wallerstein).
 - d. Fiscal (De)-Centralization (Weingast-Shepsle-Johnsen, Sharpe, Peterson). (CTAX: central government's share of general govt. revenues: OECD sources).
 - e. Fiscal Illusion (Buchanan-Wagner; Downs). Indirect (ITAX: complexity) & total taxes (TTAX: simplicity) as shares of gen. govt. tot. revenues: OECD sources).
 - f. Electoral Manipulation of T&T (Tuft 1978) (ELE: electoral-year indicator).

4. *Data Operationalizing the Arguments Emphasized Here*

a. **H1 and H7, C7a: Income Distribution and Participation**

- (1) Voter Participation (**VP**) (Mackie & Rose 1991, *EJPR Data Annuals*). Not annually observable; reasonable annual estimate = moving avg of this & previous 3 years.
- (2) Income Skew has proven impossible to measure directly cross-nationally and cross-temporally comparably => suggested alternative expedient based on manu.-wage index & GDP *per capita*, indexed equivalently (IMF sources):
 - (a) To ° man. workers = median actors or their wage-income plight tracks that of median actors, ratio of GDP-*per-capita* to man.-wage indices => measure of mean-to-median ratio: cross-time comparable w/in ctry, =1 in index yr (1986), & ↑ in income skew.
 - (b) Then cross-country comparable GINI-index measures (OECD sources, for 1986 or near as poss.), normalized to 1 in a base country (US), and multiplied by w/in ctry measure ==> cross-country and cross-time comparable index of income skew
 - (c) Call it: the *relative wage position of manufacturing workers* (**RW**). RW increases in income disparity & compares all other ctry-times to US 1986 where RW=1.

b. **H2: Aggregate Wealth** (see Wagner's Law)

c. **H3: Inefficiency (Level) Effect of Taxes & Elasticity w.r.t. Income** (not tested)

d. **H4: Median Voter's Discount Rate** (not tested)

e. **C4a: MV's Uncertainty**:

- (1) If variation w/in inc. dist. across time correlates w/ variation of its skew across time (intuitive, perhaps, but not necessary), then moving std-dev of RW (**SDRW**) approximates MV's uncertainty over whether she will remain such.
- (2) SDRW = 5-yr, centered, moving-standard-deviation of RW.

f. **C4b: Policymaker's Expected Duration of Policymaking Control**:

(1) To ° govts control policy, ° hazard rates constant w/in govt, & ° govts' predictions of own hazard rates small mean-squared error, policymakers' expected duration of agenda-control well approximated by inverse of actual duration of incumbent govt (**HR**: Woldendorp-Keman-Budge and Lane-McKay-Ehrsson).

g. **H5**: Inefficiency (Growth) Effect of Taxes & Elasticity w.r.t Income (not tested)

h. **H6**: Government Partisanship:

(1) Code parties 0=far-left to 10=far-right. (Rescale (0-10) & avg. published expert-indices: Laver-Hunt, Laver-Schofield, etc..) # of cab. min.'s of each party in every govt (Lane et al., Woldendorp et al.) => avg left-right position=partisan *center of gravity* (**CoG**).

I. Methodology: Specifying the Test Equation

$$\begin{aligned}
 \Delta TT_t = & \mathbf{C}'\mathbf{B}_0 + \mathbf{b}_1 TT_{t-1} + \mathbf{b}_2 \Delta UE_t + \mathbf{b}_3 UE_{t-1} + \mathbf{b}_4 \Delta POP65_t + \mathbf{b}_5 POP65_{t-1} \\
 & + \mathbf{b}_6 \Delta CPI_t + \mathbf{b}_7 CPI_{t-1} + \mathbf{b}_8 \Delta (\Delta Y_t) + \mathbf{b}_9 \Delta Y_{t-1} + \mathbf{b}_{10} Y_{t-2} \\
 & + \mathbf{b}_{11} OPEN_{t-1} + \mathbf{b}_{12} CTAX_{t-1} + \mathbf{b}_{13} ITAX_{t-1} + \mathbf{b}_{14} TTAX_{t-1} + \mathbf{b}_{15} UDEN_{t-1} \quad (4) \\
 & + \mathbf{b}_{16} \Delta ELE_t + \mathbf{b}_{17} ELE_{t-1} + \mathbf{b}_{18} \Delta CoG_t + \mathbf{b}_{19} CoG_{t-1} + \mathbf{b}_{20} \Delta HR_t + \mathbf{b}_{21} HR_{t-1} \\
 & + \mathbf{b}_{22} SDRW_{t-1} + \mathbf{b}_{23} VP_{t-1} + \mathbf{b}_{24} RW_{t-1} + \mathbf{b}_{25} VP_{t-1} \cdot RW_{t-1} + \mathbf{e}_t
 \end{aligned}$$

C = set of TSCS controls: (1) ΔTT_{t-1} , (2) country indicators, (3) indicators for non-democratic Greece, Portugal, Spain, and (4) average TT in other countries in the sample in that year.

Results: Dep. Var.=Change in Transfers Share of GDP (ΔTT_t)

Variable	Coefficient	P.C.S.E.	p-Level	Joint Hyp. Test
CONTROLS				
TT_{t-1}	-0.0601	0.0139	0.0000	—
ΔUE_t	+0.2238	0.0308	0.0000	p \approx 0.0000
UE_{t-1}	-0.0131	0.0113	0.2446	
$\Delta POP65_t$	+0.1382	0.1393	0.3215	p \approx 0.4426
$POP65_{t-1}$	+0.0265	0.0300	0.3762	
ΔCPI_t	-0.0365	0.0075	0.0000	p \approx 0.0000
CPI_{t-1}	-0.0049	0.0066	0.4559	
$\Delta(\Delta Y_t)$	-8.0556	0.9409	0.0000	p \approx 0.0000
ΔY_{t-1}	-5.0930	1.3323	0.0001	
Y_{t-2}	+0.3621	0.2023	0.0739	
$OPEN_{t-1}$	+0.1602	0.3565	0.6534	—
$CTAX_{t-1}$	-0.2131	0.5175	0.6806	—
$ITAX_{t-1}$	+0.8443	0.8535	0.3229	—
$TTAX_{t-1}$	+0.1051	1.0002	0.9164	—
$UDEN_{t-1}$	+0.0078	0.0035	0.0266	—
ΔELE_t	+0.1043	0.0535	0.0518	p \approx 0.0274
ELE_{t-1}	+0.2259	0.0847	0.0078	
ΔCoG_t	-0.0391	0.0239	0.1030	p \approx 0.1755
CoG_{t-1}	-0.0215	0.0155	0.1670	
ΔHR_t	-0.1010	0.1072	0.3465	p \approx 0.5567
HR_{t-1}	-0.0105	0.1081	0.9223	
$SDRW_{t-1}$	+2.4838	1.4956	0.0972	—
VP_{t-1}	-0.3688	0.5498	0.5026	p \approx 0.020
$VP_{t-1} \cdot RW_{t-1}$	+1.1382	0.4720	0.0162	p \approx 0.045
RW_{t-1}	-0.3280	0.3396	0.3346	p \approx 0.049
Number of Observations (Degrees of Freedom)				701 (650)
Adjusted R² (Std. Err. of the Estimate)				0.477 (0.478)
LM Residual Correlation Test, 1 Lag				0.4949

NOTES: Equation estimated by ordinary least-squares (OLS) with panel-corrected standard-errors (PCSEs). *CONTROLS*, described in the text, suppressed to conserve space. *t*-test *p*-levels are probabilities of false rejection from two-sided tests. Wald-test *p*-levels are the probabilities at which null hypotheses that the relevant coefficients are simultaneously zero are rejected. The single-lag Lagrange-multiplier test is the least favorable.

J. Ancillary Results

1. Coeff. on **lagged TT** is negative (-.06) w/ t-statistic $T > 4.3$, therefore...
 - a. ...should satisfy any unit-root concerns.
 - b. ...**T&T adjusts very slowly**; 94% ($1 - .06 = .94$) of shock lasts into next year, 94% of that into following, *etc.*
 - c. ...long-run impact of permanent shocks $16.67 \pm (= .06^{-1})$ times immediate impact, and it takes $37 \pm (48 \pm)$ yrs for 90% (95%) of shock's long-run impact to elapse.

2. Economic Controls:

- a. **UE: strong ($p < .0001$), but short-term, \uparrow effect on T&T.** 1% increase in UE \Rightarrow transitory 0.22% of GDP increase in T&T. Not much long-run effect of UE level.
- b. **Age dist.: positive as expected, but surprisingly weak statistically.**
 - (1) Neither transitory nor permanent effect significant at usual levels ($p \approx .32$, $p \approx .38$, joint $p \approx .44$).
 - (2) Substantive magnitude of long-run effect non-negligible though: OECD-avg 5.5% \uparrow in POP65 in 1950-95 could account for over +2.4% of GDP, almost 1/6 of OECD T&T trend.
- c. **Inflation: negative, highly significant, but small transitory-effect ($p < .0001$), negligible & insignificant long-run effect ($p \approx .456$).** (Joint significance: $p < .0001$.)
Transitory effect: 1% increase in CPI inflation decreases TT only about 0.035% of GDP.

3. Other Theories:

- a. **Trade Openness and Tax-Structure variables insignificant.**
 - (1) Largest & most-nearly significant estimate regards indirect taxes; 10% increase associated w/ long-run +1.4% of GDP T&T \Rightarrow possibly some fiscal illusion.
 - (2) Openness seems not to matter much. Support for Garrett? Comp. Instit. Adv.?
 - (3) Despite much debate, seems neither terribly much to gain or fear from T&T decentralization
- b. **Union Density substantively & statistically significant ($p \approx .027$).** 10% increase in union density estimated to \Rightarrow .13% of GDP long-run increase in T&T.

4. More Ancillary Results

- a. *GDP-per-capita Growth and Levels:*
 - (1) Trans. & perm. growth effects very strongly ($p < .0001$, $p \approx .0001$) negative & big.
 - (2) GDP *per capita* levels large positive effect & moderately significant ($p \approx .074$).
 - (3) Initial downward response might indicate support for **H2**, but statistical precision and substantive size rather suggest automaticity.
 - (4) \Rightarrow while forces described by **H2** cannot be rejected, clearly substantively swamped in short-run by automatic growth-effects and in long-run by Wagner's Law.

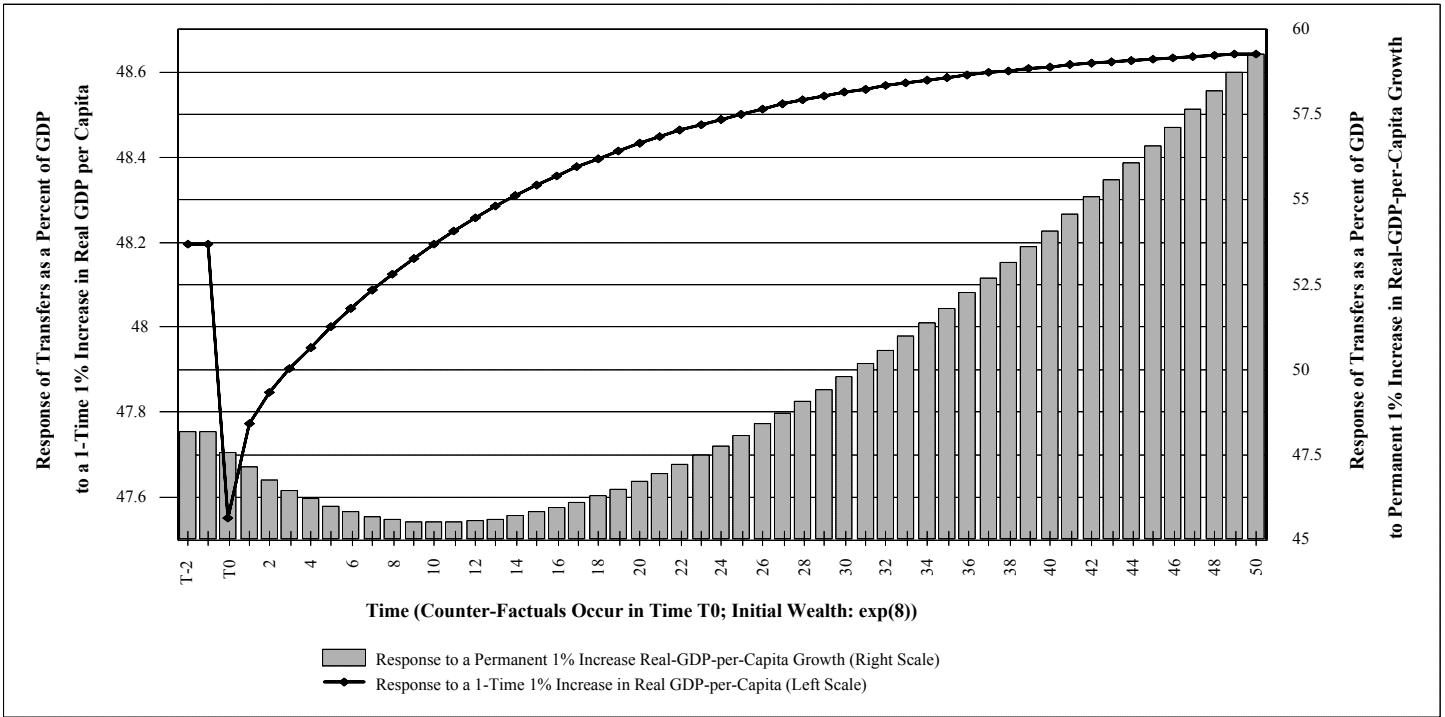


Figure 10: Response of T&T-system size to Real-GDP-per-Capita Growth and Levels

b. *Pre-Electoral Manipulation of T&T:*

- (1) Strong, contrary to much recent pessimism about electoral budget-cycles in lit.
- (2) ΔELE_t & ELE_{t-1} coeff.'s reveal \uparrow TT 0.10% of GDP in yr before elections ($p \approx .052$) & further \uparrow 0.12% of GDP year *after* ($p \approx .022$). (Joint significance: $p \approx .027$.)
- (3) Given slow adjustment-rate of T&T, and given that all democracies have elections minimally every five years, **==> impact of one pre-electoral manipulation has not nearly faded when another occurs:**

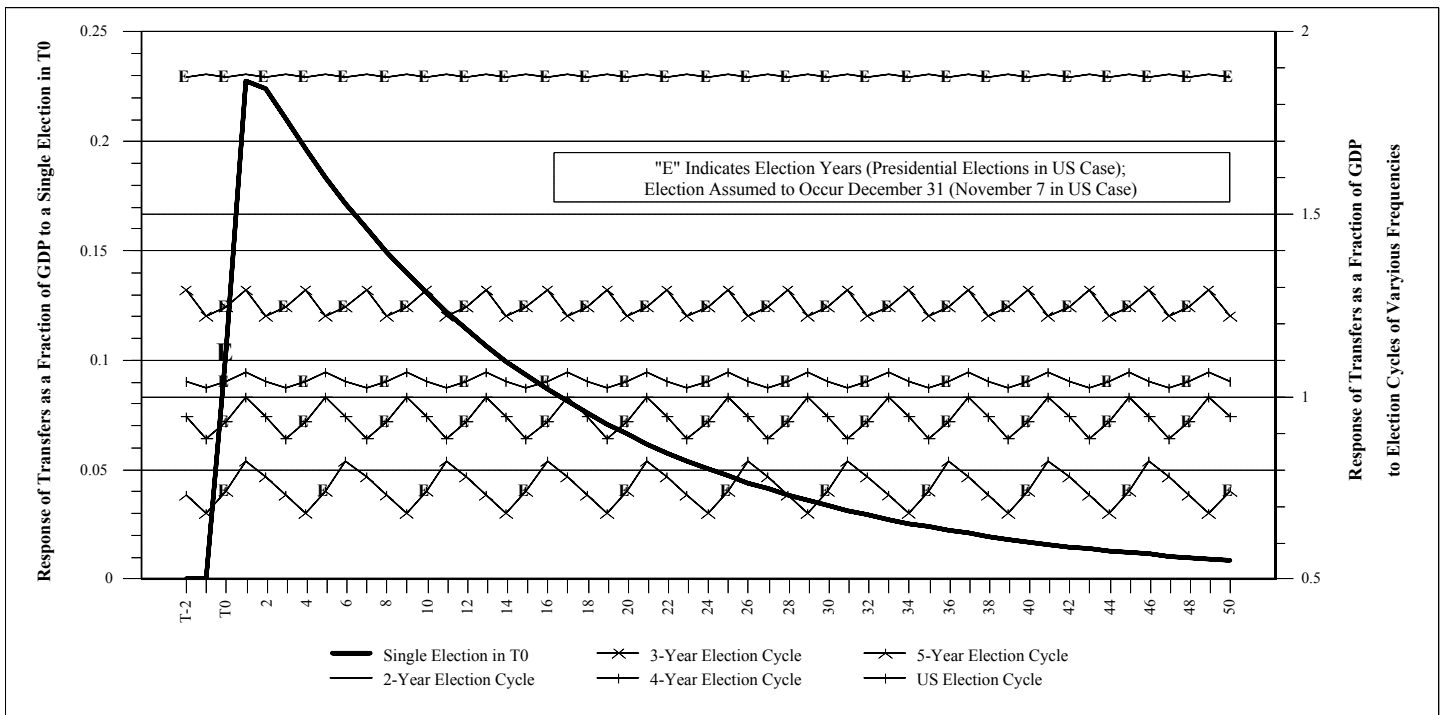


Figure 11: Response of T&T Systems to a Single Election and to Regular Elections of Various Frequencies

(4) Substantive Notes about this result:

- (a) **T&T cycle peaks the year *after* an election.**
- (b) **Frequency of elections has sizable impact on long-run T&T system-size.** Democracies w/ elections every 2 (3,4) years grow T&T systems >1% (0.5%, 0.19%) of GDP larger than those in countries w/ elections every 5 years.
- (c) **Amplitude of electoral T&T cycles ↑ in time b/w elections:** .008%, .074%, .116%, and .141% of GDP for 2-, 3-, 4-, and 5-year cycles respectively.
- (d) US (pres. every 4, rep.'s every 2, 1/3 Senate every 2, & all in 1st wk November) has odd electoral-cycle pattern that illustrates all three results.
 - i) Given coding system, US pre-electoral indicator cycles: [.049,.284,.115,.663], w/ last being the presidential-election year.
 - ii) Given estimated T&T dynamics & coeff's on ΔELE_t & ELE_{t-1} , this => long-run T&T cycle (*ceteris paribus*) of [1.07,1.04,1.02,1.04].
 - iii) Cycle peaks in year *after* presidential election.
 - iv) Compared to simple 4-yr cycle (0,0,0,1 \Rightarrow .9997,.9451,.8840,.9304), => smaller amplitude T&T cycles and larger long-run T&T-system.
 - a) Former b/c off-presidential-election years still have some electoral manip. & so some T&T response;
 - b) & latter b/c, relatedly, US has more frequent elections.
- (e) Why typically weaker results in prior empirical studies?
 - i) Tufte's (1978) focus on transfer payments well-founded but too-often ignored
 - ii) Dynamics of dep. var. & electoral cycle itself received insufficient attention
 - iii) Empirical focus often on frequent-election ctrys (US) where magnitudes small.
 - iv) Schultz (1995) reminds (see Tufte 1978), policymakers will attempt manipulation only to degree a foreseen election is expected to be close.
 - v) Seasonally adjusted data.
 - vi) **Pre- AND Post-electoral manipulation: Why pre- & post-electoral surges?**
 - a) Challengers! Consider pool of pre- and post-electoral policymakers...
 - b) Stickyness, incrementalism, etc. (*yawn*)
 - c) Mismatch b/w calendar-yr measured ELE & fiscal-yr measured BDGT (*yyaawwnn*)
 - vii) Time to re-open analysis of Electoral Policy Cycles? 'Rumors of their demise have been greatly exaggerated' (apologies Mr. Twain).

5. Government Partisanship:

- a. Correctly signed, but trans. & perm. effects attain only marginal significance ($p \approx .103, p \approx .167$, jointly: $p \approx .176$) and not so large substantively
- b. But these partisan effects net of underlying structure of interests as reflected in other variables in equation, esp. net of income-distribution skew!
- c. Partisan cycles appreciable under some democratic-institutional conditions:

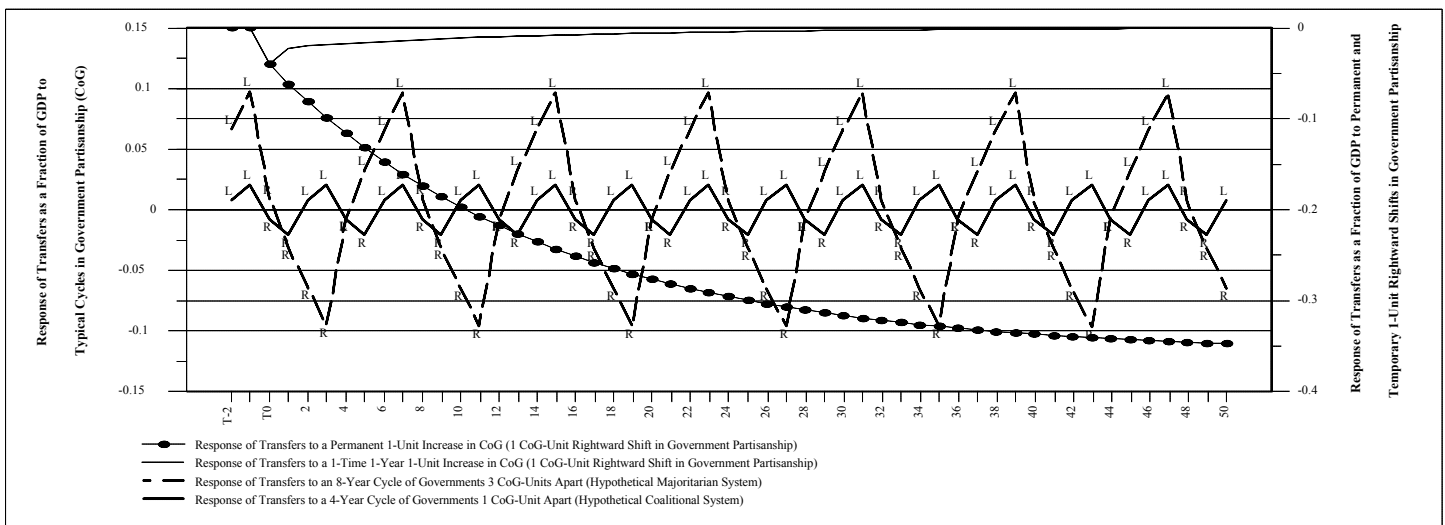


Figure 12: T&T-system response to temporary shifts, permanent shifts, and regular oscillations in government partisanship (CoG).

- d. Typical partisan T&T cycles in majoritarian democracies noticeable (0.2% of GDP peak-to-peak) but generally tiny in coalitional democracies (<0.05% of GDP).

