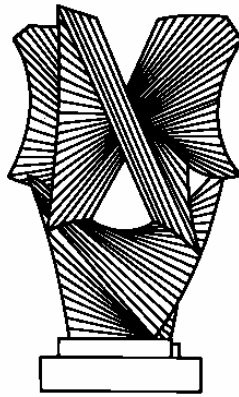


CHICAGO

JOHN M. OLIN LAW & ECONOMICS WORKING PAPER NO. 320
(2D SERIES)



The Economics of Presidential Pardons and Commutations

William M. Landes and Richard A. Posner

THE LAW SCHOOL
THE UNIVERSITY OF CHICAGO

January 2007

This paper can be downloaded without charge at:
The Chicago Working Paper Series Index: <http://www.law.uchicago.edu/Lawecon/index.html>
and at the Social Science Research Network Electronic Paper Collection:
http://ssrn.com/abstract_id=956190

THE ECONOMICS OF PRESIDENTIAL PARDONS AND COMMUTATIONS

William M. Landes and Richard A. Posner¹

I. INTRODUCTION

Article II, section 2, clause 1 of the U.S. Constitution provides that the president “shall have Power to grant Reprieves and Pardons for Offenses against the United States, except in Cases of Impeachment.” The pardon clause is understood to include not only pardons, which are most often granted after the pardoned individual has completed his sentence, although they can be granted at any time after the offense is committed—even before the offender is charged—but also commutations, that is, the shortening of sentences currently being served; reprieves from death sentences; and remissions of fines. Unless the sense otherwise requires, we shall generally use “pardon” to include commutations, reprieves, and remissions.

The pardon power, a traditional “prerogative” power of monarchs and other heads of state,² is plenary; that is, there are no standards to guide its exercise, although it has been argued that an implied limitation should be read into it—that the president cannot pardon himself.³ Because there are no standards, there are very few cases, and they are cases not about the propriety of pardoning a particular individual but rather (as we’ll see shortly) about the consequences of a pardon. As a result, the exercise of the pardon power has received little attention from legal scholars—and virtually none from economists, despite the fact that there is now a thriving literature applying economics to the various phases of the criminal justice system.⁴

¹ Landes is Clifton R. Musser Professor of Economics at the University of Chicago Law School; Posner is a judge of the U.S. Court of Appeals for the Seventh Circuit and a Senior Lecturer at the University of Chicago Law School. An earlier draft of this paper was given at the University of Chicago’s Workshop on Rational Models in the Social, and the authors are grateful for the suggestions made by the participants at the workshop. We also thank Heather Afra, Bryan Dayton, Brian Grill, and especially Meghan Maloney for their very helpful research assistance.

² See, for example, Leslie Sebba, “Criminology: The Pardoning Power—A World Survey,” 68 *Journal of Criminal Law and Criminology* 83 (1977); Daniel T. Kobil, “The Quality of Mercy Strained: Wrestling the Pardoning Power from the King,” 69 *Texas Law Review* 569, 583–591 (1991); W. H. Humbert, *The Pardoning Power of the president* 9–20 (1941); William Blackstone, *Commentaries on the Laws of England*, vol. 4, pp. 389–395 (1769).

³ The argument probably is unsound. See Richard A. Posner, *An Affair of State: The Investigation, Impeachment, and Trial of President Clinton* 107–108 (1999).

⁴ The political scientist P. S. Ruckman, Jr. has done extensive research on presidential pardons (see his forthcoming book *Pardon Me, Mr. President: Adventures in Crime, Politics and Mercy* (2006)) and also maintains a webpage that provides data on pardons from 1860 to 1999 (see www.rvc.cc.il.us/faclink/pruckman/pardoncharts/juristcharts.htm). There are three economic papers on pardons, although only the paper by Stallard analyzes presidential pardons. H. Naci Mocan & Robert Gittings, “Pardons, Executions and Homicide” (NBER Working Paper No. 8639, December 2001), finds a small but statistically significant increase in homicide rates in the 1977 to 1997 period when governors commute the death sentences of state prisoners. Using the same data, Laura M. Argys & H. Naci Mocan, “Who Shall Live and Who Shall Die? An Analysis of Prisoners on Death Row in the United States,” 33 *Journal of Legal Studies* 255 (2004), estimates the effects of state and political variables (e.g., political affiliation of the governor) and prisoner personal characteristics (e.g., race, sex, and prior convictions) on

The legal effect of a pardon as distinct from a commutation or other reprieve is, surprisingly, an unsettled question. One view is that the effect is as if the offense had never happened. The offense is purged from the offender's record, his civil rights are restored (the right to vote, the right to own guns, etc.), the conviction cannot be used to impeach (undermine) his testimony in a trial, the conduct underlying the offense cannot be used against him in a civil proceeding (to disbar him, for example, if he's a lawyer), and so it is as if he had never been convicted in the first place.⁵ The other view, currently in the ascendant, is that the only legal effect of a pardon is to eliminate the express statutory disabilities of a conviction.⁶ So if a statute imposes a heavier sentence on a recidivist, denies the right to vote to a felon, or disqualifies a felon from obtaining certain government contracts, the pardon eliminates these consequences, but the conduct underlying the conviction can be used in civil proceedings against the individual, for example disbarment proceedings.

We have been speaking merely of the *legal* consequences of a pardon. Nonlegal consequences may well loom larger for many pardoned individuals. Some individuals are pardoned because of a belief that they were unjustly convicted or sentenced.⁷ As a result, a pardon (as opposed to a sentence commutation) carries some connotation of vindication, even though, in fact, many pardons are granted for unrelated reasons. And sometimes pardons are granted in recognition of postconviction good behavior by the individual, which gives them something of the aura of a prize, even though, once again, many pardons are granted for unrelated reasons. Assuming imperfect information about pardons, individuals who receive pardons for reasons unrelated to the justice of their conviction or their postconviction behavior can in effect free ride on the "merits" pardons. Notice that the availability of pardons for postconviction good behavior combats recidivism by means of a carrot, complementing the more common stick approach (heavier punishment for recidivists than for first offenders).

"Injustice" pardons are likelier in politically turbulent eras, such as the Civil War and the Vietnam War, and in eras in which the probability of convicting an innocent person was high, as it is not in periods in which the crime rate is high relative to prosecutorial resources so that prosecutors are in effect fishing in a well-stocked pond of guilty persons.

