Pillars of Prosperity

The Political Economics of Development Clusters

Chapter 2: Fiscal Capacity

Tim Besley Torsten Persson

STICERD and Department of Economics
London School of Economics

Institute for International Economic Studies
Stockholm University

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Outline

1. Motivation
2. The Core Model
   - Basic Structure
   - Optimal Policy
   - Investments in Fiscal Capacity
3. Developing the Model
   - Microfoundations for Fiscal Capacity
   - Extensions
4. Data and Partial Correlations

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Existing research

- Ignored, or assumed, in mainstream economics
  - (macro) development economics sees income per capita, not fiscal institutions, as central outcome
  - capacity to raise revenue from certain tax bases basically assumed in development, public finance, political economics, ...
- Important in political and economic history
  - fiscal powers important in themselves, for military success and state development, more generally (Hintze, Schumpeter, Tilly)
  - war major motive to build fiscal capacity

"war made the state and the state made war" (Tilly, 1990)

Expansion of taxation in rich countries – Figure 2.1

- Last century – vast expansion of government size
  - 1910: total taxes around 10% of GDP in Europe and US, while today's figures are 30-50%
  - number of innovations and expansions of infrastructure underpin the capacity to raise so much revenue
- Investments in fiscal capacity over time
  - dating of reforms in 75 (mostly) rich countries
    introduction of income tax 1840s-1970s, income-tax withholding later, VAT still not complete

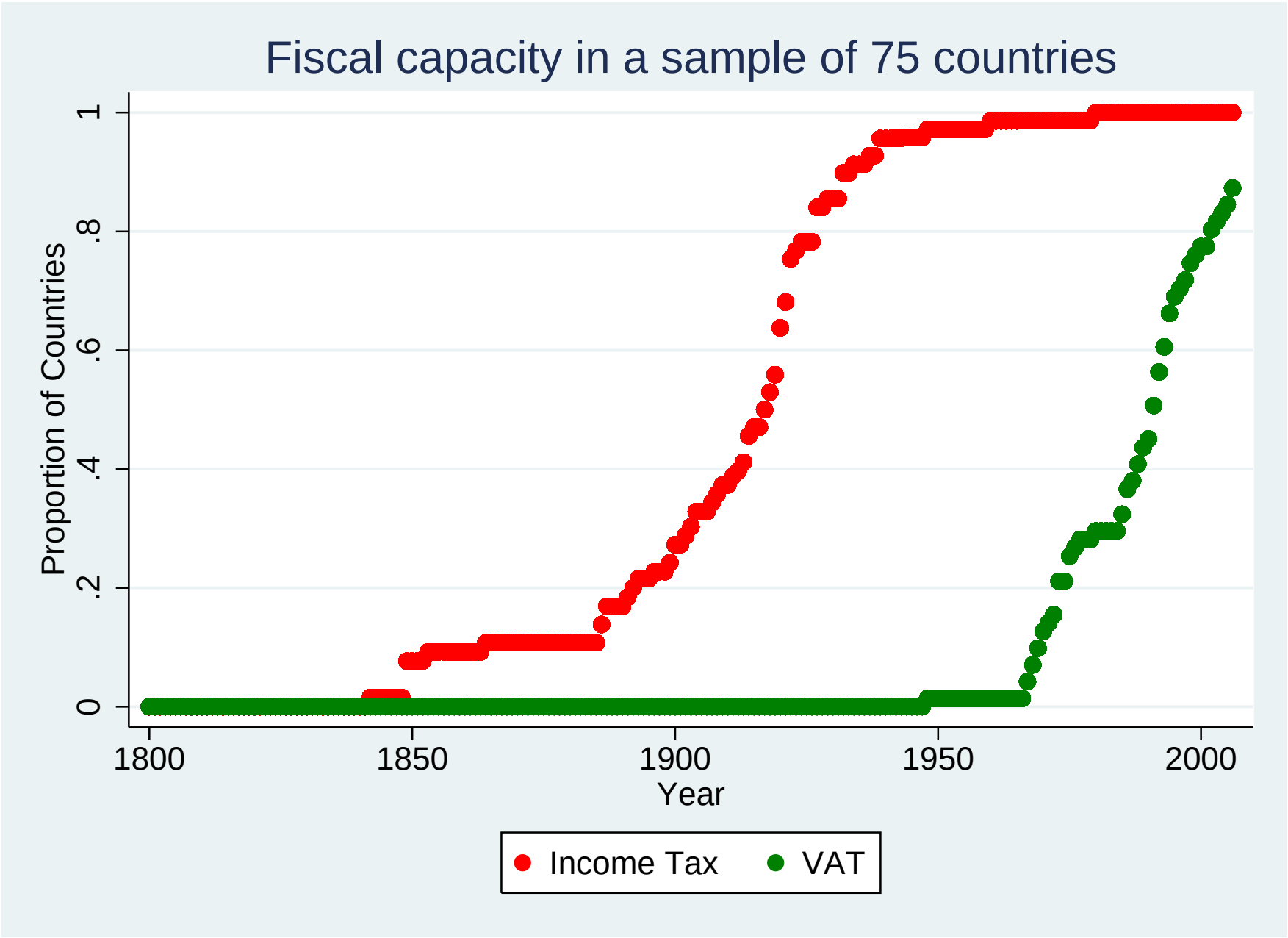


Figure 2.1 The historical evolution of fiscal capacity

But weak states in poor countries – Figures 2.2 and 2.3

- Tax take today
  - poor countries raise much less revenue than rich countries
  - rely on primitive tax bases, such as trade, to much greater extent
- Illustration of these stylized facts
  - shares of total revenue raised from income and trade taxes (other sources of income: sales, property taxes, royalties,...omitted)
  - tilted towards income in *rich* countries and *high-tax* countries