6. **C4a and C4b** Government and Median-Voter Uncertainty:

- a. **C4b: incumbent government's uncertainty that will remain increases T&T.** No evidence that government instability increases T&T. If anything, reduces it.
- b. **C4a: median voter's uncertainty that will remain increases T&T.** Estimates indicate std-dev increase in SDRW (+0.023) increases T&T by almost 1% of GDP in long run, and moderately significant ($p \approx .07$).
- c. Possible conclusions from these results:
 - (1) Time inconsistency not so problematic for T&T as seems in other contexts (e.g., monetary policy); instead, T&T response to income-distribution variance-across-time reflects extra political demand for social insurance against income-volatility.
 - (2) Time-inconsistency as strong in T&T, but more evident at median-voter than govt level b/c other considerations operate to reduce T&T as govt instability increases.
 - (a) E.g., stable governments are so precisely b/c they respond to political uncertainty by manipulating transfer payments?
 - (b) E.g., threat of replacement improves efficiency / reduces manipulability of T&T?

K. **H1, H7 & C7a** Interactive Effects of voter participation & income distribution

- 1. **H1 &/or H7/C7a supported:** income distribution, voter participation, &/or their interaction significant statistically (joint significance: $p \approx .05$)
 - a. Income distribution, $H_0: b_{rw} = b_{vp,rw} = 0 \Rightarrow p \approx .045$, & voter participation, $H_0: b_{vp} = b_{vp,rw} = 0 \Rightarrow p \approx .02$, also supported.
 - b. Interaction supported, $H_0: b_{vp,rw} = 0 \Rightarrow p \approx .016$
 - c. \Rightarrow Voter participation, income distribution, and interaction contain statistically significant information about development of T&T systems.

2. FIGURE:

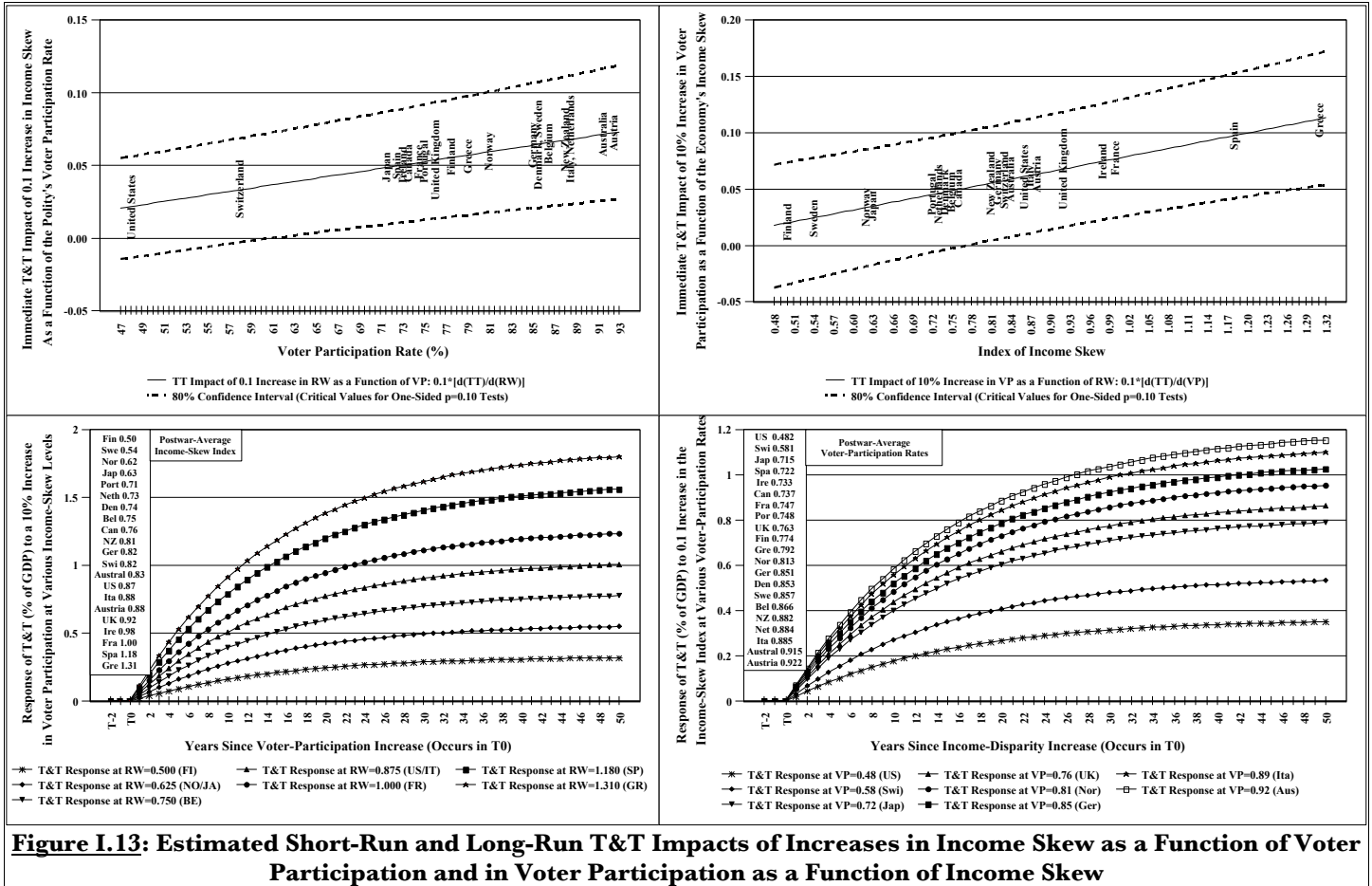
- a. *Top-left* plots immediate T&T response to 0.1↑ in income-disparity as function of voter-participation rate in that polity; i.e., plots $b_{rw} + b_{vp,rw} VP$ (& 80% c.i.).
- b. Countries labeled at postwar-avg VP (almost 90% of VP variation cross-national).
- c. *Top-right* does same for 0.1↑ in VP rate (almost 70% RW var. cross-national).
- d. Bottom-left & right plot long-run responses at country-avgs of other variable.

L. **Conclusions Regarding the Core Theoretical Extension**

- 1. Increased income disparity increases T&T (H1), and this relationship is larger and more certainly positive at higher voter-participation rates (H7).
 - a. In democracies with very low participation, e.g. the US and Switzerland, the T&T response to increased income-disparity is small & statistically insignificant.
 - b. Conversely, in highly participatory democracies, e.g. Australia and Austria, the T&T response to increased income-disparity is stat'ly & subst'ly significant.

2. V.Part. generally increases T&T, as argued before, *and* this relationship also more positive & significant as underlying income-disparity increases (C7a).

- Substantively, these too can be appreciable: in US1986 (RW-index's baseline: RW=1), 10% VP ↑ => immediate .08% and long-run 1.28% of GDP ↑ T&T.
- Bottoms plot est. T&T responses to 10% ↑ in inc.-disparity (RW) & V-part (VP), respectively, at substantively informative levels of other var. Countries' p.w.-avg VP (democratic periods only) & RW listed, so approx. T&T-response in any country's can be visualized.



M. Empirical Conclusions: How well does positive PE of T&T-systems as expanded here explain pattern of postwar T&T experiences in **Fig. 1**?

1. Shared Time-Path: 14.5±% of GDP T&T-increase from 1950-93 (*figure*).

- Key factor underlying commonality was long-run effect of agg. wealth & growth:
- Other economic conditions, UE and inflation, much smaller, if any, long-run effects, but medium-term fluctuations key roles in shared med.-term fluctuations.
- Population 65+ ↑ from 8.75% to 14.25% over 1950-93 period => account for 1.7±% of GDP T&T↑, if relevant coefficient estimate, $p \approx .37$, trusted.
- => Over half the OECD-average T&T ↑ attributable to fairly automatic responses of existing T&T policies to such economic & demographic conditions.
- Other structural-political developments:
 - Labor-organizational strength: std-dev (16.2±%) union-density ↑ would account for substantively

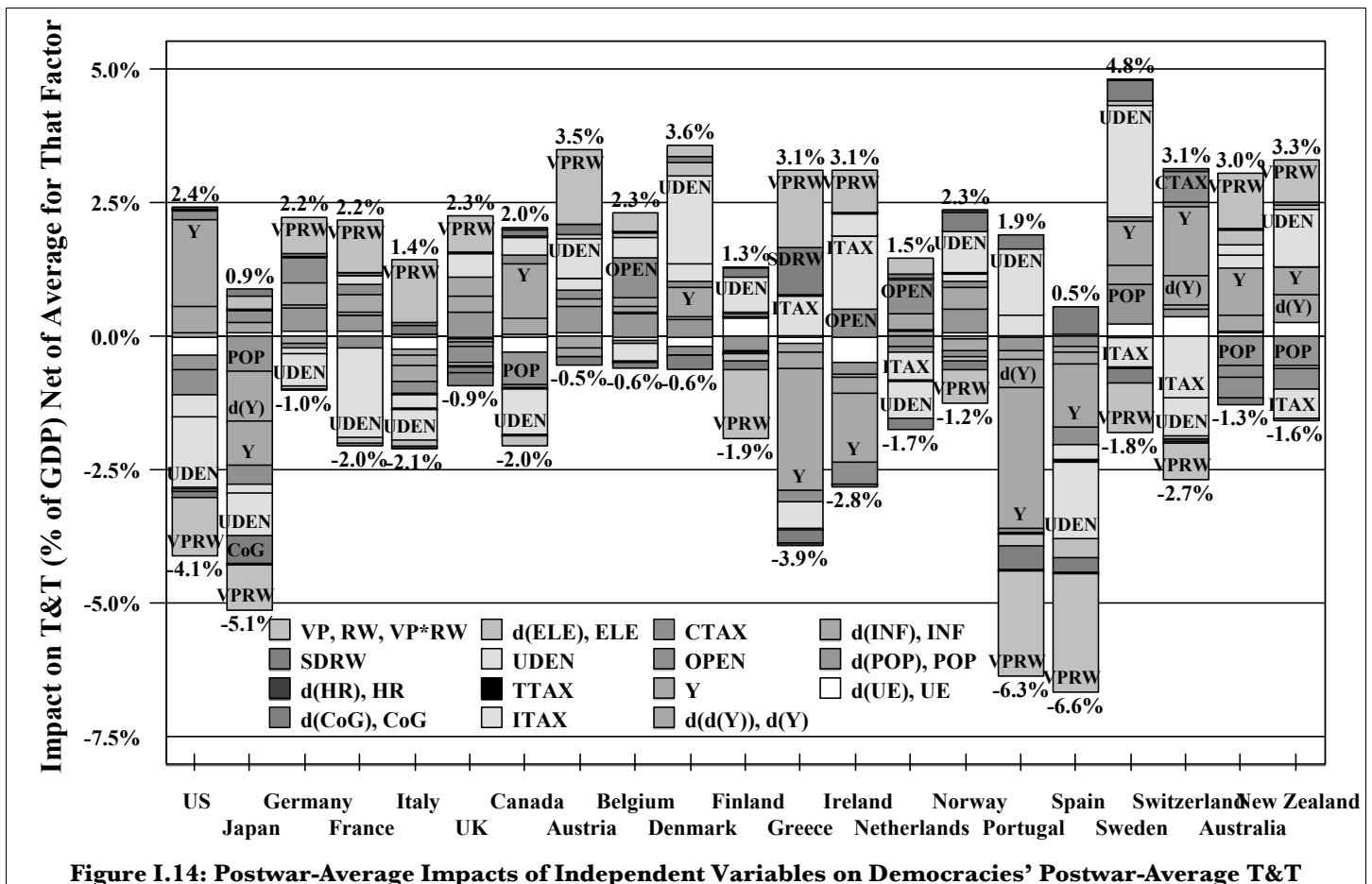
and statistically significant $2.1 \pm 0.1\%$ of GDP T&T \uparrow .

- (2) Voter fiscal illusion & complexity of revenue-generation maybe important. Not statistically significant, but magnitude \approx estimated demographic effect.
- (3) But avg trends, union density \uparrow -then- \downarrow & tax-struct. changes (to more transparent systems) worked against gen. upward trend in T&T, respectively inducing govts to \uparrow -then- \downarrow T&T $.25 \pm 0.05\%$ and to \downarrow T&T 1.4% of GDP.
- (4) Elections, electoral frequency, partisanship, & income-distribution volatility all likewise played key roles in explaining cross-ctry & cross-ctry-time variation, but showed little shared time-trend, so not central to shared T&T-expansion.

f. Income dist. & v-part. movements, however, very important in some countries:

- (1) Std-dev adverse-moves in either would contribute $3 \pm 0.5\%$ of GDP in T&T where both high, but much less relevant in country-times where one or both low.
- (2) Their OECD-avg paths accounted for $1 \pm 0.1\%$ of GDP of shared upward T&T-trend.
 - (a) \Rightarrow empirical model explains \approx half common T&T trend, $6 + 1.7 + 1 - 1.4\% = 7.3 \pm 0.3\%$

2. Cross-Country and “Country-Time-Unique” Variation



a. Despite being unable to render set of atheoretical cross-sectional dummies statistically irrelevant, model could account for $45 \pm 5\%$ of CS variation:

- (1) 3 factors, wealth (**Y**), distribution among voters (**VP-RW**), & labor-org. strength (**UDEN**), w/ less input from 3 others, revenue-generation complexity (**ITAX**), age demographics (**POP65**), & growth (**dY**), explains almost half (45%) cross-sectional variation among developed democracies in postwar-avg T&T size.

- (2) Same factors, esp. wealth and growth, plus other economic conditions like UE and inf., explain about same proportion of shared time-path of T&T.
- (3) Election-year politics (**ELE**), govt partisanship (**CoG**), and income-distribution volatility (**SDRW**) also stat'ly sig. and, in some ctry-times, subst'ly large impacts.
- b. ==> Very rough calculation of remainder (country-time unique):
 - (1) Explained so far: $(.45)(.43) + (7.3/14)(.46) \approx .43$ of total
 - (2) $R^2 - .43 \approx .51 - .43 = 8 \pm \%$ more of variation explained, which is $85 \pm \%$ of ctry-time-unique.
 - (3) ==> theoretical model especially well in explaining ctry-time dev's from shared upward time-path and varying country-averages, i.e., loosely, *at the margins*.

N. Concluding More Theoretically:

1. Many arguments forwarded here or drawn from previous lit. provide considerable explanatory leverage.
2. Evidence particularly supports core prediction of basic PPE model: democratic govts respond to median-voter desires for more T&T as income-skew increases.
3. However, prediction must be augmented:
 - a. What matters theoretically *and empirically* is distribution of income *among the politically relevant segment of the population*.
 - b. Size of that segment and, critically, proportion of income distribution it represents politically, varies across democratic country-times,
 - c. ==> that the *effective* popular pressure toward redistribution emanating from the underlying income distribution in the economy varies accordingly.
4. More generally, evidence reveals important interactive effects b/w structure of interests in P.E. and institutions of democratic government.
 - a. E.g., while skewed income-distribution in society produces a *population* median that is poorer than the *population* average, effective democratic demand for redistribution emanates from the difference between the *voters'* median income and the *population's* (tax-payers') average income, and the identity (and therefore the income) of the median voter former depends also on electoral institutions that foster greater or lesser participation (e.g., registration laws).
 - b. Similarly, institutions that foster *more-frequent*, as well as greater, popular electoral-participation also seem to induce government to provide more T&T.

O. Political and Economic Implications of These Developments:

1. Economic Effects:

- a. UE and Inequality
 - (1) Virtually all empirical exploration of the distribution effects of transfers systems agree that T&T systems have generally done exactly what they intended: alleviated the agg. inequality and individual hardship of UE, illness, disability, and age-related poverty.
 - (2) However, the feared efficiency side-effect also seems to hold: namely, transfers tend to \uparrow UE and (other work shows) esp. long-term UE, which is most policy-resistant \Rightarrow
 - (a) T&T raises its own costs

(b) T&T diminishes macro-policy efficacy in countering UE

b. Fiscal Effects

- (1) Transfers expansion not typically met by reductions in other spending, but rather by 25-50% deficit and 50-75% tax increases
- (2) Other spending increases also not met by transfers reduction, but rather by 25-50% deficit and 50-75% tax increases
- (3) ⇒ transfers growth drove spending growth more generally, and that drove deficits.
- (4) Also, as often lamented, exogenous transfers spending and tax ↑ less likely to reverse selves than exogenous ↑ in other (more discretionary) spending.

2. Political Ramifications

- a. At least some of the popular linkage of economic-performance weakening to “welfare state” seems empirically justified.
- b. Salience of intergenerational and cross-class conflict likely rising, but at same time, as econ’s become wealthier, post-materialism ↑ = material saliency ↓. Thus, as govts becoming more involved in distributional allocations precisely as material saliency declining
- c. ⇒ Challenge for Left & Right to form new coalitions in these shifting waters to marry either “(left) concern to defend or (right) discontent over redistributive efforts with a (left) challenge to or (right) defense of traditional values and ideational systems” (p. 123).
 - (1) Right sought institutional *reforms* to (↓ T&T systems) to get people “off welfare and into jobs” coupled with some vague connection of welfare to various “social malaises”
 - (2) Left sought institutional *reforms* (reorg. T&T) to ↓ its deleterious effects in goal of alleviating econ hardship connected to “modern” concerns over “environmental, race, & gender empowerment”
 - (3) = less change in substance than venue of conflict, and outcome of new politics likely contingent on domestic political-economic structure as found here, e.g., participatory institutions.
- d. I.e., results suggest eqbm relations between transfers, UE, and participation, which eqbm depending critically on (exog.) institutions that impact participation.
- e. Finally, this (differential) transfers expansion, drove govt growth, which drive debt growth, which leads to the next chapter...

IV. *Chapter III: Financing the Commitments: Public Debt*

A. *Abstract:* Theoretical literature seeking to explain public-debt accumulation exploded in recent years as debt crises emerged in many nations. Empirical evaluation of political-economy theories has lagged that of the standard tax-smoothing/economic-conditions model (0). To redress imbalance:

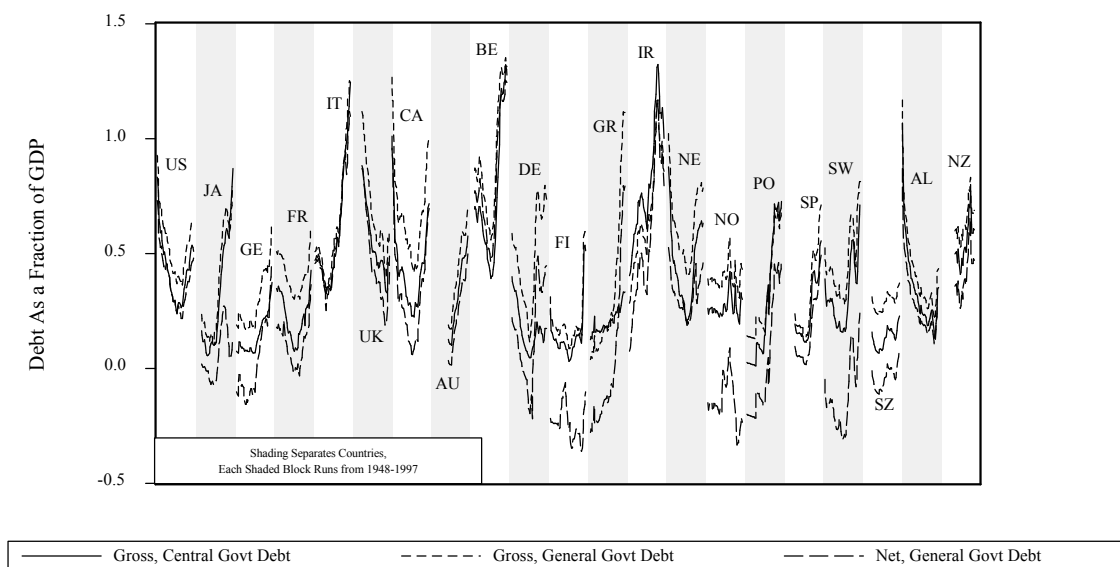
1. Operationalize and test nine positive-political-economy-of-public-debt theories:
 - a. (1a) *influence* & (1b) *veto-actor conceptions* *govt fractionalization* & *polarization* & *delayed stabilization*
 - b. (2) wealth and age distributions and the inter- and intra-generational-transfer roles of debt,
 - c. (3a) electoral and (3b) partisan budget-cycles,
 - d. (4) strategic debt-manipulation to alter future governments' fiscal incentives,
 - e. (5) distributive politics and multiple constituencies,
 - f. (6) fiscal-structure complexity and fiscally-illuded voters, and
 - g. (7) central bank autonomy and conservatism as a debt-financing constraint
2. Evidence:
 - a. Historical record of 21± developed democracies over 40± yrs strongly supports 0, 1b, 3a, & 6, unequivocally favoring 1b over 1a.
 - b. Evidence for 3b, 5, and 7 is weaker or more mixed, and 2 and 4 receive no support.
3. Empirical Conclusions:
 - a. Shared exposure to adverse economic shocks in 1970s and changing policy emphases toward anti-inflationary monetary policy in 1980s emerge as especially important in explaining commonalities across country-times;
 - b. fractionalized governments were critical in most extreme cases of exploding debt;
 - c. macro-political institutions like presidentialism and central bank autonomy and conservatism were also central to persistent cross-national differences.
4. Conclusion shows how fiscal developments analyzed here/Ch. II turned govts toward monetary policy to fulfill democratic commitments & addresses implications of arg's & findings for maintenance & utility of KWS & continuing democratic conflict over it.

B. Structure of the Chapter

1. **Explanandum:** *Consolidated Central Government Gross Debt* in 21 Dev'd Dem's, 1956-97
2. **Arguments:** highlight testable implications, and operationalize
 - a. Tax-Smoothing/Economic-Conditions (Default) Model
 - b. Fractionalization, Polarization, and Delayed Stabilization (2 Competing Versions)
 - c. Strategic Debt Policy to Alter Future Governments' or Other Actors' Incentives
 - d. Electoral and Partisan Budget Cycles
 - e. Age-, Income-, and Age-&-Income-Distributions and Public Debt as Redistribution
 - f. Distributive Politics, the Multiple Constituencies Problem, and Public Debt
 - g. Democracy, Fiscal Structure (Complexity), and Fiscal Illusion
 - h. Budgetary Rules, Macro-Institutions, and Public Debt
 - i. Central Bank Independence as a Debt-Financing Constraint

3. **Q1:** How well can Econ. Conditions (default model) explain DD's p.w. debt experiences?
 - a. An adjusted 43% (upper bound) can be explained by economic conditions
 - b. Especially important: sequencing of stagflation (low Δy , high UE & π) then $\uparrow\uparrow$ real-interest
4. **Q2:** Does each PE theory add explan. power to simple ec.-conditions model?
 - a. Set of 8 F-Tests: adding each theory's complex of variables to the default model
 - b. Results: Each is significant at $p < .05$ or better
5. **Q3:** Do some of these (non-nested) PE theories encompass each other or does each offer some unique explanatory power not covered by others?
 - a. Set of 53 Pairwise J-Tests of *encompassingness*, keeping default model as non-contentious
 - b. w/ 2 exceptions, 1 highly theoretically informative, each adds explan. power to any other
6. **Q4:** How do Ec & Pol-Ec factors matter? (encompassing model)
 - a. Economic conditions remain much of story, but political/institutional factors can magnify.
 - b. Esp. important of political variables: (veto-actor conception of) fractionalized government.
 - c. Electoral cycles exist & have long-run implications. Partisan cycles also, but usually small, & manifested in ways ill-explained by strategic or simple partisan theory.
 - d. Age & income-distributions may enter, but again not in ways well-explicated by theory.
 - e. Among macro-institutions: presidentialism & central bank independence may be key.

