The Cost of Unilateral Action

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March 22, 2016

Puzzles of Unilateral Action

In 1978, President Carter threatened to exercise his statutory ability to impose unilaterally a duty on imported oil if Congress did not pass his oil tax plan. Given, Congress was mulling a domestic tax, but this provokes the question, when will presidents try to get a bill through Congress if they can simply issue an executive order instead? In 2001, during the waning days of his presidency, Bill Clinton put in place a flurry of executive orders knowing full well that George W. Bush would immediately undo them upon assuming the office. What purpose did this serve? More generally, executive action has increased dramatically over time, and existing theoretical accounts have failed to provide an explanation. Despite Moe and Howell's (1999) striking empirical observation thereof, Howell (2003) remarkably predicts decreased executive action under divided government.

To explain these puzzles, I shall present models that endogenize the decision to take executive action. In particular, I will not start the game assuming that the President has already decided to take executive action as does Howell (2003); instead I leave open the possibility that the President might alternatively decide to negotiate with Congress. Furthermore, Howell's model leaves no place for legislative bargains, balancing policy preferences with outside considerations, or optimizing across repetitions of the implied stage game, and it does not explain the dramatic increase in executive action during the twentieth century and continuing today. A key contribution presented herein is a clearer picture of the cost of executive action, beyond the possibility of being overturned by the courts or (improbably) by Congress's veto override pivot. Anecdotes from Chiou and Rothenberg (2014) are suggestive:

> In May 1997, Bill Clinton agreed not to issue an EO favorable to organized labor because his Secretary of Labor nominee, Alexis Herman, was being held up by Senate Republicans. In a similar vein, in 1985, Ronald Reagan backed off submitting an EO relaxing affirmative action in the face of legislative urgings, even though it was unlikely that Congress could override statutorily some change [...] to a point more to Reagan's liking.

Indeed, Moe and Howell (1999) remark, "Should [Presidents] go too far or too fast, or move into the wrong areas at the wrong time, they would find that there are heavy political costs to be paid—perhaps in being reversed by Congress or the courts, but more generally by creating opposition that could threaten other aspects of their agendas." Yet this notion plays little to no role in their or Howell's (2003) subsequent theory. My task here is to lend this notion analytical rigor.

I thus present a game that illuminate the nature of executive orders and their relationship to the power of Congress. Essential is the two-dimensional policy space in which the President exerts the power of unilateral action over only one of the two dimensions and must ask Congress to alter the second dimension of policy; additionally a Judiciary limits the extent of unilateral action. Congress can move policy across both dimensions, but it faces a sharp constraint in the President's ability to veto its legislation, and overriding a veto is highly improbable. Thus, these interdependencies create opportunities for trade; yet comparative statics on parameters of the model will illustrate how these opportunities have diminished over time.

The Inter-Branch Bargaining Game

Executive caution and Congressional inertia probably represent something of a balancing act; a tacit understanding of the boundaries of acceptable behavior. Power struggles are avoided by a collection of unwritten rules, or norms, that are difficult for outsiders to understand, and difficult for scholars to measure.

—Stephen Charles Boyle (2007) (quoted in Chiou and Rothenberg 2014)

Players and Preferences

I assume a two-dimensional policy space $(x, y) \in \mathbb{R}^2$ with a status quo point $sq \equiv (sq_1, sq_2)$. The first dimension will represent policy over which the President can promulgate executive orders and the second dimension will represent policy over which the President cannot. The President P has an ideal point $p \equiv (p_1, p_2)$, and Congress's filibuster pivot (on the pertinent side) CF has an ideal point $cf \equiv (cf_1, cf_2)$. Without loss of generality, the "liberal" directions shall be left and down. For simplicity and to examine our case of interest, I assume that the President is relatively liberal and that Congress's filibuster pivot is relatively conservative. Furthermore, I assume that $i_1 = i_2$ for all ideal points i; thus I shall use i to represent both the position of ideal point i in two dimensions as well as the value of each individual coordinate (an interesting extension would relax this assumption). The President's utility is given by

$$U_P((x, y)) = -(p - x)^2 - (p - y)^2$$

while Congress's filibuster pivot has utility given by

$$U_{CF}((x, y)) = -(cf - x)^2 - (cf - y)^2 + n$$

where $n > 0$ is the benefit received from telling the President "no."

