The Cost and Benefit of Autocracy

Jiahua CHE, Kim-sau Chung, Xue Qiao

July 1, 2011

from James Madison

The aim of every political Constitution is or ought to be, first to obtain for rulers men who possess most wisdom to discern, and most virtue to pursue, the common good of society ....

Selection, Incentives, China, and East Asia

- Political selection v.s. incentives

Selection, Incentives, China, and East Asia

- Political selection v.s. incentives
  - existing political economy thinking: aligning incentives of politicians
  - missing in research: understanding political selection

Selection, Incentives, China, and East Asia

- Political selection v.s. incentives
  - existing political economy thinking: aligning incentives of politicians
  - missing in research: understanding political selection
    - people differ in attitude, competence, and even moral, a la Madison

Selection, Incentives, China, and East Asia

- Political selection v.s. incentives
  - existing political economy thinking: aligning incentives of politicians
  - missing in research: understanding political selection
    - people differ in attitude, competence, and even moral, a la Madison
- Collateral damage
  - China puzzle
    - spectacular performance without checks and balance or political competition

Selection, Incentives, China, and East Asia

- Political selection v.s. incentives
  - existing political economy thinking: aligning incentives of politicians
  - missing in research: understanding political selection
    - people differ in attitude, competence, and even moral, a la Madison
- Collateral damage
  - China puzzle
    - spectacular performance without checks and balance or political competition
  - ...and East Asian Miracle

Selection, Incentives, China, and East Asia

- Questions

Selection, Incentives, China, and East Asia

- Questions
  - Can a political institution, without checks and balance or political competition, do right *in the long run* through selection?

Selection, Incentives, China, and East Asia

- Questions
  - Can a political institution, without checks and balance or political competition, do right *in the long run* through selection?
  - Understanding political institutions through selection and selection alone

Selection, Incentives, China, and East Asia

- Questions
  - Can a political institution, without checks and balance or political competition, do right *in the long run* through selection?
  - Understanding political institutions through selection and selection alone
  - Why the same political institution succeed somewhere, but fail elsewhere?

Selection, Incentives, China, and East Asia

- Questions
  - Can a political institution, without checks and balance or political competition, do right *in the long run* through selection?
  - Understanding political institutions through selection and selection alone
  - Why the same political institution succeed somewhere, but fail elsewhere?
    - Former Soviet block, the Arab world

Selection, Incentives, China, and East Asia

- Questions
  - Can a political institution, without checks and balance or political competition, do right *in the long run* through selection?
  - Understanding political institutions through selection and selection alone
  - Why the same political institution succeed somewhere, but fail elsewhere?
    - Former Soviet block, the Arab world
    - and Russia?

Features of Our Analysis

- An overlapping generation model of government selection

Features of Our Analysis

- An overlapping generation model of government selection
  - institution that lasts beyond life

Features of Our Analysis

- An overlapping generation model of government selection
  - institution that lasts beyond life
- between good and bad politicians

Features of Our Analysis

- An overlapping generation model of government selection
  - institution that lasts beyond life
- between good and bad politicians
- Political institutions (autocracy v.s. democracy) differentiate in selection and selection alone

Features of Our Analysis

- An overlapping generation model of government selection
  - institution that lasts beyond life
- between good and bad politicians
- Political institutions (autocracy v.s. democracy) differentiate in selection and selection alone
- Compare *long-term* performance of the two institutions

Features of Our Analysis

- An overlapping generation model of government selection
  - institution that lasts beyond life
- between good and bad politicians
- Political institutions (autocracy v.s. democracy) differentiate in selection and selection alone
- Compare *long-term* performance of the two institutions
  - compare asymptotic equilibrium payoffs under the two political institutions
  - unique equilibrium
  - ... and comprehensive

Basic Ingredients

- Collective action failures

Basic Ingredients

- Collective action failures
  - dynamic free-riding

Basic Ingredients

- Collective action failures
  - dynamic free-riding
  - tyranny of majority
- Good (benevolent) and bad (self-interested) politicians, types often unknown
- Government failure and civil society

Basic Ingredients

- Collective action failures
  - dynamic free-riding
  - tyranny of majority
- Good (benevolent) and bad (self-interested) politicians, types often unknown
- Government failure and civil society
  - civil society is double-sided sword:
  - breed collective action failures on the one hand, prevent government failure (self-dealing) on the other

Basic Ingredients

- Collective action failures
  - dynamic free-riding
  - tyranny of majority
- Good (benevolent) and bad (self-interested) politicians, types often unknown
- Government failure and civil society
  - civil society is double-sided sword:
  - breed collective action failures on the one hand, prevent government failure (self-dealing) on the other
- Civil society both fragile and resilient

Basic Ingredients

- Collective action failures
  - dynamic free-riding
  - tyranny of majority
- Good (benevolent) and bad (self-interested) politicians, types often unknown
- Government failure and civil society
  - civil society is double-sided sword:
  - breed collective action failures on the one hand, prevent government failure (self-dealing) on the other
- Civil society both fragile and resilient
  - government is subject to the constraint of a strong civil society
  - but it has the ability to weaken it too

Literature Review

- McGuire and Olson (1996)
- Besley and Kudamatsu (2007)
- Acemoglu, Egorov and Sonin (2010)
- Rauch (2002)

Model: Economy

- OLG from - ∞ to ∞

Model: Economy

- OLG from - ∞ to ∞
- Each generation begins with one unit population, lives for two period (young and old) except for
  - Early death after one period with probability $\varepsilon \to 0$

Model: Economy

- OLG from - ∞ to ∞
- Each generation begins with one unit population, lives for two period (young and old) except for
  - Early death after one period with probability $\varepsilon \to 0$
- Each citizen is endowed with a perishable good $\frac{e}{2}$ in each period

