Working for the Revolving Door

Peter Bils
Vanderbilt University

Gleason Judd
Princeton University

Market for Government Workers

Working in government builds highly valuable experience

- industry; **lobbying**

Revolving door opportunities affect government entry/exit

- Lucca et al. (2014); Egerod (2022); Kalmenovitz et al. (2022)

Government connections crucial for revolving door lobbyists

- Bertrand et al. (2014), Blanes i Vidal et al. (2012); LaPira and Thomas (2014); McCrain (2018b); Strickland (2020)

Concerns about Revolving Door

Revolvers exert undue influence due to connections

- Baumgartner et al. (2009); McKay and Lazarus (2023)
- e.g., Silicon Valley Bank extensively used revolvers to lobby for looser regulations

Government turnover detrimental to performance

- Bureaucracy: Lee (2018); Akhtari et al. (2022); Lewis et al. (2022)
- Congressional staff: Crosson et al. (2018); McCrain (2018a); Ommundsen (2023)

$\rightarrow$ Important to understand how revolving door alters incentives to work in government

This Paper

Starting point: key feature of revolving door is lobbyists are rewarded for their connections in government

How does the importance of connections shape the revolving door?

Model the career of revolving door workers

- Study entry into public sector and exit through revolving door
- Value as a revolver is endogenous to the on decisions of others

Compare to case where connections do not matter

Results

Characterize flow of workers through revolving door

Revolvers being rewarded for connections. . .

- creates superstar lobbyists
- dampens effect of revolving door regulations

Extension: worker can take action before revolving

- behavior depends on if the action and connections are **complements** or **substitutes**
- because connections matter the effect of regulations on in-government behavior can be amplified or dampened

Literature

- **Revolving door:** Che (1995), Salant (1995), Bar-Isaac and Shapiro (2011), Kalmenovitz et al. (2022), Hübert et al. (2023)
- **Government workforce:** Besley and Ghatak (2005), Gailmard and Patty (2007), Delfgaauw and Dur (2008, 2010), Cameron et al. (2020)
- **Occupational choice:** Roy (1951), Miller (1984), Pissarides (1994), Moscarini (2005)

Model

Players

Continuous time

Continuum of infinitely lived workers

- Heterogeneous in age a_i

Workers die/retire at rate δ

- Replaced by new worker age 0

Each worker i has public service motivation, $\psi_i \in \mathbb{R}$

- ψ_i drawn from distribution G

Actions

Age 0: Enter **government** or **private sector**

Private sector essentially ends the game for worker i

Age $a \in (0, \infty)$: If worker i is in government, then she chooses to remain in **government** or **revolve**

Revolving essentially ends the game for worker i

Revolver Output

Worker i produces revenue $F(q_t, \tau_i) = v(\tau_i) \times q_t$

- q_t is quantity of connections at time t
- τ_i is length of time spent in government

Revenue increases (exogenously) in govt. tenure

- $\lim_{\tau \to \infty} v(\tau) = \overline{v} < \infty, v' > 0, v'' \leq 0, v''' \geq 0$

Connections and experience complements, $F_{q\tau} > 0$

- Become more influential, build deeper relationships, etc...

Connections

Worker i **knows** j if i and j were both in govt. at some time t

$$q_{it} = \text{ Number of } j \text{ in govt. at time } t \text{ that } i \text{ knows}$$

Endogenous to who remains in government

Changes over time after i revolves

Compare to benchmark where connections do not matter

- Exogenous $q_t = \overline{q} > 0$

Payoffs

Get (exogenous) payoff $\mathbf{w_p}$ while in private sector

Get $\psi_i + \mathbf{w_g}$ while in government

Get wage $\mathbf{w_r}(t) = F(q_t, \tau)$ as revolver

Worker maximizes total discounted payoff

$$\int_0^\infty e^{-(\rho+\delta)s} \Big[w_s + \mathbb{I}_s \psi_i \Big] ds$$

- w_s is wage at time s
- $\mathbb{I}_s$ indicates if i is in govt. at time s
- ρ is the discount rate

Equilibrium

Exit Incentives

Individual Worker

Public service + wait to $\uparrow$ value of connections

or

Exit now to get revolver wage

Exit Incentives

Individual Worker

Public service + wait to $\uparrow$ value of connections

or

Exit now to get revolver wage

Market

Number of workers revolving

versus

Decreased quantity of connections

Steady State

Composition of government workforce in steady state

- Distribution of worker ages not changing in t
- Begin with $e^{-\delta a}$ workers of each age $a \geq 0$