Characterizing the Contract Curve

Assume for the moment that policy is the only consideration (*i.e.* $n = 0$), the President and Congress's filibuster pivot must both agree to any movement of the status quo, and that they are able to contract. A contract c must satisfy two requirements:

$$\left.\frac{\frac{\partial U_P}{dy}}{\frac{\partial U_P}{dx}}\right|_c = \left.\frac{\frac{\partial U_{CF}}{dy}}{\frac{\partial U_{CF}}{dx}}\right|_c \text{ (equal marginal rates of substitution).} \tag{1}$$

$$U_I(c) \geq U_I(sq)\ \forall I \in \{P, CF\} \text{ (the contract is Pareto-improving).} \tag{2}$$

From (1) we get $\frac{p-c_2}{p-c_1} = \frac{cf-c_2}{cf-c_1}$ which implies that $(p - c_2)(cf - c_1) = (p - c_1)(cf - c_2)$ and thus $c_1 = c_2$. Thus, henceforth, denote each coordinate of the contract simply by c. Now (2) implies that

$$-(p - c)^2 - (p - c)^2 \geq -(p - sq_1)^2 - (p - sq_2)^2$$
$$-(cf - c)^2 - (cf - c)^2 \geq -(cf - sq_1)^2 - (cf - sq_2)^2$$

This just implies that $d(p,c) \leq d(p,sq)$ and $d(cf,c) \leq d(cf,sq)$, where $d(\cdot)$ is the Euclidean norm. Thus the contract curve consists of the portion of the line connecting the ideal points of the President and Congress's Filibuster Pivot where both players attain a weakly higher indifference curve compared to the status quo. Notice here that unless a status quo point sits between p and cf on the line $y = x$—a set of points of measure zero—there will always exist a mutually beneficial contract. This strikes a contrast, then, with Krehbiel's (1998) view of gridlock expressed in *Pivotal Politics*.

Outside Options

Without any cooperation from Congress, the President can implement a policy of (e, sq_2), where $e \in x: \; |e - sq_1| \leq j$ and $j > 0$ is the distance that the President can move the x dimension without being overturned by the judiciary. Let e^* be the President's optimal choice of e. Specifically, given that the president takes executive action, he prefers to set $e^* = p$ if j does not bind, $e^* = sq_1$ if j binds and the status quo sat to the right of p, and $e^* = sq_1 + j$ if j binds and the status quo sat to the left of p. This outside threat will condition the policies over which the President and Congress are willing to accept a contract. Thus we must modify condition (2) to state that

$$U_I(c) \geq U_I((e^*, sq_2)) \; \forall I \in \{P, CF\} \tag{3}$$

Congress's has the outside option to earn n from refusing to cooperate with the President and satisfying its base instead, which is already reflected in the expression for U_{CF}.

The Infinitely Repeated Prisoner's Dilemma

The President and Congress play an infinitely repeated prisoner's dilemma in which each player can either cooperate (C) or defect (D). For simplicity, in each period the same status quo sq is drawn (an interesting extension would draw sq probabilistically, either independently or dependent upon play in previous rounds). If both players cooperate, they enter into a contract as characterized above. If the President defects but Congress cooperates, the players enter into a contract—changing the status quo—and then the President shifts only the x coordinate as close to his ideal point as possible (denoted by e^{**}—notice that since the contract moved sq, this need not equal e^*). If the President cooperates but Congress defects, the status quo does not shift and Congress earns n in addition to the value it places on sq. If both players defect, they do not enter into a contract, the President shifts the x coordinate to e^*, and Congress earns n in addition to the value it places on (e^*, sq_2). Let the President be the row player. The stage game can thus be represented by the following matrix:

	C	D
C	$-2(p-c)^2$ $-2(cf-c)^2$	$-(p-sq_1)^2-(p-sq_2)^2$ $-(cf-sq_1)^2-(cf-sq_2)^2+n$
D	$-(p-e^{**})^2-(p-c)^2$ $-(cf-e^{**})^2-(cf-c)^2$	$-(p-e^*)^2-(p-sq_2)^2$ $-(cf-e^*)^2-(cf-sq_2)^2+n$

Let us only consider the case in which $sq_1 > p$. Then observe that $e^* = \max(p, sq_1 - j)$. Next, from the assumption that the President is left (and down) of Congress, we always have that $c > p$. Then it follows that $e^{**} = \max(p, c - j)$. We can thus consider the following game matrix:

	C	D
C	$-2(p-c)^2$ $-2(cf-c)^2$	$-(p-sq_1)^2-(p-sq_2)^2$ $-(cf-sq_1)^2-(cf-sq_2)^2+n$
D	$-(p-\max(p,c-j))^2-(p-c)^2$ $-(cf-\max(p,c-j))^2-(cf-c)^2$	$-(p-\max(p,sq_1-j))^2-(p-sq_2)^2$ $-(cf-\max(p,sq_1-j))^2-(cf-sq_2)^2+n$

We are specifically interested in the cases in which this is a prisoner's dilemma. Let $v_I((s_P, s_{CF}))$ be the stage game payoff to player I given that P chooses action s_P and CF chooses action s_{CF}. Specifically, then, we must assume or show that

$$v_P((D,C)) > v_P((C,C)) > v_P((D,D)) > v_P((C,D))$$

$$v_{CF}((C,D)) > v_{CF}((C,C)) > v_{CF}((D,D)) > v_{CF}((D,C))$$

First, we require $v_P((D,C) > v_P((C,C))$, namely

$$-(p - \max(p, c - j))^2 - (p - c)^2 > -2(p - c)^2 \tag{4}$$

Notice that since $c > p$ and $j > 0$, this is always satisfied.

Next, we must assume that $v_P((C,C)) > v_P((D,D))$, namely

$$-2(p - c)^2 > -(p - \max(p, sq_1 - j))^2 - (p - sq_2)^2 \tag{5}$$

Suppose for the moment that $p \geq sq_1 - j$ (*i.e.* j is not binding here). Then (5) implies that

$$|p_{(2)} - sq_2| > \sqrt{2}\sqrt{c^2 - 2cp + p^2}$$

A natural interpretation of this is that the President must need sufficient assistance from Congress in moving the y dimension of the status quo for (C,C) to provide a better payoff than (D,D). Suppose instead that $p < sq_1 - j$ (*i.e.* j is binding here). The implication is much more complicated but is substantively similar.

Next, we require $v_P((D,D)) > v_P((C,D))$, namely

$$-(p - \max(p, sq_1 - j))^2 - (p - sq_2)^2 > -(p - sq_1)^2 - (p - sq_2)^2 \tag{6}$$

Because $sq_1 > p$ and $j > 0$, this always holds.

Now let us examine conditions on v_{CF}. First let us assume that $v_{CF}((C,D)) > v_{CF}((C,C))$, namely

$$-(cf - sq_1)^2 - (cf - sq_2)^2 + n > -2(cf - c)^2 \tag{7}$$

This implies that

$$n > -2c^2 + 4c \cdot cf - 2cf \cdot sq_1 + sq_1^2 - 2cf \cdot sq_2 + sq_2^2 \tag{8}$$

Substantively, this states that in the stage game, the value of satisfying the base must be sufficiently large to tempt Congress to forgo a favorable policy change and choose to defect instead.

Next, we must assume that $v_{CF}((C,C)) > v_{CF}((D,D))$, namely

$$-2(cf - c)^2 > -(cf - \max(p, sq_1 - j))^2 - (cf - sq_2)^2 + n \tag{9}$$

Suppose for the moment that $p \geq sq_1 - j$ (*i.e.* j is not binding here). Then (9) implies that

$$n < -2c^2 + 4c \cdot cf - 2cf \cdot p + p^2 - 2cf \cdot sq_2 + sq_2^2 \tag{10}$$