Model: Government

- A government conducts two policies in each period

Model: Government

- A government conducts two policies in each period
- Investment
- Redistribution

Model: Government

- A government conducts two policies in each period
- Investment
  - to spend a perishable good for one of the following three purposes:
- Redistribution

Model: Government

- A government conducts two policies in each period
- Investment
  - to spend a perishable good for one of the following three purposes:
    - long term investment, generating utility R for each citizen two periods later
    - short-term investment, generating utility G for each citizen in the current period: $G < \beta^2 R$ (β discount factor)
    - self-dealing, generating perks of private benefit Z for the leader in office: $Z > G$
- Redistribution

Model: Government

- A government conducts two policies in each period
- Investment
  - to spend a perishable good for one of the following three purposes:
    - long term investment, generating utility R for each citizen two periods later
    - short-term investment, generating utility G for each citizen in the current period: $G < \beta^2 R$ (β discount factor)
    - self-dealing, generating perks of private benefit Z for the leader in office: $Z > G$
- Redistribution
  - a transfer payment between young and old:

Model: Government

- A government conducts two policies in each period
- Investment
  - to spend a perishable good for one of the following three purposes:
    - long term investment, generating utility R for each citizen two periods later
    - short-term investment, generating utility G for each citizen in the current period: $G < \beta^2 R$ (β discount factor)
    - self-dealing, generating perks of private benefit Z for the leader in office: $Z > G$
- Redistribution
  - a transfer payment between young and old:
    - tax $\tau \in [-\frac{e}{2}, \frac{e}{2})$ on old
    - deadweight loss: $\delta|\tau|$
    - $\delta \frac{e}{2} =: \lambda$

Model: Civil society

- The government's policy choice in period t may be constrained, depending on the state of "civil society" in that period, ω_t

Model: Civil society

- The government's policy choice in period t may be constrained, depending on the state of "civil society" in that period, ω_t
  - civil society weak ($\omega_t = 0$) or strong ($\omega_t = 1$)

Model: Civil society

- The government's policy choice in period t may be constrained, depending on the state of "civil society" in that period, ω_t
  - civil society weak ($\omega_t = 0$) or strong ($\omega_t = 1$)
  - policy choice obeys the majority when $\omega_t = 1$
  - policy choice at the government's will when $\omega_t = 0$

Model: Civil society

- The government's policy choice in period t may be constrained, depending on the state of "civil society" in that period, ω_t
  - civil society weak ($\omega_t = 0$) or strong ($\omega_t = 1$)
  - policy choice obeys the majority when $\omega_t = 1$
  - policy choice at the government's will when $\omega_t = 0$
- Civil society both fragile and resilient

Model: Civil society

- The government's policy choice in period t may be constrained, depending on the state of "civil society" in that period, ω_t
  - civil society weak ($\omega_t = 0$) or strong ($\omega_t = 1$)
  - policy choice obeys the majority when $\omega_t = 1$
  - policy choice at the government's will when $\omega_t = 0$
- Civil society both fragile and resilient
  - government can costlessly determine the strength of civil society: fragile

Model: Civil society

- The government's policy choice in period t may be constrained, depending on the state of "civil society" in that period, ω_t
  - civil society weak ($\omega_t = 0$) or strong ($\omega_t = 1$)
  - policy choice obeys the majority when $\omega_t = 1$
  - policy choice at the government's will when $\omega_t = 0$
- Civil society both fragile and resilient
  - government can costlessly determine the strength of civil society: fragile
  - but only for the next period: resilient (and hence remains a binding constraint for policy choice)

Model: Political selection

- The government is run by a leader, who

Model: Political selection

- The government is run by a leader, who
  - is selected into office at the beginning of each period, and
  - is in the office for one period only (term limit)

Model: Political selection

- The government is run by a leader, who
  - is selected into office at the beginning of each period, and
  - is in the office for one period only (term limit)
    - no re-election motivated incentives

Model: Political selection

- The government is run by a leader, who
  - is selected into office at the beginning of each period, and
  - is in the office for one period only (term limit)
    - no re-election motivated incentives
- Only the young is physically fit to run the government

Model: Political system

- Two political systems, differ ONLY in their constitutional rule of how a politician is selected to be the leader

Model: Political system

- Two political systems, differ ONLY in their constitutional rule of how a politician is selected to be the leader
  - Democracy: citizens select a leader by majority rule

Model: Political system

- Two political systems, differ ONLY in their constitutional rule of how a politician is selected to be the leader
  - Democracy: citizens select a leader by majority rule
  - Autocracy: the incumbent leader selects the next one
- Do not consider change in political systems

Model: Types

- Two types of citizens (politicians)

Model: Types

- Two types of citizens (politicians)
  - selfish: measure almost one
  - benevolent: measure zero

Model: Types

- Two types of citizens (politicians)
  - selfish: measure almost one

$$
\begin{aligned}
U_t &= u_t^y + \beta u_{t+1}^o, \\
\text{with} \quad u_t^y &= (1-\delta)\tau_t + g_t + r_t \\
\text{and} \quad u_{t+1}^o &= e - \tau_{t+1} + g_{t+1} + r_{t+1},
\end{aligned}
$$

    where $g \in \{0, G\}, r \in \{0, R\}$

  - benevolent: measure zero

Model: Types

- Two types of citizens (politicians)
  - selfish: measure almost one

$$\begin{aligned} U_t &= u_t^y + \beta u_{t+1}^o, \\ \text{with} \quad u_t^y &= (1-\delta)\tau_t + g_t + r_t \\ \text{and} \quad u_{t+1}^o &= e - \tau_{t+1} + g_{t+1} + r_{t+1}, \end{aligned}$$