C. The Explanandum:



Correlation Matrix	Debt Levels			Change in Debt (<i>i.e.</i> Deficits)		
	IMF g,c	OECD g,g	OECD n,g	IMF g,c	OECD g,g	OECD n,g
IMF g,c	1	.891	.858	1	.869	.743
OECD g,g	.891	1	.896	.869	1	.838
OECD n,g	.858	.896	1	.743	.838	1

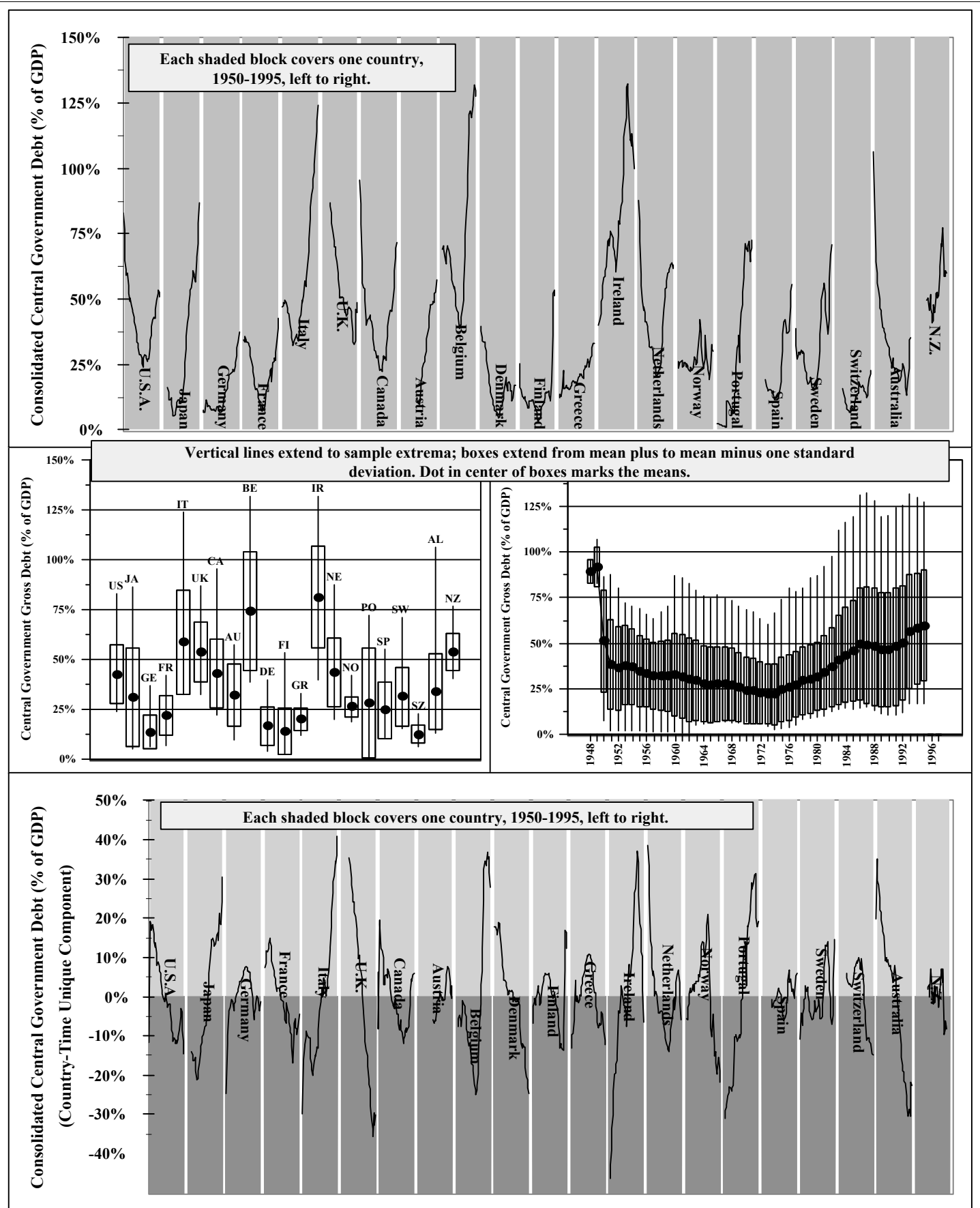


Figure 16: Debt (% of GDP)—Full, By Country, By Year, and Country-Time-Unique Components

D. Arguments:

Table 2: Variables, Theories, and Hypothesized Signs of their Relationship with Debt

<i>Theory</i>	<i>Variable</i>	<i>Hypoth. Sign</i>
tax-smoothing \ economic control default model	UE	+
	ΔY	-
	$INTPAY$	+
	$OPEN$	+
	$T_oT / T_oT \cdot OPEN$	-
democracy and fiscal illusion	$TTAX$	-
	$ITAX$	+
	$CTAX$	-
inter- and intra-generational-transfer role of debt	y	-
	OY	+
	RW	+
	$OY \cdot RW$	+
multiple constituencies (PRES also bdgtry ldrshp? / FED dem. & fisc. illusion?)	FED	+
	$PRES$	-
	AE	+
	$ENED$	+
electoral and partisan budget-cycles	ELE	+
	CoG	-
fractionalized and polarized governments and delayed stabilization (influence / veto-actor conceptions)	$SDwiG/ADwiG$	+ or 0
	$SDwiG \cdot D/ADwiG \cdot D$	+
	$ENoP/NoP$	+ or 0
	$ENoP \cdot D/NoP \cdot D$	+
central bank autonomy & conservatism	CBI	-
strategic debt-use (Alesina and Tabellini)	CoG	?
		+
strategic debt-use (Persson and Svensson) (to influence electorate interests)	RR	-
		?
strategic debt-use (Alesina and Tabellini) (Persson and Svensson) (to influence electorate interests)		0
	$RR \cdot CoG$	+
		?

E. Evidence

1. **A1 (part a)**: How well do economic conditions explain DD's postwar debt experiences?
Fairly Well.

The Tax-Smoothing/Economic-Controls Default Model

Independent Variables	Coefficients	Standard Errors	p-Levels
C	+.2056	.9647	.8313
ΔD_{t-1}	+.4511	.0545	.0000
ΔD_{t-2}	+.6567	.0460	.0109
D_{t-1}	-.0047	.0048	.3289
$\Delta \bar{D}_{\sim i,t}$	+.2057	.0562	.0003
(1) ΔINTPAY_t	+.0056	.0008	.0000
(2) INTPAY_{t-1}	+.0047	.0009	.0000
(3) ΔUE_t	+.6104	.1000	.0000
(4) UE_{t-1}	+.0310	.0244	.2046
(5) ΔGROWTH_t	-.0396	.0351	.2592
(6) GROWTH_{t-1}	-.0045	.0399	.9109
(7) ΔDXRIG_t	-.0358	.0449	.4249
(8) DXRIG_{t-1}	-.1400	.0344	.0001
(9) ΔOPEN_t	+13.36	5.950	.0251
(10) OPEN_{t-1}	+2.343	2.919	.4225
(12) ΔToT_t	+4.156	2.267	.0673
(13) ToT_{t-1}	-.3543	.8785	.6868
(14) $\Delta(\text{ToT}_t \cdot \text{OPEN}_t)$	-15.29	6.107	.0125
(15) $\text{ToT}_{t-1} \cdot \text{OPEN}_{t-1}$	-2.064	2.781	.4583
N (° Free)	618 (599)	s.e.e.	2.328
\bar{R}^2	.430	Durbin-Watson	1.995
Omit (1) through (15):	$p(\chi^2) \approx .0000$	Omit (5) and (6):	$p(\chi^2) \approx .3558$
Omit (1) and (2):	$p(\chi^2) \approx .0000$	Omit (7) and (8):	$p(\chi^2) \approx .0001$
Omit (3) and (4):	$p(\chi^2) \approx .0000$	Omit (9) to (15):	$p(\chi^2) \approx .0429$

NOTES:

Model: $\Delta D_{i,t} = f(\Delta D_{i,t-1}, \Delta D_{i,t-2}, D_{i,t-1}, \Delta \bar{D}_{\sim i,t}, \Delta \mathbf{X}_t, \mathbf{X}_{t-1}, \varepsilon)$

Estimation: Panel WLS regression with panel-corrected standard-errors.

Reports: p =probability false rejection from 2-sided t .

s.e.e.=standard error of estimate

s.e.e. and \bar{R}^2 from unweighted data; D-W from weighted data

$p(\chi^2)$ =Wald-test of joint significance of variables identified to left

Stationarity: Recall that $\text{INTPAY} = r_t \cdot D_{t-1}$, and note that r_t averages -1.3 in the sample.

2. **A2:** Do Political-Economic Theories add to a simple economic-conditions explanation?
Yes.

Adding the Political-Economy Models to the Default Model

Theory	Variables Added to Default Model	P-level
(1a) War of Attrition, Influence Conception	$ENoP_t, ENoP \cdot D_{t-1}, SDwiG_t, SDwiG \cdot D_{t-1}$	$p(\chi^2) \approx .0462$
(1b) War of Attrition, Veto-Actor Conception	$NoP_t, NoP \cdot D_{t-1}, ADwiG_t, ADwiG \cdot D_{t-1}$	$p(\chi^2) \approx .0038$
(2) Inter- and Intra-Generational Transfers	$LRGDPC_{t-1}, \Delta OY_t, OY_{t-1}, \Delta RW_t, \Delta(OY \cdot RW)_t$	$p(\chi^2) \approx .0071$
(3 & 4) Electoral and Partisan Budget-Cycles + Strategic Debt	$ELE_t, ELE_{t-1}, CoG_t, RR_t, (RR \cdot CoG)_t$	$p(\chi^2) \approx .0018$
(5) Distributive Politics and Multiple Constituencies	$PRES_t, FED_t, FED_t^2, ENED_t, ENED_t^2, AGRETH_t$	$p(\chi^2) \approx .0008$
(6) Fiscal Complexity and Fiscal Illusion	$FED_t, FED_t^2, TTTCR_{t-1}, ITTCR_{t-1}, CGRGGR_{t-1}$	$p(\chi^2) \approx .0469$
(7) Central Bank Independence and other Macro Institutions	$CBI_t, PRES_t, FED_t, FED_t^2, ENED_t, ENED_t^2$	$p(\chi^2) \approx .0007$
(8) Nested Multiple-Constituency, Fiscal Illusion, and Institutions Model	$CBI_t, PRES_t, FED_t, FED_t^2, ENED_t, ENED_t^2, AGRETH_t, TTTCR_{t-1}, ITTCR_{t-1}, CGRGGR_{t-1}$	$p(\chi^2) \approx .0001$

3. A3: Do any PE theories encompass others? One does + one suggestive result + one non-interesting.

J-Tests of Pairwise Competitions of the Political-Economy Theories

Null \Rightarrow Alternative \Downarrow	(1a)	(1b)	(2)	(3-4)	(5)	(6)	(7)	(8)
(1a) War of Attrition (Influence)	XXX	.8056	.0039	.0008	.2076	.0017	.1421	.0470
(1b) War of Attrition (Veto-Actor)	.0136	XXX	.0003	.0000	.1092	.0001	.0845	.0292
(2) Inter-/Intra-Gen.-Transfers	.0002	.0003	XXX	.0000	.0001	.0000	.0000	.0000
(3-4) E&P Bdgt-Cycles +Strategic Debt	.0000	.0000	.0000	XXX	.0017	.0000	.0012	.0006
(5) Distributive Pol. & Multiple Constituencies	.0004	.0013	.0000	.0001	XXX	.0000	.6441	XX (1.0)
(6) Fiscal Complexity & Fiscal Illusion	.0011	.0010	.0000	.0012	.0103	XXX	.0038	XX (1.0)
(7) CBI and Other Macro-Institutions	.0004	.0016	.0000	.0001	.5348	.0000	XXX	XX (1.0)
(8) Institutions, Const's, & Fiscal-Structure	.0000	.0000	.0000	.0000	.0008	.0001	.0010	XXX

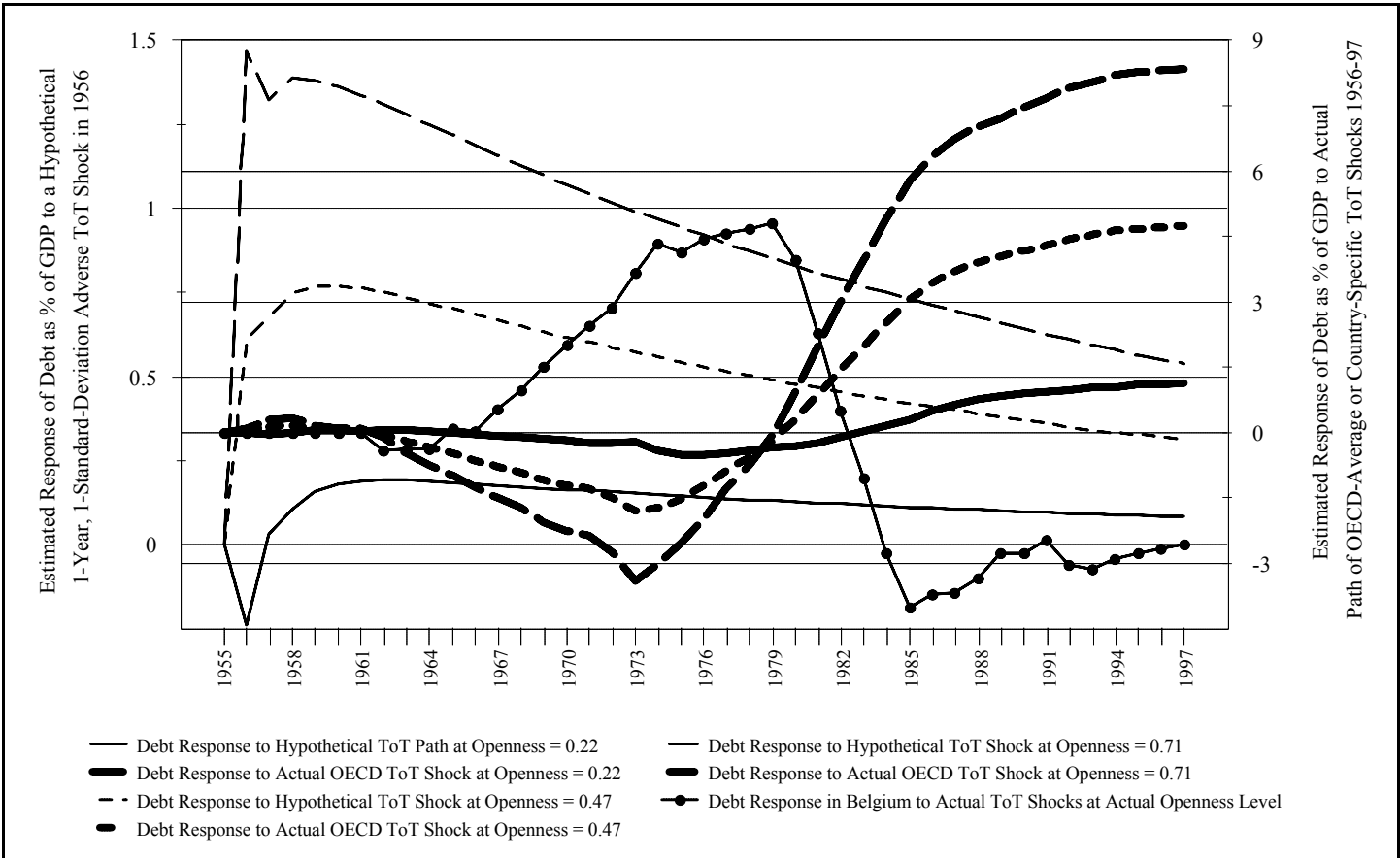
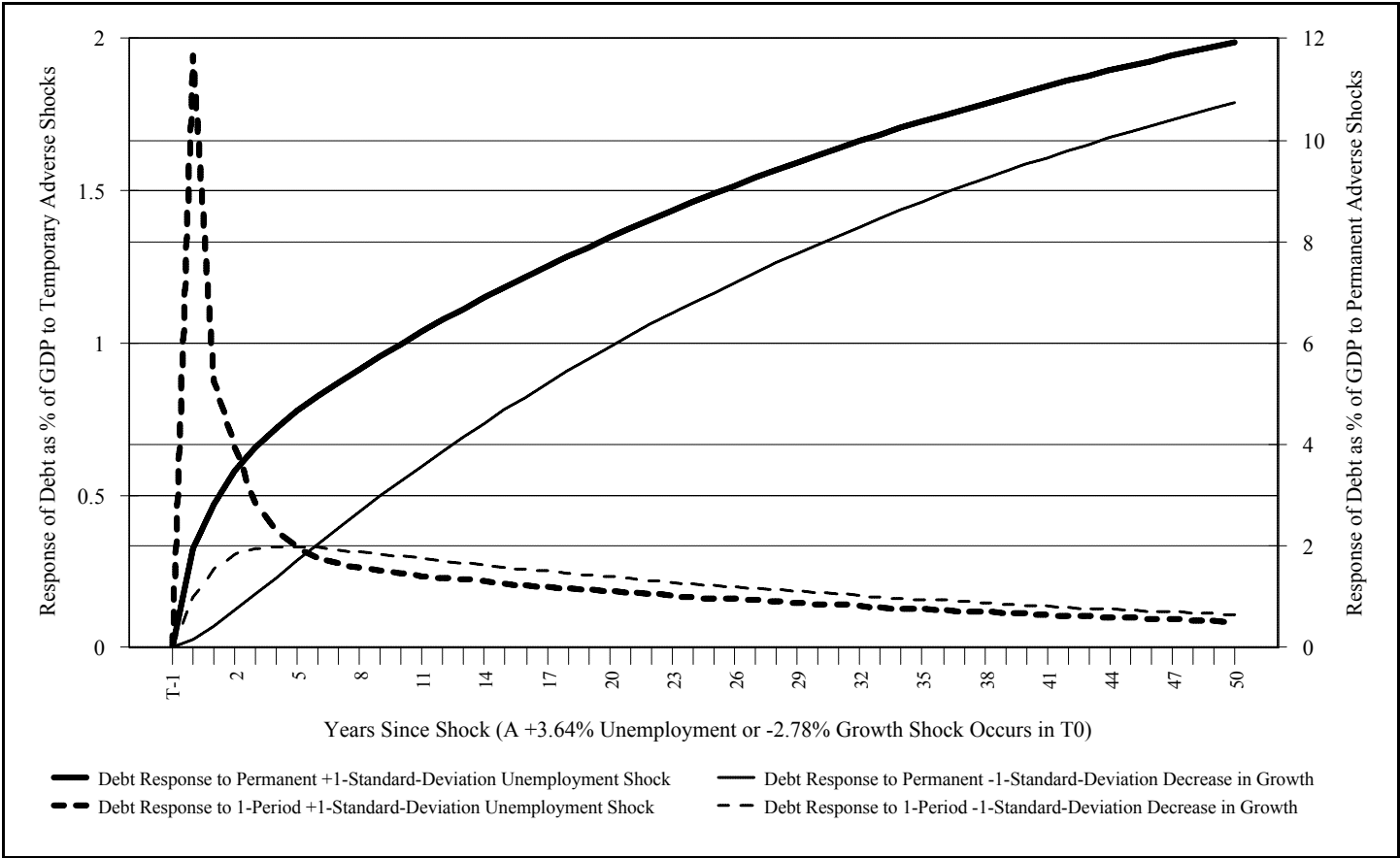
NOTES: Reported are probability of false rejection of null model, 2-sided test. (8) encompasses (5), (6), and (7) by construction.