Steady State

Composition of government workforce in steady state

- Distribution of worker ages not changing in t
- Begin with $e^{-\delta a}$ workers of each age $a \geq 0$

$\rightarrow$ Quantity of connections of revolver only depends on time elapsed since leaving government, not calendar time

- Revolver's connections decrease over time as others exit govt. or die

Steady State

Composition of government workforce in steady state

- Distribution of worker ages not changing in t
- Begin with $e^{-\delta a}$ workers of each age $a \geq 0$

$\rightarrow$ Quantity of connections of revolver only depends on time elapsed since leaving government, not calendar time

- Revolver's connections decrease over time as others exit govt. or die

Strategies only depend on worker's age a and public service ψ

Steady State

Composition of government workforce in steady state

- Distribution of worker ages not changing in t
- Begin with $e^{-\delta a}$ workers of each age $a \geq 0$

$\rightarrow$ Quantity of connections of revolver only depends on time elapsed since leaving government, not calendar time

- Revolver's connections decrease over time as others exit govt. or die

Strategies only depend on worker's age a and public service ψ

Worker enters govt. if $\psi_i \geq \underline{\psi}$ and exits at age a if $\psi_i \leq \overline{\psi}(a)$

Worker's Problem

Choose revolving age τ to solve

$$V(0,\psi) = \max_{\tau \geq 0} \left\{ \frac{1 - e^{-(\rho+\delta)\tau}}{\rho+\delta}(\psi + w_g) + v(\tau) \int_{\tau}^{\infty} e^{-(\rho+\delta)s} q_s(\tau) ds \right\}$$

where

$$q_s(\tau) = \int_{s-\tau}^{\infty} e^{-\delta a} \left[1 - G(\overline{\psi}(a)) \right] da$$

Enter government if

$$V(0,\psi) \geq \frac{w_p}{\rho+\delta}$$

Equilibrium

Equilibrium characterized by: (1) entry cut-point $\underline{\psi}$; (2) an exit function $\overline{\psi}(a)$; and (3) a revolver's total discounted connections Q^* that solve

$$V(0,\psi) = \frac{w_p}{\rho+\delta} \tag{1}$$

$$\overline{\psi}(a) = v(a)Q - \frac{v'(a)}{\rho+\delta}Q - w_g \tag{2}$$

$$Q = \int_0^\infty e^{-(\rho+\delta)s} \int_s^\infty e^{-\delta n}\Big[1 - G(\overline{\psi}(n))\Big]\,dnds \tag{3}$$