The paper is organized as follows. Part II develops a simple economic model of the demand for and supply of presidential pardons (including commutations and other

prisoner outcomes such as the likelihood that a persons sentenced to death will have his sentence commuted. They find, for example, that blacks and women are less likely to be executed and that lame-duck and Democratic governors are more likely to commute a person's death sentence. Jared Stallard, "Abuse of the Pardon Power: A Legal and Economic Perspective," 1 *DePaul Business and Commercial Law Journal* 103 (2002), models pardons as the outcome of a demand and supply process reflecting society's demand for and the president's supply of pardons. We also use a demand-supply framework but focus on factors that underlie the president's demand and the individual's incentive to apply for a pardon. We also use regression analysis to test several implications of the model.

⁵ See, for example, *Carlisle v. United States*, 83 U.S. 147, 150 (1873); *Ex parte Garland*, 71 U.S. 333, 380 (1866).

⁶ See, for example, *In re North*, 62 F.3d 1434 (D.C. Cir. 1994); *In re Abrams*, 689 A.2d 6 (D.C. App. 1997) (per curiam); Ashley M. Steiner, Comment, "Remission of Guilt or Removal of Punishment? The Effects of a presidential Pardon," 46 *Emory Law Journal* 959 (1997).

⁷ See Fed. R. Evid. 609(c); Glen Weissenberger and James J. Duane, *Federal Rules of Evidence: Rules, Legislative History, Commentary and Authority* § 609.8, p. 304 (2001).

clemency grants). We limit our analysis to presidential pardons, although most state governors have comparable power to pardon state offenses and commute sentences.⁸ Part III presents and analyzes data on presidential pardons between 1900 to 2005, using regression analysis to test implications of the economic model.

II. AN ECONOMIC MODEL OF PARDONS

A. *The Number of Pardon Applications*

The incentive to apply for a pardon is based on the expected benefits of obtaining one, including the legal benefits (the restoration of rights), the psychological benefit of eliminating a criminal record, and any positive reputational and financial benefits.⁹ The benefits (B) will tend to be smaller, the longer the time interval between the completion of sentence and the grant of the pardon because it delays the start of the benefit period. Benefits will also be smaller for older persons, as they will have fewer years in which to enjoy them. The benefits of a pardon are also likely to be lower in a high-crime era, since fewer persons seeking a pardon for offenses committed in that era will be able to make a persuasive “injustice” claim; and the fewer such claims, the less likely a pardon is to be perceived by the public as a form of vindication. Expected benefits also depend on the probability (p) that a pardon will be granted which, in turn, will depend on the willingness of the president to grant pardons.

The costs to persons seeking a pardon include the legal and other fees incurred in applying. The legal costs probably are low, since the pardon procedure is less formal than ordinary litigation. A larger cost than the legal cost to many individuals who have criminal records and might like to be pardoned is the cost of identifying oneself to the government, thereby inviting an investigation of one’s postconviction behavior, an investigation that might generate adverse publicity or unearth evidence of new crimes. Career criminals, therefore, are unlikely to seek pardons. An additional cost is the cost of performing whatever postconviction “good works” are necessary to give a person a good shot at obtaining a pardon. Provisionally, we assume that the full monetary and non-monetary costs of applying for a pardon are identical across individuals and equal to x .

Let N persons be eligible for pardons in a given period, where N equals the number of persons who have completed their criminal sentences and satisfied other conditions (e.g., five or more years of good behavior since being released from prison) to become pardon eligible and even some individuals who have not yet been tried for a crime but who have been or are likely to be indicted.¹⁰ Let all these individuals face the same probability ($= p$) of being pardoned but receive different monetary and non-monetary benefits

⁸ See Clifford Dorne and Kenneth Gewerth, “Mercy in a Climate of Retributive Justice: Interpretations from a National Survey of Executive Clemency Procedures,” *25 New England Journal on Criminal and Civil Confinement* 413, 427–431 (1999). In some states, however, a pardon board, rather than the governor, is vested with the pardon authority. *Id.* at 427.

⁹ In the model we define pardons narrowly to exclude sentence commutations, reprieves, and fine remissions. We could easily expand the model to include these additional forms of clemency but to do so would complicate the analysis without altering its results. In several instances, however, in the model we include all forms of clemency.

¹⁰ If we expanded the analysis to cover all clemency applications, N would also include individuals who have not completed their full sentence but hope to have their sentence commuted, or who seek to have their fine reduced or eliminated or their execution delayed or commuted.

from a pardon. Let pB_i denote the expected benefits for the i th individual ($i=1,\dots,N$). An eligible risk-neutral person thus will apply for a pardon if

$$(1) \quad v_i = pB_i - x \geq 0$$

where v_i equals i 's expected net benefit from a pardon. Alternatively, one could view v_i as the monetary equivalent of the maximum political support plus direct and indirect monetary contributions the applicant is willing to transfer to the president in order to obtain a pardon with a probability p .

From equation (1), it follows that v_i will be greater, the greater the benefits from a pardon, the higher the probability of being pardoned, and the lower the cost of applying and persuading the president to grant a pardon.¹¹ We can order v_i from its highest to lowest value and write the number of persons ($N_a \leq N$) who apply for a pardon as

