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Voice, Exit, and Co-Production: Political Economy of Citizen Engagement

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Key Words: Voice and Exit

Albert Hirschman (1970): Exit, Voice, and Loyalty

“Members of an organization, whether a business, a nation or any other form of human grouping, have essentially two possible responses when they perceive that the organization is demonstrating a decrease in quality or benefit to the member: they can *exit* (withdraw from the relationship); or, they can *voice* (attempt to repair or improve the relationship through communication of the complaint, grievance or proposal for change)”.



Key Words: Co-production

Elinor Ostrom (1996): Crossing the Great Divide. Coproduction, Synergy, and Development

“By coproduction, I mean the process through which inputs used to produce a [public] good or service are contributed by individuals who are not “in” the same [government] organization”.

In co-production, governments and communities pool their resources in joint delivery of public goods and services.



Co-production Domain and Prerequisites

In the modern world, the borderlines between governments, communities, and private sector are increasingly blurred, and co-production occurs in urban infrastructure, health care, public safety and security, education, social safety nets, etc.

Co-production involves and reflects civil society, whereby individuals and communities contribute their resources towards common welfare. As such, co-production requires social capital, understood as the capacity for collective action

Comparative Advantages ...

... of the society: better information, stronger incentives, and greater flexibility

... of the government: specialization, economy of scale, resource mobilization

Blessing or Curse?

If a community has the capacity to be engaged in the delivery of public goods and services, is such capacity an asset or a liability?

Sanguine outlook:

- communities contribute additional resources
- communities make use of their comparative advantages vis-à-vis the government

Skeptical outlook:

- why duplicate the government, especially when comparative advantages are on its side?
- why to keep government involved, if the society can do it better and/or cheaper?
- why create the temptation for governments to free-ride on communities, offloading onto them government responsibilities, while keeping in full tax revenues?

Co-Production, Speaking Technologically

“Coproduction is an improvement ... [when] the technologies in use must generate a complementary production possibility frontier ... rather than merely a substitutive one” (Ostrom, 1996).

If the contributions of government and society are substitutes, the production should be carried out entirely by one of the parties, which does it at a lower social cost

If these contributions are complements, co-production makes sense technologically, as it generates value-adding synergies

Technologically Successful Co-Production

- Irrigation and running water: trunk and feeder lines
- Education: parents interacting with teachers
- Mass transportation: carpooling and public transit
- Law and order: regular policing and “neighborhood watch”
- Health care: public hospitals and community support centers

Political Economy of Co-Production

Government provision of public goods is not lump sum, and depends on political incentives, which could be affected by co-production

Therefore, co-production could generate an indirect political effect, through its impact on government provision, in addition to the direct technological one. This impact could either strengthen or weaken government's incentives to perform its duties

Such two effects could work in the same or opposite directions, making the overall social payoff to co-production uncertain and possibly even negative.

Baseline Model

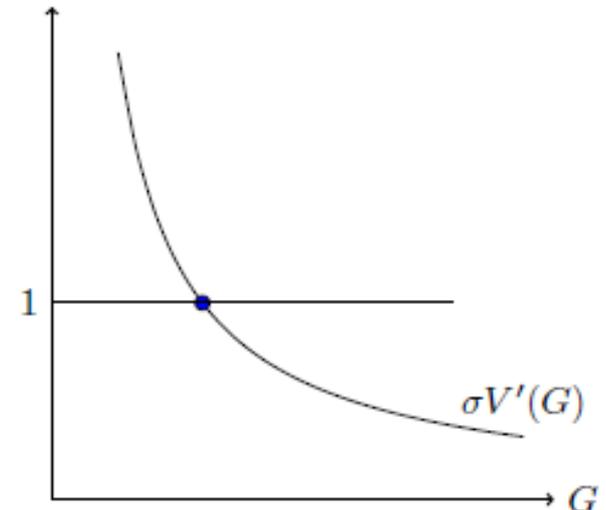
Social welfare: $V(G)$

Government's provision of public good: G

Accountability of government to society:
 $\sigma \in [0,1]$.