    where $g \in \{0, G\}, r \in \{0, R\}$
  - total welfare in period t:

$$w_t = u_t^y + u_t^o.$$

  - benevolent: measure zero

Model: Types

- Two types of citizens (politicians)
  - selfish: measure almost one

$$\begin{aligned} U_t &= u_t^y + \beta u_{t+1}^o, \\ \text{with} \quad u_t^y &= (1-\delta)\tau_t + g_t + r_t \\ \text{and} \quad u_{t+1}^o &= e - \tau_{t+1} + g_{t+1} + r_{t+1}, \end{aligned}$$

    where $g \in \{0, G\}, r \in \{0, R\}$
  - total welfare in period t:

$$w_t = u_t^y + u_t^o.$$

  - benevolent: measure zero

$$W_t = \sum_{s=0}^{\infty} \beta^s w_{t+s}.$$

Model: Information

- Types are private information

Model: Information

- Types are private information
- Heroic event before selection with probability q

Model: Information

- Types are private information
- Heroic event before selection with probability q
  - when happens: benevolent politicians identified

Model: Information

- Types are private information
- Heroic event before selection with probability q
  - when happens: benevolent politicians identified
  - when does not happen: benevolent politicians not identifiable, any selected leader almost surely selfish

Model: Trading office

- Only selfish politicians will bribe
- Only selfish citizens/leaders with rights to select the future will take bribe

Model: Trading office

- Only selfish politicians will bribe
- Only selfish citizens/leaders with rights to select the future will take bribe
  - bribe is limited to a portion (up to $\hat{b}$) of a politician's endowment ($\frac{e}{2}$)
  - maximum bribe is $b := \hat{b}\frac{e}{2}$.

Model: Trading office

- Only selfish politicians will bribe
- Only selfish citizens/leaders with rights to select the future will take bribe
  - bribe is limited to a portion (up to $\hat{b}$) of a politician's endowment ($\frac{e}{2}$)
  - maximum bribe is $b := \hat{b}\frac{e}{2}$.
- bribery (with significance) takes place under autocracy only*

Model: Time line

- heroic event may or may not happen;
- selector (majority group under democracy; period-$(t-1)$ government under autocracy) selects the period-t government; bribery may or may not take place;
- period-t government chooses redistribution and investment policies
- period-t government chooses ω_{t+1};
- period-t payoffs realized.

Analysis: Solution concept

- pure-strategy Markov-perfect equilibrium
- payoff-relevant state: strength of civil society ω_t

Analysis: Policy

- Policy choice by selfish politician when $\omega = 0$

Analysis: Policy

- Policy choice by selfish politician when $\omega = 0$
  - self-dealing
  - maximal transfer from old ($\tau = \frac{e}{2}$)
  - worst from social welfare viewpoint

Analysis: Policy

- Policy choice by selfish politician when $\omega = 0$
  - self-dealing
  - maximal transfer from old ($\tau = \frac{e}{2}$)
  - worst from social welfare viewpoint
- Policy choice by benevolent politician when $\omega = 0$

Analysis: Policy

- Policy choice by selfish politician when $\omega = 0$
  - self-dealing
  - maximal transfer from old ($\tau = \frac{e}{2}$)
  - worst from social welfare viewpoint
- Policy choice by benevolent politician when $\omega = 0$
  - long-term investment ($r = R, g = 0$)
  - no transfer from old ($\tau = 0$)

Analysis: Policy

- Policy choice by selfish politician when $\omega = 0$
  - self-dealing
  - maximal transfer from old ($\tau = \frac{e}{2}$)
  - worst from social welfare viewpoint
- Policy choice by benevolent politician when $\omega = 0$
  - long-term investment ($r = R, g = 0$)
  - no transfer from old ($\tau = 0$)
- Policy choice by both types when $\omega = 1$

Analysis: Policy

- Policy choice by selfish politician when $\omega = 0$
  - self-dealing
  - maximal transfer from old ($\tau = \frac{e}{2}$)
  - worst from social welfare viewpoint
- Policy choice by benevolent politician when $\omega = 0$
  - long-term investment ($r = R, g = 0$)
  - no transfer from old ($\tau = 0$)
- Policy choice by both types when $\omega = 1$
  - short-term investment ($r = 0, g = G$): "dynamic free-riding"
  - maximal transfer from old ($\tau = \frac{e}{2}$):"tyranny of majority"
  - populist policy

Analysis: Political selection

- What matters to performance is
  - the choice of leader given ω_t, and
  - how the leader chooses ω_{t+1}

Analysis: Political selection

- What matters to performance is
  - the choice of leader given ω_t, and
  - how the leader chooses ω_{t+1}
- Because of Markov, choice of period-$(t+1)$ leader depends on ω_{t+1} only

Analysis: Political selection

- What matters to performance is
  - the choice of leader given ω_t, and
  - how the leader chooses ω_{t+1}
- Because of Markov, choice of period-$(t+1)$ leader depends on ω_{t+1} only
- Period-t leader costlessly determines ω_{t+1} (without constraint of ω_t)

Analysis: Political selection

- What matters to performance is
  - the choice of leader given ω_t, and
  - how the leader chooses ω_{t+1}
- Because of Markov, choice of period-$(t+1)$ leader depends on ω_{t+1} only
- Period-t leader costlessly determines ω_{t+1} (without constraint of ω_t)
- As a result, period-t leader's choice of ω_{t+1}, (Ω_B, Ω_S), is independent of ω_t