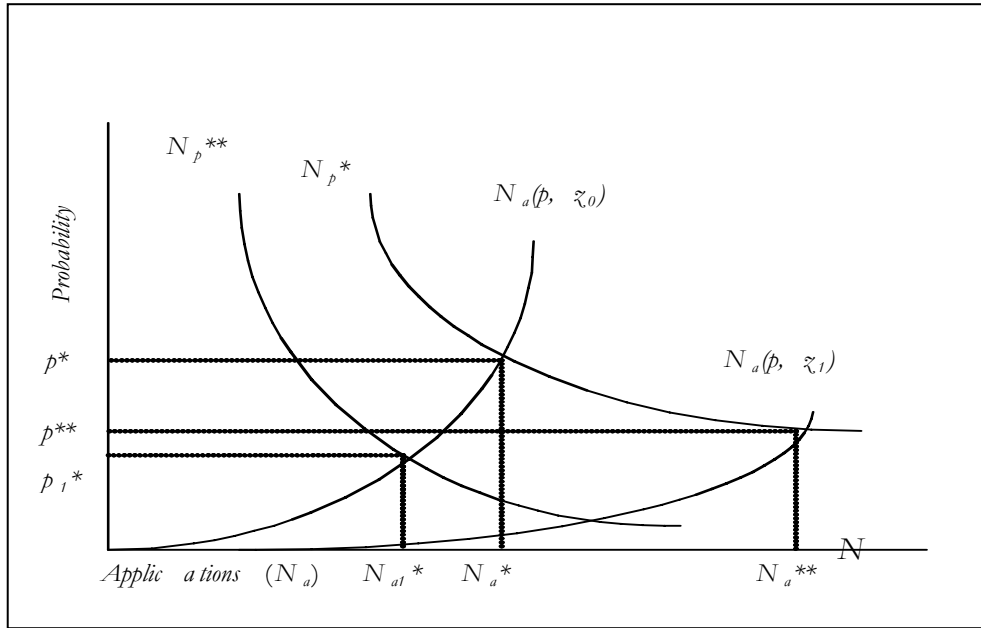
$$(2) \quad N_a = N_a(p, z)$$

where $\partial N_a / \partial p > 0$ and z denotes an index of all other variables that affect the number of pardon applications (via their influence on the variables in equation (1)). That is, as p increases, the number of applicants will increase, pushing B_i down until at the margin p is once again equal to x/B_i . Additional applications beyond that point would imply that $p < x/B_i$ for the marginal applicant, and therefore v_i would be negative.

Figure 1 illustrates the pardon-application supply function. The curve labeled $N_a(p, z_0)$ indicates that as p increases, the number of pardon applications increases, if the values of the other variables (z_0) and the underlying B_i function are held constant. Suppose, for example, that there is a general increase in overall pardon benefits or reduction in application costs x such that $z_1 > z_0$. This will shift the supply function in Figure 1 outward from $N_a(p, z_0)$ to $N_a(p, z_1)$ and the number of applications will increase for each value of p .

¹¹ The model not only assumes that p does not vary among individuals but excludes the possibility that x can have a positive influence on p (i.e., the more the individual spends on hiring fancy lawyers and persons connected to the President, the higher p is).

FIGURE 1
Demand and Supply of Applicants



The supply elasticity of applicants in Figure 1 will depend on the variability in B_i and x (which, to simplify, we assumed constant) among persons eligible to apply for a pardon. In general, the more homogeneous these variables are, the smaller the differences in v_i will be and the more elastic the supply curve. In the limit, if all eligible persons had identical benefits and costs, the supply curve would be horizontal at that level of p at which $v_i = 0$. Alternatively, the greater the differences in B_i and x among eligible persons, the less elastic the supply curve.

B. The Pardon Decision

The willingness of the president to grant a pardon is governed by the personnel and political costs, and benefits, to the president and his advisers of granting the application. A Pardon Attorney in the Justice Department, and his staff, process the applications in the first instance (though as with many of the Clinton pardons, there is nothing to prevent a pardon applicant from applying directly to the president). Because many pardons are controversial, we expect the president and his closest advisers to be directly involved in the decision on whether to grant an application.

The political costs are likely to be greater, the greater public anxiety over crime, which can be proxied by the current crime rate. Similarly, the higher the rate of recidivism for a class of crimes, the higher the political cost of granting a pardon to someone in that group. Stinginess in granting pardons could be a way of currying favor with groups strongly opposed to crime, and since those groups tend to support Republicans, we might expect Republican presidents to grant pardons less frequently than Democratic presidents. The political costs (as well as benefits) may of course differ greatly among appli-

cants. Pardoning a notorious murderer (e.g., Sirhan Sirhan) or famous white collar criminal (e.g., Mike Milken) is likely to generate a public outcry that creates high political.¹²

The benefits of pardoning to the president may include financial benefits in the form of eliciting campaign contributions or donations to a future presidential library from the pardoned individual or his supporters, but political benefits are likely to dominate, such as benefits from currying favor with a group that the president seeks the support of, such as (in the case of a Democratic president) Vietnam War protesters and their supporters. Third, there is the “carrot” benefit, which holds out the prospect of a pardon in order to encourage postconviction good behavior and thereby reduce recidivism.

Formally, the president maximizes his net political benefits (π) with respect to the number of persons he pardons (N_p) by setting

$$(3) \quad \pi = G(N_p, r) - H(N_p, s)$$

where G and H denote the president’s benefits (or gain) and costs (or harm), and r and s denote other factors that affect the benefit and cost functions. We assume that as N_p increases, the marginal gains are positive and decreasing (i.e., $\partial G/\partial N_p > 0$ and $\partial^2 G/\partial N_p^2 < 0$) whereas marginal harms are positive and increasing (i.e., $\partial H/\partial N_p > 0$ and $\partial^2 H/\partial N_p^2 > 0$). In words, an increase in the number of pardons produces diminishing marginal benefits but increasing marginal costs.

Let N_p^* equal the number of pardons that maximizes π . N_p^* equals $N_a p$, the number of applications multiplied by the probability of a pardon. There are an infinite number of combinations of p and N_a that yield N_p^* , meaning that the president is indifferent between a small number of applicants facing a high probability of being pardoned and a relatively large number of applicants facing a low probability. This is illustrated by the curve labeled N_p^* in Figure 1, which represents the president’s demand for applicants at different prices (i.e., different probabilities). At all points along the demand curve, the number of pardons is constant and equal to N_p^* .¹³ Alternatively, one can interpret the N_p^* curve as an indifference curve indicating various combinations of N_a and p that maximize the president’s net benefits: all points to the right and above the curve yield combinations of N_a and p where $N_p > N_p^*$ and therefore greater costs than benefits; and all points to the left and below yield values of N_a and p where $N_p < N_p^*$ and therefore, greater reductions in benefits than savings in costs.

C. Equilibrium Outcomes

In Figure 1, the equilibrium outcome occurs where the president’s demand curve for applicants intersects the supply curve of applicants. Although equation (3) assumed that the president is indifferent among various combinations of N_a and p that yield the value for N_p that maximizes his net benefits, only one such combination will be consistent with the applicants’ supply response to increases in p .¹⁴

¹² These differences are excluded from the formal model because, as noted above, we assume that the probability of a pardon being granted is the same (ex ante) for all applicants. We note shortly, however, how differences in political costs and benefits across individuals can be incorporated into the model.

¹³ We can write the president’s “demand” curve as $N_a = kp^{-1}$ where k is a constant equal to N_p^* . Hence, the demand elasticity equals -1 .