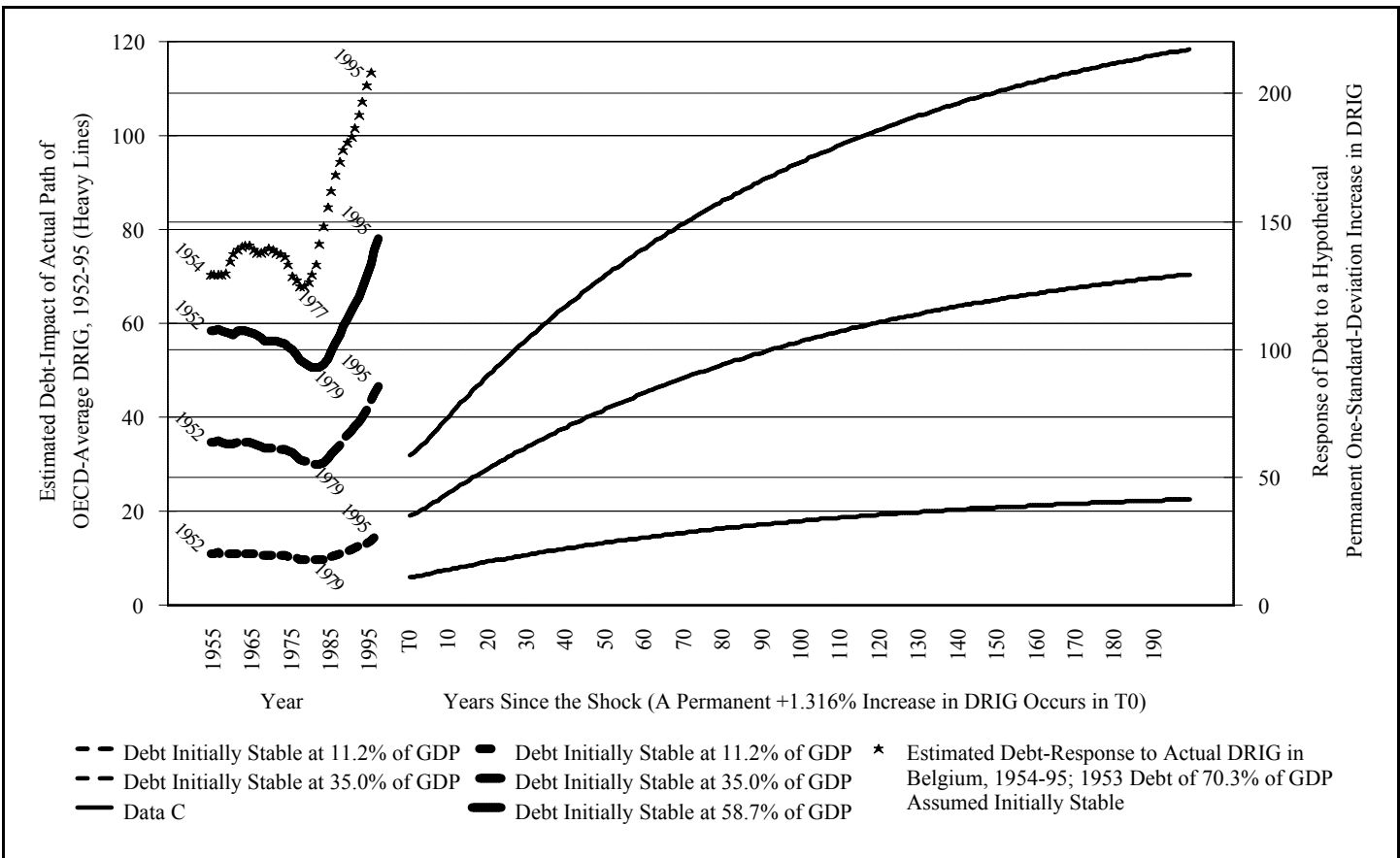
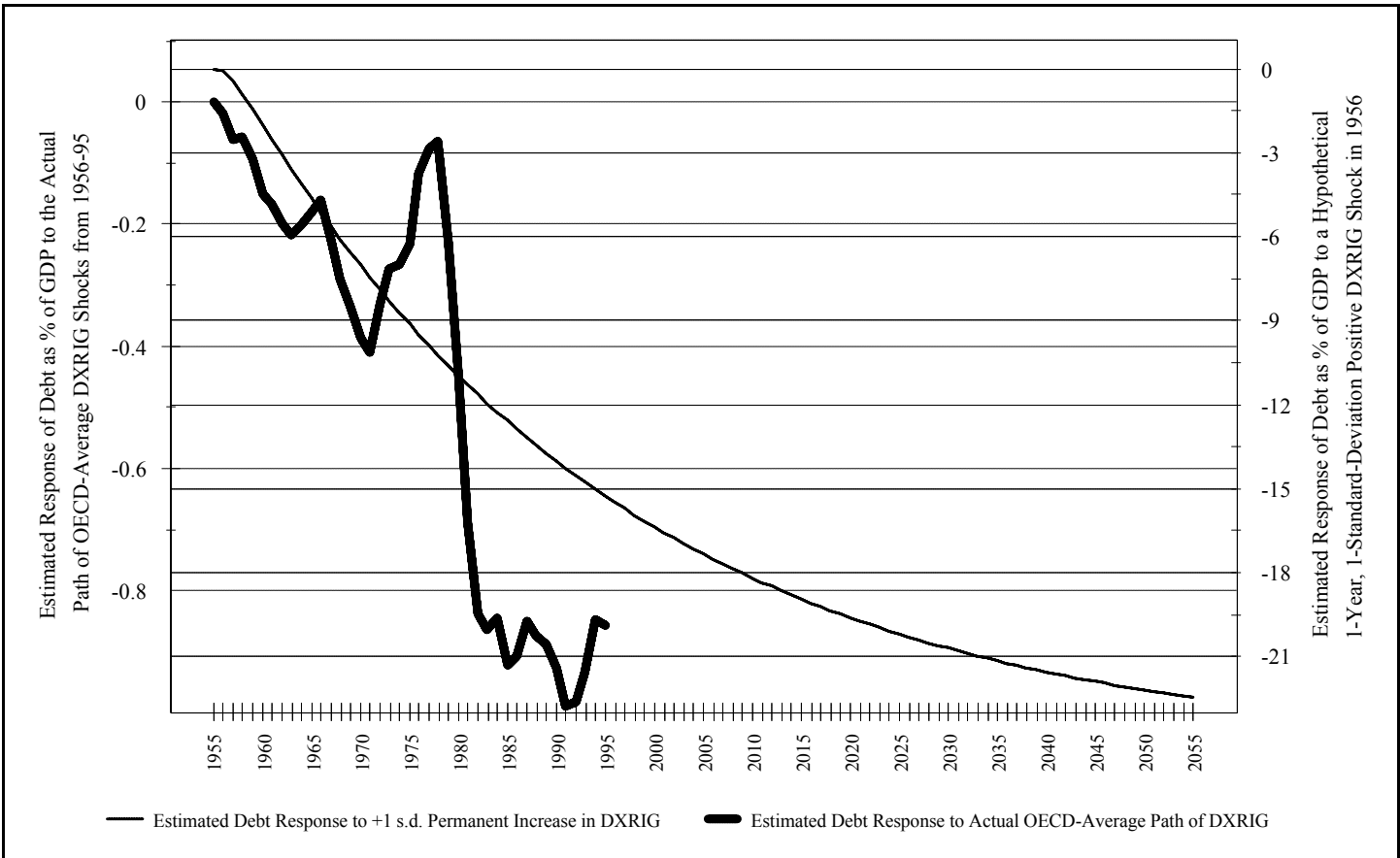
- Bottom-right:* theories as operationalized nearly coterminous \Rightarrow wholly unsurprising result.
- Top-right & Bottom-left:* weak, but may suggest some of (5), (7) institutions retard policy-adjust?
- Top-left: Only unambiguous rejection:** Veto-actor (Tsebelis 1995) conception dominates influence conception of governmental fractionalization and polarization.

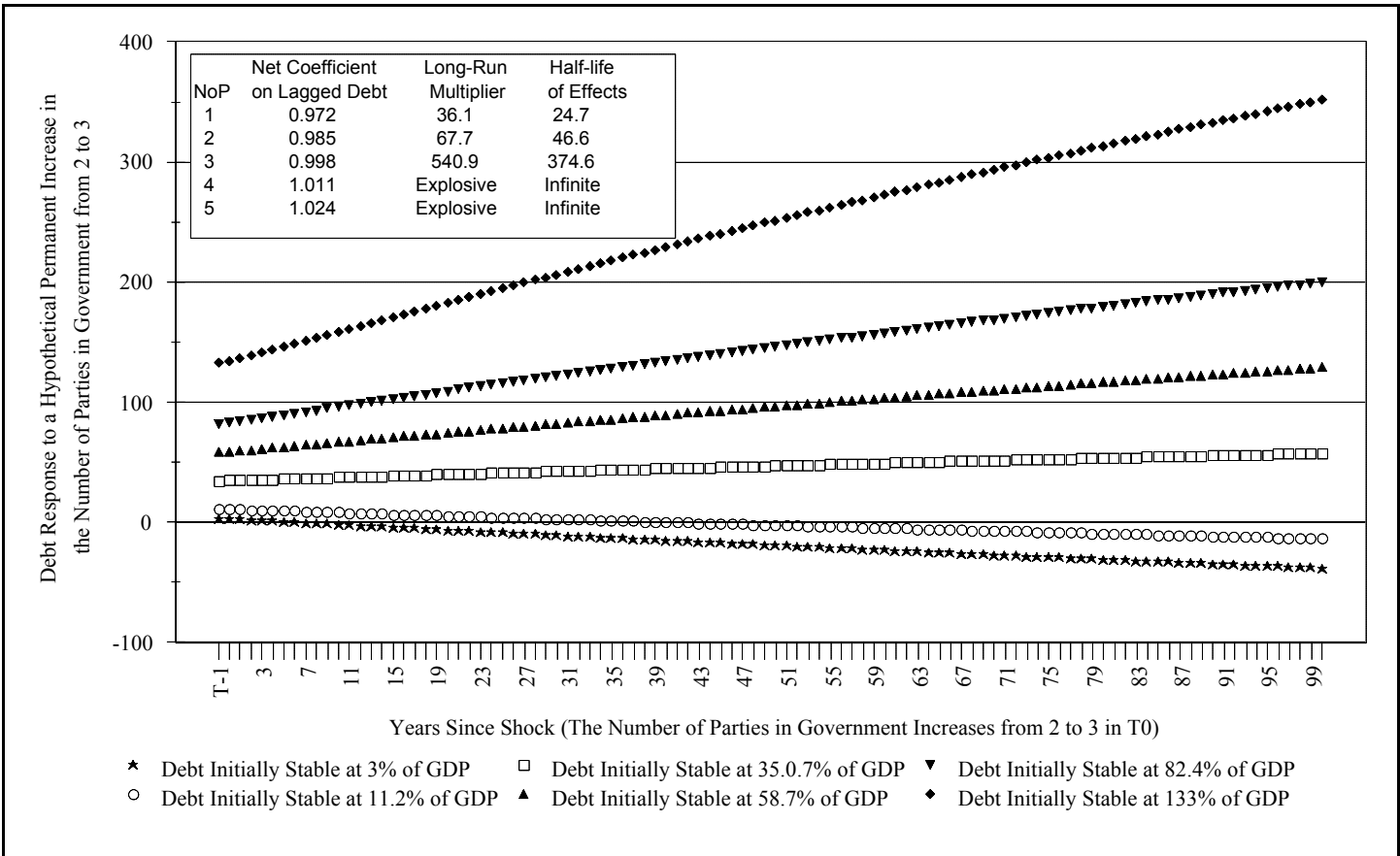
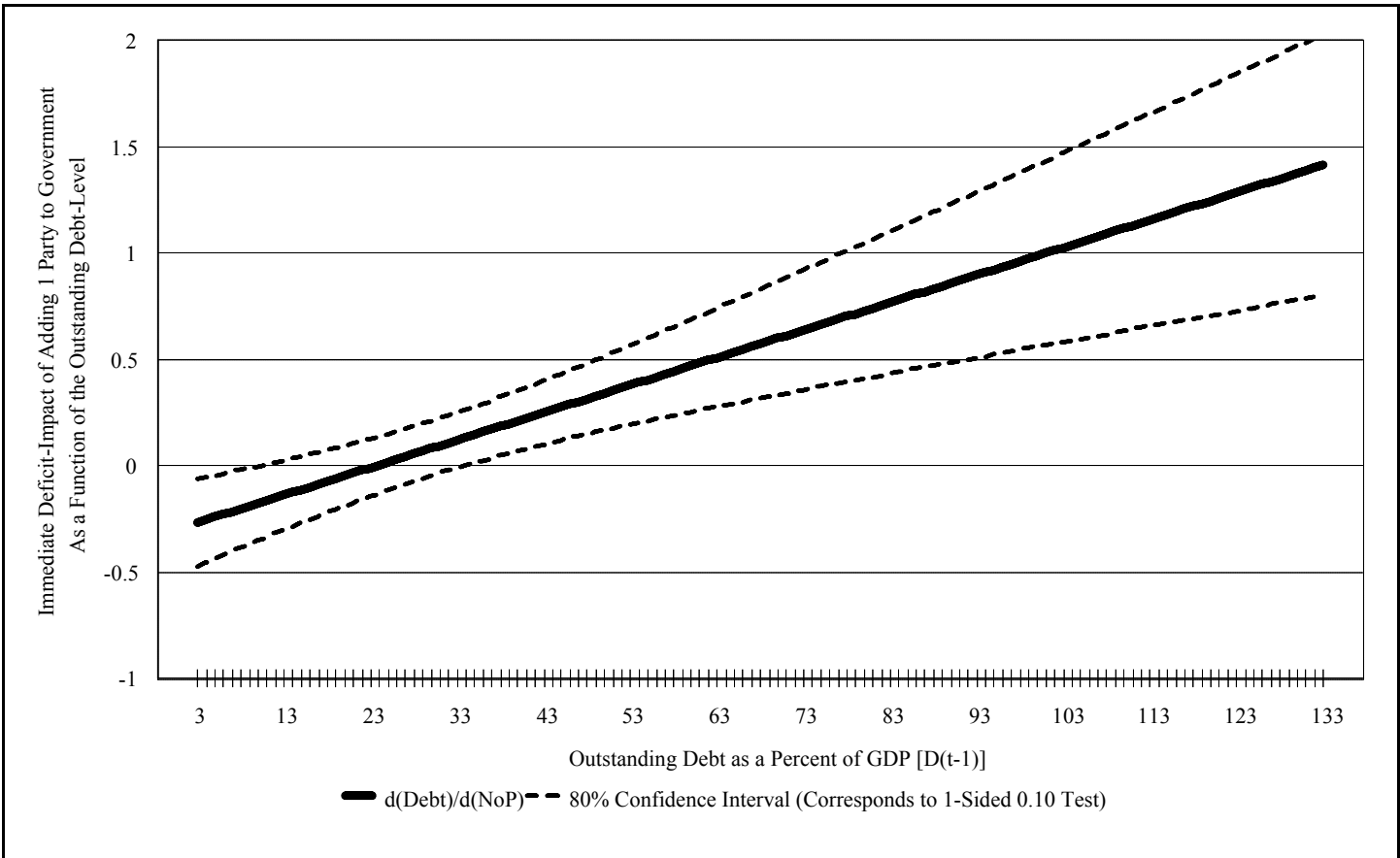
4. A4 (part a): How have Ec & Pol-Ec conditions impacted DD's postwar debt experiences?

The Encompassing Model

Theory / Theories	Independent Variable	Coefficient	Std. Errors	p-Levels
Tax-Smoothing / Economic-Controls	D_{t-1}	-.0321	.0086	.0002
	ΔUE_t	+.5335	.1005	.0000
	UE_{t-1}	+.0570	.0261	.0294
	$\Delta GROWTH_t$	-.0592	.0394	.1330
	$GROWTH_{t-1}$	-.0730	.0487	.1346
	$\Delta DXRIG_t$	-.0314	.0458	.4931
	$DXRIG_{t-1}$	-.1082	.0467	.0207
	$\Delta INTPAY_t$	+.0046	.0007	.0000
	$INTPAY_{t-1}$	+.0039	.0009	.0000
	$\Delta OPEN_t$	+22.49	5.597	.0001
	$OPEN_{t-1}$	+10.83	3.316	.0012
	ΔToT_t	+6.749	1.888	.0004
	ToT_{t-1}	+1.387	.9579	.1480
	$\Delta (ToT_t \cdot OPEN_t)$	-23.12	5.598	.0000
$ToT_{t-1} \cdot OPEN_{t-1}$	-9.599	3.125	.0022	
Wars of Attrition and Delayed Stabilization	$ADwiG_t$	+.1122	.1275	.3794
	$ADwiG_t \cdot D_{t-1}$	-.0025	.0039	.5151
	NoP_t	-.3043	.1698	.0736
	$NoP_t \cdot D_{t-1}$	+.0129	.0045	.0046
Inter- & Intra-Generational Transfers	$LRGDPC_{t-1}$	+.5506	.3628	.1296
	ΔOY_t	-46.48	10.94	.0000
	ΔRW_t	-27.01	5.931	.0000
	$\Delta (RW_t \cdot OY_t)$	+47.63	11.52	.0000
	OY_{t-1}	-1.905	.6468	.0034
Electoral & Partisan Budget-Cycles Plus Debt-as-Commitment	ELE_t	+.4425	.1707	.0098
	ELE_{t-1}	+.5080	.1750	.0038
	CoG_t	+.1273	.0606	.0360
	RR_t	+.9741	.7151	.1737
	$RR_t \cdot CoG_t$	-.1990	.1201	.0982
Institutions	CBI_t	-1.277	.6793	.0607
Institutions & Multiple Constituencies	$PRES$	-1.333	.4472	.0030
	$ENED_t$	+.0064	.0070	.3608
	$ENED_t^2$	-2.2e ⁻⁵	2.0e ⁻⁵	.2696
Multiple Constituencies	$AGRETH_t$	+.8158	.5089	.1094
Inst., Mult. Constit., Fisc. Illusion	FED_t	-.1013	.0347	.0037
	FED_t^2	+.0022	.0006	.0003
Fiscal Complexity and Fiscal Illusion	$TTTCR_{t-1}$	-3.913	3.072	.2032
	$ITTCR_{t-1}$	+3.987	1.824	.0292
	$CGRGGR_{t-1}$	-4.859	1.033	.0000
Summary Statistics	N (° Free)	618 (575)	s.e.e.	2.252
	\bar{R}^2	.466	D-W	2.001
Joint Hypothesis Tests	War-of-Attrition	$p(\chi^2) \approx .005$	Multi. Constits.	$p(\chi^2) \approx .005$
	Inter-/Intra-Gen Trans	$p(\chi^2) \approx .000$	Institutions	$p(\chi^2) \approx .001$
	E&PBC's & Strategic	$p(\chi^2) \approx .004$	Fiscal Illusion	$p(\chi^2) \approx .000$