Analysis: Political selection

- What matters to performance is
  - the choice of leader given ω_t, and
  - how the leader chooses ω_{t+1}
- Because of Markov, choice of period-$(t+1)$ leader depends on ω_{t+1} only
- Period-t leader costlessly determines ω_{t+1} (without constraint of ω_t)
- As a result, period-t leader's choice of ω_{t+1}, (Ω_B, Ω_S), is independent of ω_t
  - ω_{t+1} determines period-$(t+1)$ leader, and together they determine period-$(t+1)$ policy and hence payoff

Analysis: Political selection

- What matters to performance is
  - the choice of leader given ω_t, and
  - how the leader chooses ω_{t+1}
- Because of Markov, choice of period-$(t+1)$ leader depends on ω_{t+1} only
- Period-t leader costlessly determines ω_{t+1} (without constraint of ω_t)
- As a result, period-t leader's choice of ω_{t+1}, $\left(\Omega_B, \Omega_S\right)$, is independent of ω_t
  - ω_{t+1} determines period-$(t+1)$ leader, and together they determine period-$(t+1)$ policy and hence payoff
  - period-$(t+1)$ leader further determines ω_{t+2}, and ....

Analysis: Democracy

- Equilibrium characterized by $\left(\Omega_B, \Omega_S, L_Y(\cdot)\right)$, where
  - Ω_B (resp. Ω_S) is a (period-t) B-leader's (resp. S-leader's) equilibrium choice of ω_{t+1}
  - $L_Y(\omega_t) \in \{S, B\}$ is the (period-t) young citizens' intended choice of (period-t) leader in equilibrium when the state is ω_t.
    - "intended": choice may be subject to heroic event

Analysis: Democracy

- Equilibrium characterized by $\left(\Omega_B, \Omega_S, L_Y(\cdot)\right)$, where
  - Ω_B (resp. Ω_S) is a (period-t) B-leader's (resp. S-leader's) equilibrium choice of ω_{t+1}
  - $L_Y(\omega_t) \in \{S, B\}$ is the (period-t) young citizens' intended choice of (period-t) leader in equilibrium when the state is ω_t.
    - "intended": choice may be subject to heroic event

- $\Omega_B = \Omega_S$ implies $L_Y(0) = S$.
  - for young in period-t, their old age payoff depends only on period-t leader's choice of ω_{t+1}

Analysis: Democracy

- Equilibrium characterized by $\left(\Omega_B, \Omega_S, L_Y(\cdot)\right)$, where
  - Ω_B (resp. Ω_S) is a (period-t) B-leader's (resp. S-leader's) equilibrium choice of ω_{t+1}
  - $L_Y(\omega_t) \in \{S, B\}$ is the (period-t) young citizens' intended choice of (period-t) leader in equilibrium when the state is ω_t.
    - "intended": choice may be subject to heroic event

- $\Omega_B = \Omega_S$ implies $L_Y(0) = S$.
  - for young in period-t, their old age payoff depends only on period-t leader's choice of ω_{t+1}
  - since $\Omega_B = \Omega_S$, choice of period-t leader immaterial to the old age payoff of young in period-t

Analysis: Democracy

- Equilibrium characterized by $\left(\Omega_B, \Omega_S, L_Y(\cdot)\right)$, where
  - Ω_B (resp. Ω_S) is a (period-t) B-leader's (resp. S-leader's) equilibrium choice of ω_{t+1}
  - $L_Y(\omega_t) \in \{S, B\}$ is the (period-t) young citizens' intended choice of (period-t) leader in equilibrium when the state is ω_t.
    - "intended": choice may be subject to heroic event

- $\Omega_B = \Omega_S$ implies $L_Y(0) = S$.
  - for young in period-t, their old age payoff depends only on period-t leader's choice of ω_{t+1}
  - since $\Omega_B = \Omega_S$, choice of period-t leader immaterial to the old age payoff of young in period-t
  - but in terms of period-t payoff, young in period-t prefers S when $\Omega_B = \Omega_S$ (to exercise tyranny of majority)

Analysis: Democracy

- $L_Y(0) = S$ implies $\Omega_B = 1$

Analysis: Democracy

- $L_Y(0) = S$ implies $\Omega_B = 1$
  - given $L_Y(0) = S$, should $\Omega_B = 0$, worst policy choice in period-$t+1$
  - and future is in the hands of S

Analysis: Democracy

- $L_Y(0) = S$ implies $\Omega_B = 1$
  - given $L_Y(0) = S$, should $\Omega_B = 0$, worst policy choice in period-$t+1$
  - and future is in the hands of S
  - should $\Omega_B = 1$, the populist policy choice in period-$t+1$
  - and future could be in the hands of B (depending on $L_Y(1)$)

Analysis: Democracy

- $L_Y(0) = S$ implies $\Omega_B = 1$

- $\Omega_B = 0$ implies $L_Y(0) = B$

Analysis: Democracy

- $L_Y(0) = S$ implies $\Omega_B = 1$

- $\Omega_B = 0$ implies $L_Y(0) = B$
- $L_Y(0) = S$ implies $\Omega_S = 1$

Analysis: Democracy

- $L_Y(0) = S$ implies $\Omega_B = 1$
- $\Omega_B = 0$ implies $L_Y(0) = B$
- $L_Y(0) = S$ implies $\Omega_S = 1$
  - when choosing ω_{t+1}, S-leader considers his old age payoff only

Analysis: Democracy

- $L_Y(0) = S$ implies $\Omega_B = 1$

- $\Omega_B = 0$ implies $L_Y(0) = B$

- $L_Y(0) = S$ implies $\Omega_S = 1$
  - when choosing ω_{t+1}, S-leader considers his old age payoff only
  - given that $L_Y(0) = S$, $\Omega_S = 0$ will lead to worst policy choice in period-$t+1^*$

Analysis: Democracy

- $L_Y(0) = S$ implies $\Omega_B = 1$
- $\Omega_B = 0$ implies $L_Y(0) = B$
- $L_Y(0) = S$ implies $\Omega_S = 1$
- $\Omega_S = 0$ implies $L_Y(0) = B$