¹⁴ Let N_p^* denote the number of pardons that maximizes the president’s net benefit and let p^* and N_a^* denote values of p and N_a along the supply curve that equal N_p^* . Since the applicant supply curve $N_a = N_a(p)$

Figure 1 illustrates three possible equilibrium outcomes. The first occurs where the president's N_p^* curve intersects the supply curve (the curve labeled $N_a(p, z_0)$) of applicants at N_a^* and p^* . The second assumes that the each applicant's benefit from a pardon (the B_i in equation (2)) increases or his application costs (x) decrease. This shifts the supply curve downward to $N_a(p, z_1)$ (where $z_1 > z_0$) and yields an increase in the number of applications at each p . Assuming the president's net benefit function is unchanged, a new equilibrium will occur in Figure 1 at a lower p ($p^{**} < p^*$) that just offsets the increase in applicants ($N_a^{**} > N_a^*$). Finally, suppose the president's value-maximizing number of pardons decreases (say because a Republican replaces a Democratic president) to N_p^{**} . A new equilibrium will occur where both the number of applicants and probability of successful application decrease from N_a^* to N_{a1}^* and p^* to p_{1}^* .

D. Implications and Extensions of the Model

Our model has a number of testable implications and extensions. These include the following.

1. Generally, the lower the president's marginal gains and the higher his marginal costs, the smaller the number of pardons. In terms of Figure 1, the demand curve will shift downward, leading to a decrease in both p^* and N_a^* and hence a decline in N_p^* . The relative changes in p^* and N_a^* will depend on the elasticity of the applicant supply curve: the greater the elasticity, the smaller the decline in p^* relative to N_a^* . Thus we would predict that greater anxiety about crime (i.e., higher crime rates) would increase the president's marginal costs and lead to fewer pardons, fewer applications, and a lower probability of success. Similarly, we expect that Republican presidents are likely to face higher marginal political costs, resulting in fewer applications, a lower probability of success, and hence fewer pardons.

2. The benefits and costs to the president of a pardon may be asymmetric with regard to the stage in the president's term in office. At the beginning of his first term and particularly at the end of his first term (when he is running for reelection), the political benefits are maximized, provided that there are pardon applicants whose success in obtaining pardons would be popular with the president's actual or potential supporters. The political benefits are minimized when he is a lame duck, except insofar as he has an interest, as normally he will, in his successor's being from the same party and thus more likely to continue his policies or at least not repudiate them. Nonpolitical benefits, however, such as donations to a future presidential library, are likely to be maximized when he is a lame duck. Assuming that the early and the later benefits are equal, the president still has to face political costs from opponents of his granting pardons to particular criminals. These political costs are likely to be greater early in his term and lower when he is a lame duck. From the cost factor alone, therefore, we might expect the bulk of pardons to occur towards the end of the president's term in office. More generally, we might expect an inverse relationship between the frequency of pardons and the time remaining before the president must leave office. We could modify Figure 1 to take account of these "years remaining" effects by shifting the demand curve further to the right the fewer years remaining in office, or the second-term demand curve to the right of the first term. In both

has a positive slope, any value of $p > p^*$ yields $N_a > N_a^*$ and hence $N_p > N_p^*$. Similarly, $p < p^*$ yields $N_a < N_a^*$ and $N_p < N_p^*$.

cases, the equilibrium values for N_a , p and N_p would be higher in the later years of a president's term.

3. Over the last 60 years (though mainly since 1980), the number of persons released from federal prisons has risen about fivefold to nearly 60,000 persons per year. Assuming the distribution of pardon benefits to persons applying for pardons and application costs is roughly the same over time (a question we consider later), this should yield a roughly fivefold increase both in the number of persons eligible for pardons and in applications over the 60- year period. That is, at each p the applicant supply curve should have shifted to the right, leading to a fivefold increase in N_a . If the president's demand curve is unchanged, the net effect will be to reduce p and increase N_a so that N_p remains constant. Even if the increase in the number of persons released from prison shifted the president's demand curve to the right because the potential benefits of pardons would increase with the number of eligible persons to select among we expect this effect to be swamped by the outward supply shift. Hence, we would predict that as the number of persons released from federal prisons increased, the number of applications and pardons granted would increase while the probability of being pardoned would decrease.

4. Over time, the convicted felon's benefits from receiving a pardon have probably fallen and the costs of applying have risen. A larger fraction of persons who are pardoned have served their full sentence and the Justice Department's rules on pardons have expanded the interval between when the applicant completed his sentence and when the president (at least when he's acting on the advice of the Pardon Attorney) will consider pardoning him. Although not all eligible persons need be affected by these rules, overall they should shift the supply curve in Figure 1 to the left, lowering the equilibrium value of N_a but raising that of p . But since these changes may be more than offset by the expansion in the number of eligible persons (see Figure 2), the net effect on N_a and p is uncertain. Indeed, tightening up eligibility standards may be a response to the growing number of persons released from federal prisons, a response intended to reduce the burden of having to deal with an increasing number of applications.

5. Equation (3) assumed that the president maximizes his net benefit with respect to the number of persons he pardoned (N_p) but has no preference as to which persons he pardons. A more realistic assumption is that applicants differ in characteristics that make them more or less attractive candidates for a pardon. For example, a person convicted of particularly heinous crime will have almost no chance of being pardoned, while someone convicted of a relatively minor offense who has devoted substantial time and money to charitable activities since his release from prison may have a good chance.

We can model these differences by separating applicants according to the political costs they would impose on the president if pardoned. To simplify, assume we can divide applicants into two equal size groups (I and II) such that pardoning individuals in group I imposes greater political costs than pardoning individuals in group II . We can then rewrite the president's net benefit function as

$$(4) \quad \pi = G(N_p, r) - H(N(I)_p, N(II)_p, s)$$

where $N(I)_p$ and $N(II)_p$ equal the number of persons pardoned in groups I and II respectively, and $N_p = N(I)_p + N(II)_p$. We assume that persons in I and II have the same impact on G but different impacts on the H function, the political costs associated with pardons.