Discounted total payoff from revolving at age τ is $v(\tau)Q$

Revolver Flows

Worker flows depend on shape of v

$v'' \leq 0$ and $v''' \geq 0 \rightarrow \overline{\psi}$ concave in a

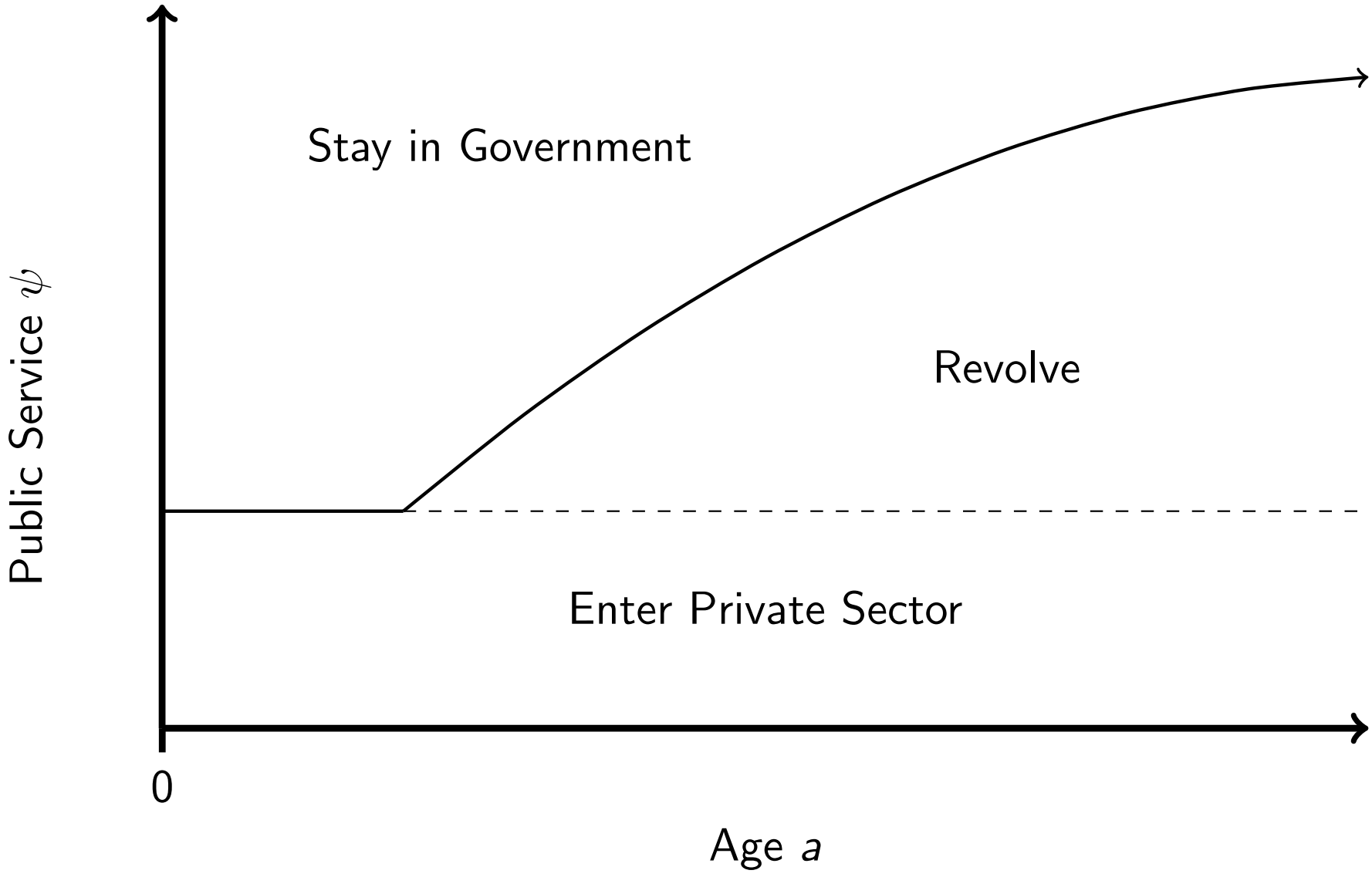
Initial period where nobody leaves

- Until revolver wage catches private sector wage

Then "exodus" with outflow subsequently decreasing over time

Composition of government becomes more homogeneous in ψ

Career Path


Stay in Government
Revolve
Enter Private Sector
Public Service ψ
0
Age a

Connections and Revolving

Superstar Lobbyists

At time s a worker who revolved at age τ generates revenue

$$v(\tau) \times q_s(\tau)$$

Later revolvers have more connections **and** generate more value from them compared to those who revolved at an earlier age

τ sufficiently large $\rightarrow$ revenue is convex in age (always if v linear)

Top lobbyists have significantly more valuable connections

Not true if connections do not matter: $v(\tau) \times \overline{q}$ concave in τ