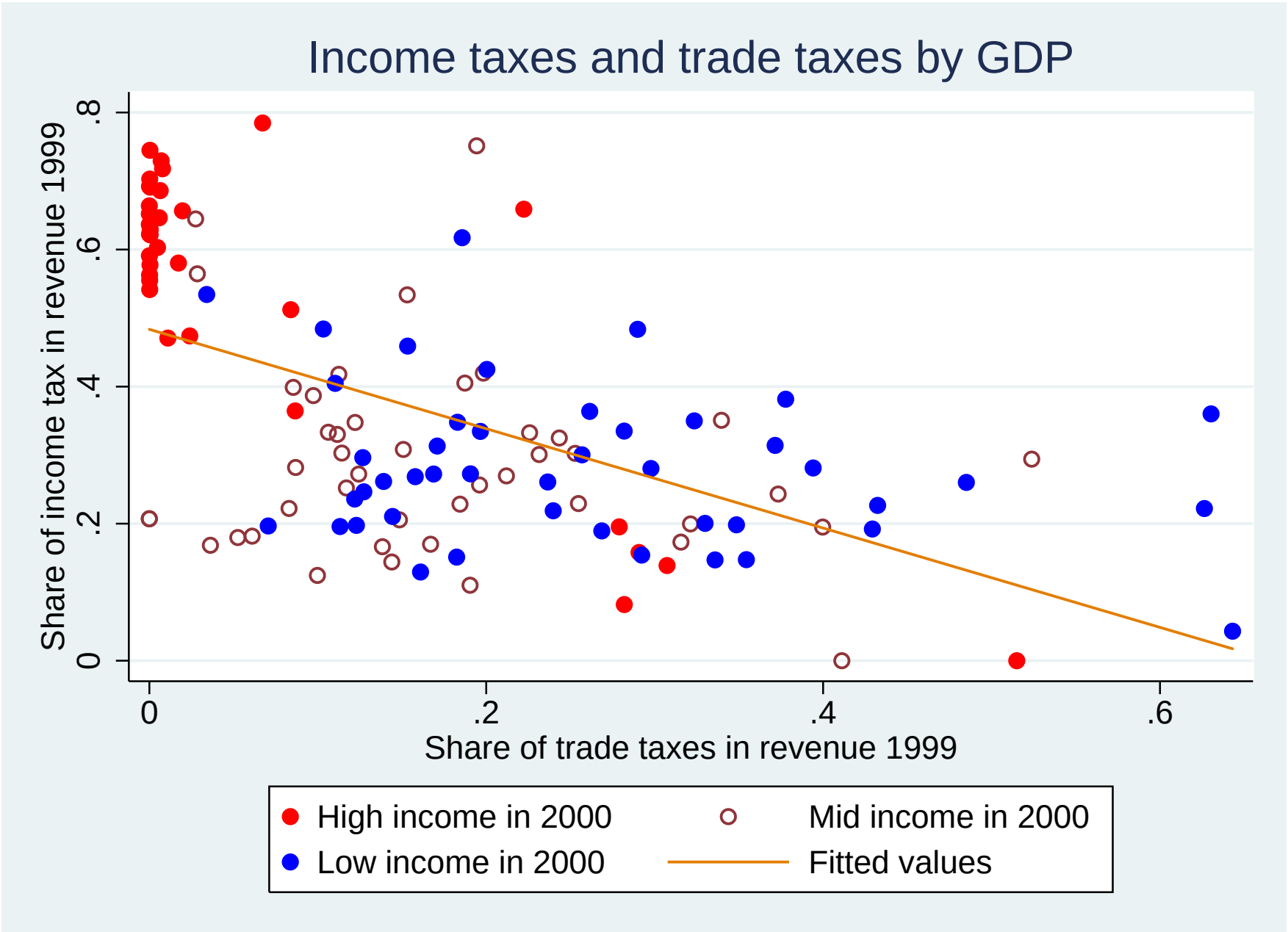


Figure 2.2 Income taxes and trade taxes conditional on income

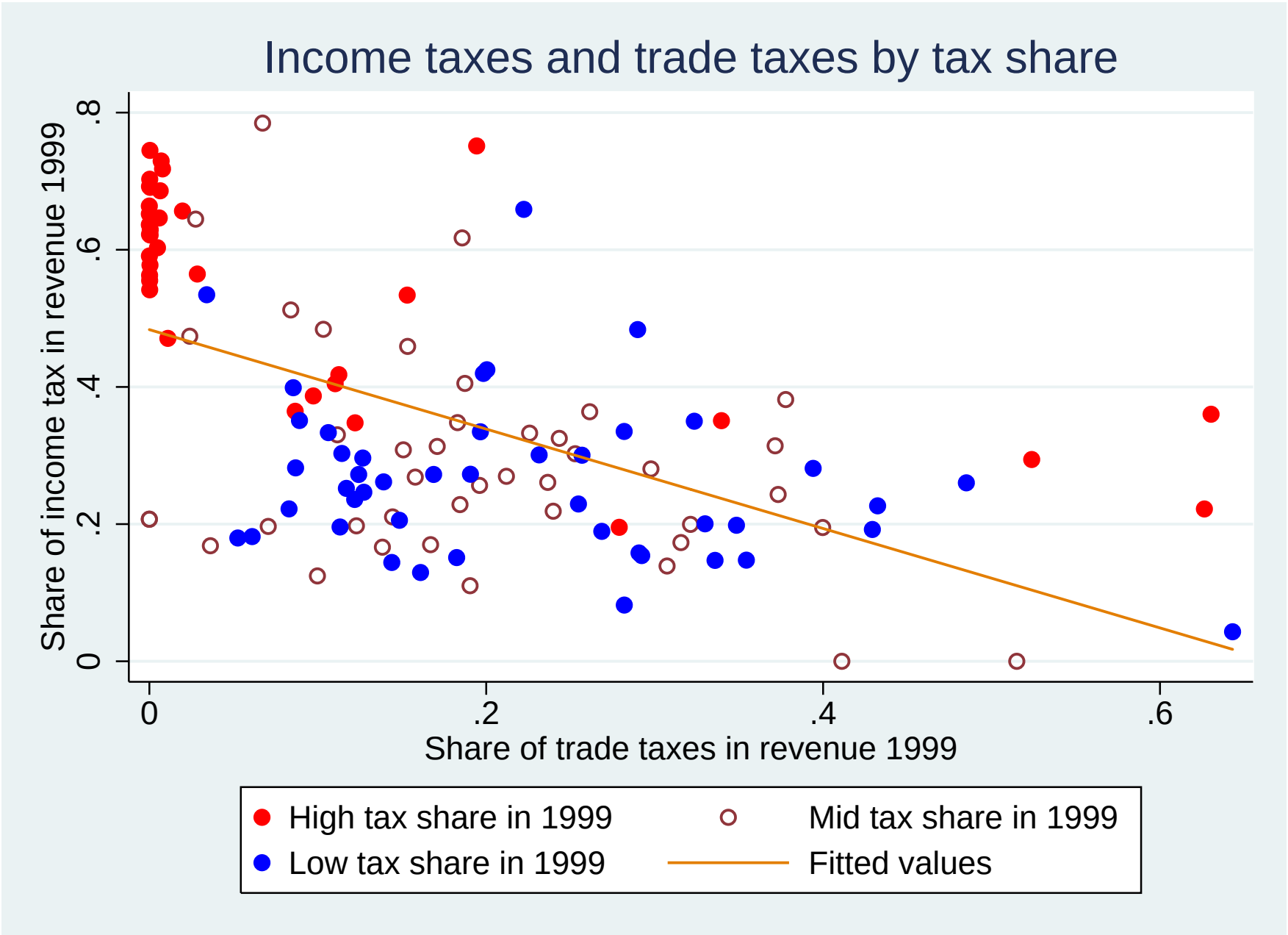


Figure 2.3 Income taxes and trade taxes conditional on total tax take

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Basic Structure of Simplest Core Model

- Two time periods, $s = 1, 2$
- Two groups of individuals, A, B
  - each has share $\frac{1}{2}$ of population
  - total population size normalized to 1
- Incumbents and opponents
  - at beginning of $s = 1$, one group holds power
    we call this group the incumbent $I_1 \in \{A, B\}$
  - the other group is the opponent $O_1 \in \{A, B\}$
  - with exogenous probability γ, there is a peaceful transition of power until $s = 2$
  - thus, γ measures political instability/turnover
    (to be endogenized in chs 4 and 7)

Private income and utility

- Exogenous income
  - everybody earns income ω (to be endogenized in ch 3)
- Linear utility functions
  - buys us risk neutrality
  - and a model that is *recursive* in policy and investments

$$u_s^J = c_s^J + \alpha_s g_s$$

  - c_s^J private consumption of group-J member at s
  - no savings (one of extensions in Chapter 3)
  - g_s utility from consumption of public goods, α_s their value; think about as "defense", and "threat of external conflict" (adding curvature one of extensions in ch 2)

Value of public goods

- Value of public goods stochastic
  - α_s has two-point distribution $\alpha_s \in \{\alpha_L, \alpha_H\}$, where $\alpha_H > 2 > \alpha_L > 1$, and Prob$[\alpha_s = \alpha_H] = \phi$ (continuous distribution one of extensions in ch 2)
  - shocks to α *iid* over time
  - realization of α_s known when policy set in s

Taxation and fiscal capacity

- Government has discretion over current taxation
  - taxes income at rate t_s, but is constrained by existing fiscal capacity, i.e., $t_s \leq \tau_s$
- Microeconomic foundations, see below
  - individual can earn some income in informal (untaxed) sector, but incentives to hide depend on risk and cost of getting caught
