The Political Economy of Sovereign Wealth Funds

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[1] This talk is based on previous joint work with Dimitri Migrow

Perspectives

- SWF: Funds in public ownership; usually filled with proceeds from extraction (and export) of natural resources
- Important points:
  - SWFs are used in many countries, with very different political regimes (China, Kuwait, Norway, Russian Federation, US ...)
  - Massive size of these funds (up to about 5 annual GDPs); but massively underresearched (apart from descriptive work and aspects of financial management)
- Here: Focus in the implications for macroeconomic governance, i.e. for institutions and their stability

Take home message: Main Q&A

Q: Why do many autocratic regimes put oil (and other) revenues in publicly owned SWF rather than (further) enrich the ruling elite?

A: Because SWF stabilize the regime, i.e. reduce the possibility/likelihood of a coup d'état that removes the elite from power.

Why? Because SWF raise the *future* stakes of the elite and thus make it credible that they will redistribute towards the poor even if they lose power in the future. This in turn can guarantee the existence of the elite

Note: No claim is made that this is the *only* rationale of a SWF, of course.

What I do here

Oil money and institutions: Two-sided causality

> *„Just as political traditions shape the use of oil income, the income itself has shaped the political economy of petroleum exporting countries."*
> *Eifert et al. (2003), p. 1*

But: Whereas there is a relative abundance of literature on the „resource curse", the widespread use of SWFs from a PE perspective is underresearched

Modelling strategy I

- Broad framework due to Acemoglu/Robinson (AER, 2001 and 2006 book) – simplified and extended
- Relevant groups: ,,elite" (rich) and ,,people" (poor)
- Crucial feature: Distinction between *de facto* power and *de jure* power
- Starting point: Autocracy, i.e. *de jure* power is with the elite
- De facto power of the poor: They might opt for revolution and simply get rid of the elite
- Elite may prevent this from happening by
  1. providing redistribution (taxes and transfers)
  2. *establishing a SWF*
- If revolution takes place
  - the elite loses everything (for sure);

Modelling strategy II

- some (stochastic) fraction μ of income is lost - also for the people

- $\Rightarrow$
  - Elite has an incentive to ,,acquiesce" the people
  - Incentive to revolt is a stochastic variable that can and will be influenced by the elite

Population and (Re-) Distribution I

- Population of mass 1, $\delta < 1/2$ of which is elite, $1 - \delta$ people
- Exogenous aggregate income of y, from which a fraction θ belongs to the elite (E), the rest being people (P)
- $\Rightarrow$ Primary income p.c. in both groups is

$$y^E = \frac{\theta y}{\delta} \quad (1)$$

$$y^P = \frac{(1-\theta)y}{(1-\delta)}. \quad (2)$$

- Redistribution
  - tax rate of τ on *all* incomes
  - (efficiency) cost of taxation: A fraction $C(\tau)$ of output y gets lost, where $C(0) = 0$, $C' > 0$

Population and (Re-) Distribution II

- Transfers go to the people $\Rightarrow$ secondary incomes (after redistribution) p.c. are

$$\hat{y}^E = (1-\tau)y^E = \frac{(1-\tau)\theta y}{\delta} \tag{3}$$

$$\begin{aligned} \hat{y}^P &= (1-\tau)y^P + \frac{(\tau - C(\tau))y}{1-\delta} \\ &= \frac{[(1-\theta)(1-\tau) + (\tau - C(\tau))]\, y}{1-\delta} \end{aligned} \tag{4}$$

- Thus, the people would prefer a tax rate of

$$\theta = C'(\tau^P) < 1. \tag{5}$$

Autocracy, revolution and democracy

- Starting point: Elite is safely in place
- de facto power by people is characterized by μ, specifically:

$$\mu = \begin{cases} \mu^H < 1 \text{ with probability } q \\ 1 \text{ with probability } 1-q \end{cases} . \tag{6}$$

- ($\mu = 0$ – or sufficiently close to 0 – inevitably leads to a revolution)
- Assumption: μ^H is equally distributed between 0 and 1
- If revolution succeeds, the elite disappears, people gains *de jure* power (homogenous society)

Timing and Utility

- Timing (2 periods)
  1. In each period $t \in \{1, 2\}$, μ realized first
  2. Then, E decides about redistribution by setting either $\tau = 0$ or $\tau = \tau^P$ (and might arrange for a SWF)
  3. Then, P decides about revolution
- (In $t = 1$, μ^H is realized)
- Expected utility:

$$\mathcal{E}(U^i) = \sum_{t=1}^{2} \beta^{t-1} \hat{y}_t^i, \tag{7}$$

where $i \in \{E, P\}$.