Baseline model: $\max_G [\sigma V(G) + B - G]$
 $\sigma V'(G) = 1$

Public good provision increases
in government's accountability



Co-Production Equilibrium

Co-production social welfare function: $V = V(G, H)$, where G and H are, resp., government and community inputs. Community's size is normalized to unity

Community input reflects the stock of social capital in the community

Government's provision with co-production:

$$\max_G [\sigma \{V(G, H) - H\} + B - G]; \quad \sigma \frac{\partial V}{\partial G}(G, H) = 1$$

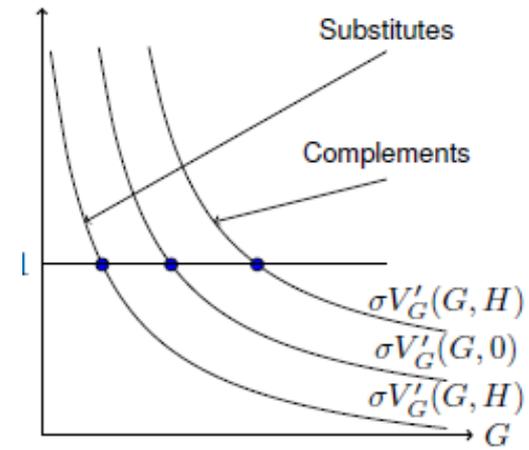
Substitutes and Complements

A: Government and community inputs are complements: $\frac{\partial^2 V}{\partial G \partial H} > 0$

Greater contribution of the community increases social payoff to government input, and hence in equilibrium such input goes up. The political effect of co-production is *positive*.

B: Government and community inputs are substitutes: $\frac{\partial^2 V}{\partial G \partial H} < 0$

Greater contribution of the community decreases social payoff to government input, and such input goes down. The political effect of co-production is *negative*.



Substitutes or Complements

Relation between government's and society's inputs matters not only technologically, but also politically

When to expect substitution or complementarity?

General intuition:

- When government is properly accountable to society, it efficiently carries out its functions, and society fills niches where it has comparative advantages, so that complementarity should be expected
- When government accountability is low, society picks up where government left off, effectively replacing a non-performing government, and substitution is likely

Core and Auxiliary Inputs

Social welfare function $U(y_1, y_2)$; y_1 – core input (“trunk lines”), y_2 – auxiliary input (“feeder lines”). Function U has standard neoclassical properties

Core and auxiliary inputs are always *complements*: $\frac{\partial^2 U}{\partial y_1 \partial y_2} > 0$

Government can invest only in the core input (due to inflexibility and a lack of information)

Communities can invest in both inputs, but are less efficient than governments in investing in core inputs due to a lack of specialization and economy of scale. Comparative disadvantage of communities vis-à-vis governments as suppliers of core inputs is $\alpha \in (0, 1]$.

Allocation of Community Resources

Community optimally allocates its contribution H between two inputs, given government's input G :

$$V(G, H) = \max\{U(G + \alpha h_1, h_2) | h_1 + h_2 = H; h_1, h_2 \geq 0\}$$

Denote $\Psi(I) = \max\{U(y_1, y_2) | y_1 + \alpha y_2 = I; y_1, y_2 \geq 0\}$. In this problem, optimal values of y_1 and y_2 are, resp., $y_1 = \rho(I)$, $y_2 = \tau(I)$ ("income-consumption curve")