- Investments in fiscal capacity
  - e.g., tax authority, compliance structures, infrastructure to enforce income tax (or impose value-added tax)
  - initial stock τ_1 is given, but can be augmented
  - to achieve fiscal capacity τ_2 requires non-negative investment $\tau_2 - \tau_1$ at $s = 1$ (depreciation, at rate δ, and reversibility in ch 2)
  - convex cost $\mathcal{F}(\tau_2 - \tau_1)$, where $\mathcal{F}_\tau(0) = 0$

Government budget

- Budget items at s
  - $g_s, t_s, \{r_s^J\}_{J=I,O}, m_s$, and investments

$$m_s = \begin{cases} \mathcal{F}(\tau_2 - \tau_1) & \text{if } s = 1 \\ 0 & \text{if } s = 2 \end{cases}.$$

  - budget constraint is

$$R + t_s\omega = g_s + m_s + \frac{r_s^I + r_s^O}{2}$$

    where r_s^J is a non-negative targeted transfer to group J
  - R is additional (constant) revenue source accruing to government
    interpret as natural resource rents, or foreign (cash) aid
    R is randomly distributed on support $[R_L, R_H]$

Political institutions

- Model as constraint on incumbent
  - incumbents must give fixed share σ to opposition of any given unit of transfers to its own group
  - by the budget constraint

$$r_s^J = \beta^J[R + t_s\omega - g_s - m_s]$$

  - where $\beta^I = 2(1-\theta)$ and $\beta^O = 2\theta$ and where O 's share $\theta = \frac{\sigma}{1+\sigma} \in [0, \frac{1}{2}]$ represents more *cohesive* institutions the closer is θ to its maximum of $\frac{1}{2}$
  - interpret as more checks and balances on executive, or better representation of opposition (micropolitical foundations in ch 7)

Timing

1. We begin with an initial stock of fiscal capacity, τ_1, and an incumbent group, I_1. Nature determines α_1 and R.
2. I_1 chooses a set of period-1 policies $\{t_1, g_1, r_1^I, r_1^O\}$ and determines (through investment) the period-2 stock of fiscal capacity τ_2.
3. I_1 remains in power with probability $1-\gamma$, and nature determines α_2.
4. I_2 chooses period-2 policy $\{t_2, g_2, r_2^I, r_2^O\}$.