- Even when revolver prices endogenous link

Distribution of Revenue

Characterize the equilibrium distribution of revolver revenue

Compare the case where q is fixed to when connections matter

Connections not matter: choose $\overline{q}$ such that $\overline{Q} = Q^*$

- Same max revenue, entry cut-point, $\overline{\psi}(a)$

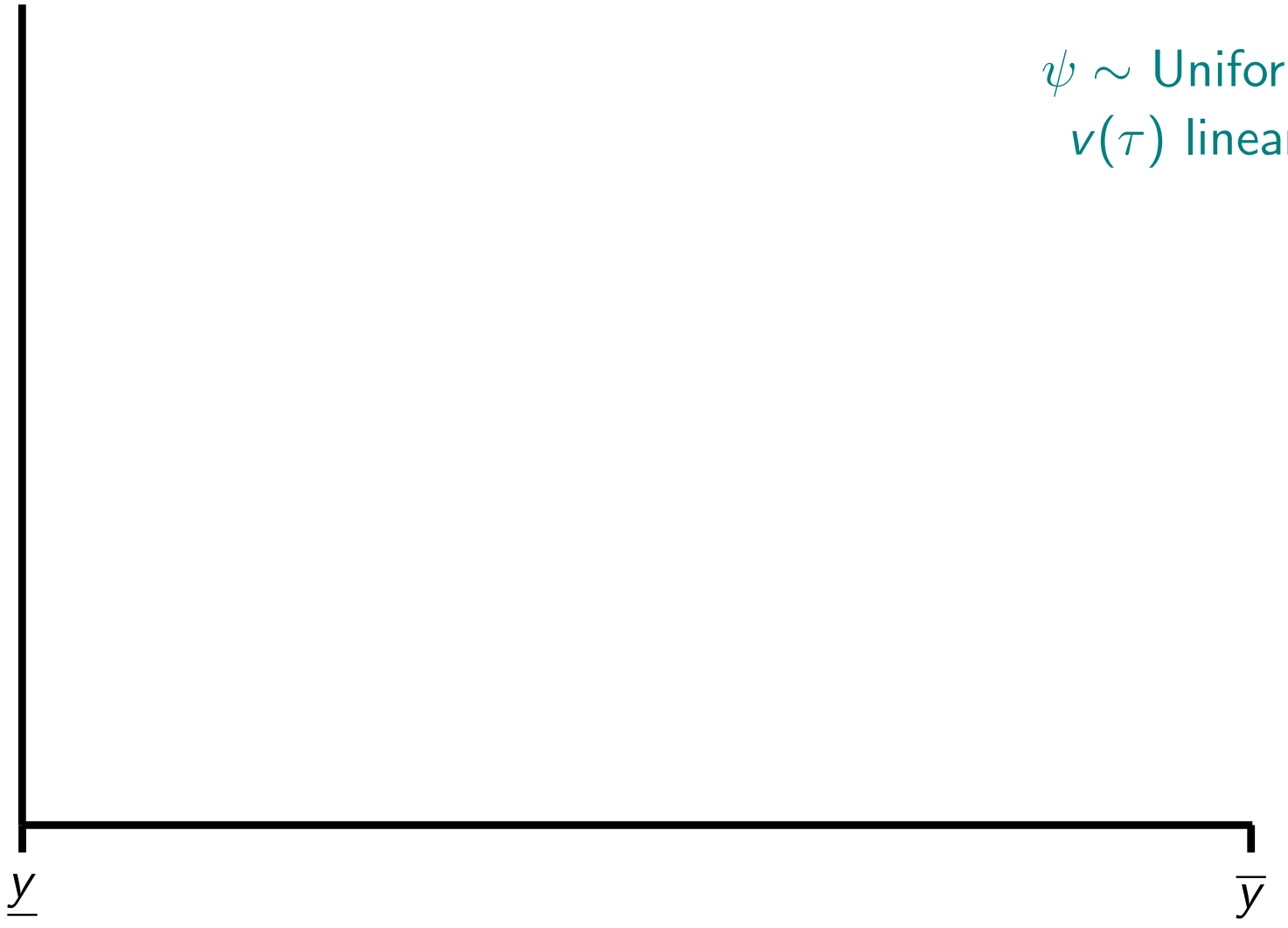
$\rightarrow$ There exists y_{min} such that $Pr(Y > y | y > y_{\text{min}})$ is lower when connections matter