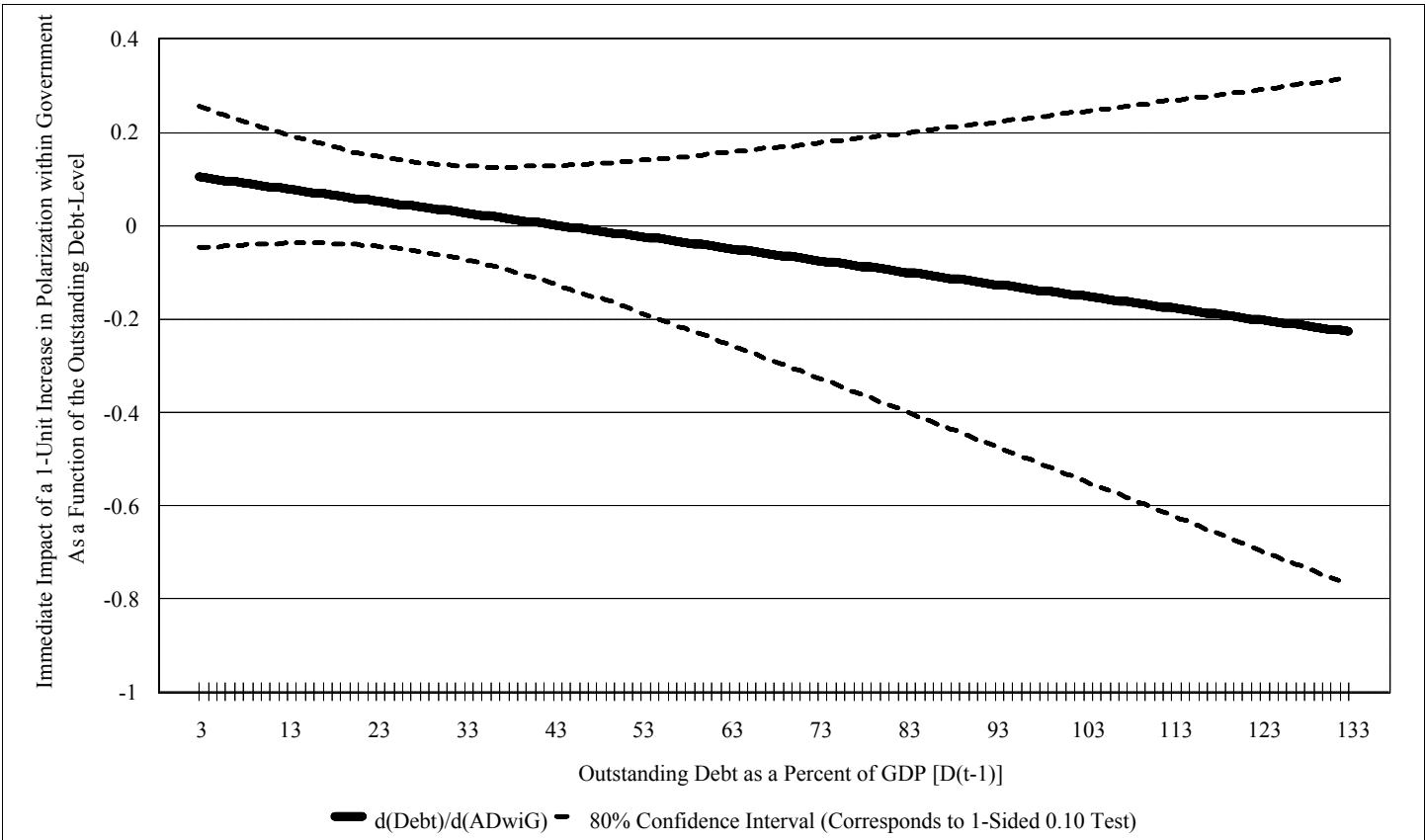
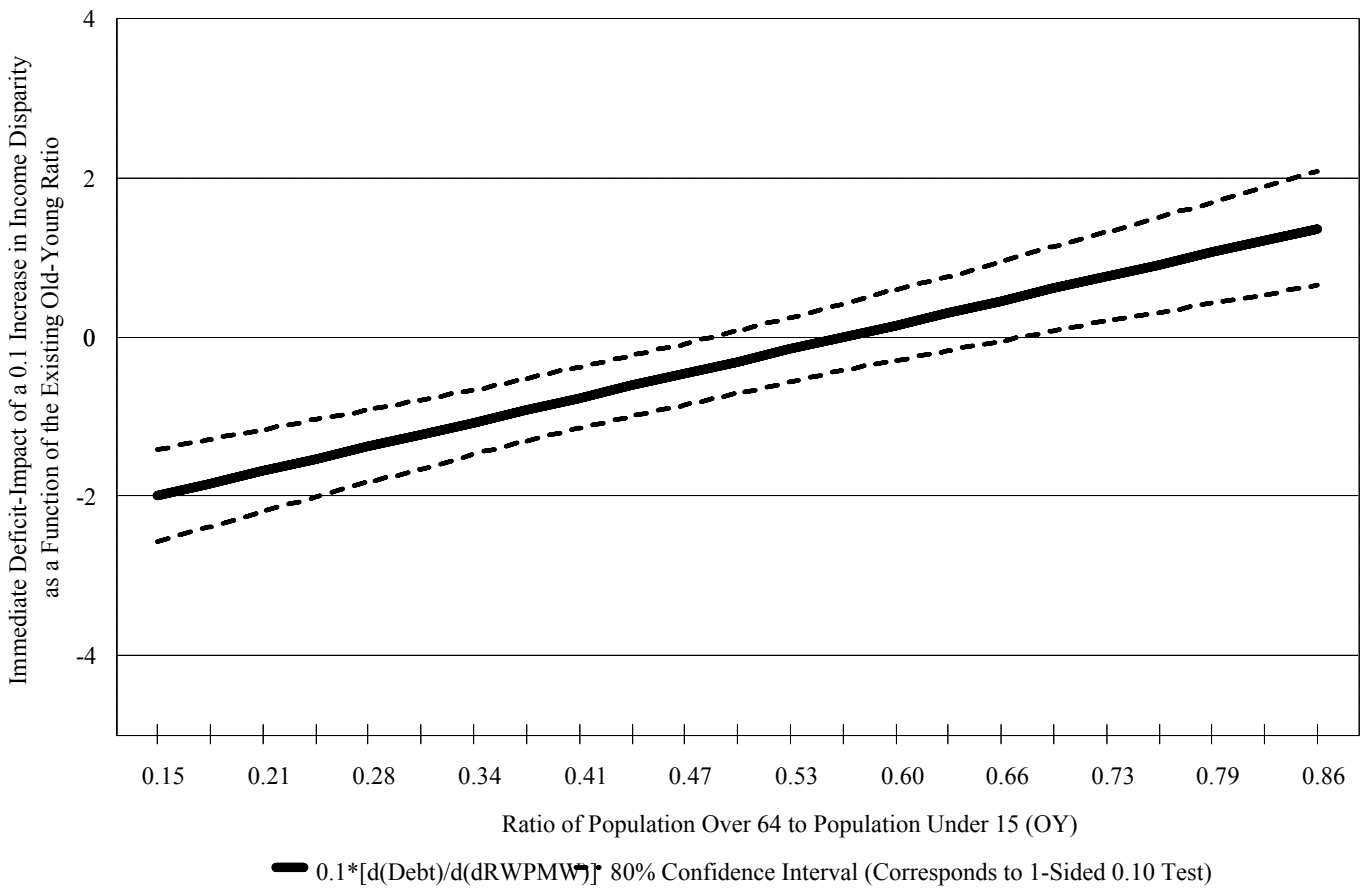
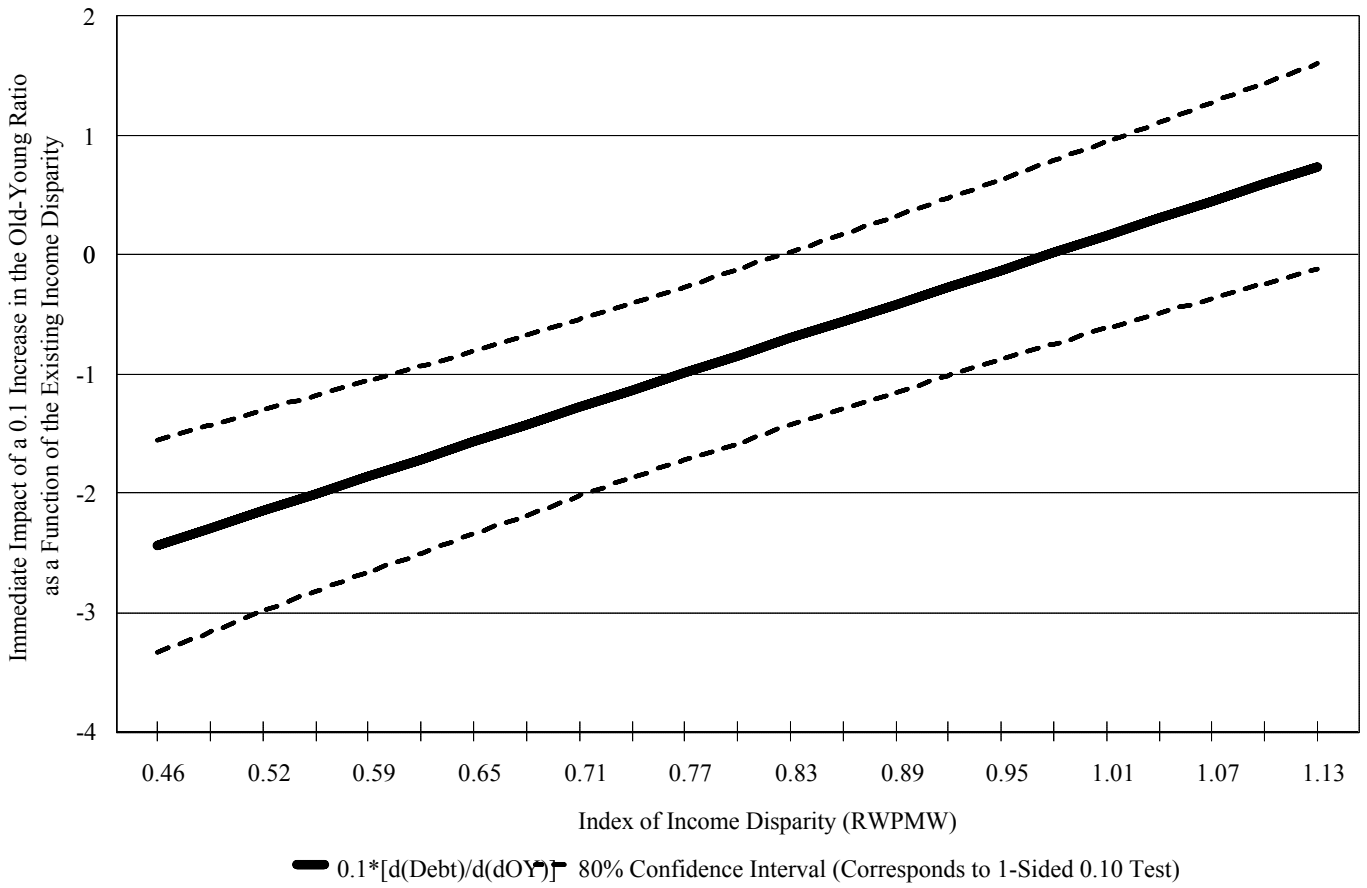
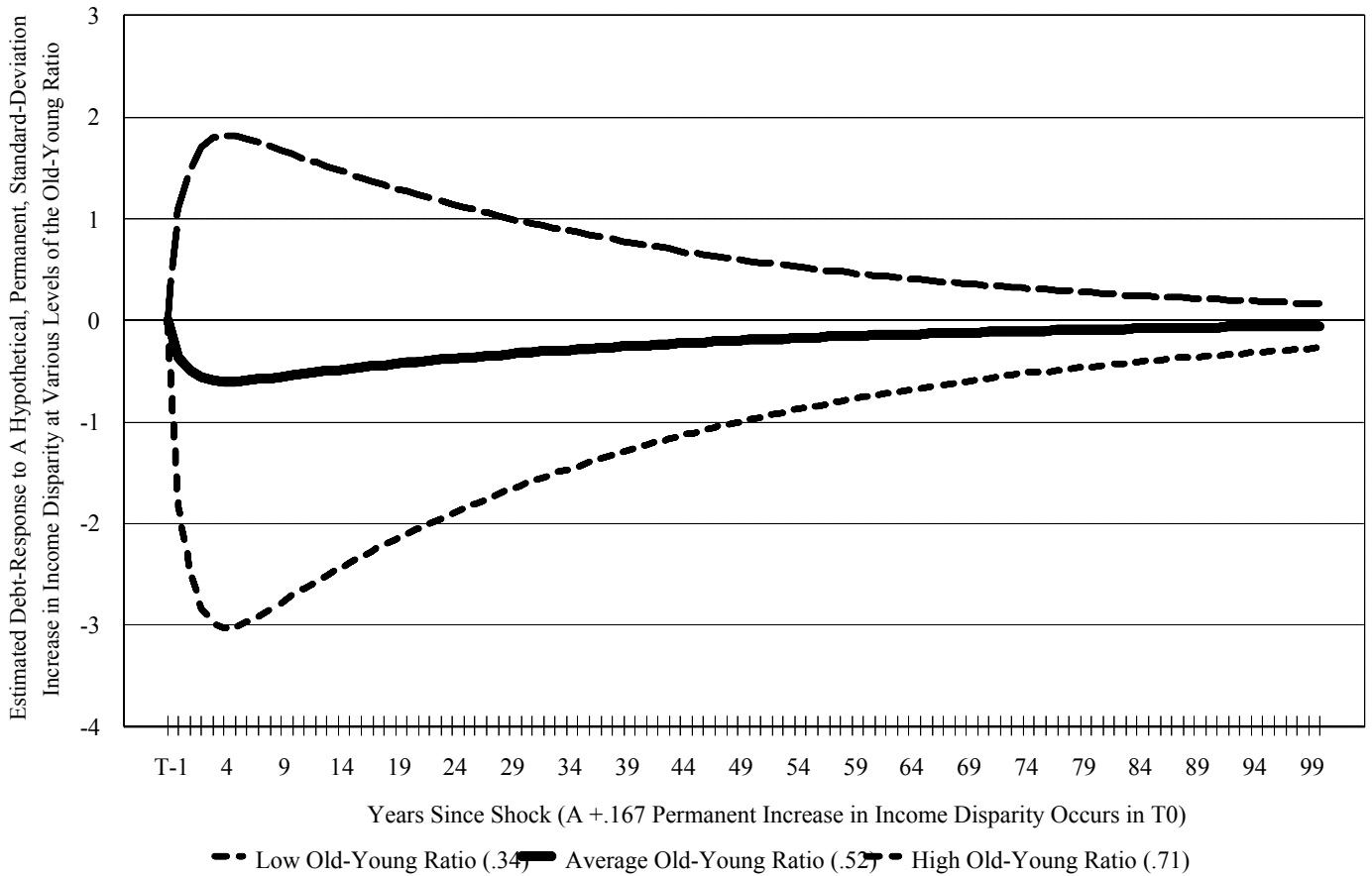
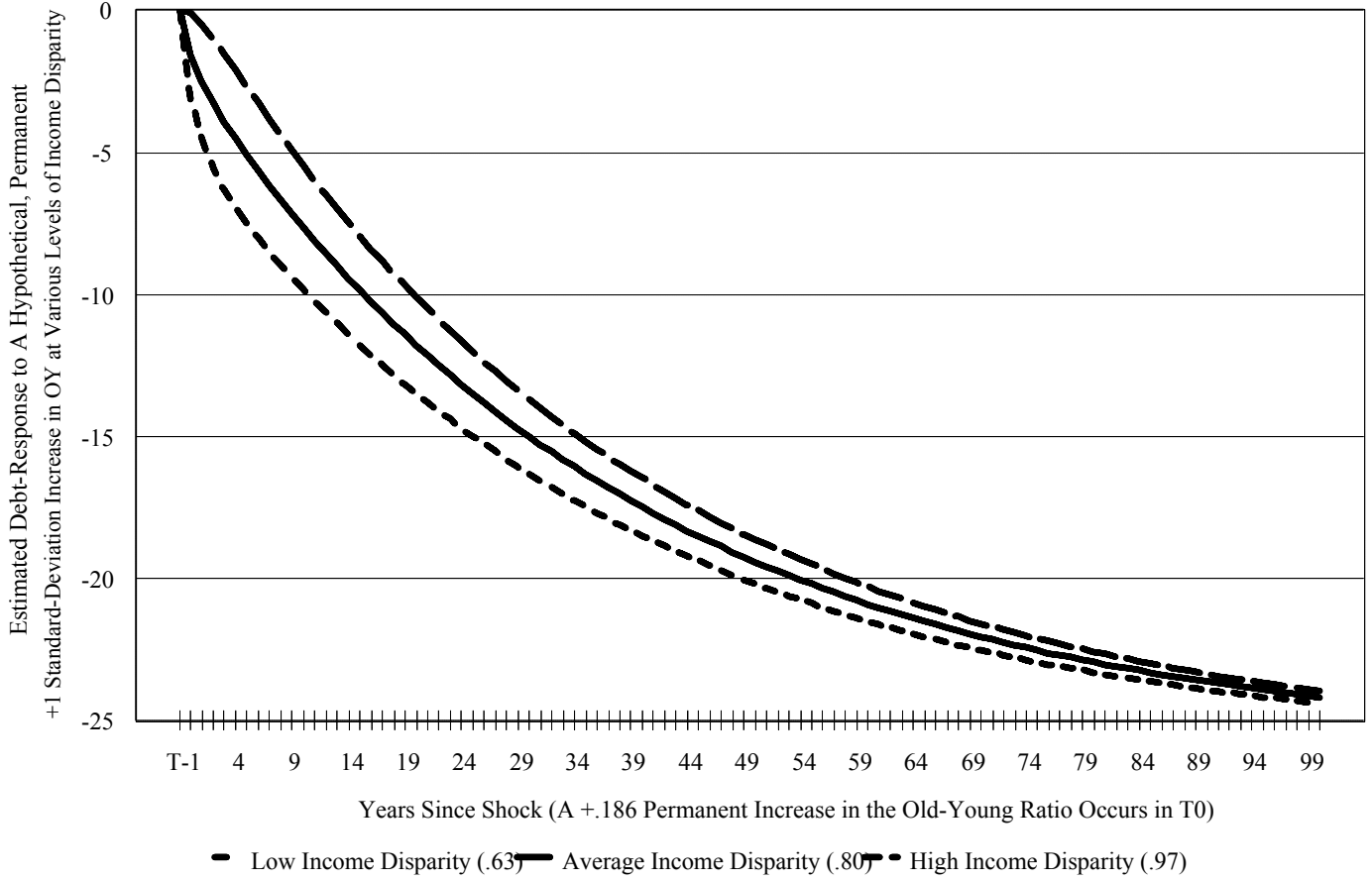
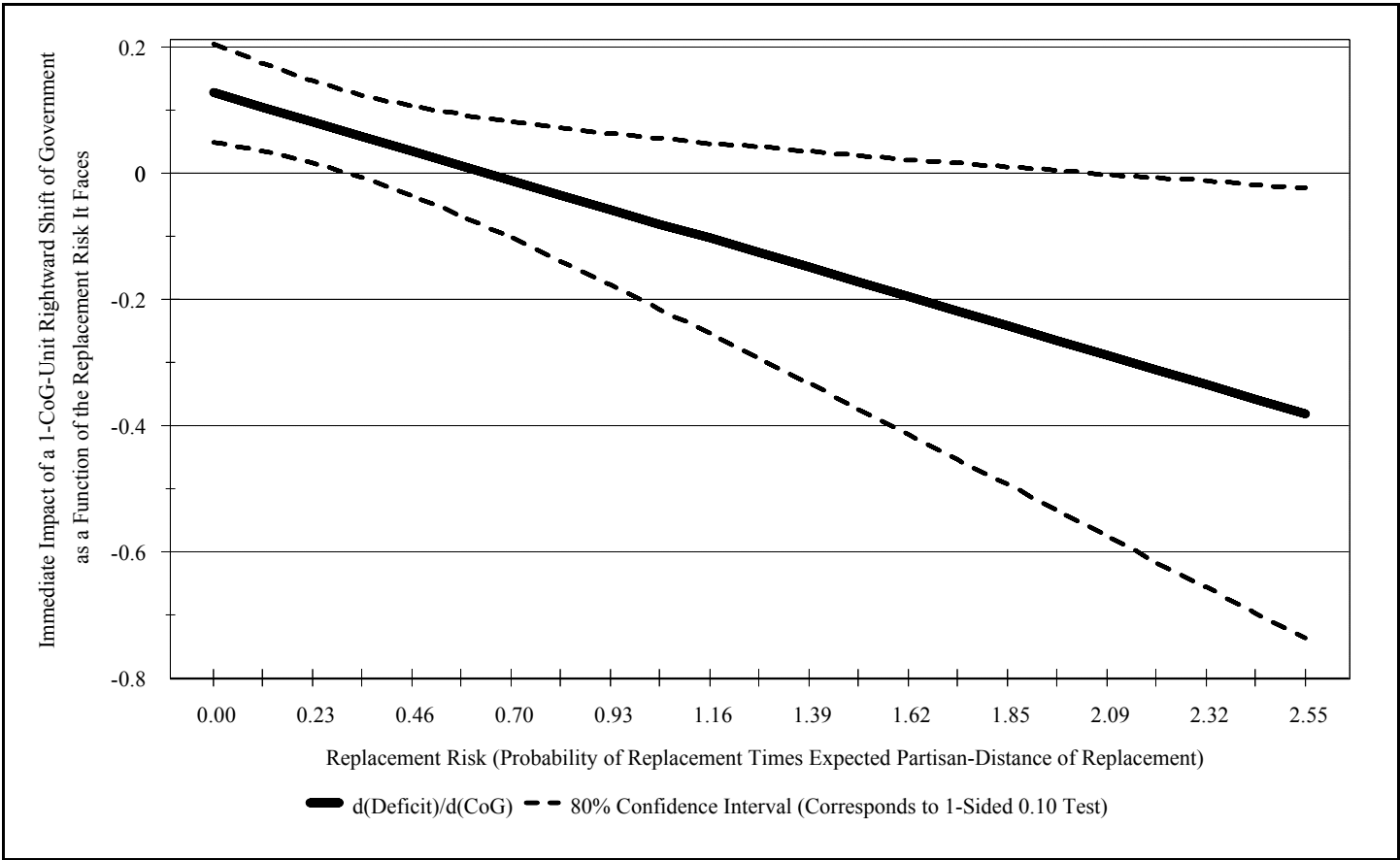
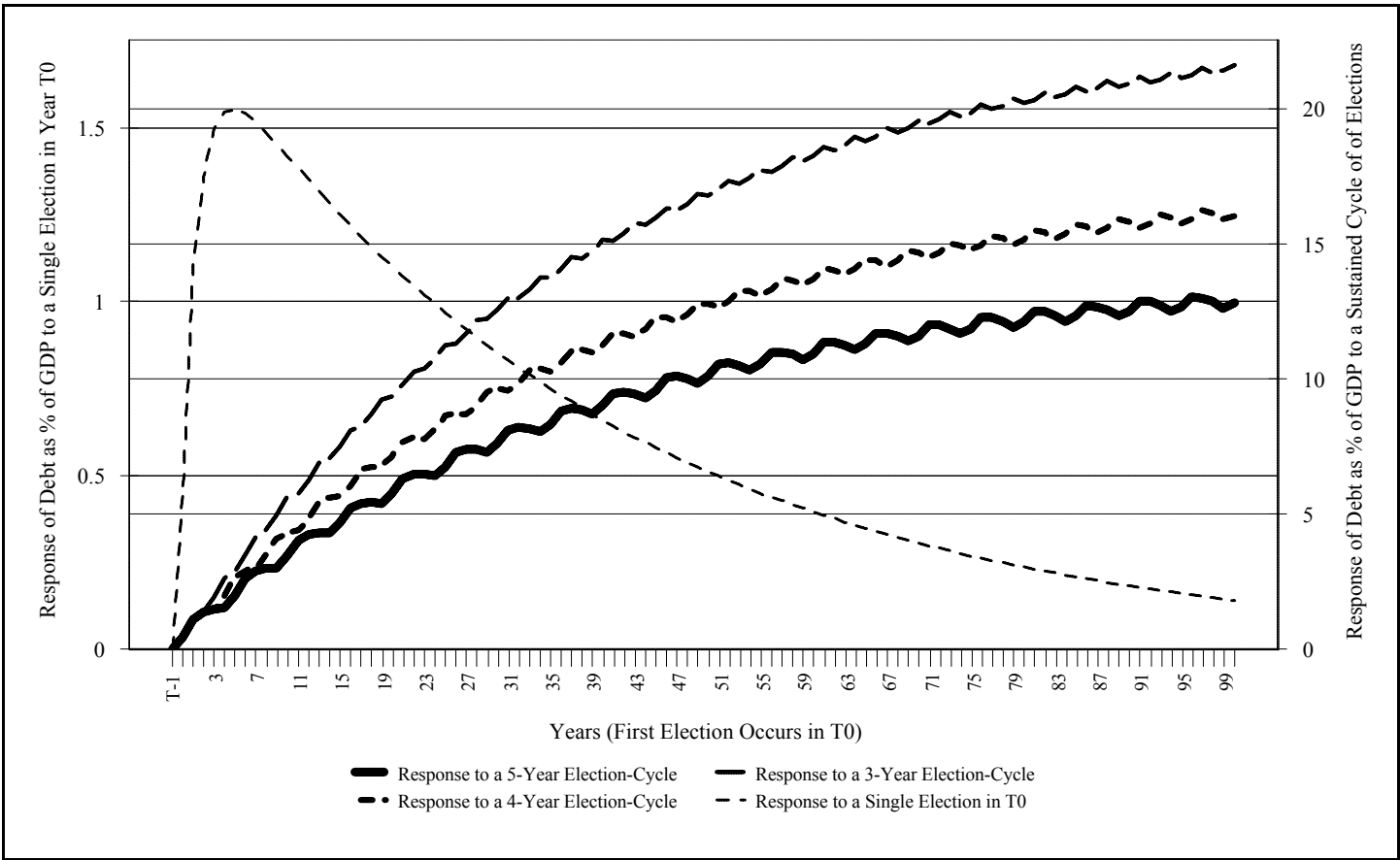
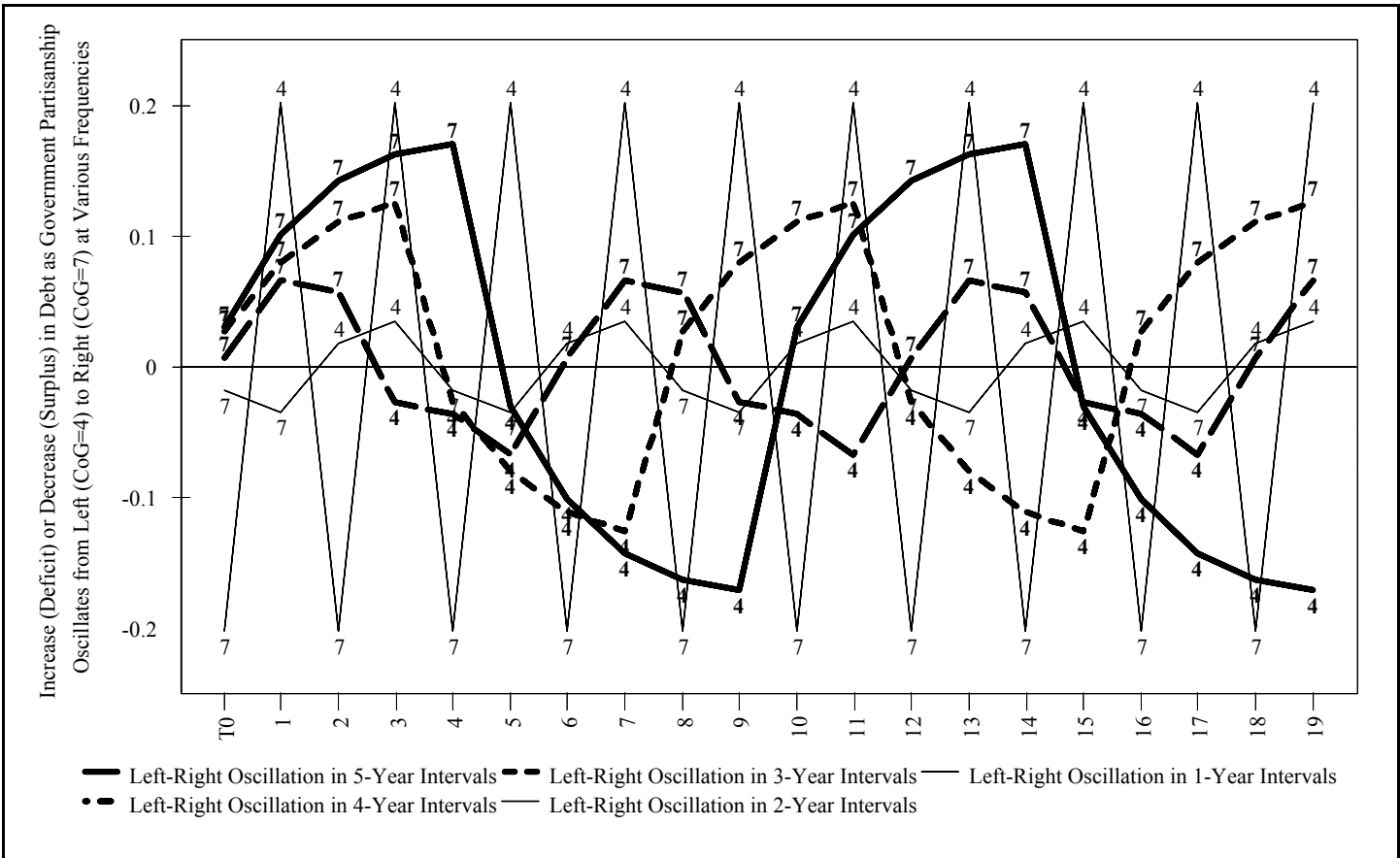
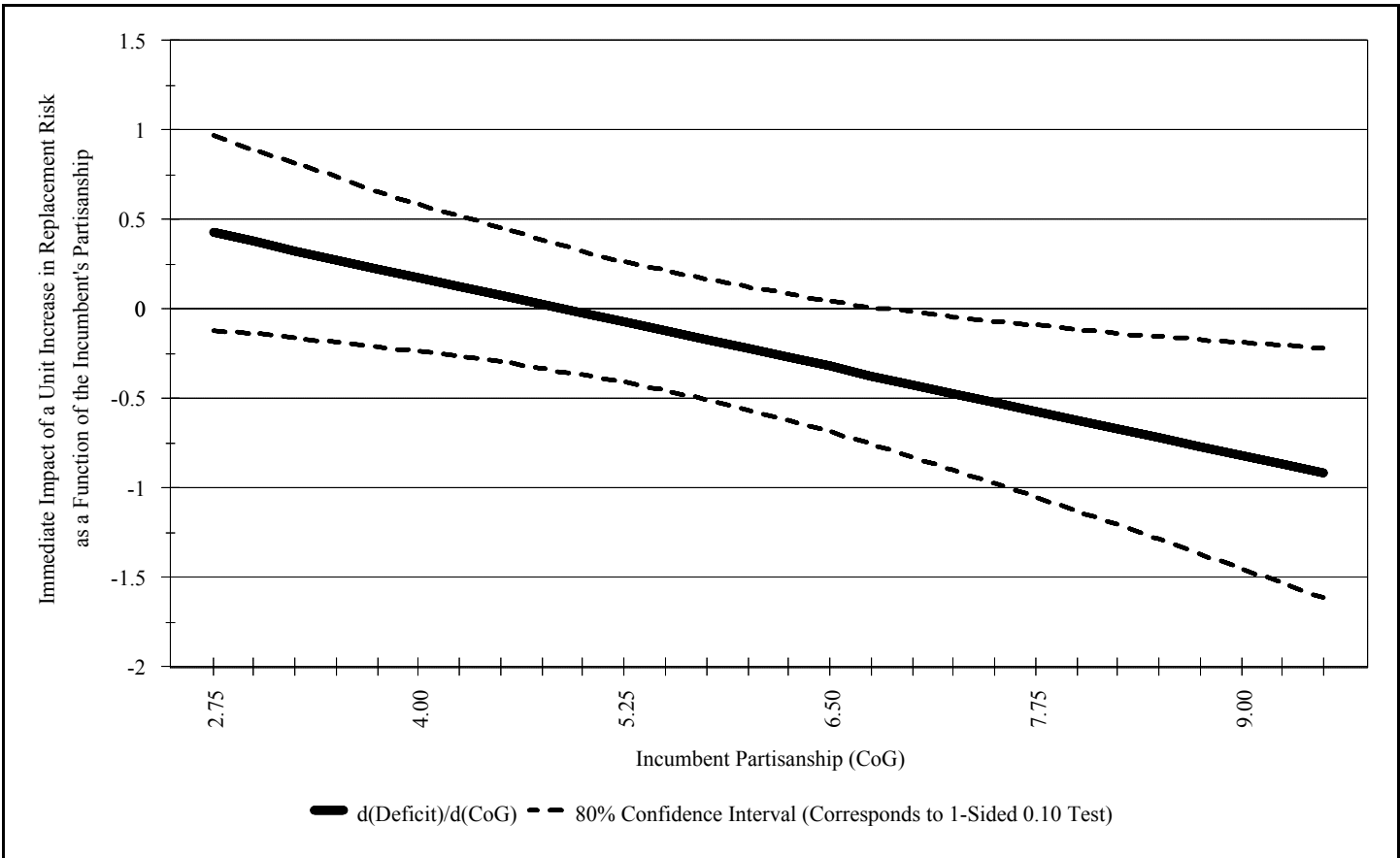