- goal is to solve for a subgame-perfect equilibrium in policy, and fiscal capacity investments – treat them in that order

Policymaking in period s

- Policy objective
  - linearity makes model recursive, so that we can study policy choice at stages 2 and 4 separately from investments
  - whoever holds power, chooses $\left\{(r_s^J), t_s, g_s\right\}$ to maximize

$$\alpha_s g_s + (1 - t_s)\,\omega + r_s^I$$

subject to

$$t_s \leq \tau_s, \quad r_s^O \geq \sigma r_s^I$$

and the government budget constraint

- Optimal policy design?
  - can be described by three observations

Observation 1 – public goods

- Equilibrium public-goods provision
  - linear preferences give us a "bang-bang", corner solution
  - the level of public goods provided is

$$G(\alpha_s, t_s) = \begin{cases} R + t_s\omega - m_s & \text{if } \alpha_s \geq 2(1-\theta) \\ 0 & \text{if } \alpha_s < 2(1-\theta) \end{cases}$$

  - depending on whether public goods is worth more to the incumbent than transfers to her own group (1^{st} row), or not (2^{nd} row)

Observation 2 – taxes

- Equilibrium tax rate

$$t_s = \tau_s$$

- Interpretation
  - always worthwhile to fully utilize all fiscal capacity, since gain of higher tax rate is, at least, $2(1-\theta)\omega$, while loss is ω

Observation 3 – transfers

- Equilibrium transfers
  - follow from
$$r_s^J = \beta^J \left[R + \tau_s \omega - G\left(\alpha_s, \tau_s\right) - m_s \right]$$
- Interpretation – recall $\beta^I = 2(1-\theta)$ and $\beta^O = 2\theta$
  - higher value of the opposition's share, θ, reflects more cohesive political institutions
  - as stated earlier, this may reflect more minority protection by constitutional checks and balances, or more representation through PR elections or parliamentary form of government
  - if $\theta = 1/2$, transfers shared equally across the two groups

Indirect utility and value functions

- Plug in optimal policy in utility at s to get

$$W(\alpha_s, \tau_s, m_s, \beta^J) = \alpha_s G(\alpha_s, \tau_s) + (1-\tau_s)\omega + \beta^J[R + \tau_s\omega - G(\alpha_s, \tau_s) - m_s]$$

  - period s utility of group J

- Define "value functions"

$$U^I(\tau_2) = \phi W\left(\alpha_H, \tau_2, 0, \beta^I\right) + (1-\phi) W\left(\alpha_L, \tau_2, 0, \beta^I\right)$$

- and

$$U^O(\tau_2) = \phi W\left(\alpha_H, \tau_2, 0, \beta^O\right) + (1-\phi) W\left(\alpha_L, \tau_2, 0, \beta^O\right)$$

  - for being incumbent or opposition group in period 2 depending on the single state variable

Investments in Fiscal Capacity

Preliminaries

- Investment objective is to maximize

$$W(\alpha_1, \tau_1, \mathcal{F}(\tau_2 - \tau_1), 2(1-\theta)) + (1-\gamma)U^I(\tau_2) + \gamma U^O(\tau_2)$$

- Define value of public funds for incumbent
  - value *realized* in period 1

$$\lambda_1 = -W_m = \max\{\alpha_1, 2(1-\theta)\}$$

  - and value *expected* in period 2

$$E(\lambda_2) = \phi\alpha_H + (1-\phi)\lambda_2^L$$

where

$$\lambda_2^L = \begin{cases} \alpha_L & \text{if } \alpha_L \geq 2(1-\theta) \\ 2[(1-\theta)(1-\gamma) + \gamma\theta] & \text{otherwise} \end{cases}$$

Euler equation

- First-order condition
  - for fiscal capacity is

$$\begin{aligned} \omega[(E(\lambda_2) - 1] &\leqslant \lambda_1 \mathcal{F}_\tau (\tau_2 - \tau_1) \\ \text{c.s.} \quad \tau_2 - \tau_1 &\geqslant 0 \end{aligned}$$

- Marginal cost of investment – RHS
  - period-1 foregone consumption of public or private goods
- Marginal net benefit of investment – LHS
  - period-2 expected value of public revenue less cost of reduced private income

When is investment positive?

- Because $\mathcal{F}_\tau(0) = 0$, it is sufficient that

$$E(\lambda_2) - 1 \geq 0$$

  - expected value of public funds must to be large enough
  - this depends on key parameters: $\{\phi, \alpha_H, \alpha_L, \theta, \gamma\}$

- Immediate interim agenda
  - analyze optimal investment
  - understand how it depends on the model parameters

Pigovian planner

Proposition 2.1

Suppose that the fiscal-capacity investment is made by a Pigouvian planner with Utilitarian preferences. Then:

1. *There is positive investment in fiscal capacity.*
2. *Higher ϕ or ω (or higher α_H and α_L) raise investment in fiscal capacity.*

- Useful benchmark. It is equivalent to a special case of the model with $\theta = 1/2$ and $\gamma = 0$.
- Intuition

$$E(\lambda_2) = \phi\alpha_H + (1-\phi)\alpha_L \geq 1$$

  - all period 2 spending on public goods, which are more valuable than private consumption (which has value of 1)