This states that n cannot be so large that (D, D) is preferable to (C, C) for Congress. Taken with (8), it implies that we must have

$$-2c^2 + 4c \cdot cf - 2cf \cdot sq_1 + sq_1^2 - 2cf \cdot sq_2 + sq_2^2 < -2c^2 + 4c \cdot cf - 2cf \cdot p + p^2 - 2cf \cdot sq_2 + sq_2^2$$

$$\implies -2cf \cdot sq_1 + sq_1^2 < -2cf \cdot p + p^2$$

$$\implies cf > \frac{p + sq_1}{2} \tag{11}$$

This simply states that for Congress to have a temptation in the stage game but still prefer that all players cooperate rather than all players defect, in the x dimension it is necessary that p lie to the left of the reflection of sq_1 about cf. Otherwise Congress would benefit from the President's unilateral action on its own compared to the status quo and still be able to earn n. Suppose instead that $p < sq_1 - j$ (*i.e.* j is binding here). (9) now implies that

$$n < -2c^2 + 4c \cdot cf + 2cf \cdot j + j^2 - 2cf \cdot sq_1 - 2j \cdot sq_1 + sq_1^2 - 2cf \cdot sq_2 + sq_2^2 \tag{12}$$

This states that n cannot be so large that (D, D) is preferable to (C, C) for Congress. Taken with (8), it implies that we must have

$$-2c^2 + 4c \cdot cf - 2cf \cdot sq_1 + sq_1^2 - 2cf \cdot sq_2 + sq_2^2 < -2c^2 + 4c \cdot cf + 2cf \cdot j + j^2 - 2cf \cdot sq_1 - 2j \cdot sq_1 + sq_1^2$$

$$\implies -2cf \cdot sq_2 + sq_2^2 < 2cf \cdot j + j^2 - 2j \cdot sq_1$$

If $sq_2 \geq 0$ then this implies

$$cf > \frac{-j^2 + 2j \cdot sq_1 + sq_2^2}{2(j + sq_2)}$$

The interpretation is now somewhat more complicated, but once again we require that the status quo not be so far to the right (and sufficently up) that Congress can benefit from the President's executive order while also earning n.

Finally, we must assume that $v_{CF}((D, D)) > v_{CF}((D, C))$, namely

$$-(cf - \max(p, sq_1 - j))^2 - (cf - sq_2)^2 + n > -(cf - \max(p, c - j))^2 - (cf - c)^2 \tag{13}$$

Note that the truth or falsehood of $p \geq sq_1 - j$ implies nothing about whether $p \geq c - j$ and *vice versa*. Let us only discuss in detail the case in which neither judicial constraint binds. This implies that

$$-(cf - p)^2 - (cf - sq_2)^2 + n > -(cf - p)^2 - (cf - c)^2$$

$$\implies n > -c^2 + 2c \cdot cf - 2cf \cdot sq_2 + sq_2^2 \tag{14}$$

On their own, (10) and (8) together imply that a positive n will exist as long as $cf > \frac{c+p}{2}$, which always holds. Thus we must only satisfy (11) for a positive n to exist. A similar argument shows that for suitable parameter values, a positive n exists even when either or both judicial constraints bind.

Results

Proposition 1. *Let δ_P represent the President's discount factor and δ_{CF} represent Congress's discount factor. As long as*

$$\delta_P \geq \frac{-(p-c)^2 + (p - \max(p, c-j))^2}{(p-c)^2 + (p-\max(p,c-j))^2 - (p - max(p, sq_1 - j))^2 - (p - sq_2)^2}$$

$$\delta_{CF} \geq \frac{-2(cf-c)^2 + (cf - sq_1)^2 + (cf - sq_2)^2 - n}{(cf - sq_1)^2 - (cf - \max(p, sq_1 - j))^2}$$

the following is a subgame perfect equilibrium where the players use a grim trigger strategy, and where the equilibrium outcome is $\{(C,C),(C,C),\ldots\}$:

President*: In the first stage play $s_P^1 = C$. For any stage $t > 1$, play $s_P^t(h_{t-1}) = C$ if and only if the history h_{t-1} is a sequence that consists only of (C,C), that is, $h_{t-1} = \{(C,C),(C,C),\ldots,(C,C)\}$. Otherwise, if some player ever defected and $h_{t-1} \neq \{(C,C),(C,C),\ldots,(C,C)\}$ then play $s_P^t(h_{t-1}) = D$.*