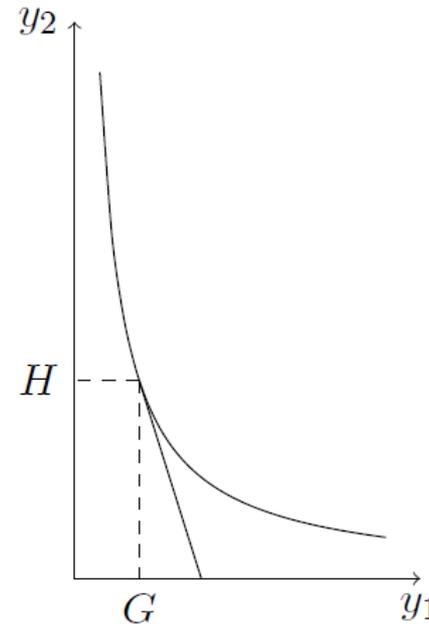
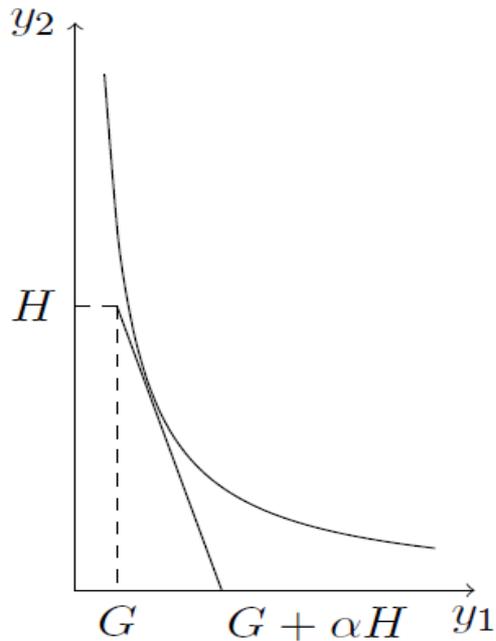
Whenever community contributes to the core input ($\rho(G + \alpha H) > G$), one has $V(G, H) = \Psi(G + \alpha H)$ (substitution). Otherwise $V(G, H) = U(G, H)$ (complementarity).

Assume that community input falls short of the socially optimal provision of the auxiliary input, so that $\frac{\partial U}{\partial y_2} > 1$ across the range of equilibria.

Community's Contributions and Welfare

Community contributes to core input: $V(G, H) = \Psi(G + \alpha H)$

Community does not contribute to core input: $V(G, H) = U(G, H)$



Co-production Regimes

Theorem 1: There are accountability thresholds $0 < \underline{\sigma}(H) < \bar{\sigma}(H) < 1$, separating three co-production regimes:

- (i) for $\sigma \in [0, \underline{\sigma}(H)]$, government contribution is zero, and social welfare equals $\Psi(\alpha H)$ (communities replace government)
- (ii) for $\sigma \in [\underline{\sigma}(H), \bar{\sigma}(H)]$, government contribution is positive, communities contribute to both inputs, and social welfare equals $\Psi(G + \alpha H)$ (communities substitute for government)
- (iii) for $\sigma \in [\bar{\sigma}(H), 1]$, government contribution is positive, and communities contribute only to the auxiliary input (communities complement government)

Derivation of Thresholds

Replacement range

$$\sigma \frac{\partial V}{\partial G}(0, H) = \sigma \Psi'(\alpha H) \leq 1 \Rightarrow \underline{\sigma}(H) = 1 / \Psi'(\alpha H).$$

Substitution range

$\sigma \frac{\partial V}{\partial G}(G, H) = \sigma \Psi'(G + \alpha H) = 1$, $\rho(\alpha H + G) > G$, and the upper threshold $\sigma = \underline{\sigma}(H)$ can be found from the equations

$$\begin{aligned}\sigma \Psi'(\alpha H + G) &= 1 \\ \rho(\alpha H + G) &= G\end{aligned}$$