Analysis: Democracy

- $\Omega_B \neq \Omega_S$ impossible in equilibrium

Analysis: Democracy

- $\Omega_B \neq \Omega_S$ impossible in equilibrium
  - $\Omega_B \neq \Omega_S$ implies $L_Y(0) = B$

Analysis: Democracy

- $\Omega_B \neq \Omega_S$ impossible in equilibrium
  - $\Omega_B \neq \Omega_S$ implies $L_Y(0) = B$
  - $L_Y(0) = B$ implies that selfish citizen prefers Ω_B to Ω_S for his old age

Analysis: Democracy

- $\Omega_B \neq \Omega_S$ impossible in equilibrium
  - $\Omega_B \neq \Omega_S$ implies $L_Y(0) = B$
  - $L_Y(0) = B$ implies that selfish citizen prefers Ω_B to Ω_S for his old age
  - $\Omega_B = 0, \Omega_S = 1$ impossible in equilibrium

Analysis: Democracy

- $\Omega_B \neq \Omega_S$ impossible in equilibrium
  - $\Omega_B \neq \Omega_S$ implies $L_Y(0) = B$
  - $L_Y(0) = B$ implies that selfish citizen prefers Ω_B to Ω_S for his old age
  - $\Omega_B = 0, \Omega_S = 1$ impossible in equilibrium
    - $\Omega_S = 1$ implies that S-leader prefers Ω_S to Ω_B for his old age, contradiction

Analysis: Democracy

- $\Omega_B \neq \Omega_S$ impossible in equilibrium
  - $\Omega_B \neq \Omega_S$ implies $L_Y(0) = B$
  - $L_Y(0) = B$ implies that selfish citizen prefers Ω_B to Ω_S for his old age
  - $\Omega_B = 0, \Omega_S = 1$ impossible in equilibrium
    - $\Omega_S = 1$ implies that S-leader prefers Ω_S to Ω_B for his old age, contradiction
  - likewise, $\Omega_B = 1, \Omega_S = 0$ impossible in equilibrium

Analysis: Democracy

- $\Omega_B = \Omega_S = 0$ impossible in equilibrium
  - $\Omega_B = \Omega_S$ implies $L_Y(0) = S$
  - $\Omega_B = 0$ implies $L_Y(0) = B$
- $\Omega_B = \Omega_S = 1$ and $L_Y(0) = S$ in equilibrium

Conclusion: Democracy

- All democracies are alike

Conclusion: Democracy

- All democracies are alike
  - strong civil society

Conclusion: Democracy

- All democracies are alike
  - strong civil society
  - no room for saint

Conclusion: Democracy

- All democracies are alike
  - strong civil society
  - no room for saint
  - short-term investment plus tyranny of majority

Analysis: Autocracy

- Equilibrium characterized by $\left(\Omega_B, L_B(\omega_t); \Omega_S, L_S(\omega_t)\right)$,
- Not only Ω_B and Ω_S independent of ω_t, but L_B and L_S as well
  - $L_B = B$

Analysis: Autocracy

- Equilibrium characterized by $\left(\Omega_B, L_B(\omega_t); \Omega_S, L_S(\omega_t)\right)$,
- Not only Ω_B and Ω_S independent of ω_t, but L_B and L_S as well
  - $L_B = B$
  - L_S independent of ω_t because S-leader cares about next period only

Analysis: Autocracy

- Equilibrium characterized by $\left(\Omega_B, L_B(\omega_t); \Omega_S, L_S(\omega_t)\right)$,
- Not only Ω_B and Ω_S independent of ω_t, but L_B and L_S as well
  - $L_B = B$
  - L_S independent of ω_t because S-leader cares about next period only
- Define $\Sigma_B =: (\Omega_B, B)$ and $\Sigma_S =: (\Omega_S, L_S)$

Analysis: Autocracy

- Period-t payoff depends on policy

Analysis: Autocracy

- Period-t payoff depends on policy
- Policy depends on (ω, L), which in turn is determined by (Σ_B, Σ_S)

Analysis: Autocracy

- Period-t payoff depends on policy
- Policy depends on (ω, L), which in turn is determined by (Σ_B, Σ_S)
- Characterize asymptotic equilibrium outcome $(\hat{\omega}, \hat{L})$: (ω, L) being reached infinitely often in equilibrium

Analysis: Autocracy

- An example: $\Sigma_B = (1, B)$, $\Sigma_S = (0, B)$

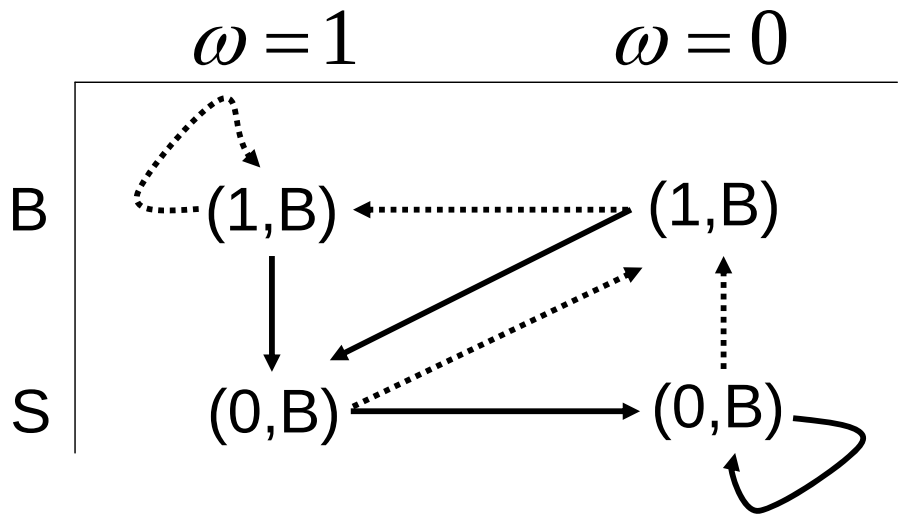

Figure: the "mostly-bad" dynamics

Analysis: Autocracy

- Independent of Σ_B, S-leader weakly prefers $\Sigma_S = (1, B)$ to $\Sigma_S = (1, S)$