Maximizing (4) with respect to the number of pardons in each group requires that $\partial G/\partial N_p = \partial H/\partial N(I)_p = \partial H/\partial N(II)_p$, or in other words that the president's marginal gain equal the marginal harm within each group. Assuming the marginal harm is greater for *I* than *II* when the number pardoned within each group is the same, the president will pardon more persons from group *II* than from *I* because only then will the marginal harms be equal.¹⁵ So in Figure 1 there will be two demand curves, with the curve facing group *I* members being to the left of the curve facing group *II* members. Assuming identical supply curves (i.e., persons in both groups receive similar benefits from a pardon and incur comparable costs of applying), the equilibrium outcome will result in $N(I)_a^* < N(II)_a^*$, $N(I)_p^* < N(II)_p^*$ and $p(I)^* < p(II)^*$. In words, there will be fewer applicants and pardons and a lower probability of being pardoned for persons in group *I* than those in group *II*.¹⁶

III. EMPIRICAL ANALYSIS OF PARDONS

A. Data.

We have data on presidential clemency grants (we use the term “clemency grants” rather than pardons in this part of the paper because the data enable us to distinguish between pardons, commutations, reprieves, and remissions) for the years 1900 to 2005, comprising a total of 20,729 presidential clemency grants, which is an average of 196 per year, consisting of 135 pardons and 47 sentence commutations, plus 14 other grants of relief. The total number of clemency grants has ranged from 0 in six years (including five years since 1992) to a high of 639 in 1920 (including 341 commutations). If we look just at pardons, the numbers have ranged from 0 to a high of 424 in 1944. Overall, pardons account for about 70 percent of total clemency actions, commutations for 24 percent, and the remaining categories for about 6 percent. But in the last half century pardons have accounted for an increasing share of the total—91 percent in the period 1950 to 2005 compared to 58 percent before 1950. Finally, note that pardon data exclude blanket pardons that were issued after the end of the two world wars, the Korean War, and the Vietnam War to persons who had violated the Selective Service Act or had prior criminal convictions but been honorably discharged from military service.

¹⁵ If the marginal harm in *I* is everywhere greater than in *II*, then the president will not pardon any persons from group *I*.

¹⁶ It seems more likely that benefit (as opposed to having their sentence commuted) from a pardon (B_i) for a person in group *I* will be lower than in group *II*, in part, because persons in *I* will have served longer sentences (having been convicted of more serious crimes) and hence will have fewer years to enjoy the benefits of a pardon. Persons in *I* may also receive lower benefits per year because they are less likely to enjoy reputation gains. One suspects that the reputation of a person who has committed a heinous crime will be so tarnished that he will receive almost no benefit from a pardon. Lower benefits will result in a leftward rotation of the supply curve—i.e., at each p , there will be fewer applicants. In equilibrium, fewer persons in *I* than *II* will apply for and receive pardons but the probability of being pardoned may be lower or higher for *I* than *II* depending on the relative magnitudes of the shift in the supply and demand curves.

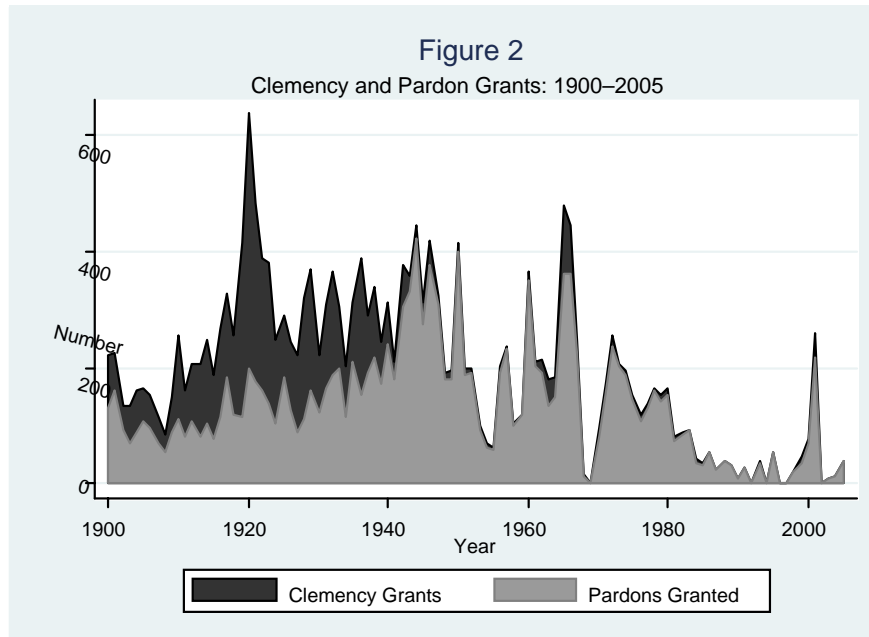


Figure 2 graphs the data.¹⁷ Notice the sharp increase in total clemency grants from 1900 to 1921 and the decline afterwards but with upward spikes in the early 1960s and again in 2001, the last year of Clinton’s presidency. In contrast, the number of pardons increased through 1944 and then declined over the next sixty years, though again with upticks in the 1960s and 2001.¹⁸ The substantial divergence between clemency grants and pardons in the period 1900 to 1944 is due to the rapid growth and then decline

¹⁷ The data are organized by fiscal year. From 1900 to 1976, the government fiscal year was July 1 to June 30. Starting in 1977, the fiscal year runs from October 1 to September 30. Our year variables represent the year the fiscal year ended, not started. For example, fiscal year 2001 covers the period October 1, 2000 thru September 30, 2001.

¹⁸ Clemency data are available from the Office of the Pardon Attorney in the Department of Justice. The data are classified by president by (fiscal) year. Before 1945, the data list one clemency number for the transition year (the year in which one president’s term ends and the next president’s term begins). We assign that number to the outgoing president. Since 1945, two separate clemency application and grant numbers (one for the outgoing and one for the incoming president) are provided for the transition year. When this occurs, we assign the number of clemency grants by the outgoing president in year t to that year and the number granted by the incoming president in his first year to the year $t + 1$. To take one example, Truman pardoned 98 persons and Eisenhower pardoned 7 persons in fiscal year 1953 (the year ending June 30, 1953). We assigned Eisenhower’s pardons in 1953 to the year 1954 even though Truman served fewer than three weeks in 1953 (but more than 6 months of fiscal year 1953). The Truman/Eisenhower example is not atypical: the pardon data indicate that the outgoing president grants the bulk of pardons in the transition year (as implied by our model). Consider the following examples. In fiscal year 1961, Eisenhower pardoned 211 persons and Kennedy 33; in fiscal year 1977; Ford pardoned 135 persons and Carter 1; in fiscal 1993 Bush pardoned 38 individuals and Clinton 0; and in fiscal year 2001 Clinton pardoned 258 individuals and Bush 0. This suggests, however, that the number of clemency applications (and less so the number of clemency grants) that we record during a president’s first year may be disproportionately high because the first year spans an 18 not 12 month period. In the three cases in our sample in which the president died or resigned (Roosevelt, Kennedy, and Nixon) and the data list two observations for the transition year, we assigned the new president’s pardons in the year he assumed office to his total for the following year (which we record as his first year) except for Nixon who resigned August 9, 1974 or one-month and nine days into fiscal year 1975 (which ended on June 30, 1975).

in commutations. Commutations increased from 73 in 1900 to a peak of 341 in 1920, followed by a gradual decline to 10 in 1944. After 1944, Figure 2 shows little divergence between commutations and pardons (except for the years 1965 and 1966). From 1945 to 2005 there was an average of 125.1 pardons and 11.7 commutations per year. For the period since 1970, the averages are 75 and 5.3 per year, respectively.