Congress*: In the first stage play $s_{CF}^1 = C$. For any stage $t > 1$, play $s_{CF}^t(h_{t-1}) = C$ if and only if the history h_{t-1} is a sequence that consists only of (C,C), that is, $h_{t-1} = \{(C,C),(C,C),\ldots,(C,C)\}$. Otherwise, if some player ever defected and $h_{t-1} \neq \{(C,C),(C,C),\ldots,(C,C)\}$ then play $s_{CF}^t(h_{t-1}) = D$.*

Proof. First check on the equilibrium path that no player has an incentive to deviate. In any given period in which no defections have occurred, the President could potentially defect to D and receive $-(p-\max(p,c-j))^2 - (p-c)^2$ instead of $-2(p-c)^2$ during the current period, but this will trigger the punishment phase. For the President, cooperating will be at least as good as defecting as long as

$$\frac{-2(p-c)^2}{1-\delta_P} \geq -(p-\max(p,c-j))^2 - (p-c)^2 + \frac{\delta_P(-(p-\max(p,sq_1-j))^2 - (p-sq_2)^2)}{1-\delta_P}$$

$$\implies -(p-c)^2 + (p-\max(p,c-j))^2 \geq \\ \delta_P\left[(p-c)^2 + (p-\max(p,c-j))^2 - (p-max(p,sq_1-j))^2 - (p-sq_2)^2\right] \quad (15)$$

Notice (5) implies that

$$(p-c)^2 + (p-\max(p,c-j))^2 - (p-max(p,sq_1-j))^2 - (p-sq_2)^2 < \\ 2(p-c)^2 - (p-\max(p,sq_1-j))^2 - (p-sq_2)^2 < 2(p-c)^2 - 2(p-c)^2 = 0$$

Thus (15) implies that

$$\delta_P \geq \frac{-(p-c)^2 + (p-\max(p,c-j))^2}{(p-c)^2 + (p-\max(p,c-j))^2 - (p-max(p,sq_1-j))^2 - (p-sq_2)^2} \quad (16)$$

Noticing that both the numerator and denominator are negative, the right-hand side will be less than 1 as long as

$$-(p-c)^2 + (p-\max(p,c-j))^2 > (p-c)^2 + (p-\max(p,c-j))^2 - (p-max(p,sq_1-j))^2 - (p-sq_2)^2$$

$$\implies -2(p-c)^2 > -(p - max(p, sq_1 - j))^2 - (p - sq_2)^2$$

which follows directly from (5). Thus $\delta_P \in (0,1)$ as desired.

Now for Congress, in any given period in which no defections have occurred, it could potentially defect to D and receive $-(cf - sq_1)^2 - (cf - sq_2)^2 + n$ instead of $-2(cf - c)^2$ during the current period, but this will trigger the punishment phase. For Congress, cooperating will be at least as good as defecting as long as

$$\frac{-2(cf-c)^2}{1-\delta_{CF}} \geq -(cf - sq_1)^2 - (cf - sq_2)^2 + n + \frac{\delta_{CF}(-(cf - \max(p, sq_1 - j))^2 - (cf - sq_2)^2 + n)}{1-\delta_{CF}}$$

$$\implies -2(cf-c)^2 + (cf - sq_1)^2 + (cf - sq_2)^2 - n \geq \delta_{CF}\left[(cf - sq_1)^2 - (cf - \max(p, sq_1 - j))^2\right] \quad (17)$$

Taken together, (7) and (9) imply that

$$(cf - sq_1)^2 - (cf - \max(p, sq_1 - j))^2 < 0$$

Thus (17) implies that

$$\delta_{CF} \geq \frac{-2(cf-c)^2 + (cf - sq_1)^2 + (cf - sq_2)^2 - n}{(cf - sq_1)^2 - (cf - \max(p, sq_1 - j))^2} \quad (18)$$

By (7), the numerator is also negative. Thus, the right-hand side will be less than 1 as long as

$$-2(cf-c)^2 + (cf - sq_1)^2 + (cf - sq_2)^2 - n > (cf - sq_1)^2 - (cf - \max(p, sq_1 - j))^2$$

$$\implies -2(cf-c)^2 + (cf - sq_2)^2 - n > -(cf - \max(p, sq_1 - j))^2$$

which follows directly from (9). Thus $\delta_{CF} \in (0,1)$ as desired.