No redistribution

- We have to derive a *condition for revolution*
- Without redistribution, this is given by

$$\underbrace{\frac{(1+\beta)(1-\mu^H)y}{1-\delta}}_{\text{Income of } P \text{ with revolution}} \geq \underbrace{\frac{(1+\beta)(1-\theta)y}{1-\delta}}_{\text{Income of } P \text{ without revolution}} \tag{8}$$

or

$$\theta \geq \mu^H. \tag{9}$$

- Important: If (9) holds, E might try to prevent the revolution by allowing for redistribution!

Redistribution

- In $t = 1$ E might offer τ^P
- This modifies the reasoning of P. Specifically, E might discontinue redistribution in $t = 2$ if μ is sufficiently high!
- Expected present value of life income for the poor is now

$$\begin{aligned}\mathcal{E}(U^P) = (1-\tau^P)y^P + \frac{(\tau^P - C(\tau^P))y}{1-\delta} \\ + (1-\tau^P q\theta)\beta y^P + \frac{(\tau^P - C(\tau^P))y\beta q\theta}{1-\delta}\end{aligned} \tag{10}$$

- Condition for revolution thus is:

$$\mu^H \leq \theta - \frac{1+q\beta\theta}{1+\beta}(\theta\tau^P - C(\tau^P)) < \theta, \tag{11}$$

  where $\theta\tau^P > C(\tau^P)$
- $\Rightarrow$ E might prevent revolution by redistributing

Basic idea

- There can be no more redistribution than implied by τ^P
- (11) entails the fact that *continuing* redistribution *is not perfectly credible*
- $\Rightarrow$ If credibility could be ,,engineered" somehow, revolution could be made more unlikely. Therefore, E needs (or would like to have) a ,,commitment device"
- *A SWF acts as a commitment device by increasing in* $t = 1$ *the* **future** *de facto power of* P *in* $t = 2$.

Modeling a SWF I

- In $t = 1, E$ creates $S = \alpha(1 - \tau^P)\theta y$
- S is in public ownership and invested abroad and hence is not subject to (any) destruction in case of a revolution
- Property rights for S in $t = 2$ are with the holder of *de jure* power
- What S (or α) guarantees that de facto power of P increases? Answer:

$$S \geq y^P(1 - \delta) = (1 - \theta)y \tag{12}$$

- E must prevent S from getting too big, since this will increase incentive for revolution in $t = 2$. Specifically:

$$S < (1 - \theta)y + (\tau^P - C(\tau^P))y. \tag{13}$$

Modeling a SWF II

- From (12), it follows that

$$\alpha = \frac{1-\theta}{(1-\tau^P)\theta}. \tag{14}$$

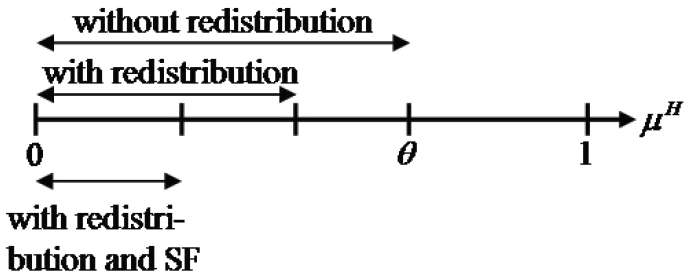
- Hence, the modified condition for revolution reads

$$\underbrace{\frac{(1+\beta)(1-\mu^H)y}{1-\delta}}_{\text{Inc. of } P \text{ with rev.}} \geq \underbrace{\frac{(1+\beta)y\left[(1-\theta)(1-\tau^P)+(\tau^P-C(\tau^P))\right]}{1-\delta}}_{\text{Inc. of } P \text{ without rev.}} \tag{15}$$