Analysis: Autocracy

- Independent of Σ_B, S-leader weakly prefers $\Sigma_S = (1, B)$ to $\Sigma_S = (1, S)$
  - for old-age citizen, B-leader is weakly better than S-leader

Analysis: Autocracy

- Independent of Σ_B, S-leader weakly prefers $\Sigma_S = (1, B)$ to $\Sigma_S = (1, S)$
  - for old-age citizen, B-leader is weakly better than S-leader
- Suppose $(1, B)$ (resp. $(0, B)$) is reached infinitely often in equilibrium, so is $(1, S)$ (resp. $(0, S)$)

Analysis: Autocracy

- The set of asymptotic outcome $(\hat{\omega}, \hat{L})$ cannot be a tripleton

Analysis: Autocracy

- The set of asymptotic outcome $(\hat{\omega}, \hat{L})$ cannot be a tripleton
- If the set of $(\hat{\omega}, \hat{L})$ is a singleton, $(\hat{\omega}, \hat{L}) \neq (1, S)$
  - because $(\hat{\omega}, \hat{L}) = (1, S)$ requires $\Sigma_S = (1, S)$

Analysis: Autocracy

- The set of asymptotic outcome $(\hat{\omega}, \hat{L})$ cannot be a tripleton
- If the set of $(\hat{\omega}, \hat{L})$ is a singleton, $(\hat{\omega}, \hat{L}) \neq (1, S)$
  - because $(\hat{\omega}, \hat{L}) = (1, S)$ requires $\Sigma_S = (1, S)$
- If the set of $(\hat{\omega}, \hat{L})$ is a singleton, then it is $(\hat{\omega}, \hat{L}) = (0, S)$

Analysis: Autocracy

- (1) $\Sigma_S = (0, S)$ (and hence $(\hat{\omega}, \hat{L}) = (0, S)$ regardless of Σ_B)

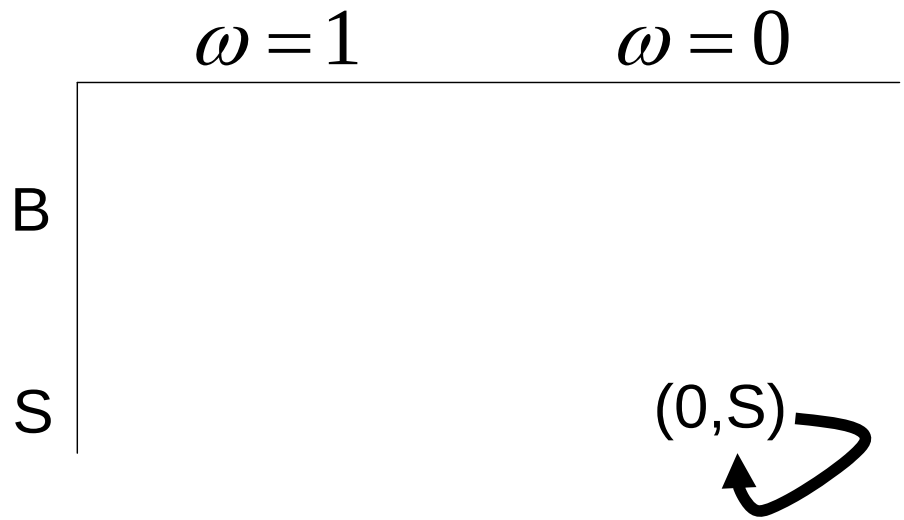

Figure: the "bad" dynamics

Analysis: Autocracy

- If the set of $(\hat{\omega}, \hat{L})$ is a doubleton, then
- (2) $\Sigma_B = (1, B)$, $\Sigma_S = (1, B)$