Implications for determinants of investment

- Income
  - investment is higher if tax base, ω, is larger
    i.e., higher income boosts investment (cf. motivating data)
- War risk
  - higher risk, ϕ, boosts the expected value of public funds
    expanding fiscal capacity consistent with Hintze-Tilly hypothesis
- Natural resources, aid and tax base
  - define GDP/capita as $y = R + \omega$
  - if y given, larger income share of resources/aid,
    i.e., lower ω, cuts planner's investment in state capacity
    consistent with literature on "rentier states"
  - if R given, planner raises fiscal capacity with higher y

Political equilibria

- What happens when politics determines decisions?
  - depends on two critical conditions:

Cohesiveness: $\alpha_L \geq 2(1-\theta)$

- more likely to hold when θ close to $\frac{1}{2}$ and /or α_L is large, i.e., the stronger are common-interest vs. redistributive motives.
- condition implies $\lambda_2^L \geq 1$

Stability: $\phi\alpha_H + (1-\phi)\,2\left[(1-\gamma)(1-\theta)+\gamma\theta\right] \geq 1$

- relevant when Cohesiveness fails
- more likely to hold when γ is low (given that θ is low) e.g., holds as $\gamma \to 0$ even if $\phi \to 0$
- condition implies $E(\lambda_2) \geq 1$

Common-interest state

- Equivalence with planning solution

Proposition 2.2

If Cohesiveness holds, then the outcome is exactly as in Proposition 2.1.

- all future tax revenue used for public goods
- the earlier comparative statics hold
- (if α continuous rather than binary, we get undersupply of public goods for $2(1-\theta) > \alpha_s \geq 1$, and some inefficiency)

Redistributive State

Proposition 2.3

If Cohesiveness fails and Stability holds, the state is redistributive with public revenues used to finance transfers when $\alpha_s = \alpha_L$. Then:

1. *There is investment in fiscal capacity.*
2. *An increase in* ϕ *or* ω *raises investments.*
3. *A lower value of* γ *unambiguously raises investments, whereas an increase in* θ *raises (cuts) investments if* γ *is above (below)* $\frac{1}{2}$.

- Intuition
  - expansion of fiscal capacity now also driven by desire for redistribution, when $\alpha_2 = \alpha_L$
  - when θ is low, the higher is political stability (lower γ), the more an incumbent becomes a residual claimant on state resources
  - case study of England in the 18th century
  - with enough stability, an incumbent may invest more than a Pigovian social planner (with the same α_L)
  - cf. excessively large state in the Public choice literature

Weak state

Proposition 2.4

If Cohesiveness and Stability fail, the state is weak. There is no incentive to invest in fiscal capacity.

- Intuition
  - expected value of public funds so low that incumbent does not find it worthwhile to invest, as she fears redistribution away from her own group when $\alpha_2 = \alpha_L$
  - weak state materializes when ϕ and θ are low and γ is high; higher γ relevant only when institutions non-cohesive (θ low)
  - if $\delta > 0$, fiscal capacity declines, as lost fiscal capacity not replaced

Welfare economics of three states

- Common-interest state
  - allocation is Pareto optimal
- Redistributive state
  - still have Pareto optimality, although welfare tilted towards an entrenched incumbent group
- Weak state
  - groups would be better off if agreed to boost fiscal capacity and restrict use of transfers – but this is not credible, beyond the institutional commitment entailed in the value of θ
  - this lack of commitment is a major friction in the model

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Microeconomic foundations for Fiscal Capacity

- Outside option
  - earn untaxed income of $\underline{\omega}$ in informal sector with d_s *expected* punishment of getting caught
- Maximally enforceable tax rate
  - if agents engage in rational tax arbitrage

$$t_s \leq \tau_s = \frac{\omega - \underline{\omega} + d_s}{\omega}$$

  everybody avoids or complies
- Costs of investments in fiscal capacity
  - various compliance structures to enforce income tax
  - costs $\mathcal{F}(\tau_2 - \tau_1)$ associated with raising d_2 also dependent on economic structure

Partial tax compliance

- Less than full compliance
  - assume individual expected cost of noncompliance $q(d_s, \varkappa)$, indexed by $\varkappa$, uniformly distributed $\varkappa \in [0,1]$
  - type $\varkappa$ pays income tax if

$$\frac{\omega - \underline{\omega} + q(d_s, \varkappa)}{\omega} \geq t_s$$

  and proportion paying taxes is $1 - \widehat{\varkappa}(t_s, d_s)$ with $\widehat{\varkappa}$ defined by

$$\frac{\omega - \underline{\omega} + q(d_s, \widehat{\varkappa}(t_s, d_s))}{\omega} = t_s$$

  tax-avoidance share $\widehat{\varkappa}$ goes up with t_s, down with d_s
- Alternative interpretation of fiscal capacity
  - tax revenue raised is now $(1 - \widehat{\varkappa}(t_s, d_s))\, t_s \omega$ and

$$\tau_s = \hat{\tau}(d_s) = \max_t \{(1 - \widehat{\varkappa}(t, d_s))\, t\omega\}$$

Tax morale

- Cost of cheating reflects social norm
  - suppose individual cost is $q(d_s, \varkappa, \widehat{\varkappa})$ with $q_{\widehat{\varkappa}} < 0$
  - "tax culture" affects fiscal capacity
    cf. research by political scientists
- Tax morale may also reflect how revenue is used
  - willingness to cheat may be lower if g_s higher
    i.e., government spends on public goods
  - "fiscal contract" between government and citizens,
    public-goods provision exchanged for tax compliance?
  - interaction between social norms and tax enforcement,
    laws and norms substitutes or complements?