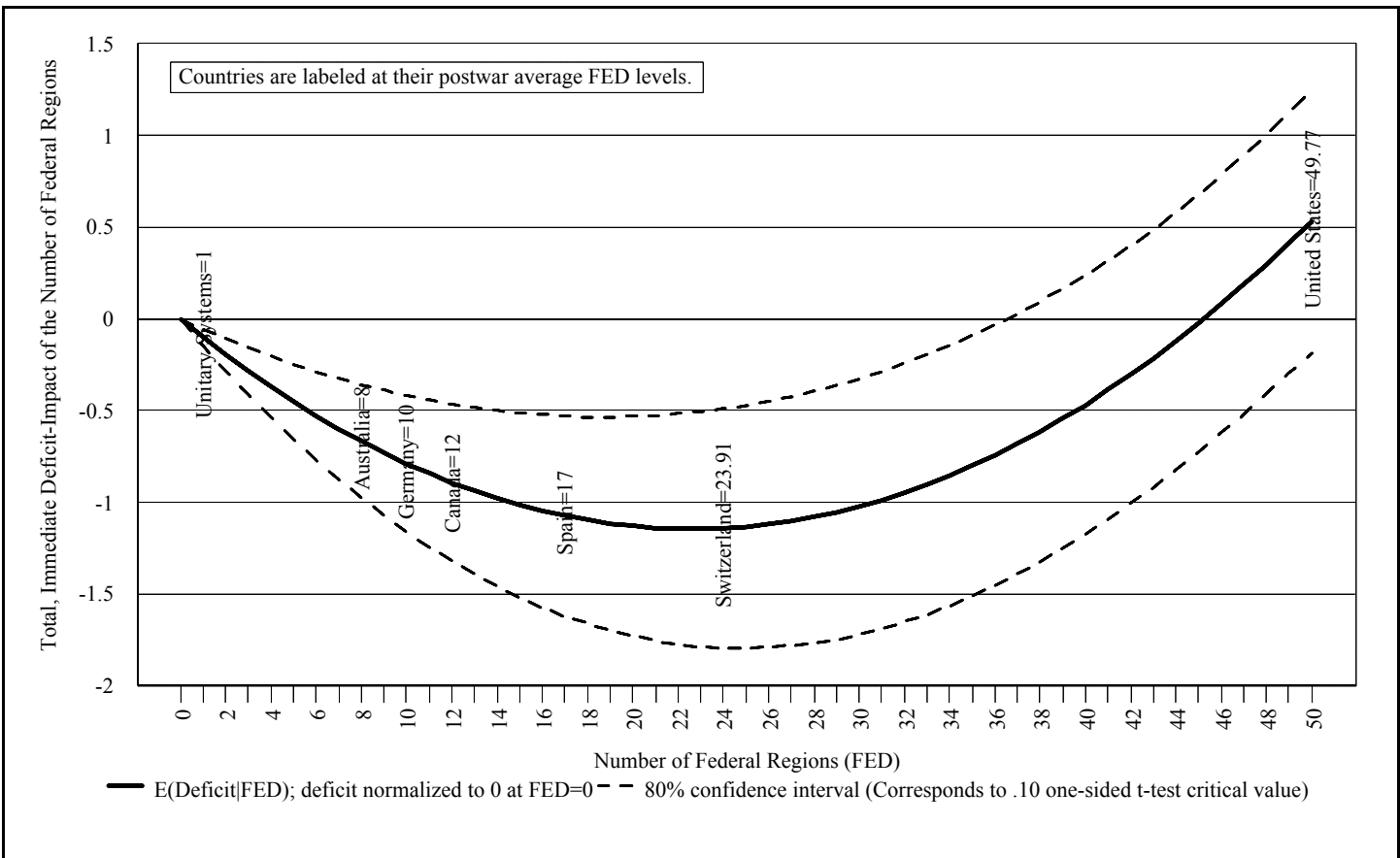
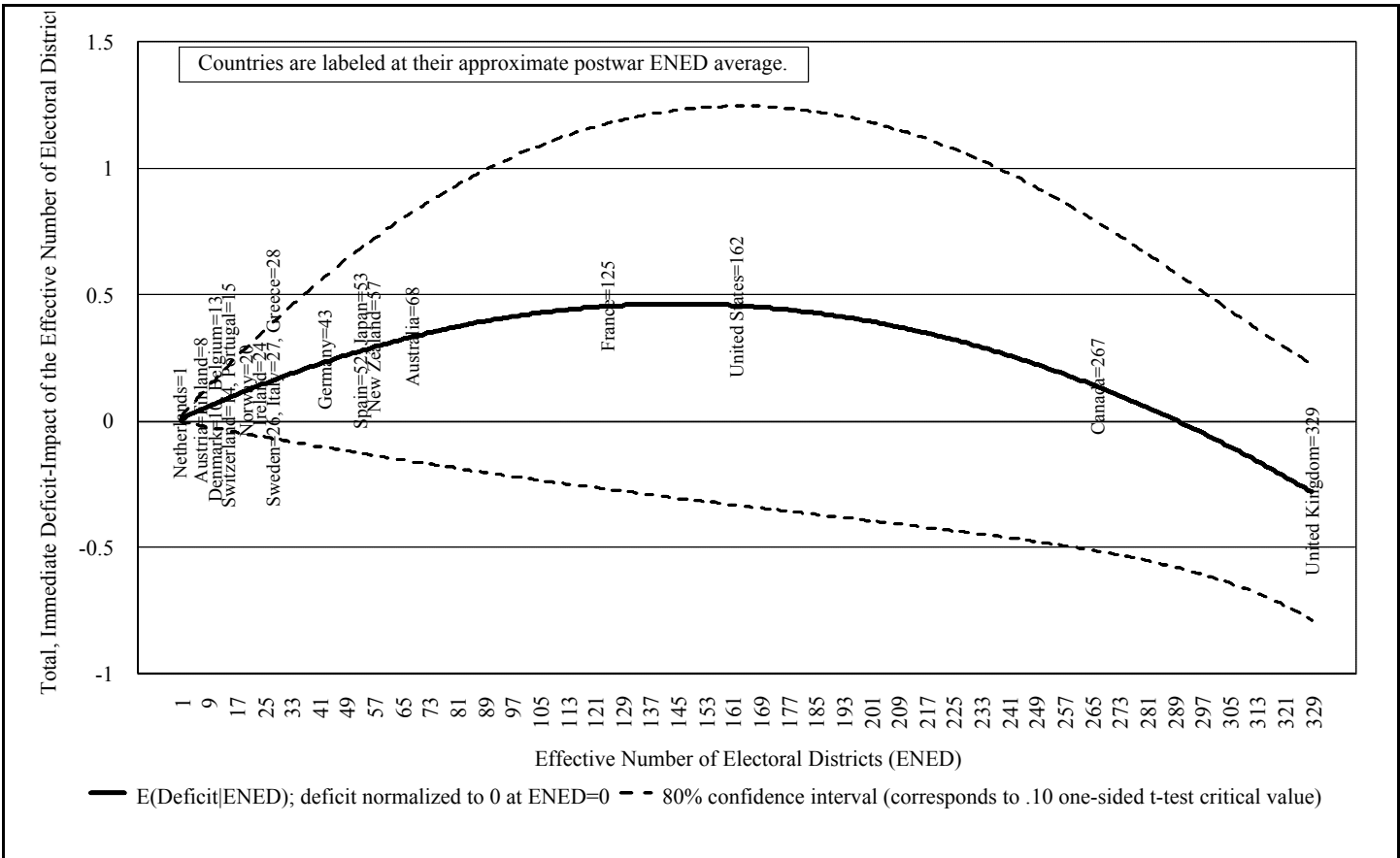
Figure 23: Estimated Deficit-Impact of a Hypothetical Increase in Government Polarization as a Function of the Outstanding Debt-Level

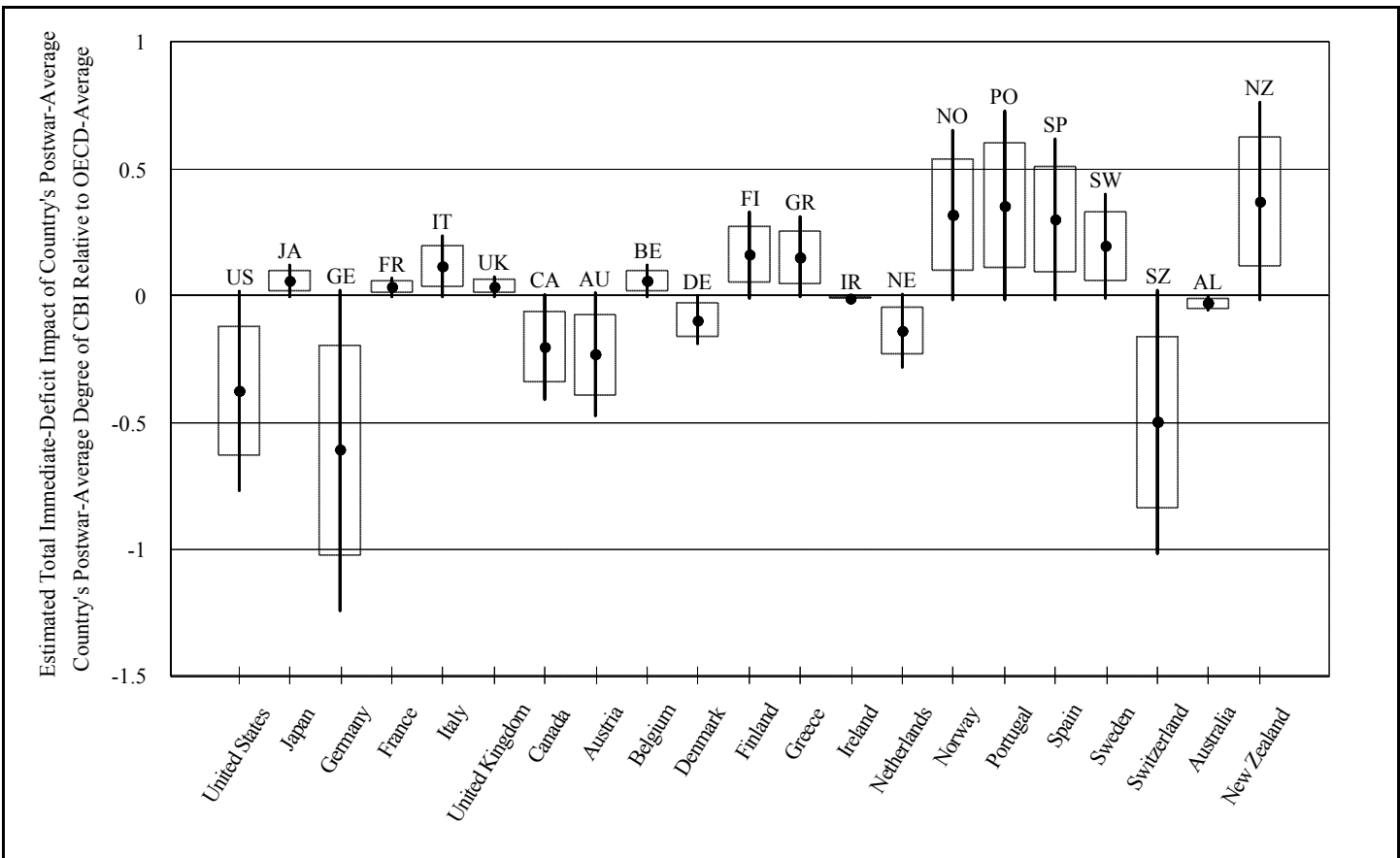
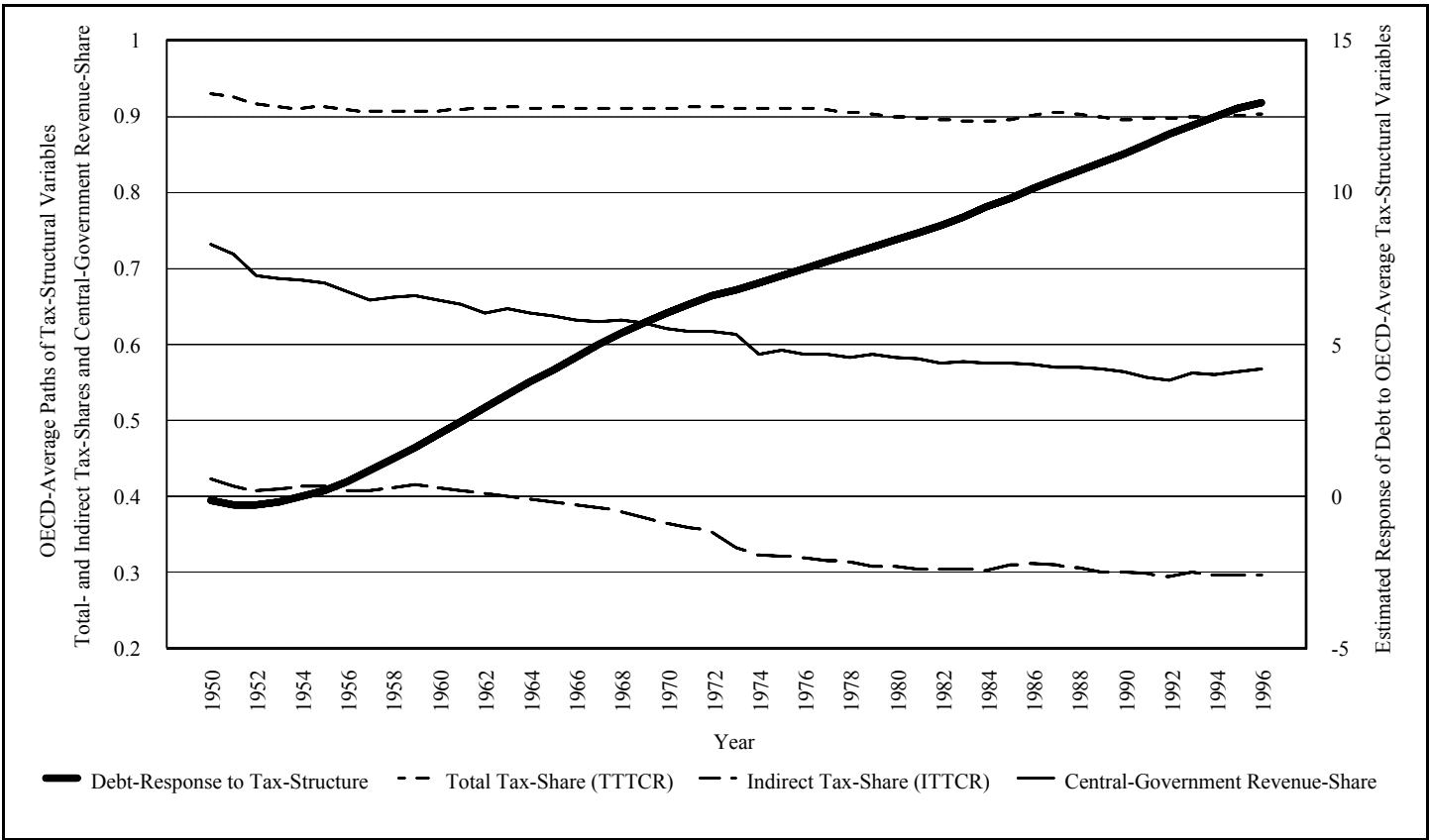












Immediate and Long-Run Effects on Debt of 1-Standard-Deviation Permanent Shocks

Independent Variable (Standard Deviation)	“Immediate Effect” on Deficit of + 1 Std. Dev. Shock	“Long-Run Effect” on Debt + 1 Std. Dev. Shock
UE (3.64%)	+0.94*	+15.26*
GROWTH (2.78%)	-0.16	-14.91
DXRIG (3.07%)	-0.10	-24.44*
DRIG (4.32%) at mean(D)-s.d.	+0.23*	+35.56*
DRIG (4.32%) at mean(D)	+0.70*	+110.75*
DRIG (4.32%) at mean(D)+s.d.	+1.18*	+185.94*
ToT (.151) at mean(OPEN)-s.d.	+0.24*	-8.39*
ToT (.151) at mean(OPEN)	-0.61*	-34.37*
ToT (.151) at mean(OPEN)+s.d.	-1.47*	-60.34*
OPEN (.245) at ToT=1	-0.07*	+22.05*
ADwiG (1.47) at mean(D)-s.d.	+0.12	+7.93
ADwiG (1.47) at mean(D)	+0.03	+2.19
ADwiG (1.47) at mean(D)+s.d.	-0.05	-3.55
NoP (1.21) at mean(D)-s.d.	-0.19	-32.95
NoP (1.21) at mean(D)	+0.18*	+30.59*
NoP (1.21) at mean(D)+s.d.	+0.55*	+94.12*
LRGDPC (.372)	+0.20	+15.03
OY (.186) at mean(RW)-s.d.	-3.05*	-25.98*
OY (.186) at mean(RW)	-1.57*	-25.98*
OY (.186) at mean(RW)+s.d.	-0.10	-25.98*
RW (.167) at mean(OY)-s.d.	-1.84*	Long-run effects of income- disparity are zero by construction.
RW (.167) at mean(OY)	-0.37	
RW (.167) at mean(OY)+s.d.	+1.11*	
ELE (1)	+0.95*	+21.35*
CoG (1.54) at mean(RR)-s.d.	+0.20*	+14.39*
CoG (1.54) at mean(RR)	+0.11	+8.33
CoG (1.54) at mean(RR)+s.d.	+0.01	+0.82
RR (.334) at mean(CoG)-s.d.	+0.06	+4.36
RR (.334) at mean(CoG)	-0.04	-3.15
RR (.334) at mean(CoG)+s.d.	-0.15	-10.66
PRES (.372)	-0.50*	-36.38*
CBI (.202)	-0.26*	-18.90*
FED (from 1 to 12)	-0.79*	-58.30*
ENED (from 27 to 115)	+0.29	+21.08
AGRETH (.171)	+0.14	+10.24
TTTCR (2.90%)	-0.11	-8.33
ITTCR (9.07%)	+0.36*	+26.55*
CGRGGR (15.0%)	-0.73*	-53.61*

NOTES: “Long-run effects” estimated for permanent 1-std.-dev. increases in independent variable, except: FED and ENED for std.-dev. increases from medians; ELE is for increasing mean .2 to .5 (i.e., from 5 to 2 ELE/yr). DRIG, NoP, and ADwiG assumed at sample-means, except for own effects, which are for std.-dev. increases centered on means. “Immediate effects” are 1st-year responses to 1-std.-dev. increase in independent variable, except: ELE sums 2-year effect of 1 election. * = significant at .10 or better.