Now suppose a player has defected during some stage and we are thus in some stage during the punishment phase. Fixing the President's choice of playing D, Congress can do no better than to play D given (13). Now fixing Congress's choice of playing D, the President can do no better than to play D given (6). Thus no player has an incentive to deviate from the grim trigger strategy, and we have found a subgame-perfect equilibrium. □

Proposition 2. *Suppose the judicial constraints do not bind. The President's willingness to cooperate will be*

- *constant with respect to* sq_1
- *increasing in* sq_2 *if* $p < sq_2$ *and decreasing in* sq_2 *if* $p > sq_2$
- *decreasing in* c
- *increasing in* p *if either* $c < sq_2$ *or* $sq_2 < p$ *and decreasing otherwise*

while Congress's willingness to cooperate will be

- *decreasing in* n
- *increasing in* c

- *decreasing in sq_2 if $sq_2 < cf$ and increasing in sq_2 if $cf < sq_2$*

Furthermore, for increasing temptation for Congress, increases in n will be a

- *complement of cf if $p > sq_1$ and substitute if $p < sq_1$*
- *complement of p*
- *complement of sq_1 if $sq_1 > cf$ and a substitute otherwise*

Proof. For the President to cooperate, we require that

$$\delta_P \geq \frac{-(p-c)^2}{(p-c)^2 - (p-sq_2)^2}$$

Notice immediately that since the right-hand side is not a function of sq_1, cooperation is invariant to its value. This is because the President can always move it all the way to his ideal point. Now take the derivative with respect to sq_2. This is

$$\frac{2(p-c)^2 \cdot (p-sq_2)}{D^2}$$

which as before will be negative as long as $p < sq_2$ and positive as long as $p > sq_2$. This is intuitive: if $sq_2 < p$ and sq_2 shifts right, the President gets what he wants on the dimension he otherwise would have needed Congress's assistance. If $p < sq_2$ and sq_2 shifts right, though, the President increasingly wants Congress's help.

Now take the derivative with respect to c. This is

$$\frac{2(p-c)}{(p-c)^2 - (p-sq_2)^2} - \frac{2(p-c)^3}{((p-c)^2 - (p-sq_2)^2)^2}$$

which is always positive. Thus as the coordinate values of the contract increase—which moves it away from the President along the contract curve—the President requires a larger value of δ_P to sustain cooperation.

Next take the derivative with respect to p. This is

$$\frac{(p-c)^2 \cdot 2(sq_2 - c)}{((p-c)^2 - (p-sq_2)^2)^2} - \frac{2(p-c)}{(p-c)^2 - (p-sq_2)^2}$$

Since we already assumed $p < c$, this will be negative (and thus encourage cooperation) as long as either $c < sq_2$ or $sq_2 < p$. Intuitively, this states that if we move the President upward toward Congress, we must reduce their preference conflict while also requiring the President to continue needing Congress to achieve his objectives. If instead we had $p < sq_2 < c$ and moved the President upward, the President's preference for sq_2 would increase faster than his ability to cooperate with a Congress toward which he moves.

Now let us turn our attention to Congress. Suppose the judicial constraints do not bind. Then Congress will cooperate as long as

$$\delta_{CF} \geq \frac{-2(cf-c)^2 + (cf-sq_1)^2 + (cf-sq_2)^2 - n}{(cf-sq_1)^2 - (cf-p)^2}$$

Recall that both the numerator and denominator are negative. Thus, clearly, increasing n will increase the value of the right-hand side. This obvious result simply states that an increase in the value of pandering to the base decreases the value of cooperation to Congress.