Connections concentrate top revenues among a few revolvers

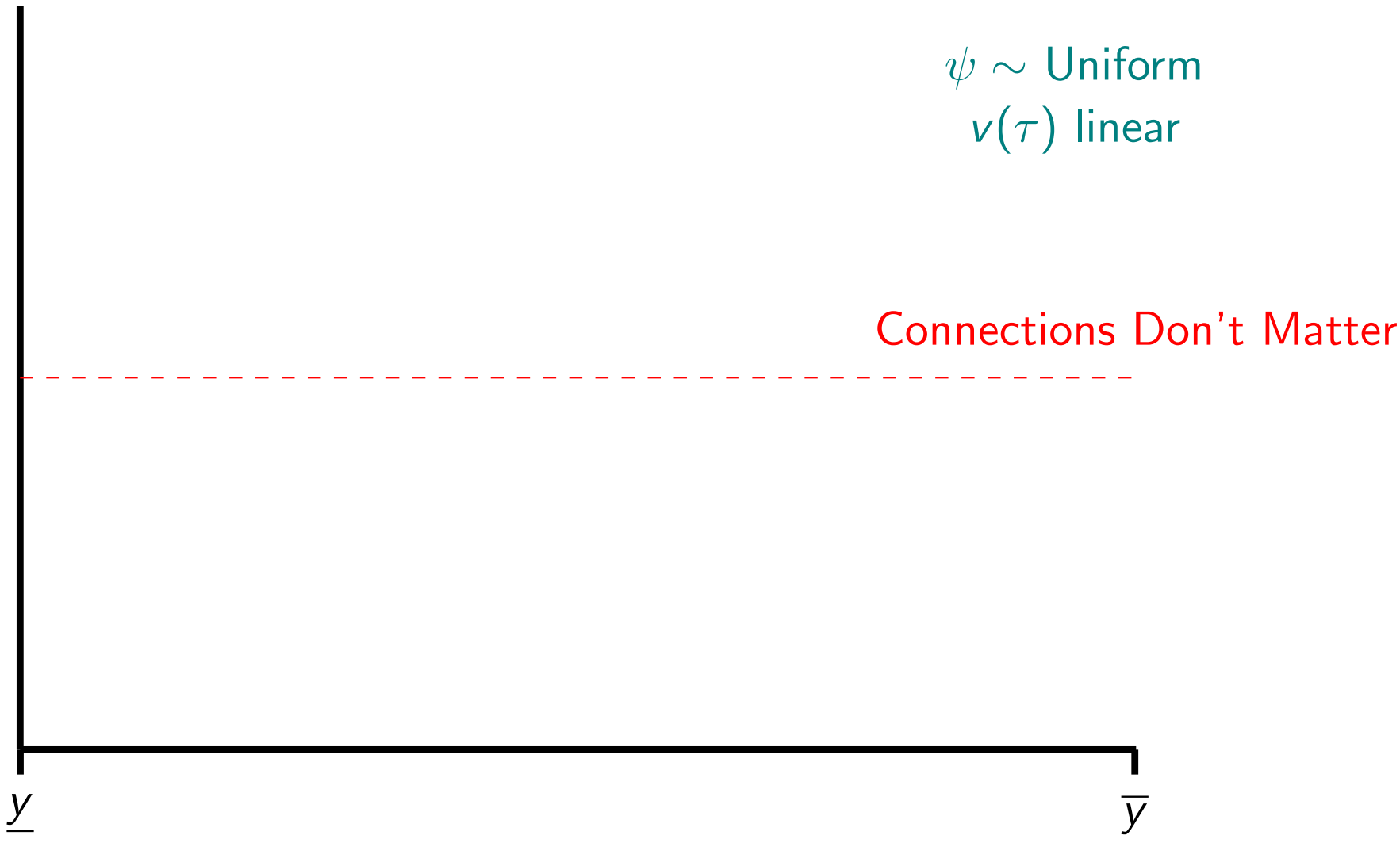
- Few top lobbyists ($\overline{\psi}(a)$ concave) + superstar effect