Extensions

- So far a very simple model
- This can be extended in a wide variety of ways to expand its realism
  - briefly discuss a few possibilities
  - but only sketch their implications

(i) Quasi-linear preferences

$$u_s^J = c_s^J + \alpha V(g_s)$$

- where V is a concave function, and α is now a constant
- Implications
  - continuous public good demand with

$$\lambda_s = \min\left\{\alpha_s V_g\left(G\left(\alpha_s, \tau_s\right)\right), 2\left(1-\theta\right)\right\}$$

  - exogenous revenue, like aid or resources, reduces the demand for fiscal capacity (return to this in **chapter 6**)

(ii) Polarization/heterogeneity

- Different valuations of public goods across groups
  - assume drawn from same two-point distribution $\{\alpha_H, \alpha_L\}$
  - $\{\alpha_s^I, \alpha_s^O\}$ period-s realizations for groups I and O and

$$(1-\iota) = \text{Prob}\ \{\alpha_s^O = z | \alpha_s^I = z\} \leq 1$$

  - greater polarization/heterogeneity, when ι high, gives lower expected value of public funds

$$\frac{dE(\lambda_2)}{d\iota} = -\gamma\phi(\alpha_H - \alpha_L) < 0$$

Proposition 2.5

If Cohesiveness fails, increased polarization/heterogeneity, as measured by a higher value of ι, decreases fiscal-capacity investments in a redistributive state and raises the likelihood that the economy is in a weak state. Both of these effects are larger when there is greater political instability (a higher value of γ).

(iii) Asymmetries across groups

- General property
  - incentives to invest in fiscal capacity depend on group in power
- Different versions
  - group size
  - economic inequality – ω^J
  - political inequality – θ^J
  - entrenchment (limited entry) – γ^J
- Implications
  - no unqualified prediction of effect on investment decisions, but strong presumption less inequality promotes investment

(iv) Tax distortions

$$u_s^J = c_s^J + \alpha_s g_s - \frac{\xi}{\xi+1} l_s^{\frac{\xi+1}{\xi}}$$

- ▸ where l is labor supply and ξ a constant elasticity
- Implications
  - ▸ standard tax distortions provide bound on use of the income tax
  - ▸ as fiscal capacity has administrative *and* distortionary costs it may be optimal to stop investing short of the capacity level that implements the (conventional) optimal income tax

(v) Other tax bases

$$u_s^J = \alpha_s g_s + x_s^{A,J} + \frac{\varepsilon}{\varepsilon - 1}\left(x_s^{M,J}\right)^{\frac{\varepsilon-1}{\varepsilon}} - \frac{\xi}{\xi+1}\ell^{\frac{\xi+1}{\xi}},$$

- where $x_s^{K,J}$ is demand for good $K \in \{A, M\}$ in period s
- Implications
  - mix of taxes changes with investment in τ
  - can be used to explain the move from trade to income taxes, together with higher taxes and higher income, in economic development, recall Figures 2.1-2.3

(vi) Infinite-horizon model

- Structure
  - as present model, but with quasi-linear preferences and a linear investment technology
- Analysis
  - non-trivial, since now have a dynamic game, which is not described by a dynamic-programming problem
- Implications
  - can explore steady states and convergence
  - similar types of state configuration to the two-period model basic classification of states is not a figment of simple model

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Summarize model predictions

- Higher external war risk – higher ϕ
  - raises fiscal capacity τ in common-interest, redistributive states, but not in weak states; i.e., expect stronger effect when θ is high
  - conditionally, war indeed raises fiscal capacity as Tilly argued
- Higher income – higher ω
  - simple model: raises state capacity within common-interest, redistributive states, but not in weak states, i.e., when θ high (but already in next section/chapter, income endogenous)
- Higher political stability – lower γ
  - should mainly raise investment when θ is low
- More homogeneity – lower ι
  - should raise fiscal capacity

Measuring fiscal capacity – Table 2.1

- Five proxies for *present* fiscal capacity (IMF, World Bank data)
  - ratio of total tax revenue to GDP, at end of 1990s
  - share of income taxes in total revenue, at end of 1990s
  - share of *non*-trade taxes in revenue at end of 1990s
  - difference between income-tax and trade-tax share
  - 1– share of informal economy in GDP around 2006
- quite strongly, but not perfectly correlated

Table: Table 2.1 Correlations between fiscal capacity measures

	Tax revenue share in GDP	Income tax share	Non-trade tax share	Income tax bias	Formal sector share
Tax revenue share in GDP	1				
Income tax share	0.818	1			
Non-trade tax share	0.675	0.638	1		
Income tax bias	0.839	0.949	0.848	1	
Formal sector share	0.55	0.561	0.52	0.599	1

Measuring parameters of the model

- Use various proxies for *past* positive determinants of investment
  - common interests: proportion years in external war from 1816 (or independence) until 2000 (Correlates of War data)
  - nonpolarization/homogeneity: 1− degree of ethnic fractionalization (Fearon, 2003 data on (0,1))
  - cohesive institutions: average from 1800 (or independence) to 2000 of constraints on executive ("Xconst" in Polity IV data, 1-7 scale normalized to (0,1)
  - political stability: same period average of non-open and non-competitive recruitment of executive (normalized scores on Polity IV, "Xrcomp" and "Xropen")

Partial correlations

Figures 1.8 - 1.9 Tables 2.2-2.4

- Compute partial correlations
  - regress measure of state capacity on suggested determinants.
  - absolutely no claim of causal interpretation.
- Basic correlations in line with theory
  - for different measures of fiscal as well as legal capacity
- Auxiliary predictions of theory?
  - interaction effects are mixed success, at best
  - current income (2000 GDP/capita from PWT) and past inequality (from Deininger and Squire, 1996) have basically the expected correlations (though proviso about exogenous income)