B. Commutations

Several factors may explain the divergences between the pardon and commutation data.

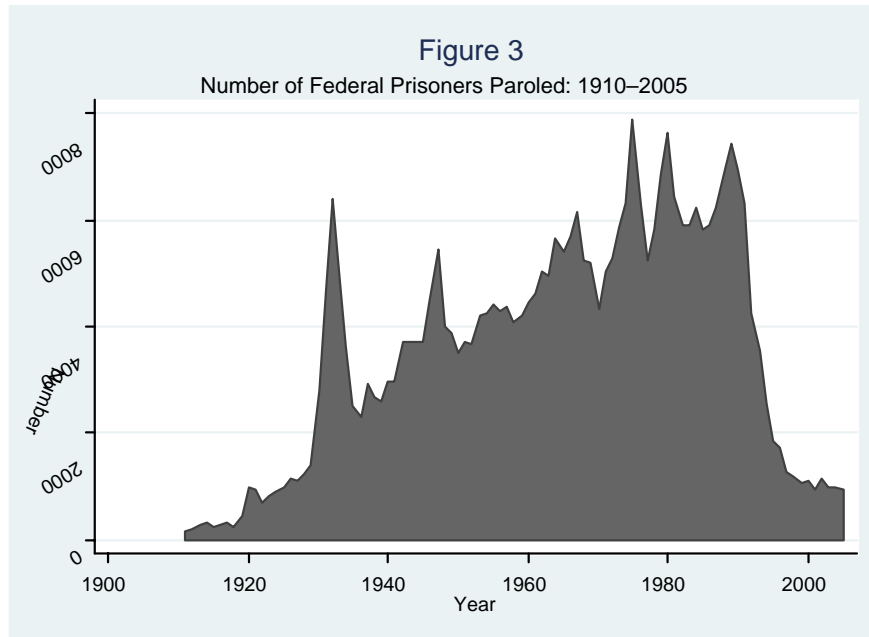
1. Between 1919 and 1923, the peak commutation years, 48 percent of commutations involved persons convicted of violating liquor, espionage, and draft laws.¹⁹ With the end of World War I in November 1918, the costs to the president of releasing persons imprisoned for violating the espionage and draft laws declined, which our model implies would lead to an increase in the number of commutations. Commutations continued at a relatively high level during the prohibition era (1919 to 1933); by 1932, prohibition-related offenses accounted for roughly 50 percent of all commutations. This is not surprising because prohibition had become widely unpopular before its repeal in 1933, and hence the costs to the president of commuting prohibition-related sentences would be small or even negative. And likewise for persons still in prison for liquor law violations after prohibition ended: in fact commutations peaked in 1936.

2. The main reason for the long-run decline in commutations was the passage of legislation in 1910 creating the federal parole system. Parole is a substitute for commutation, since a prisoner seeking to shorten his prison term can apply for either or both.²⁰ Prisoners whose parole applications are denied and seek to have their sentences commuted are likely to impose high political costs on the president, because he would be overriding experts who had concluded that the applicant should not be released. As Figure 3 shows, the number of federal prisoners paroled grew from an annual average of 351 between 1911 and 1920 to more than 7,400 in 1989 and then declined as more and more prisoners were sentenced under the sentencing guidelines. The simple correlation between the number of federal prisoners paroled and the number of commutations is $-.44$ for the 1900–2005 period, and $-.54$ if we restrict the data to the years before 1990.²¹

¹⁹ We tabulated these numbers from information on the individual's offense that is listed in the commutation grant.

²⁰ One counterweight is that some sentence commutations did not release the defendant but reduced his sentence in order to make him eligible for parole. See Margaret Colgate Love, "Of Pardons, Politics and Collar Buttons: Reflections on the President's Duty to be Merciful," 27 *Fordham Urban Law Journal* 1483 (2000).

²¹ We are missing parole data for the years 1942 to 1945, 2004 and 2005. To fill in these gaps, we assumed that the annual number paroled in the years 1941 to 1945 equaled the average number paroled in 1941 and 1946, and number paroled in 2004 and 2005 equaled the number paroled in 2003.



3. The number of persons paroled declined substantially after 1989 because the guidelines eliminated parole for defendants sentenced under them.²² Surprisingly, there was no corresponding increase in commutations in 1989, as our earlier analysis of the effect of parole would have predicted. For example, the mean number of annual commutations was 3.8 in the 1978–1988 period compared to 3.9 in the 1989–2005 period and 1.6 in the same period if we exclude 2001, when which outgoing President Clinton commuted the sentences of 40 federal prisoners, an unusual number. A possible explanation for why commutations did not increase after 1989 is that the political forces that had successfully pressed for the 1984 Crime Control Act (which created the guidelines regime and ended parole) and mandatory minimum sentences would have been offended by commutations suggestive of “softness” on crime. This factor could cancel out the efforts of federal prisoners to obtain commutations when the guidelines precluded the possibility of parole.

4. Although the number of sentence commutations remained relatively flat after the sentencing guidelines took hold, this did not deter prisoners from *applying* for commutations. The number of applications increased sharply after 1988, from an average of 214 per year in the 1967–1988 period to 620 in the 1989–2005 period.²³ This increase led to a sharp drop in the applicant’s probability of success, from .04 in 1967–1987 to .005 in 1988–2005. Since the expected benefit of applying was falling, the increase in applications is puzzling. A possible explanation is that the cost of applying is so slight that the number of applications increased because of the absence of alternative ways to reduce one’s sentence.