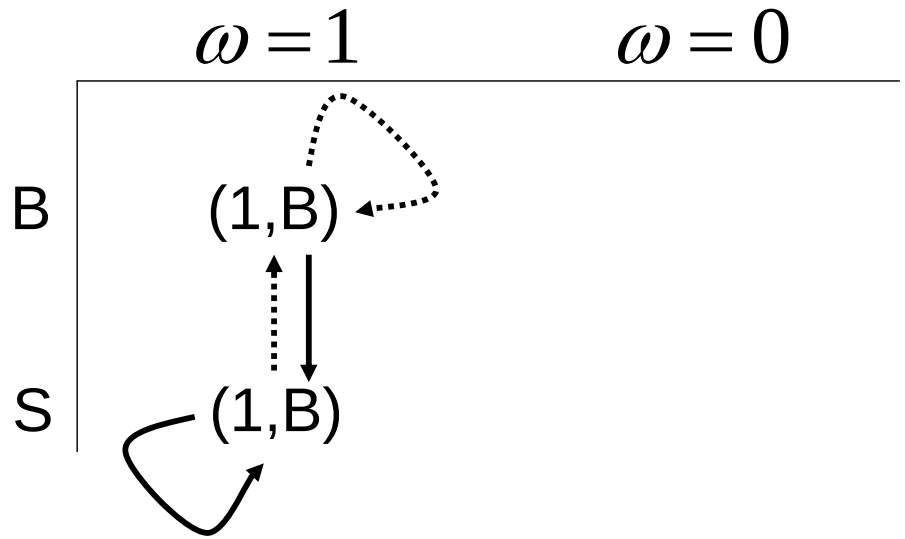

Figure: the "mostly-democratic" dynamics

Analysis: Autocracy

- (3) $\Sigma_B = (0, B)$, $\Sigma_S = (0, B)$

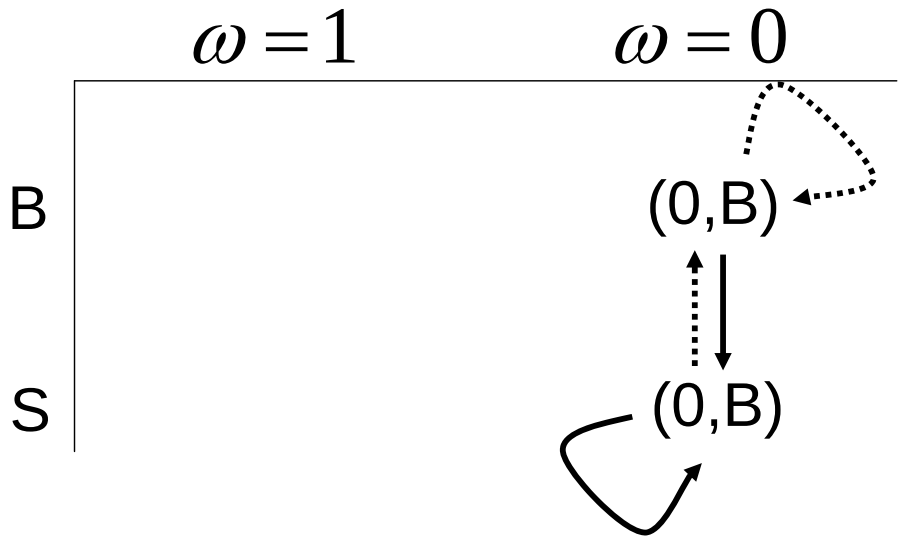

Figure: the "good" dynamics

Analysis: Autocracy

- If the set of $(\hat{\omega}, \hat{L})$ is the complete set, then $L_S = B$
- (4) $\Sigma_B = (1, B)$, $\Sigma_S = (0, B)$

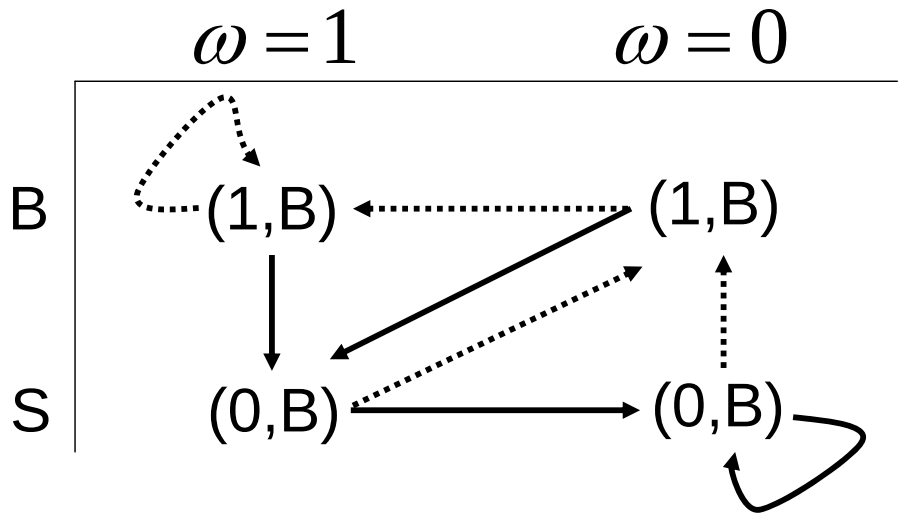

Figure: the "mostly-bad" dynamics

Analysis: Autocracy

- (5) $\Sigma_B = (0, B)$, $\Sigma_S = (1, B)$

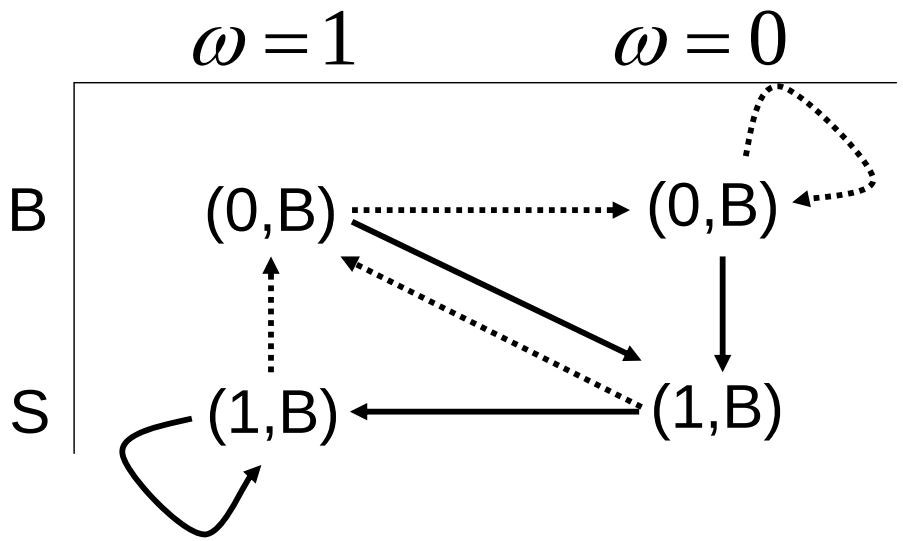

Figure: the "mostly-democratic" dynamics

Analysis: Autocracy

- "Democratic" if $G \geq q(\lambda + \beta^2 R) =: Q$ and $G \geq \max\{\frac{e}{2}, b\}$
- "Mostly-Democratic" if $Q \geq G$ and $G \geq \max\{\frac{e}{2}, b\}$
- "Mostly-Bad" if $G \geq Q$ and $\frac{e}{2} \geq \max\{G, b\}$
- "Good" if $Q \geq G$ and $\frac{e}{2} \geq \max\{G, b\}$
- "Bad" if $b \geq \max\{G, \frac{e}{2}\}$
  - "Bad" can be luckily similar to "Good" and "Mostly-Democratic" if $Q \geq G$ in addition
- "Good" and "Mostly-Democratic" outperform Democracy