Next take the derivative with respect to c. This is

$$\frac{4(cf - c)}{(cf - sq_1)^2 - (cf - p)^2}$$

which, by the prior assumption that $sq_1 > p$, is negative as long as $\frac{sq_1+p}{2} < cf$; this is simply a restatement of our assumption in (11). Thus, moving the contract rightward always decreases the threshold δ_{CF} required and increases the willingness of Congress to cooperate.

Now take the derivative with respect to sq_2. This is

$$\frac{-2(cf - sq_2)}{(cf - sq_1)^2 - (cf - p)^2}$$

From the argument above, the denominator is negative. Then the numerator will be negative if $sq_2 < cf$ and positive if $cf < sq_2$. Thus an argument similar to the one concerning sq_2 and p holds: the willingness to cooperate increases only if sq_2 moves away from Congress, which occurs if $cf < sq_2$.

Finally, let us explore mixed partial derivatives that include n. The mixed partial derivative with respect to n and cf is

$$\frac{2}{(p - sq_1)(-2cf + p + sq_1)^2}$$

which is positive if $p > sq_1$ and negative if $p < sq_1$. Intuitively, this says that moving cf rightward decreases the effect of increasing n if sq_1 is to the left of both Congress and the President, but otherwise, n and rightward shifts in cf are complements for breaking cooperation.

Next, the mixed partial derivative with respect to n and p is

$$\frac{2(cf - p)}{D^2}$$

which is always positive. Thus a rightward shift in the President increases the marginal temptation of an increase in n. Intuitively, this is because upon defection, the point to which the President will want to move policy using unilateral action will be closer to what Congress would otherwise have wanted anyway, making n more tempting.

Finally, the mixed partial derivative with respect to n and sq_1 is

$$\frac{2(sq_1 - cf)}{D^2}$$

implying that n is a complement of rightward shifts in sq_1 for increasing temptation only if $sq_1 > cf$. Otherwise, the contract that would emerge from cooperation would become increasingly favorable as sq_1 moved toward Congress, decreasing the marginal temptation of n. □

Proposition 3. *Suppose the judicial constraints bind. The President's willingness to cooperate will be*

- *increasing in sq_1 if $j < 2(c - p)$ and decreasing in sq_1 otherwise*

- *increasing in sq_2 if $p < sq_2$ and decreasing in sq_2 otherwise*

Congress's willingness to cooperate will be

- *decreasing in n*
- *increasing in c*

Proof. For the President to cooperate, we require that

$$\delta_P \geq \frac{-(p-c)^2 + (p-(c-j))^2}{(p-c)^2 + (p-(c-j))^2 - (p-(sq_1-j))^2 - (p-sq_2)^2}$$

Take the derivative of the right-hand side with respect to sq_1. This is

$$\frac{2((p-c)^2 - (p-(c-j))^2) \cdot (p-(sq_1-j))}{D^2}$$

By prior assumptions on parameter values, the numerator is negative as long as $j < 2(c-p)$. Thus increasing sq_1 decreases the value of δ_P necessary to induce cooperation. Intuitively, this is because policy is moving away from the President, beyond the range that he can rectify unilaterally while staying within the judicial constraint.

Now take the derivative with respect to sq_2. This is

$$\frac{2((p-c)^2 - (p-(c-j))^2) \cdot (p-sq_2)}{D^2}$$

Notice now that if $p < sq_2$, the numerator is negative, while if $p > sq_2$, it is positive. The interpretation is that if the president is above sq_2, then increasing its value only moves it closer to the President and reduces the value of trying to cooperate with Congress (thus increasing the required discount factor); if the President is below it, increasing it moves it farther away and increases the value of cooperation (thus decreasing the required discount factor).

Now Congress will cooperate as long as

$$\delta_{CF} \geq \frac{-2(cf-c)^2 + (cf-sq_1)^2 + (cf-sq_2)^2 - n}{(cf-sq_1)^2 - (cf-(sq_1-j))^2}$$

As before, increases in n decrease the likelihood of cooperation.