Effect of Connections on Revenue Distribution

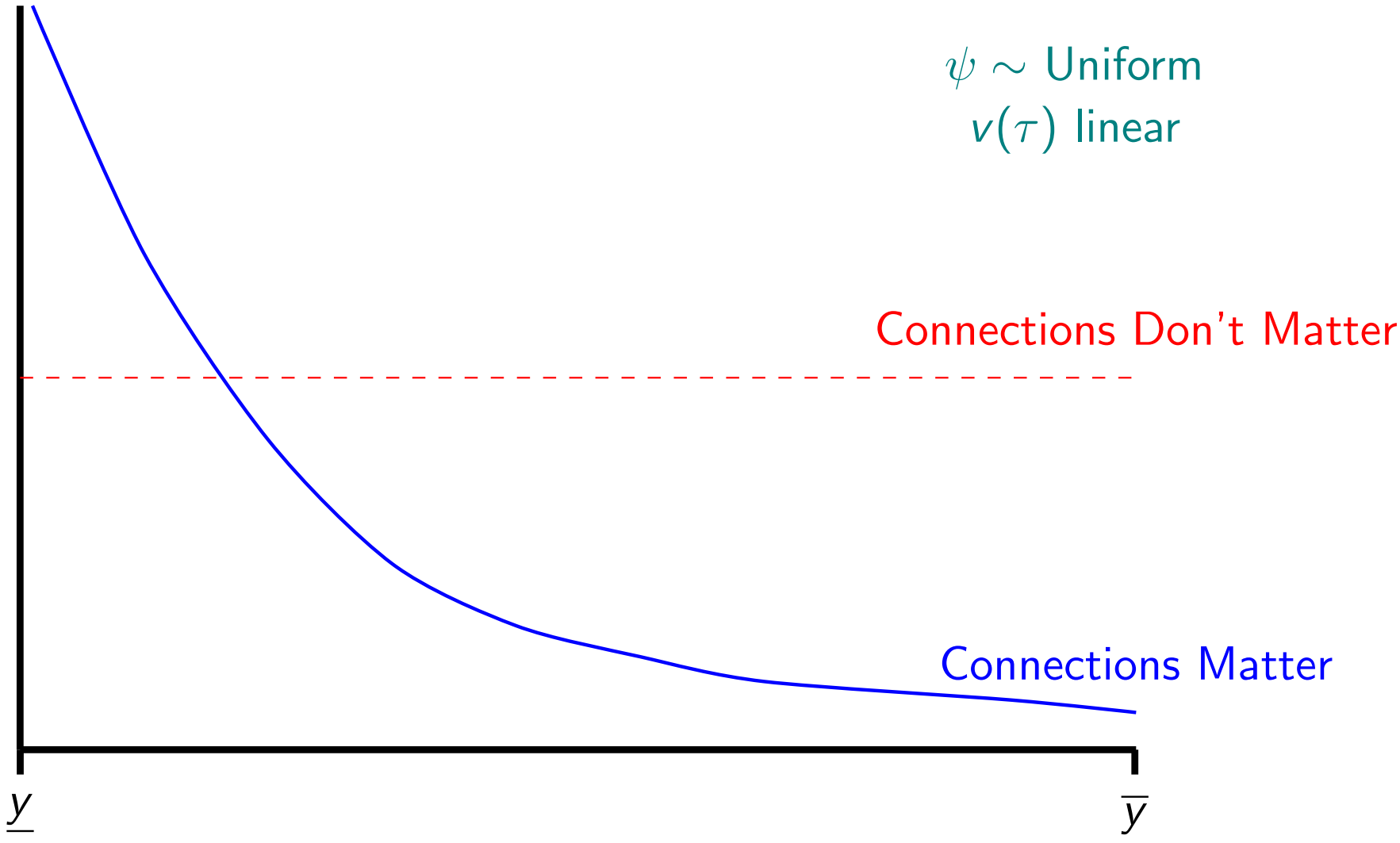
$\psi \sim$ Uniform
$v(\tau)$ linear



Effect of Connections on Revenue Distribution



Effect of Connections on Revenue Distribution



Implications

Empirical distribution has long right-tail w/ Mean $\approx$ 2x Median

- Blanes i Vidal et al. (2012)

Offer explanation based on connections

- Concerning due to a few lobbyists building out-sized influence

Evidence expertise important for revolving bureaucrats

- LaPira and Thomas (2014), Bolton and McCrain (2023)

$\rightarrow$ Distribution of revenue for bureaucratic revolvers less unequal than distribution for congressional revolvers

Revolving Door Regulations

Most countries and states regulate revolving door

Disincentivize revolving and limit use of connections

- Cooling-off periods prevent worker from lobbying for some time
- Restrictions on activities
- Restrictions on who able to contact

Regulation decreases revolver productivity $(1 - \lambda)F(q_t, \tau)$

Effect of Regulations

Increasing the restriction λ decreases payoff from revolving, thus. . .

- Decreasing entry
- Decreasing exit
- Increasing the expected tenure of revolvers
- Decreasing dispersion in revolver revenues

Connections and Regulation

Connections dampen effect of ↑ restrictions on incentive to revolve:

$$\underbrace{-v(\tau)Q}_{\text{Direct Effect}<0} + \underbrace{(1-\lambda)v(\tau)\frac{\partial Q}{\partial \lambda}}_{\text{Indirect Effect}>0}$$

Changing regulation impacts incentives to revolve

- **Direct:** Decrease payoff from revolving → decrease incentive to revolve
- **Indirect:** Decrease # of revolvers → increase # of connections → increase incentive to revolve

No indirect effect when connections do not matter

Discussion

Effects of λ are muted when connections matter

Implication: Bureaucrat revolving door more responsive to regulation than Congressional staff

Negative takeaway:

When output driven by connections regulations less effective

Behavior in Government

Incentives to Distort Government Activities

Try to appeal to potential employers while still in govt.