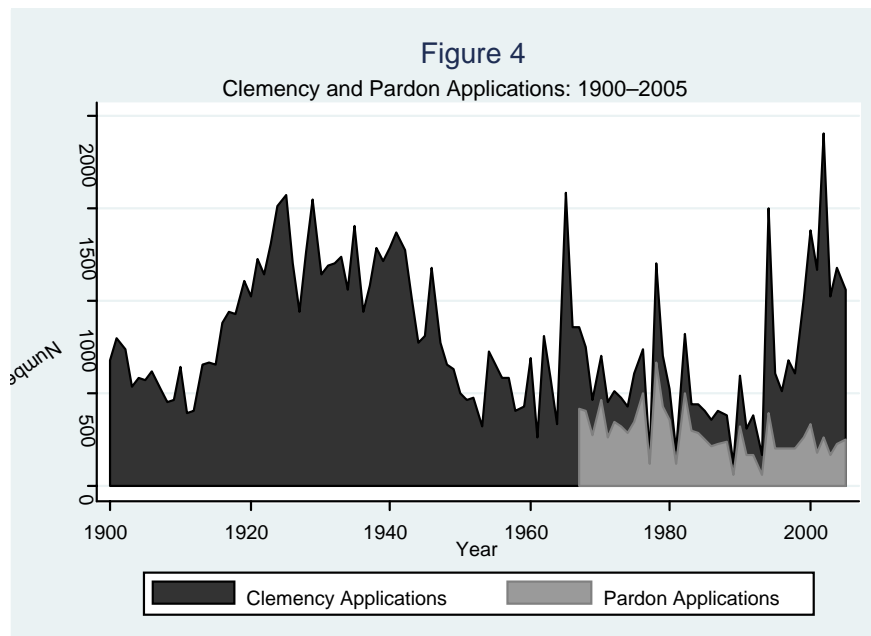
²² The Comprehensive Crime Control Act of 1984 established the U.S. Sentencing Commission, which promulgated sentencing guidelines that went into effect on November 1, 1987. After some district courts invalidated the guidelines, the Supreme Court upheld their validity in *Mistretta v. United States*, 488 U.S. 361 (1989).

²³ 1967 is the first year in which applications for commutations are separated from clemency applications.

C. Clemency Applications

Our model predicts that the number of persons who apply for clemency will depend positively on the probability the request will be granted and the resulting benefits, and negatively on the full costs of filing an application. In addition, we also expect that the greater the number of eligible persons (as proxied by the number of persons in federal prisons and those recently released after serving their sentence), the greater the number of applications other things constant. We combine applications for commutation and for pardons in this section because separate data for these two forms of clemency are available only since 1967, whereas combined data are available for 1900 through 2005. Figure 4 presents data on all clemency applications from 1900 to 2005 and on pardon applications from 1967 to 2004. Total clemency applications increased from 1900 to 1929, consistent with the growth in prohibition and selective service commutations that during this period; trended downward over the next 70 years; but increased substantially beginning in the late 1980s with the introduction of the sentencing guidelines (which, as we noted, produced an increase in the number of applications for commutation). In between, we observe a sharp increase in the late 1960s undoubtedly related to the large number of Vietnam War and civil rights protesters prosecuted during that period.

Notice also the divergence between the pardon and clemency applications beginning in early 1990s. Pardon applications fell from about 400 to 250 between 1967 and 2005. Clemency applications fell from 1967 to 1989 but then the sentencing guidelines kicked in, leading to a sharp increase in commutation applications (as shown by the difference between the two figures in Figure 4) that more than offset the decline in pardon applications.²⁴ The net result was a tripling on clemency applications in the post-1989 period.



²⁴ Because we assign clemency applications received by the incoming president in the transition year to the next year, the number of applications we record in each president's first year is based on 17 or 20 months (depending on whether the fiscal year starts July 1 or Oct. 1). This tends to overstate the first-year transition numbers compared to a 12-month period.

As mentioned earlier, we expect that the greater the number of inmates in federal prisons and the greater the number of persons released from prison, the greater the number of clemency applications. The former compose the population of potential commutation applicants and the latter the population of eligible pardon applicants since most persons who are eventually pardoned will have completed their sentences. Figure 5 reveals that the number of inmates in federal prison rose from an average of 9574 in the 1926–1930 period to 21,789 in the 1979–1981 period and to more than 156,000 in the 2003–2005 period—a more than sixteen fold increase over the 1926 to 2005, with most of the increase occurring after 1980. We find a similar pattern for persons released each year from federal prisons. The number remained relatively constant until 1980 and more than tripled between 1980 and 2005. The failure of pardon applications (which declined after 1980) to keep pace with the number of pardon eligible persons presents a puzzle. Our model suggests a possible explanation that we consider below; namely, that the expected benefits of pardons have declined over time, in part, because it takes more time after release to obtain a pardon (which in turn reduces the number of years over which one can enjoy the benefits of a pardon). The increase in pardon applications during Clinton’s presidency, and particularly in his second term, may reflect pent-up demand after 12 years of Republican presidents since, as we show later, on average Republicans grant fewer pardons than Democratic presidents.