- F.** Broad Conclusions: Explaining the postwar debt-experiences of DD's
1. Econ. cond. central, *BUT* political-institutional factors can be as important.
 2. High real-interest-net-of-growth-rates (*DRIG*) and highly fractionalized govts (*NoP*) esp.:
 - a. magnify the long-run impacts of *all* other public-debt determinants
 - b. had disastrous long-run consequences where such other PE conditions debt-inducing
- G.** “Weak Governments” Conclusions:
1. “Weak Govts” retard policy-adjustment, i.e. cause inaction (here: delay stabilization):
 - a. ⇒ Interaction of “weak government” w/ outstanding debt to reflect “retardation” prediction
 - b. ⇒ magnifies all factors’ long-run impacts, its own & others’
 - c. Inactive governments may induce *lower* deficits when debt is currently low
 2. Governmental fractionalization and polarization, main political factors receiving prior empirical attention, often no more important than other political-institutional factors.
 - a. Fract. critical at extreme debt, moderate influence around mean, & *reduces* deficits at low debt; matters mostly b/c it magnifies long-run impacts of all factors.
 - b. Polarization does not appear terribly important, controlling for fractionalization. May suggest something about when polarized governments form.
 3. *Veto-actor unambiguously dominates influence conception of governmental fract. and polar.*
- H.** Inter-/Intra-Generational-Transfers Conclusions: Age/income demographics substantive importance may remain, but theory refinement suggested:
1. Translating numbers and other resources to political power,
 2. Relevance of demographics to actual and expected growth,
 3. Do we have the motivations of different age-groups correct?
- I.** Electoral and Partisan Budget Cycles, and Strategic Debt-Manipulation
1. Election-year BC's seem important in two ways - Time to reopen Tufte's agenda?
 - a. Statistically strong pre- *and* post-electoral deficit cycle: three possible explanations.
 - b. Increasing electoral-cycle frequency can have sizable *long-run* impact.
 2. Partisan BC's seem rather less important, esp. near sample means, & often opposite conv. wisdom; both simple partisan theory & *strategic debt-manipulation* theories warrant revisit:
 - a. Systems w/ frequent, large govt-partisan shifts can have appreciable PBC's of usual sort.
 - b. Reconsider left/right partisan goals regarding slow-adjusting stock variable like debt?
 - c. Multiple policy instruments: debt a preferred means to achieve (strategic) partisan ends?
- J.** Macro-Institutions: Presidentialism/parliamentarism (PRES, -), central bank independence (CBI, -), federalism (FED, -), and electoral districting (ENED, +) have small-to-moderate deficit-impacts, but, b/c long-lived or permanent, can have very large long-run debt-effects.

1. Likely little relevant to cross-time, but may be key to explaining cross-country variation.
2. However, rethink in terms of policy-adjustment implications?
3. What's a 'constituency'? (Franzese and Nooruddin 1999)
4. Better, more-encompassing measures of budgetary institutions (von Hagen *et al.*)

K. Fiscal-Complexity and Fiscal Illusion: seem statistically real & among substantively most important.

1. Interpretation of Downs (1960): relative opacity of spending and revenue sides of fisc
 - a. \Rightarrow measurement exercise incomplete.
 - b. \Rightarrow theory under-specified.
2. Simplifying fisc may facilitate efficient voter evaluation of public activity and its revenue- and spending-side composition.

L. Summary Conclusion:

1. Evidence argues for eclectic approach to explaining postwar debt-experiences of DD's.
2. Pattern of answers to A&P's two questions "Why more in some countries and less in others?" and "Why now and not before" now clearer:
 - a. largely b/c economic conditions worsened & then policy-shift brought $\uparrow\uparrow r$ relative to Δy
 - b. dramatically exacerbated where fractionalized govt's delayed stabilization (*e.g.*, Belgium, Italy)
 - c. persistent macro-institutional (including electoral frequency) and fiscal-structure differences increased cross-national disparity
 - d. Demographics, income, and their distributions may play some role; theoretical and empirical specification improvements suggested?
 - e. Election-year politics seem to play role in fluctuations (& frequency in cross-national differences): "Rumors of demise greatly exaggerated." Time to re-open Tufte's agenda?
 - f. Conversely, partisanship & polarization w/in & across govt & replacement risk seem to have played lesser roles. Again, theoretical & empirical specification improvements suggested?
3. However, even encompassing model explains not much more than half of total variation in DD deficits 1956-90, so another half of A&P's two questions remains unanswered.
4. Opportunity: out-of-sample prediction (& cross-validation) to most-recent era of \downarrow debt?

M. Political-Economic Implications

1. Economic Effects: VAR exploration of Ricardian equivalence & related propositions regarding economic effects of public debt \Rightarrow not much real-growth impact, more impact on UE (-) and INF (+)
2. Political Consequences:
 - a. Battles over public budgeting *reform* look a lot like familiar Hibbsian struggles
 - b. Reinforces asset-holders (inflation-averse) v. workers (UE averse) divide
 - c. *Policy crowding out*: fiscal policy maneuverability and efficacy declining.

V. Chapter IV: Monetary Management of the Macroeconomy

A. Abstract:

1. As economic conditions and evolution of social transfers and public debt through 1970s into 1980s increasingly hindered fiscal-policy options and efficacy, govts in developed democracies turned to monetary policy to fulfill commitments to macro management.
2. Ch. 4 explores how such monetary regulation of inflation and unemployment, in turn, depended for its efficacy on institutions and structure of labor and goods markets, the credibility and conservatism of the monetary-policy authority, and their interaction.
3. Central-bank-independence (*CBI*) and coordinated-wage-bargaining (*CWB*) literatures reviewed and then synthesized and extended, emphasizing that degrees of *CBI* and *CWB* interact, with each other & with sectoral structure of economy, to shape incentives facing the political-economic actors involved in monetary policy and wage-price bargaining.
4. UE and INF experiences of 21 developed democracies under flexible exchange-rates support that synthesis and extension.
5. The conclusion addresses two issues of pressing intellectual and practical concern:
 - a. Likely impacts of autonomous and conservative ECB and roots of apparent collapse of *CWB* in some countries.
 - b. It explains how expanding public-sector employment, which wage-equalization in higher-*CWB* countries perhaps abetted, increased real costs associated with govts' policy-shifts toward monetary conservatism in such economies, which were previously those where such conservatism would have been most beneficial.
6. Concluding discussion returns to implications of arguments and findings for continued maintenance and utility of the KWS and continuing democratic conflict over it.

B. Introduction:

1. Through 70s into 80s, economic performance deteriorated and public transfers and debt grew dramatically (though variably), reducing fiscal-policy maneuverability & efficacy in fulfilling govt commitments to KWS
2. With flexible exchange-rates and increasing capital mobility (further hindering fiscal efficacy & maneuverability &) freeing monetary policy, govts turned toward monetary conservatism to redress at least the inflation part of stagflation
3. Right turned first, and readily, to new conservative orthodoxy; left turned later, settling eventually on (at least monetary) macro conservatism with micro activism (*a la* Boix).
4. Explore monetary management of nominal & real economy, then political implications

C. Anti-inflationary Monetary Policy: Nominal Effects

1. Political scientists and economists generally agree that CBI lowers inflation; both also similarly define CBI as the degree of autonomy of the (conservative) central bank from the political authority in the making of monetary policy
 - a. From the political scientist's view:

- (1) CB is a bureaucratic institution, populated by financial experts who are generally hawkish on inflation, whether socialized to that view or coming from a population with those interests.
 - (2) The government, on the other hand and especially in democracies, is more responsive to various societal pressures which may emerge for inflation.
 - (3) Only the most conservative of governments would be as anti-inflationary as the bank itself, so delegation of monetary-policy authority to the central bank, *i.e.* CBI, reduces inflation.
- b. From the (neoclassical) economist's view:
- (1) monetary policy involves a time-inconsistency problem which produces an inflationary bias if policy is controlled by a government responsive to societal pressures.
 - (2) Credible delegation of monetary authority to independent & conservative central bank can serve as commitment device that circumvents time-inconsistency problem & therefore inflationary bias
 - (3) thus CBI lowers inflation.
- c. Some critics argue that CBI is epiphenomenal, it and inflation being caused by socio-political strength of anti-inflation forces.
- (1) Typical institutions epiphenomenal argument with typical weakness.
 - (2) Evidence speaking directly to this notion in this context soundly rejects it.
- 2.** However derived, the thesis that CBI lowers inflation has been incompletely understood, this misunderstanding has been translated into its empirical testing, and thus many important theoretical and empirical implications of the argument have been missed.
- a. Simple point: CB autonomy from political authority in monetary policymaking is, by definition, a matter of *degree*
- (1) Independence from the political authority could never be complete because the bank's authority invariably derives from legal statute or constitutional provision.
 - (a) Either is subject to change by political authority if bank's policies were to become sufficiently distasteful to it so as to justify expenditure of political capital necessary to change bank's status.
 - (b) Especially since responsibility for appointment of CB authorities lies with government.
 - (2) Nor, however, can govt costlessly ensure CB conducts policy exactly according to its current will.
 - (a) CB enjoys expertise &/or informational advantage over govt with regard to monetary policy,
 - (b) and in any case at least time if not also other resources are required for the government even to monitor the bank much less to conduct monetary policy itself.
 - (3) CBI must, then, measure *how far* CB could stray from current govt's desires before latter would find political economic costs of altering bank law or of seizing monetary reins itself worth bearing
 - (4) ∴ monetary policy & so INF always partially controlled by CB and partially by current govt
- b. From this simple point, four substantive implications:
- (1) Arg. suggests observed inflation is wtd average of what it would be if conservative CB credibly, completely, & autonomously controlled monetary policy and what it would be if instead current govt controlled monetary policy w/o any influence from CB, with ° of CBI weighing former.
 - (2) It follows, 2nd, that anti-inflationary impact of CBI is not constant, as previously estimated, but rather varies depending on the political-economic environment in which CB operates.
 - (a) *E.g.*, anti-inflationary impact of CBI should be greater when left controls govt than when right does, should be less the more trade-open, should vary depending on other labor- and goods-market institutions also present in the system, *etc.*

- (b) As with all interactive propositions, the converses are inescapably implied also: *e.g.*, the difference between inflation under left and right governments and the anti-inflationary impact of trade-openness should be less the greater is CBI, *etc.*
- (3) 3rd, this implies, that, b/c their political-economic environments differ, some countries at some times will find CBI more advantageous on anti-inflationary grounds than others will. *∴, ceteris paribus*, certain country-times will be more likely to see increases or decreases in CBI than others.
- (4) 4th, this specific argument illustrates broader point about institutions in **C&IPE**: effect of any given institution is contextual—it depends on configuration of other political, economic, structural, & institutional features of the setting in which the institution in question *interacts*.

3. A simple neoclassical theory of monetary policy, inflation, and employment:

a. Derive argument from standard neoclassical model of monetary policy because

- (1) familiarity, internal cohesion, and formal illustrative clarity, and
- (2) more interesting to show that even the relatively sparse neoclassical model concludes that the impact of CBI on inflation depends on the broader political-economic setting

b. The Model:

- (1) Policy-maker's utility:

$$V^g = -\left[\frac{1}{2} A_g (N_g^T - N)^2 + \frac{1}{2} (\mathbf{p}_g^T - \mathbf{p})^2\right] \quad (1)$$

- (2) The economy:

$$N = N_n + \mathbf{a}(\mathbf{p} - \mathbf{p}^e) \quad (2)$$

- (3) Discretionary Eqbm., Subst. (2) into (1), max w.r.t. π , then set π^e equal to π (i.e., apply RE), \Rightarrow :

$$\mathbf{p}_d^* = \mathbf{p}_g^T + A_g \mathbf{a} (N_g^T - N_n) \quad (3)$$

- (4) \Rightarrow INF higher than discretionary authority's ideal point (that's the bias), however, if CB could be given very conservative mandate and endowed with sufficient independence from political authority, commitment inflation could be lower:

$$\mathbf{p}_c^* = \mathbf{p}_b^T + A_b \mathbf{a} (N_b^T - N_n) \quad (4)$$

- (5) Usually assume A_b & $\pi_b^* \approx 0$ for CB; certainly lower than analogous parameters for govt anyway

c. Since CBI matter of degree, then, we expect to observe inflation given by:

$$\mathbf{p} = C \cdot \mathbf{p}_c (X_c) + (1 - C) \cdot \mathbf{p}_g (X_g) \quad (5)$$

which implies that the impact of CBI on inflation is:

$$\begin{aligned} \frac{\mathbb{1}p}{\mathbb{1}C} &= -[\mathbf{p}_g(\mathbf{X}_g) - \mathbf{p}_c(\mathbf{X}_c)] = f(\mathbf{X}, \cdot) & \mathbf{X} &\equiv \mathbf{X}_g \cup \mathbf{X}_c \\ \frac{\mathbb{1}p}{\mathbb{1}x} &= (1-C) \cdot \frac{\mathbb{1}p_g}{\mathbb{1}x} + C \cdot \frac{\mathbb{1}p_c}{\mathbb{1}x} = g(C, \mathbf{X}, \cdot) \\ \frac{\mathbb{1} \frac{\mathbb{1}p}{\mathbb{1}C}}{\mathbb{1}x} &\equiv \frac{\mathbb{1} \frac{\mathbb{1}p}{\mathbb{1}x}}{\mathbb{1}C} = -\left[\frac{\mathbb{1}p_g}{\mathbb{1}x} - \frac{\mathbb{1}p_c}{\mathbb{1}x} \right] = h(\cdot) \end{aligned} \quad (6)$$

in other words, anything that increases the inflation rate the political authority would pursue unhindered by bank relative to what the bank would pursue uncontrolled by govt, the greater the anti-inflationary impact of CBI.

4. This conclusion does not depend on neoclassical model of monetary policy and inflation:
 - a. If CB's generally more conservative on inflation than governments, and
 - b. CBI defined as degree of autonomy of CB from govt in conduct of monetary policy, and
 - c. Possible for CB to have some effective autonomy from current govt (*i.e.*, institutions matter),
 - d. Then CBI lowers inflation in some weighted-average manner of this sort.
- D. Empirically, identify six factors that should affect INF under control of current govt and be mitigated in that effect by degree of CBI:
 1. **G**overnment partisanship: left governments more inflationary than right (Higher A_g)
 2. **T**rade openness: more open economies inflation is more costly (Lower α)
 3. Inflation Abroad (π_a): absent policy to counter, inflation abroad is generally imported
 4. **U**nion Density: without coordination, leads to lack of wage restraint (Lower N_n)
 5. **C**oordination of Wage/Price Bargaining (**CWB**): wage/price restraint (Higher N_n)
 6. **F**inancial sector employment: strength of anti-inflation influences on political authority depend critically on financial-sector political strength in recent epiphenomenality args.
 7. \Rightarrow Empirical model:

$$E(\mathbf{p}) = \mathbf{B}_0 + (\mathbf{b}_{gp} GP + \mathbf{b}_{ey} EY + \mathbf{b}_{up} UP + \mathbf{b}_{bc} BC + \mathbf{b}_{aw} AW + \mathbf{b}_{fs} FS + \mathbf{b}_{te} TE + \mathbf{b}_{pa} p_a) (1 - \mathbf{b}_{c1} C) + \mathbf{b}_{c1} C \cdot \mathbf{b}_{c2} \quad (7)$$

Table 1: Alternative Models of Inflation in Developed Democracies, 1972-90

Parameter (name of variable or group of variables)		(A) Model ?	(B) Model (9)	(C) Model ?	(D) Model (10)	
<i>All Other Factors Besides CBI</i> (X_1)	<i>Domestic Structural-Political Factors</i> (X_2)	β_g (G_{t-1})	-0.287 (.096)	-0.517 (.311)	-0.541 (.187)	-0.526 (.156)
		β_f (F_{t-1})	-46.4 (10.5)	-64.0 (33.1)	-85.4 (28.8)	-82.6 (19.1)
		β_t (T_{t-1})	-1.10 (.575)	-8.36 (3.06)	-2.55 (1.21)	-2.45 (1.04)
	<i>Labor-Market Structural-Institutional Factors</i> (X_3)	β_u (U_{t-1})	+4.53 (1.21)	+10.6 (3.35)	+8.23 (2.41)	+8.73 (2.16)
		β_{cwb} (CWB)	-3.88 (.775)	-4.84 (1.97)	-6.58 (1.72)	-7.15 (1.44)
	<i>Foreign Inflation</i> ($X_{3,t-1}$)	$\beta_{\pi a}$ (π^a_{t-1})	+0.266 (.097)	+0.650 (.212)	+0.600 (.210)	+0.564 (.164)
	<i>CBI (non-interacted)</i>	$\beta_{cbi,1}$ (CBI_{t-1})	-2.33 (.907)	-2.53 (8.71)	-6.95 (7.00)	-7.39 (2.46)
	<i>CBI times effect of all other factors besides CBI</i> [Model ?]	$\beta_{cbi,2}$ ($CBI_{t-1} \cdot X_{1,t-1} \mathbf{B}$)	—	—	—	-0.838 (.106)
	<i>CBI times effect of domestic structural-political factors</i> [Model ?]	$\beta_{cbi,3}$ ($CBI_{t-1} \cdot X_{2,t-1} \mathbf{B}$)	—	—	-0.875 (.240)	—
	<i>CBI times effect of labor-market structural-institutional factors</i> [Model ?]	$\beta_{cbi,4}$ ($CBI_{t-1} \cdot X_{3,t-1} \mathbf{B}$)	—	—	-0.708 (.201)	—
<i>CBI times effect of foreign inflation</i> [Model ?]	$\beta_{cbi,5}$ ($CBI_{t-1} \cdot \beta_{\pi a} \cdot \pi^a_{t-1}$)	—	—	-0.942 (.262)	—	
<i>Simple Interactions</i> [Model ?]	$\beta_{c,g}$ ($CBI_{t-1} \cdot G_{t-1}$)	—	+0.432 (.671)	—	—	
	$\beta_{c,f}$ ($CBI_{t-1} \cdot F_{t-1}$)	—	+15.8 (59.3)	—	—	
	$\beta_{c,t}$ ($CBI_{t-1} \cdot T_{t-1}$)	—	+14.7 (6.12)	—	—	
	$\beta_{c,u}$ ($CBI_{t-1} \cdot U_{t-1}$)	—	-10.4 (5.74)	—	—	
	$\beta_{c,c}$ ($CBI_{t-1} \cdot CWB$)	—	+0.176 (3.54)	—	—	
	$\beta_{c,\pi a}$ ($CBI_{t-1} \cdot \pi^a_{t-1}$)	—	-0.698 (.331)	—	—	
Observations (Degrees of Freedom)		342 (332)	342 (326)	342 (329)	342 (331)	
Adjusted R² (Standard Error of Regression)		.675 (2.675)	.688 (2.624)	.687 (2.625)	.689 (2.619)	

NOTES: Coefficients on the constants and lagged dependent variables suppressed to conserve space. Available upon request. All models estimated in E-Views 2.0 by least squares—? and ? by OLS and ? and ? by constrained LS—with Newey-West autocorrelation-and-heteroskedasticity-consistent variance-covariance matrices.