Workers may take actions to favor industry

> Cornaggia et al. (2016); Tabakovic and Wollmann (2018); Tenekedjieva (2020); Li (2021)

Or work harder to build human capital/impress future employers

> deHaan et al. (2015), Kempf (2018), Shepard and You (2019)

Extension

Before exiting i can take action $x \geq 0$ at cost $c(x)$

Let $\kappa = v(\tau)q_{t\tau}$ be the total value of connections

Output as revolver $F\left(\kappa, x\right)$ increasing in action

- e.g., effort to build human capital, policy to favor industry, etc...

Complements vs. Substitutes in Production

Over time, incentives to distort action change with as value of connections change

Complements: $\uparrow v(\tau)q \implies \uparrow$ appeal of higher actions

Substitutes: $\uparrow v(\tau)q \implies \downarrow$ appeal of higher actions

Longer tenure revolvers...

- Choose lower actions if substitutes
- Choose higher actions if complements

If complements $\rightarrow$ amplify superstar effect of connections

Regulation and Behavior

Regulation that decreases revolver value

$$(1-\lambda)F(\kappa, x)$$

Effect of regulation again mediated by connections

$$\frac{\partial x^*}{\partial \lambda} \propto \underbrace{-F_x\Big(\kappa, x\Big)}_{\text{Direct Effect}<0} + \underbrace{(1-\lambda)\frac{\partial \kappa}{\partial \lambda}F_{x\kappa}\Big(\kappa, x\Big)}_{\text{Indirect Effect?}}$$

Indirect effect depends on relationship b/w $\boldsymbol{x}$ and $\boldsymbol{v}(\boldsymbol{\tau})\boldsymbol{q_t}$

- If substitutes then indirect effect amplifies responsiveness
- If complements then indirect effect dampens responsiveness

Discussion

Building expertise and working hard may complement connections

- Use connections to make more effective arguments; viewed more favorably by previous colleagues

Whereas granting policy favors may act more like a substitute

- Not obviously helpful for lobbying, but may obtain higher wage by being more appealing to industry

Positive takeaway:

Stronger restrictions have less effect on positive behavior and greater effect on negative behavior

Conclusion

Conclusion

- Develop labor market model of revolving door
- Endogeneity of revolver connections affects revolver revenues and effect of revolving door restrictions
- Important to understand whether connections and effort are substitutes or complements

Thank You!

Appendix

Exogenous Connections & Endogenous Prices

Ability as lobbyist $v(\tau)$ increasing in govt. tenure

- Higher ability lobbyists produce output at lower cost

Assume after revolving lobbyist of ability v sets price $p(v)$ to maximize profits

$$\max_p pD(p) - \frac{1}{v(\tau)}D(p),$$

facing demand

$$D(p) = \left(\frac{p(v)}{P}\right)^{-2}$$

and $P = \left(\int p(v)^{-1}h(v)dv\right)^{-1}$ is a "price index"

- $h(v)$ is equilibrium distribution of v among revolvers

Revolver Profits

Worker who revolves at age τ obtains flow profits: $v(\tau)\Big(\mathbb{E}[v]\Big)^{-1}$

In steady state equilibrium $\mathbb{E}[v]$ among revolvers does not change over time

- After revolving, profits do not change

$\rightarrow$ Longer tenure only increases profits relative to other revolvers through $v(\tau)$

- No superstar effect

References

Akhtari, Mitra, Diana Moreira, and Laura Trucco, "Political turnover, bureaucratic turnover, and the quality of public services," *American Economic Review*, 2022, *112* (2), 442–493.

Bar-Isaac, Heski and Joel Shapiro, "Credit ratings accuracy and analyst incentives," *American Economic Review: Papers and Proceedings*, 2011, *101* (3), 120–24.

Baumgartner, Frank R, Jeffrey M Berry, Marie Hojnacki, Beth L Leech, and David C Kimball, *Lobbying and policy change: Who wins, who loses, and why*, University of Chicago Press, 2009.

Bertrand, Marianne, Matilde Bombardini, and Francesco Trebbi, "Is it whom you know or what you know? An empirical assessment of the lobbying process," *American Economic Review*, 2014, *104* (12), 3885–3920.

Besley, Timothy and Maitreesh Ghatak, "Competition and Incentives with Motivated Agents," *American Economic Review*, 2005, *95* (3), 616–636.

Blanes i Vidal, Jordi, Mirko Draca, and Christian