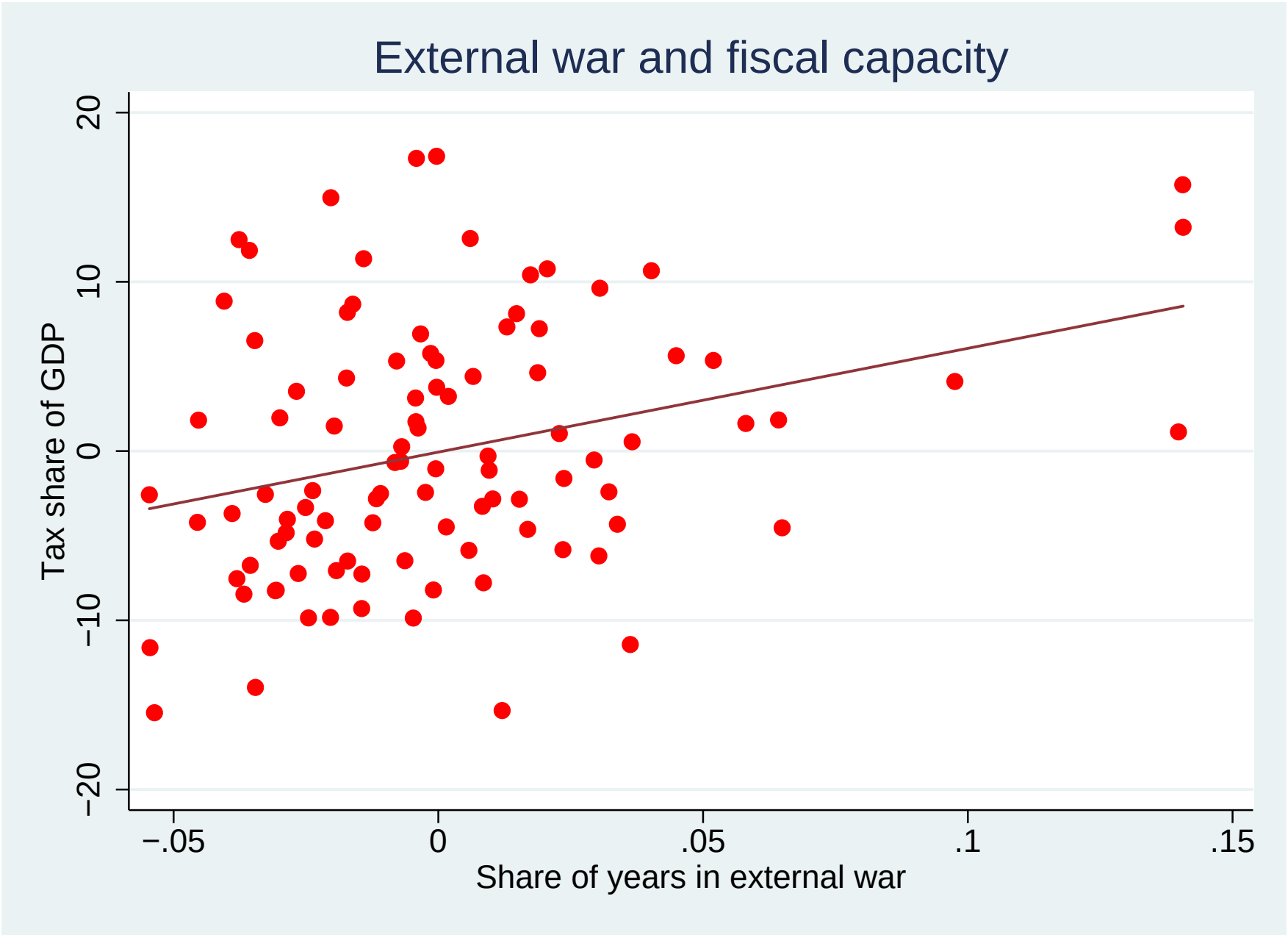


Figure 1.8 Fiscal capacity and external war

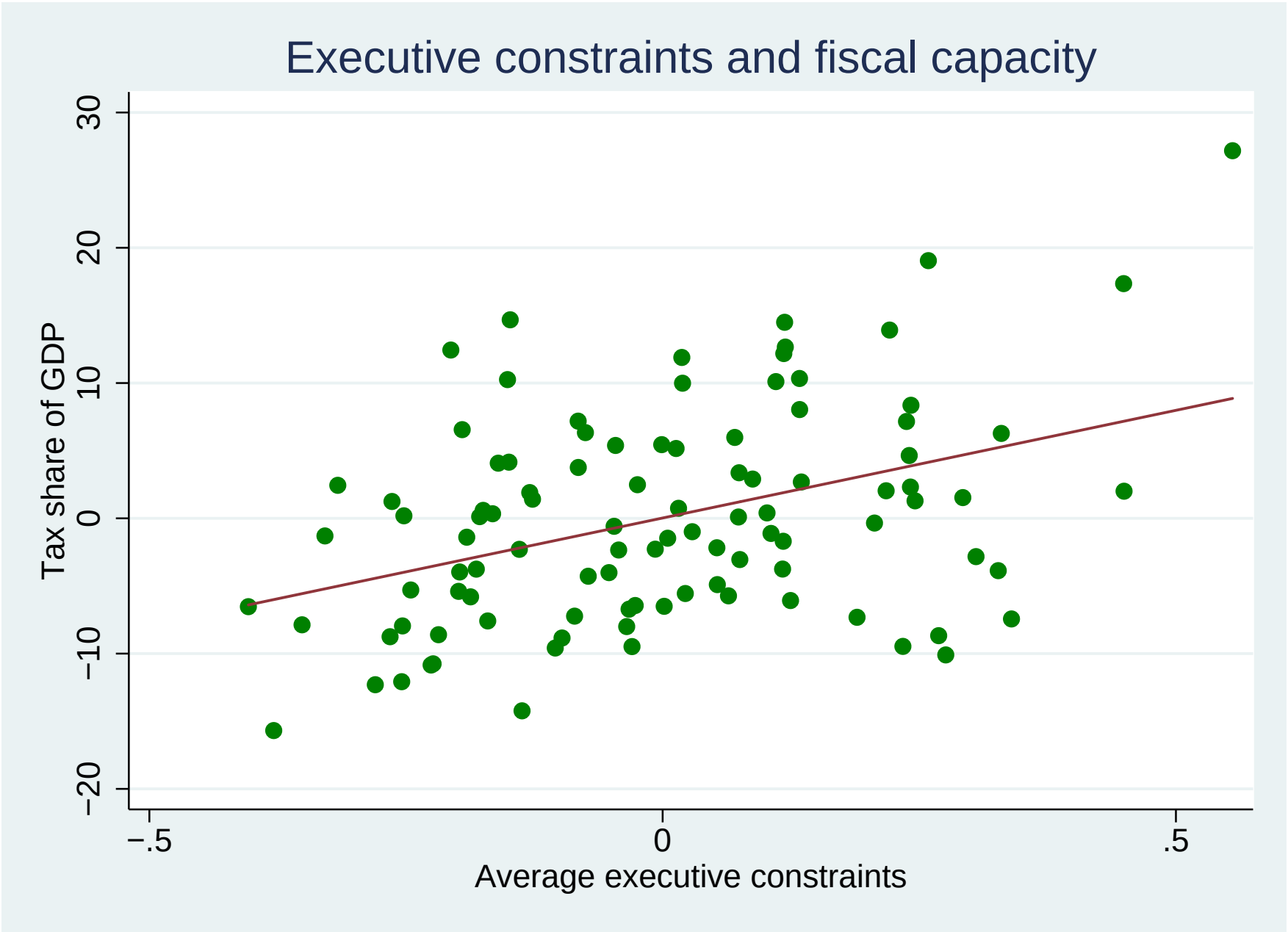


Figure 1.9 Fiscal capacity and executive constraints

Table: Table 2.2 Fiscal capacity and covariates: simple correlations

	(1) Tax revenue share in GDP	(2) Income tax share	(3) Non-trade tax share	(4) Income tax bias	(5) Formal sector share
Prevalence external war before 2000	1.992 (1.145)*	1.290 (0.956)	2.416 (0.918)***	2.037 (0.962)**	1.482 (0.675)**
Average executive constraints before 2000	2.089 (0.376)***	2.263 (0.335)***	1.115 (0.311)***	1.962 (0.308)***	1.790 (0.358)***
Average nonopen executive recruitment before 2000	1.044 (0.435)**	1.216 (0.455)***	0.531 (0.394)	1.026 (0.395)***	1.512 (0.449)***
Ethnic homogeneity (1-ethnic fractionalization)	1.019 (0.31)***	0.398 (0.277)	0.631 (0.311)**	0.569 (0.275)**	0.647 (0.306)**
Observations	101	101	100	100	105
R-sqaured	0.493	0.455	0.293	0.472	0.308

Table: Table 2.3 Fiscal capacity and covariates: interaction terms

	(1) Tax revenue share in GDP	(2) Income tax share	(3) Non-trade tax share	(4) Income tax bias	(5) Formal sector share
Prevalence external war before 2000	3.220	1.245	8.075	4.751	-2.443
	(2.917)	(3.088)	(2.480)***	(2.231)**	(2.828)
External war × high executive constraints dummy	-1.553	-.092	-6.426	-3.178	4.593
	(3.031)	(3.190)	(2.497)**	(2.365)	(2.909)
Average nonopen executive recruitment before 2000	1.809	1.963	1.081	1.782	1.234
	(1.129)	(0.686)***	(0.533)**	(0.631)***	(0.565)**
Nonopen executive recruitment × low executive constraints dummy	-1.263	-1.047	-.832	-1.076	1.047