Complementarity range

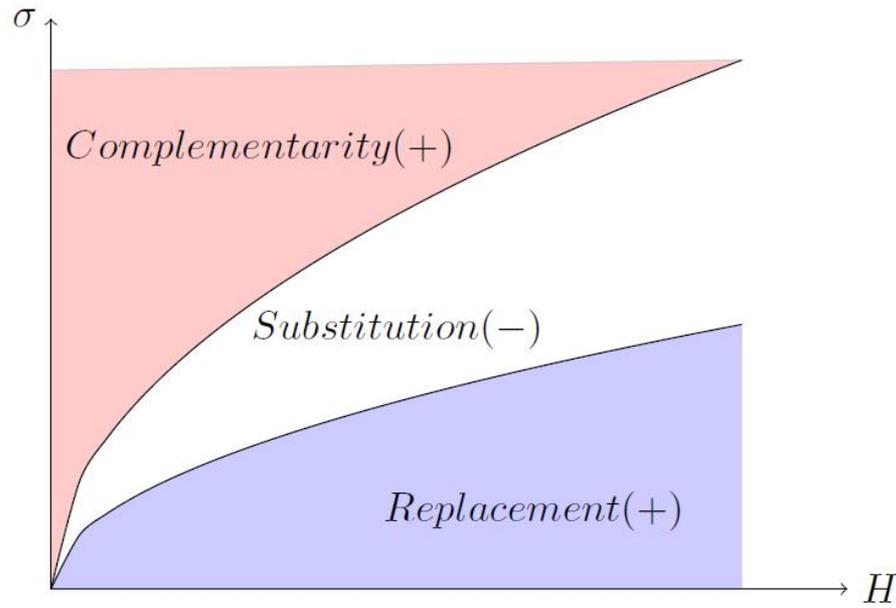
$$\sigma \frac{\partial V}{\partial G}(G, H) = \sigma \frac{\partial U}{\partial G}(G, H) = 1.$$

Cobb-Douglas Utility

Assume $U(y_1, y_2) = y_1^a y_2^b$, $a > 0, b > 0, a + b < 1$. In such case,

$$\underline{\sigma}(H) = CH^{1-a-b}; \quad \bar{\sigma}(H) = C\left(\frac{a+b}{b}\right)^{1-a-b} H^{1-a-b},$$

for some $C = C(a, b)$.



Political Effect of Co-production

In the replacement range, marginal political effect is *absent* (“communities got nothing to lose”)

In the substitution range, due to $\sigma\Psi'(\alpha H + G) = 1$, one has

$$G + \alpha H = \frac{1}{(\Psi')^{-1}(1/\sigma)} = \text{const}$$

so that

$$G'(H) = -\alpha,$$

and marginal political effect is *negative*

In the complementarity range, due to $\sigma \frac{\partial U}{\partial G}(G, H) = 1$, one has

$$G'(H) = -\frac{U_{GH}}{U_{GG}} > 0,$$

and marginal political effect is *positive* (core and auxiliary inputs are complements!)

Social Payoff to Co-production

In the replacement range, marginal social payoff to co-production is *positive*:

$$\frac{d}{dH} [V(0, H) - H] = \frac{\partial U}{\partial y_2} (\rho(\alpha H), \tau(\alpha H)) - 1 > 0.$$

In the substitution range, marginal social payoff to co-production is *negative*: since $G + \alpha H = \text{const}$, one has

$$\frac{d}{dH} [V(0, H) - H] = \frac{d}{dH} [\Psi(G + \alpha H) - H] = -1.$$

In the complementarity range, marginal social payoff to co-production is again *positive*:

$$\frac{d}{dH} [V(G(H), H) - H] = \frac{\partial U}{\partial y_1} G'(H) + \frac{\partial U}{\partial y_2} - 1 > 0$$

U-shaped Payoff to Co-production

Co-production enhances social welfare, when accountability of government to the society is either very low, in which case communities supplant non-performing governments, or high, in which case communities complement well-functioning governments, and make governments work even better.

In the interim range of government accountability, communities substitute for underperforming governments, and net social payoff to such efforts is negative.

Voice, Exit, and Co-production

Government-substituting co-production is a form of society's collective exit from the agency relation with government. It is detrimental to social welfare, as it enables government to free-ride on communities and to further reduce its own provision of public goods and services with political impunity.

Civil society can improve social welfare by (i) through voice, increasing government accountability (greater σ), or (ii) through exiting into co-production, increasing community contribution (greater H).