Conclusion: Autocracy

- While democracies are alike, autocracies diverge

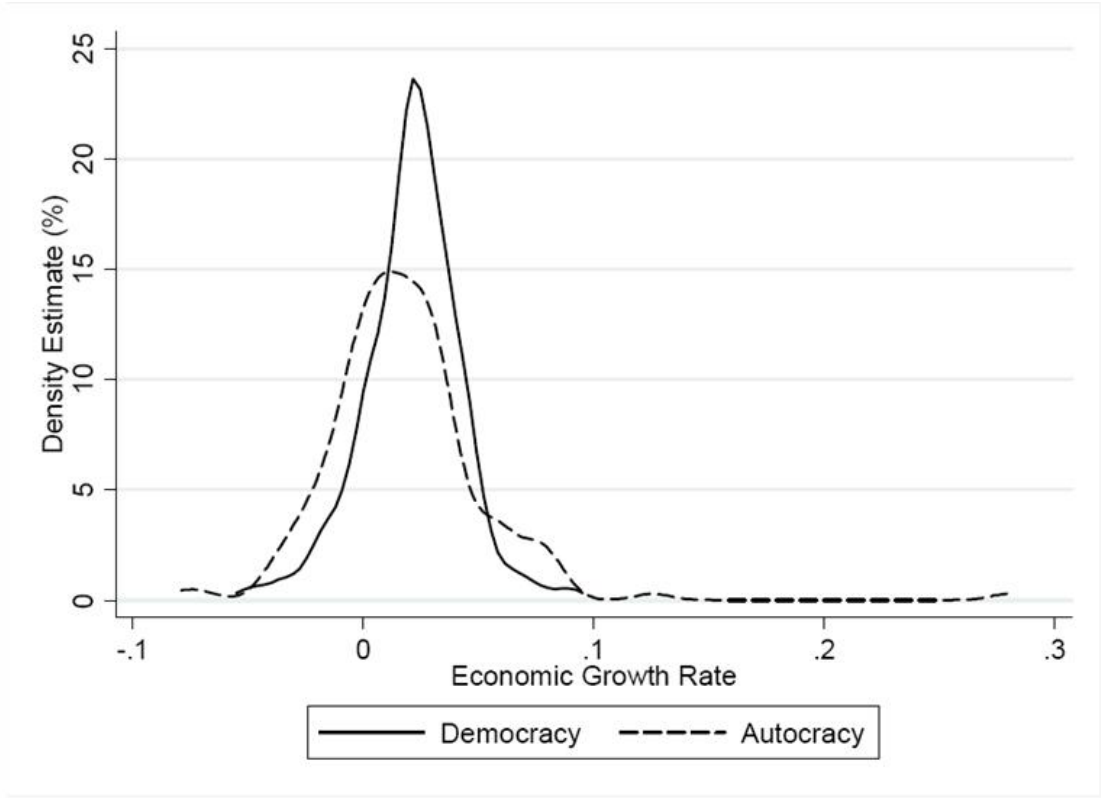

Figure 1: Economic Growth Distributions among Democracies and Autocracies

Sources: Penn World Table 6.2 and POLITY IV (version 2004)
Notes: Plotted are the density functions estimated by using the Gaussian kernel and the bandwidth that minimizes the mean integrated squared error (the *kdensity* command in STATA with the *gaussian* option).

Conclusion: Autocracy

- Even without checks and balance or political competition, autocracy can outperform democracy

Conclusion: Autocracy

- Even without checks and balance or political competition, autocracy can outperform democracy
- The performance of autocracy swing volatile in the long run, especially when it is "good"

Conclusion: Autocracy

- Even without checks and balance or political competition, autocracy can outperform democracy
- The performance of autocracy swing volatile in the long run, especially when it is "good"
- Better performing autocracies require weakened civil society, so do bad autocracies

Conclusion: Autocracy

- Even without checks and balance or political competition, autocracy can outperform democracy
- The performance of autocracy swing volatile in the long run, especially when it is "good"
- Better performing autocracies require weakened civil society, so do bad autocracies
  - what makes autocracy good also makes it bad
  - but there is no multiple equilibria:
  - autocracy works for some but not others

Conclusion: Autocracy

- Even without checks and balance or political competition, autocracy can outperform democracy
- The performance of autocracy swing volatile in the long run, especially when it is "good"
- Better performing autocracies require weakened civil society, so do bad autocracies
  - what makes autocracy good also makes it bad
  - but there is no multiple equilibria:
  - autocracy works for some but not others
- Good performance in the short-term can be deceiving

Conclusion: Autocracy

- Even without checks and balance or political competition, autocracy can outperform democracy
- The performance of autocracy swing volatile in the long run, especially when it is "good"
- Better performing autocracies require weakened civil society, so do bad autocracies
  - what makes autocracy good also makes it bad
  - but there is no multiple equilibria:
  - autocracy works for some but not others
- Good performance in the short-term can be deceiving
- and so is bad performance