	(1.099)	(0.771)	(0.634)	(0.693)	(0.616)*
High executive constraints dummy	0.321	0.044	-.147	-.070	-.671
	(0.408)	(0.386)	(0.407)	(0.375)	(0.454)
Average executive constraints before 2000	1.316	1.941	1.262	1.868	2.965
	(0.625)**	(0.569)***	(0.531)**	(0.523)***	(0.663)***
Ethnic homogeneity (1-ethnic fractionalization)	0.828	0.262	0.445	0.393	0.941
	(0.324)**	(0.294)	(0.352)	(0.293)	(0.335)***
Observations	101	101	100	100	105
R-squared	0.525	0.473	0.333	0.49	0.357

Table: Table 2.4 Fiscal capacity and covariates: additional controls

	(1) Tax revenue share in GDP	(2) Income tax share	(3) Formal sector share	(4) Tax revenue share in GDP	(5) Income tax share	(6) Formal sector share
Prevalence external war before 2000	1.605	0.92	0.775	0.858	0.573	1.026
	(1.087)	(0.871)	(0.615)	(1.361)	(0.867)	(0.578)*
Average executive constraints before 2000	1.574	1.715	0.863	1.139	1.185	1.109
	(0.416)***	(0.382)***	(0.39)**	(0.45)**	(0.397)***	(0.415)***
Average nonopen executive recruitment before 2000	0.663	0.83	0.99	0.862	0.418	1.244
	(0.41)	(0.413)**	(0.425)**	(0.476)*	(0.395)	(0.466)***
Ethnic homogeneity (1-ethnic fractionalization)	0.702	0.059	-.132	0.406	-.003	-.084
	(0.371)*	(0.339)	(0.371)	(0.388)	(0.321)	(0.394)
Log(GDP per capita) in 2000	0.204	0.222	0.442	0.346	0.349	0.433
	(0.108)*	(0.101)**	(0.106)***	(0.117)***	(0.084)***	(0.116)***
Low value of inequality				0.528	0.351	-.165
				(0.304)*	(0.152)**	(0.179)
Observations	100	100	105	80	80	87
R-squared	0.52	0.487	0.408	0.579	0.565	0.489