Both options require collective action, and hence social capital, although of possibly different stripes – grassroots social capital, required for co-production, and civic culture, which is required to hold government properly accountable

The Case of Belarus

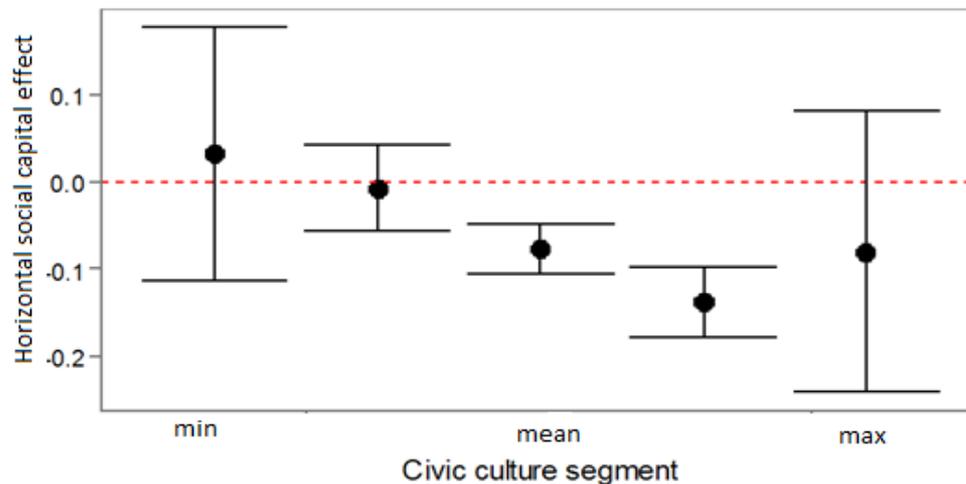
Alexander Lukashenka's regime has changed its overall hostile attitude to self-organization and grassroots collective action to a selective approach which supports associational activities preserving environment, promoting national heritage, improving community infrastructure, etc., while cracking down on political opposition and elevating the costs of organized protests. "Non-profit entrepreneurs" in Belarus respond to such evolving (dis)incentives by turning from protest leaders into "constructive community activists" (Astapova, Naumau, Nizhnikau, Polishchuk, 2019)

Russian Evidence I: Condominiums

Grassroots social capital in multi-unit apartment buildings improves the upkeep of residential housing, when condominiums are “captured” by predatory management, but has no significant effect in better-governed condominiums (Borisova, Polishchuk, Peresetsky, 2015)

Russian Evidence II: Social Capital in Russian Cities

Payoff to grassroots social capital in Russian cities is positive for low and high endowments of civic culture, and negative over an intermediate range of civic culture (Menyashev, Polishchuk, 2018)



Russian Evidence IV: Territorial Self-Management

Regional and local governments encouraged co-production in the form of territorial self-management (*territorial'noe obshchestvennoe samoupravlenie*), whereby they provide seed money for community initiatives. Community's own contributions to such initiatives usually significantly exceed government's grants (fiscal multiplier effect).

While government investments in such projects are insignificant (less than 1% of the budget expenditures), they bring about tangible political benefits, increasing government approval in large segments of the society (Shagalov, Rubin, 2018; Polishchuk, Rubin, Shagalov, 2019).

Russian Evidence V: Schooling

Parents' donations and co-payments to Russian schools are negatively correlated with satisfaction with school performance (substitution effect)

Grassroots social capital in the parents community is more significant for improving educational outcomes when parents are dissatisfied with what schools deliver. In the case of better-performing schools, grassroots social capital loses significance, whereas using formal communication channels between schools and parents becomes a highly significant contributing factor (Shagalov, 2019)

Conclusion: Bright and Dark Sides of Co-production

When government accountability is high, co-production makes valuable contribution to social welfare.

In the case of poorly accountable government, co-production leaves communities worse-off. In such case, co-production accommodates apolitical “collective exit” as an alternative to “collective voice.” Opportunistic governments can exploit such diversion effect by promoting co-production as an acceptable alternative to collective political participation