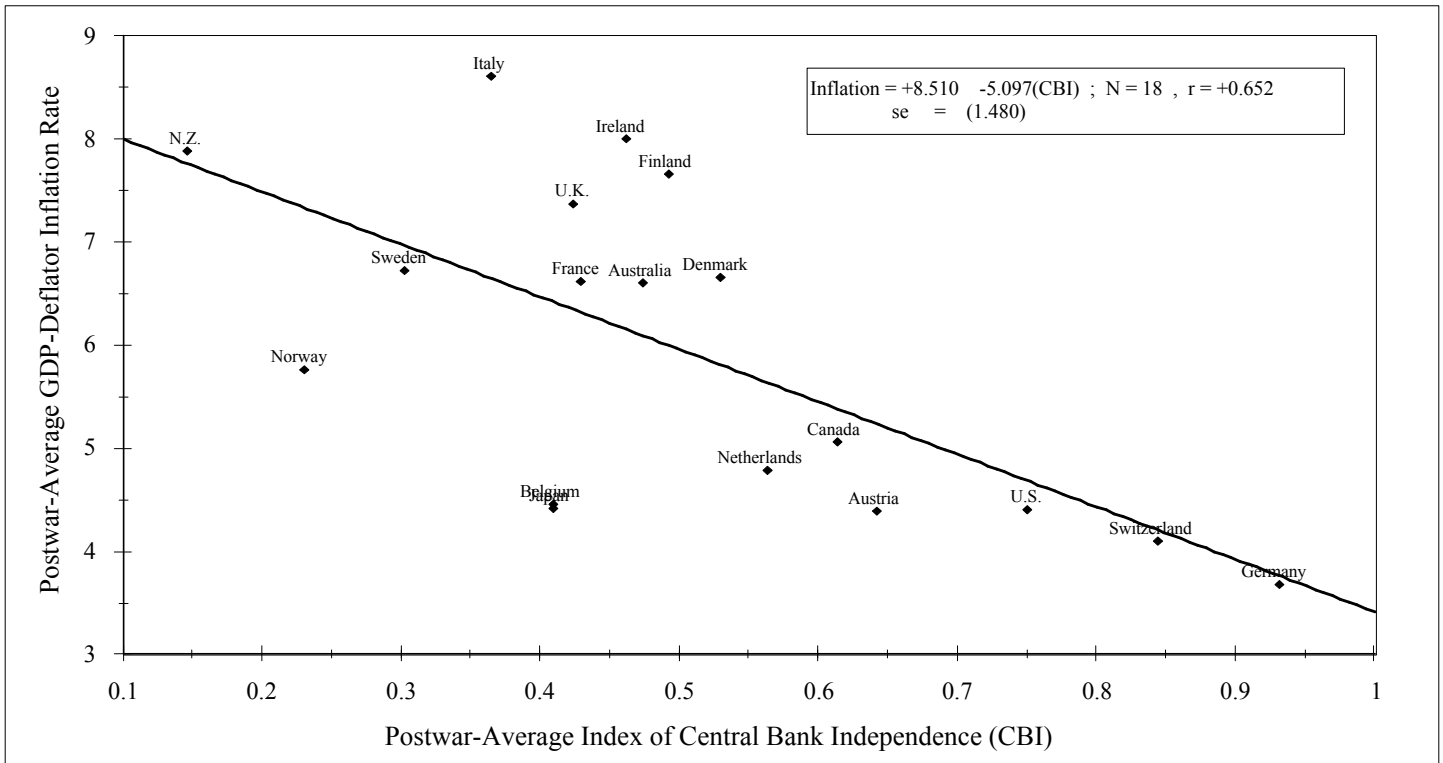


Figure 34: A Typical Bivariate Regression of Inflation on Central Bank Independence

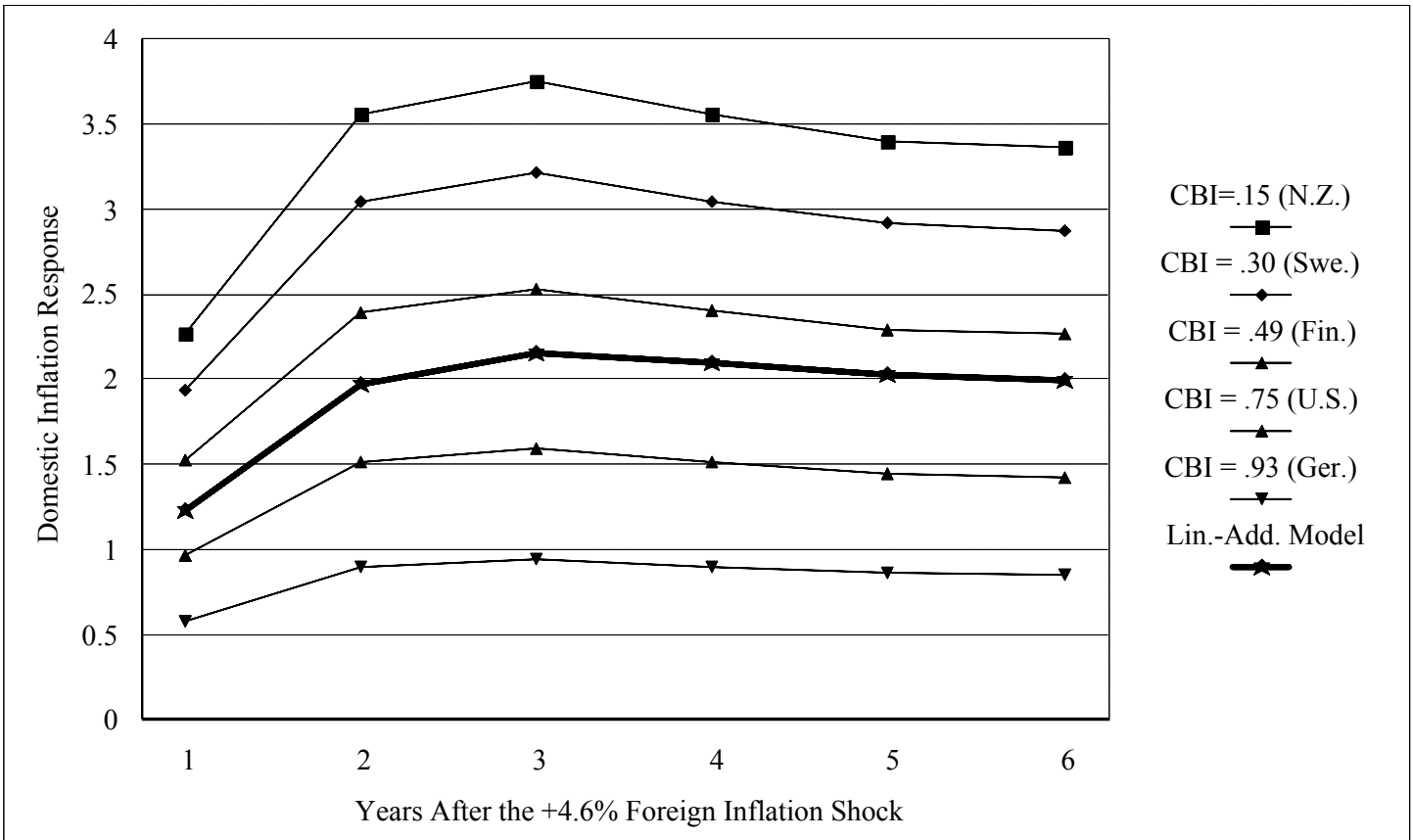


Figure 35: The response of domestic inflation to the Bretton Woods collapse and the first oil crisis (a +4.6% foreign inflation shock by assumption), as a function of the degree of central bank independence characterizing the domestic political economy.

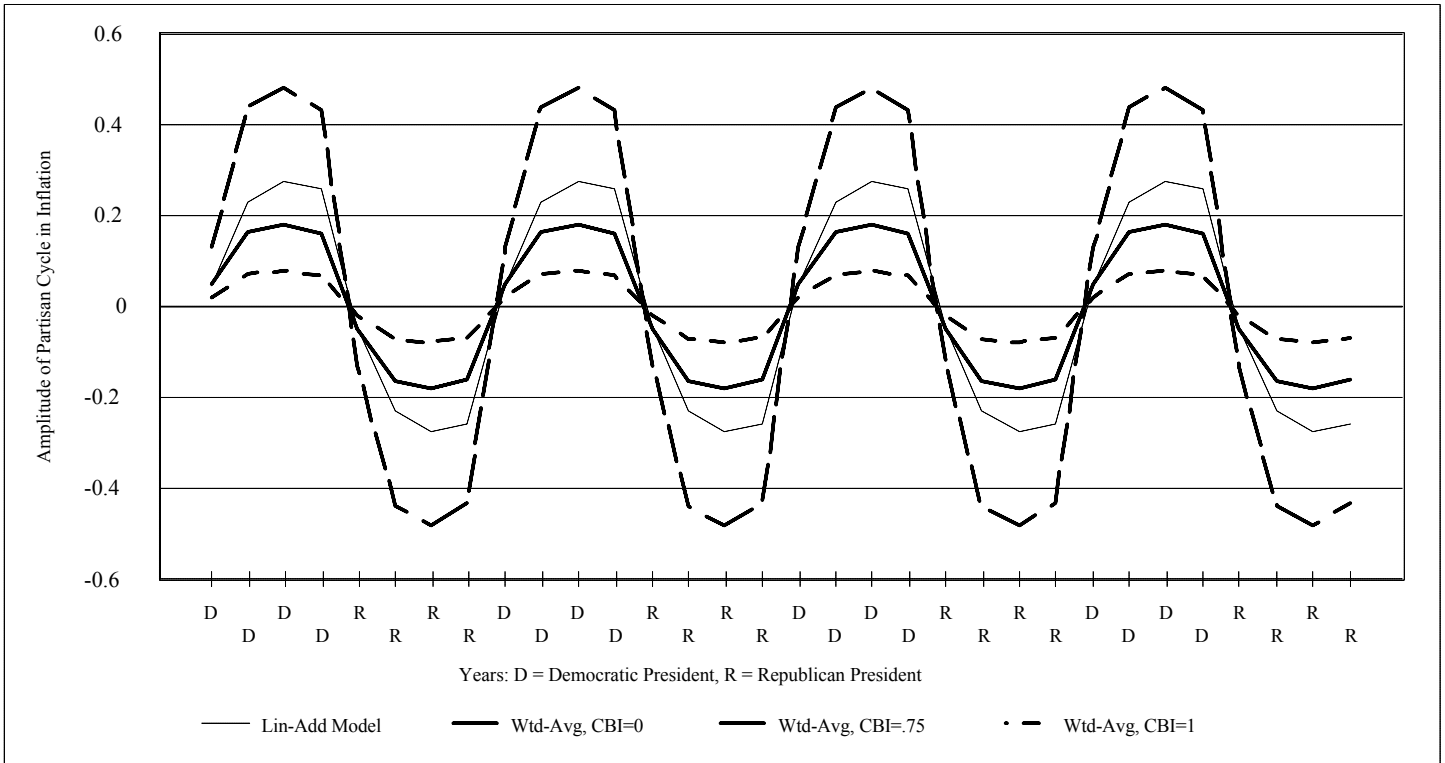


Figure 4: Mitigation of partisan cycles in inflation by the degree of independent of the central bank.

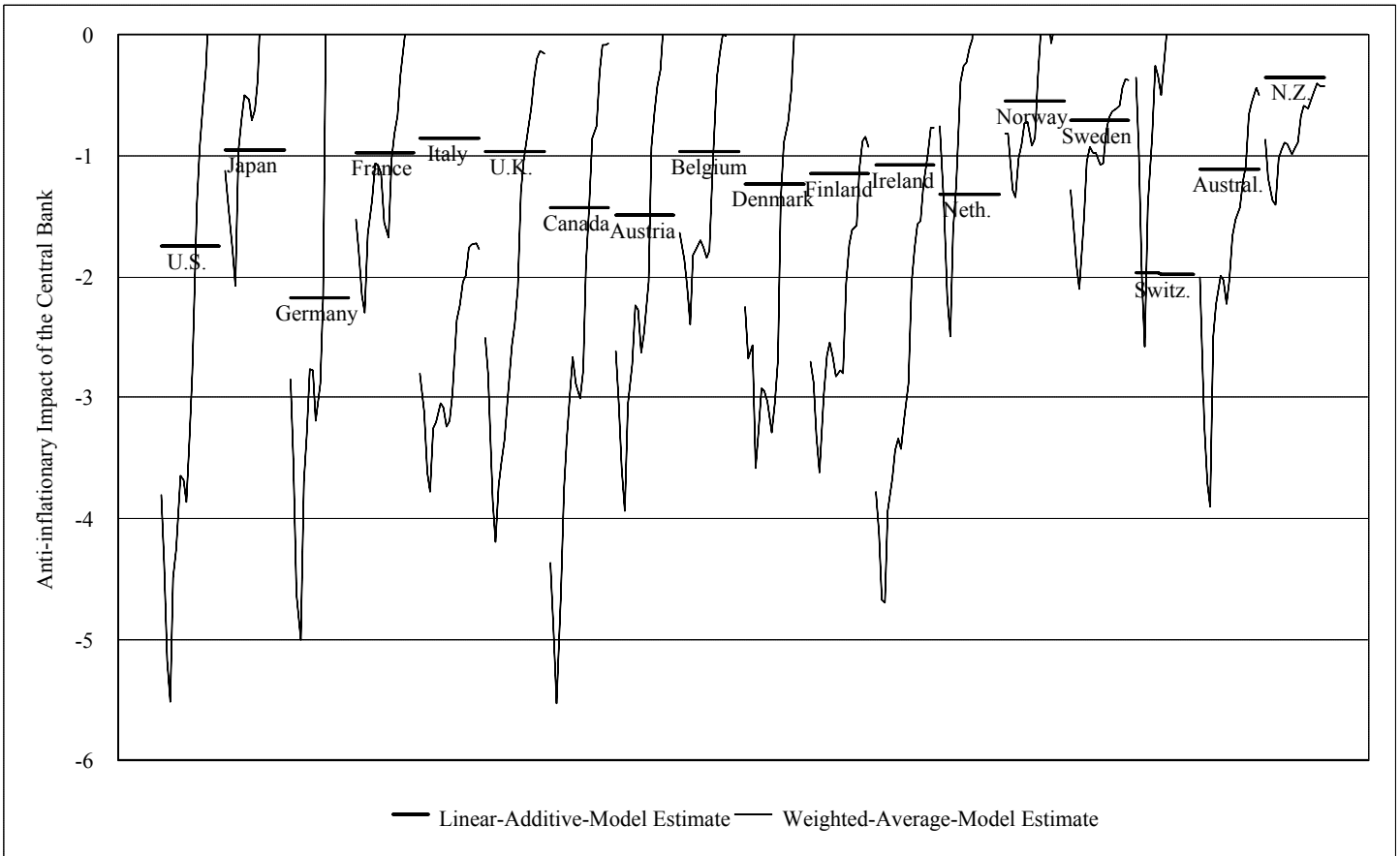


Figure 5 Comparison of the linear-additive and weighted-average estimates of the anti-inflationary impacts of OECD central banks given their degree of independence and the level of other variables in that country-year. The data for each country are from 1972 to 1990, left to right.

8. Two Key Conclusions:

- Effects Conditional: Anti-inflationary effect of shift toward monetary conservatism in CBI depended on how anti-inflationary the structure interests pressing on govt had become
- Empirically, anti-inflationary impact had radically diminished by time such shifts actually made, suggests “lock-in” activity

E. Anti-Inflationary Monetary Policy: Real Effects

1. Consider heuristic model of wage-price bargaining, allowing monetary authorities to respond to wage-price settlements.

- Union-firm Nash-bargaining settlements \Rightarrow suffices to examine these marginal values from getting/ceding a nominal increase (simplify by assuming fixed mark-ups):

$$\frac{dV_j^u}{dw_j} = V_w^u \left(1 - \frac{dp}{dw_j} - \frac{dp}{dm} \cdot \frac{dm}{dw_j} \right) + V_e^u \cdot \frac{de}{dy_j} \cdot \frac{dy_j}{dy} \cdot \left(\frac{dy}{dw_j} + \frac{dy}{dm} \cdot \frac{dm}{dw_j} \right) + V_e^u \cdot \frac{de}{dy_j} \cdot \frac{dy_j}{dr} \cdot \left(1 - \frac{dp_{i(j)}}{dw_j} - \frac{dp_{i(j)}}{dm} \cdot \frac{dm}{dw_j} \right) \quad (8)$$

$$\frac{dV_j^u}{dw_j} = V_y^e \cdot \frac{dy_j}{dy} \cdot \left(\frac{dy}{dw_j} + \frac{dy}{dm} \cdot \frac{dm}{dw_j} \right) + V_e^e \cdot \frac{dy_j}{dr} \cdot \left(1 - \frac{dp_{i(j)}}{dw_j} - \frac{dp_{i(j)}}{dm} \cdot \frac{dm}{dw_j} \right) \quad (9)$$

- Terms involving dm/dw_j ; key: they reflect how j^{th} bargaining unit expects monetary authorities to alter money supply in response to j 's settlement: the *monetary threat*.

(1) Monetary authorities often announce intentions not to accommodate excessive wage settlements.

- If they can make threat large and credible enough for bargainers to perceive costs of expected monetary-reactions to excessive increases to outweigh benefits, then bargainers will refrain from inflationary settlements and monetary threat need not be enacted.
- Neoclassical synthesis ends there: credible enough monetary authorities wielding big enough threats achieve low inflation at no average cost.
- However, with only one money supply, policymakers cannot promise different responses to each settlement; can only respond to aggregates.

(2) Thus, monetary threats, dm/dw_j , as bargainer j perceives them, involve three substantive parts: severity of threatened response to aggregates, dm/dw , that threat's credibility, c , and degree to which j expects its settlement to affect aggregates, dw/dw_j :

$$\frac{dm}{dw_j} \equiv \frac{dm_t}{dw} \cdot c \cdot \frac{dw}{dw_j} \quad (10)$$

- CBI increases threat credibility, c , but it also raises tradeoff between employment and inflation that monetary authorities will accept since CBI means autonomous *and conservative*.

- Questions, therefore, whether tradeoffs must be made on average and, if so, at what rates.
- Answers hinge critically on the institutional and sectoral structure of wage-price bargaining.

2. Note first that dw/dw_j increases in **CWB**.

- Thus, when coordination full, all wages & prices settled in central or lead bargain, $dw/dw_j \approx 1$, so that one bargaining unit directly perceives all the monetary threat.

- b. Contrarily, with nearly nil coordination, unions and firms do not perceive other wages to rise with theirs, $dw/dw_j \approx 0$, so atomistic bargainers directly perceive almost none of the threat.
- c. Monetary threats discourage unions from demanding & encourage firms in resisting excessive nominal increases by raising real costs of such excessiveness. Monetary non-accommodation reduces real output and demand, which hurts both unions and firms.
 - (1) However, when *CWB* very low, threat times its credibility, $(dm/dw) \cdot c$, would have to be extremely high for these aggregate real threats to restrain bargainers without being enacted.
 - (2) For small bargaining units, needed threat *incredibly* large for threat-enactment unnecessary...
 - (a) Professor story...
 - (b) Analogous situation for all bargaining dyads in strong market positions, so settlements become increasingly inflationary in aggregate as market power rises across the economy.
 - (3) For monetary authorities to restrain inflation, \therefore they must enact threats to create recessions to spur UE and dampen output enough to cut market power and shift bargaining power toward employers and consumers sufficiently to make ensuing wage and price increases less inflationary.
 - (4) Eqbm reached when bargainers seek no more nominal increases than the bank will tolerate.
 - (5) This explains CB's preoccupation with *excessive* real strength and *incipient inflationary pressures*

3. Simply: anything that lowers enacted threat required to restrain aggregate of bargainers improves tradeoff.

- a. Monetary-authority *credibility*, higher c in **(10)**, thus unambiguously beneficial b/c raises efficacy of any given threat size-and-frequency in restraining all bargainers and so allows lower inflation at higher real strength.
- b. Contrarily, *conservatism*, i.e., greater willingness to enact larger threats is ambiguous. Larger permissible threats may be more effective but may also need to be enacted depending not only on credibility but also on the institutions and structure of bargaining.
- c. **(10)** also reveals greater **CWB** reduces required threats by increasing dw/dw_j .
 - (1) Coordinated bargainers perceive monetary threats as being more directed at them than do fragmented bargainers, so threats can be smaller or less frequently enacted when **CWB** is high.
 - (2) This explains difference b/w *Bundesbank* and Fed behavior and pronouncements.
- d. Other implications follow from different impacts of monetary policy across economic sectors.
 - (1) Monetary tightening does two things; it raises interest rates and causes exchange-appreciation.
 - (a) Higher interest reduces consumption and investment and so hurts firms and unions in all sectors dependent on domestic demand, i.e., private sectors; formally in **(8)** and **(9)**, $dy/dm < 0$ and $dy_j/dy > 0 \forall j$ in the private sector.
 - (b) Public-sector workers' employment prospects, however, are unharmed or even benefit by private-demand reduction since public employment is a- or counter-cyclical: $dy_j/dy \leq 0 \forall$ public-sector j .
 - (c) Thus, private-sector bargainers fear monetary contraction more than public-sector.
 - (2) Exchange appreciation triggered by enacted threats enters bargainers' calculations three ways.
 - (a) First, appreciation hinders demand for all goods produced domestically and so, again, harms all private-sector but leaves public-sector actors relatively unharmed to benefitted: $dy_j/dy \cdot dy/dm > 0 \forall$ private-sector j and $\leq 0 \forall$ public-sector j .
 - (b) Second, appreciation also implies higher export relative to import prices and thus is especially painful

to all units j who compete internationally: $d\pi_{i0}/dm < 0 \forall$ trade-sector j .

- (c) Finally, appreciation lowers import prices and so reduces the consumption-price index. This actually benefits consumers, and so works against forcing restraint from unions; it is irrelevant to employers as such, though of course as consumers they benefit by it too.
- (d) This last effect is likely dominated by the first two, but notice that it implies, once again, that employer-led may be more conducive than labor-led coordination to wage-price restraint.

4. In sum:

- a. Monetary-threat enactment most costly to private- and especially traded-sector and least costly to (non-competing) public-sector bargainers. Thus, traded-sector most, sheltered-sector intermediately, and public-sector bargainers least responsive to monetary threats.
- b. Also, coordinated wage-price bargainers more responsive to monetary threats, and all other actors more responsive to more-credible monetary authorities.
- c. Thus, monetary conservatism reduces INF most efficiently (i.e. at least real cost) in political economies w/ credible monetary authorities & traded-sector led **CWB** & least efficiently in political economies w/ less-credible monetary authorities and low or public-sector-led **CWB**.
- d. So, when stagflation and rising constraints described in Ch. II & III pushed democratic govts toward monetary conservatism in reconstructing their macroeconomic-policy paradigms, they paid real economic costs, even where they endeavored to increase credibility of that anti-inflationary shift, and they paid more in less-organized or public-sector-led economies, and less in more-organized and traded-sector-led economies.
- e. Consider, finally, interactions of **CWB** with sectoral structure.
 - (1) Public-sector bargainers have little incentive to exercise restraint autonomously or to respond to monetary threats; contrarily, traded-sector bargainers are especially disposed toward restraint and to respond to monetary threats. Thus, **CWB** operates differently depending on the sectoral composition of those coordinated (Franzese 1994, 1996b:ch.4; Garrett and Way 1995b, 1999ab). **CWB** is most beneficial, both *per se* and in interaction with monetary authorities, when traded sectors dominate bargaining and public sectors follow.
 - (2) In fact, provided traded sectors continue to dominate, **CWB** is more beneficial the larger the public sectors brought under traded-sector bargain. Traded-sector bargainers deliver restraint relatively easily and require little monetary threat to enforce that restraint, so the rest of the economy need suffer less to control aggregate nominal increases when **CWB** coordinates traded-sector bargains across the economy.
 - (3) On the other hand, should public sectors dominate, **CWB** is less beneficial on both accounts and may even be costly since it then coordinated the public-sector *lack* of incentives toward restraint across the economy.
 - (4) Public-sector bargainers do not easily deliver restraint but rather require large monetary threats to force it upon them, so the whole economy must suffer more to control aggregate nominal increases when **CWB** coordinates public-sector bargains across the economy.
 - (5) Indeed, provided public sectors continue to lead, **CWB** is more costly (less beneficial) the larger the traded sector because the latter most directly and painfully bears the costs of public-sector lack of restraint and conservative monetary responses thereto.

5. So, empirical implications:

- a. **(a1) Monetary conservatism, even if credible, has interactive real effects:** it is less costly (more beneficial) when wage-price bargaining is coordinated and traded-sector

- led and more costly when bargaining is uncoordinated or public-sector led.
- b. **(a2) Monetary conservatism, credible or not, has interactive nominal effects:** it reduces inflation, though less when bargaining is coordinated and traded-sector led and more when bargaining is uncoordinated or public-sector led.
 - c. **(b1) Coordinated wage/price-bargaining has interactive real effects:** if traded-sector led, it is more beneficial the higher *CBI*, if public-sector led, it is less beneficial (more costly) as *CBI* increases.
 - d. **(b2) Coordinated wage/price-bargaining has interactive nominal effects:** it reduces inflation more when traded-sector led and less (perhaps increasing it) when public-sector led. The magnitude of these effects are dampened as *CBI* increases.
 - e. **(c) Sectoral structure has interactive real and nominal effects:** Traded-sector dominance reduces inflation and unemployment by improving the efficacy of *CWB* in delivering wage-price restraint and so has more beneficial real effects the higher *CWB* and *CBI* and larger (smaller) beneficial inflation effects the higher *CWB* (*CBI*). The public sector operates oppositely and the sheltered sector intermediately.

F. Empirical Results: Broadly support these claims

G. Empirical Implications:

1. European Monetary Union under conservative ECB...
2. *Collapse* of Corporatism/CWB

H. Political-Economic Implications