Next take the derivative with respect to c. This is

$$\frac{4(cf-c)}{(cf-sq_1)^2 - (cf-(sq_1-j))^2}$$

which is always negative. Thus, moving the contract rightward only decreases the threshold δ_{CF} required and increases the willingness of Congress to cooperate. $\square$

Conclusion

Here we find a much more subtle picture of executive action emerges than the one portrayed in existing works. We have learned two main points: first, taking unilateral action can impose a cost on the president with or without courts, voters, outside "audiences," or interest group pressures. The cost is the foregone opportunity to trade policy with Congress within the two-dimensional space. Second, changes in parameter values can have subtle effects on the costs and benefits of engaging in unilateral action. One of the more striking findings is that increased polarization can actually increase the value of cooperation, because it can move players father away from certain status quo points at the same time, thus increasing the pressure to want to cooperate to shift them to a more favorable position. This implies that with respect to the dramatic increase in unilateral action over the past few decades, the action might not be in increased polarization (in terms of policy agreement between the President and Congress) but rather in a shift in the benefit of rallying the base. Empirical work will test the implications of the comparative statics derived above.

Possible Extensions and Alternate Directions

- I could jettison the infinitely repeated prisoner's dilemma and instead give more focus to the process of selecting a specific status quo point within the two-dimensional policy space. In particular, one could imagine applying something like Rubinstein bargaining to the question of where along the contract curve the players will end up. This would be interesting for two reasons: first, there is no longer a fixed pie to distribute but rather an asymmetrical utility trade-off; second, at each stage players would have an option other than accept or propose, namely taking advantage of their outside options. This could prove more interesting than the possibly overly cumbersome yet not particularly innovative infinitely repeated prisoner's dilemma; the two-dimensional policy space represents more of an innovation in this context.

- The concept of the two-dimensional space as an analogy for real world policy requires more justification, particularly the claim that there are aspects of policy that the President cannot move without help from Congress. "Health care" is not a meaningful policy area in this context, for example, but rather "the aspects of health care that the President can move unilaterally" and "the aspects that he cannot." Suggestions for additional qualitative case studies to motivate this conception would be greatly appreciated.

- I could explicitly bring in Congress's veto override pivot.

- I could think about whether instead writing a sequential-move game would provide any insight.

- I could also think about information environments other than perfect. Given the complexity of the game, though, this might prove intractable and not even very insightful.

- I could reconceptualize the way in which the "base" feeds into the utility function. Right now there is a specific fixed cost to Congress for working with the President. An alternative would be to give this "base" higher-dimensional preferences, perhaps one-dimensional, and have this feed into Congress's preferences.

- As a simplifying assumption, I have aligned the President and Congress on the line $y = x$. But this could be relaxed: maybe the President is conservative on military matters specifically, which is increasingly the domain of unilateral action.

- The ovularity of indifference curves could represent the relative importance/profligacy of domains of executive action vs. other domains. It could also represent relative preference/level of concern and be allowed to vary across different players.? However, if policies migrate from one domain to another, it would matter which specific policy areas end up moving into which domain (and where their status quo points were), so without specifying this, this is underdetermined. *E.g.* if military matters disproportionately become the domain of unilateral action and the status quo points were really conservative, then the status quo moves right and down (down being more liberal in the y dimension).

- I could endogenize the source of status quo points. Does something over time bring about a shift in this that upsets the prisoner's dilemma, whether exogenous or endogenous? Play in previous rounds might shift the distribution of status quo points. Also suppose that some player had some capacity to bundle issues. With each issue a vector, is there an optimal way to recombine these vectors into status quos that lead to particularly favorable positions in the subsequent inter-branch bargaining game? One could imagine something like a "sequential bundling game" that feeds into the game in this paper. This seems like a complex and fertile avenue of research.

- Another interpretation of the "creat[ion of] opposition" of which Moe and Howell speak could be the ability of subsequent actors to move the status quo point in some second period because unilateral action made it more extreme in a first period, opening up a policy window. This aligns with Sean Gailmard's suggestion that a president might not want to move the status quo because she expects a shift in opinion in the future that could achieve a bigger and/or more permanent move favorable to the President, but only if the status quo remains sufficiently extreme. Further consideration will explain these phenomena.

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