or

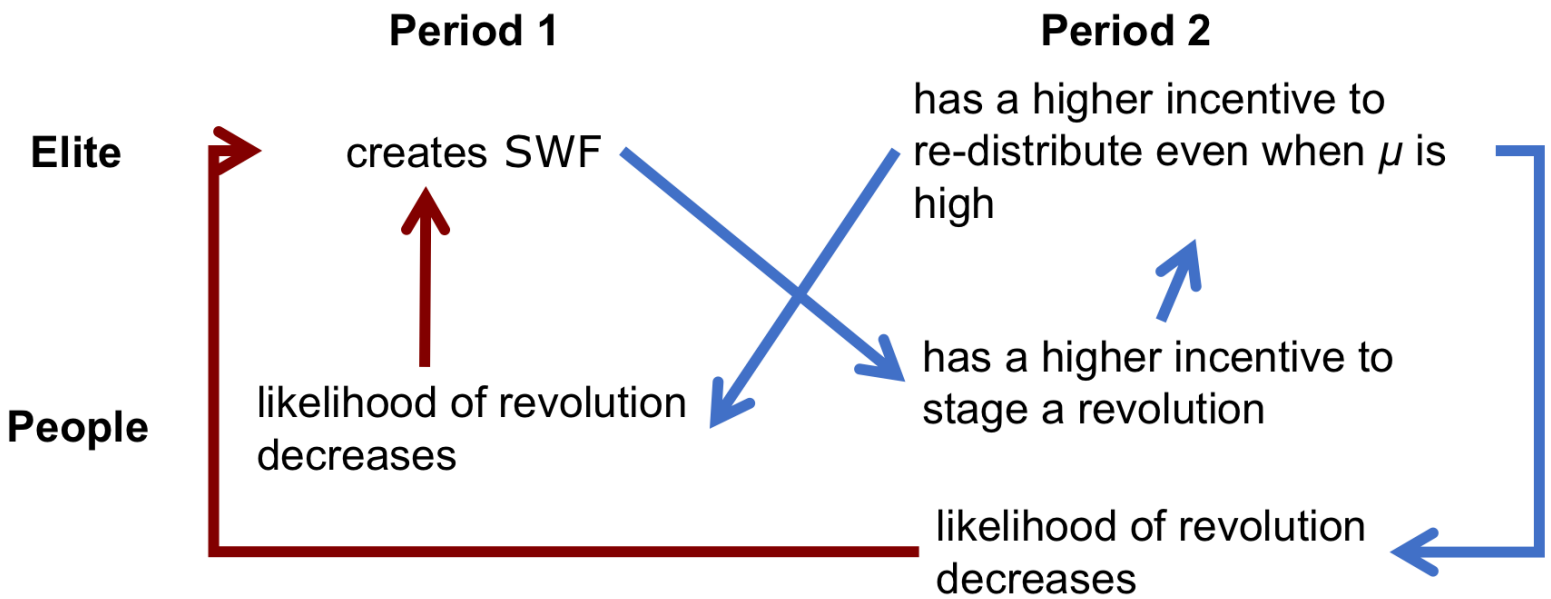
$$\mu^H \leq \theta - (\theta\tau^P - C(\tau^P)) \tag{16}$$

Illustration



Conditions for revolution under different institutional arrangements

Illustration: How everything works



Insights

Result

a) *SWF is a means to stabilize non-democratic regimes.*

b) *This, however, is not unconditionally possible. For sufficiently low values of μ, revolution will take place anyway.*

c) *The bigger inequality, the higher the incentive for E to create a SWF.*

d) *There is an upper bound of a SWF that makes sense to E. This gets lower if revolution is otherwise more likely!*

Broad view

- Resource abundance and resulting export revenues affect governance structures (in a very particular way)!
- This can be thought of as an extension of the ,,resource curse" literature that is largely quiet on institutions
- Potentially important lessons for policy advice, also concerning the exact set-up of a SWF (e.g. commitment for the use of the funds)

$\Rightarrow$ concept of an ,,institutional resource curse"

What could/should be done in future work?

- Empirical work
  - Relationship between resources, revenues, SWF and institutional quality in more dimensions
  - Bringing SWF into flexible (cross section) models of ,,growth accounting"
  - Looking at and controlling for other determinants of SWF size
- Modeling alternatives
  - Letting E survive somehow even in case of revolution
  - Introducing something like ,,battle of different elites"
  - Allowing for more flexibility w.r.t. to redistribution regime ($\mu = 1$)
  - Endogenizing θ and y
  - ...