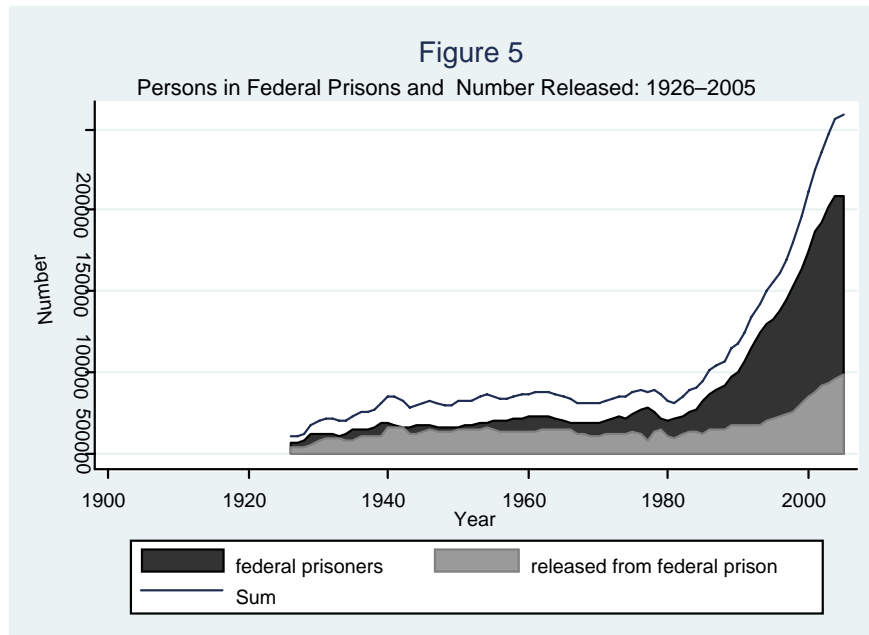
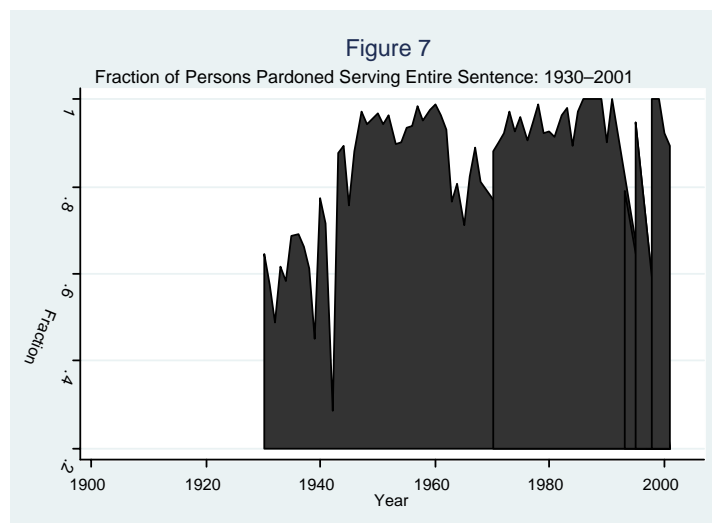
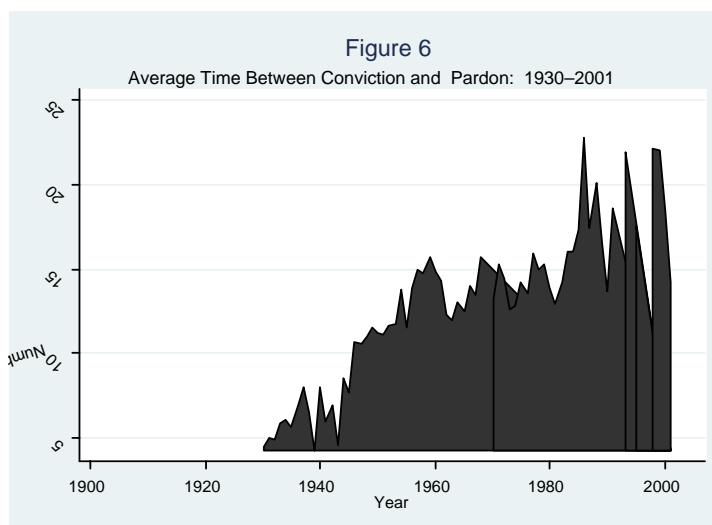


Figure 6 reveals a steady increase in the average interval between conviction and pardon, from about 5 years in the 1930s to close to 20 years in the most recent period. This increase cannot be accounted for by the growth in the average time served of persons released from federal prison; which increased from only about 1.5 years to 2.5 years over the period covered by our data. The change in the Pardon Attorney’s rules (which lengthened the required time after release from prison before filing a pardon application from three to five years in 1962 to five to seven years in 1983) are too slight to explain

the rest of the increase. The government may be using queuing to limit the number of applications, as the staff of the Pardon Attorney may not have expanded in step with the increase in potential pardon applications.²⁵

Consistent with the increase in the interval between conviction and pardon, Figure 7 shows that the fraction of persons pardoned who have served their full sentence has increased. Most of this increase occurred before 1945. Since then, more than 95 percent of persons pardoned had served their full sentence, though this figure dropped to 85 percent in Clinton's last year.²⁶



D. Regression Analysis

Regression analysis enables us to test more systematically the predictions of our economic model. The model assumes that the number of clemency applications depends

²⁵ Fill in numbers

²⁶ Our data on the average time between conviction and pardon and the fraction serving their entire sentence cover the 1930–2001 period with no data for the years 1969, 1992, 1994 and 1996–97 (the years in which there were zero pardons). The vertical lines in Figures 6 and 7 denote the missing values.

on the expected benefits and cost of applying and the number of clemency grants depends on the president's calculation of his net political benefits from approving an application. This yields an equilibrium number of applications and grants (see Figure 1) that can be estimated from time series data over the 1900 to 2005 period. We seek to estimate the following simultaneous equation system:

$$(5) \quad N_a = g(N_p, X, w)$$

$$(6) \quad N_p = f(N_a, Y, u)$$

where N_a and N_p denote the number of clemency applications and grants respectively in year t (to simplify the notation we exclude year subscripts), X and Y are sets of exogenous variables, and w and u are residuals.²⁷

The X variables in equation (5) include the number of persons paroled (the greater the number, the smaller the number of persons seeking commutations); the average time from conviction to pardon (the longer the time, the smaller the discounted net benefits of a pardon and hence the smaller the number of applications); the number of pending applications in the beginning of year t from prior years (the greater the number pending, the smaller the chance the president will act favorably on new applications and the smaller the number of applications); a time trend variable that picks up the combined effect of left-out variables (e.g., the growth in the federal prison population); and three time period dummies (prohibition, wartime and postwar periods) that may influence applications. For example, we expect Prohibition to increase the number of applications because of the large number of persons serving sentences for violating the unpopular liquor laws. The Y variables in equation (6) include the same time trend and time period dummies used in equation (5), the number of persons paroled plus the following additional variables: the president's party; whether the president is in his first or second (or subsequent, in the case of Franklin Roosevelt) term and whether he is in his last year in office (on the theory that the president grants more clemencies in his last year); the crime rate (the higher the rate, the greater the electorate's concern about crime and the fewer the number of clemency grants); and the proportion of democrats in the House of Representatives (a greater proportion may reflect a more liberal electorate that is softer on crime and so views clemency more favorably).

Recall that in the model N_a depends on N_p but the latter does not depend on N_a . That is, the decision to file a clemency application depends on the expected number of grants but the president chooses the number and types of persons to pardon that maximize his net benefits without regard to the number of applications (assuming, as is always the case, that the number of applications is substantially greater than the number of grants). One might expect, however, that an increase in N_a would increase the number of clemency-suitable applicants and thus increase N_p . In terms of Figure 1, an increase in N_a (a rightward shift in the supply curve) would lead to a positive shift in the president's de-

²⁷ Clemency applications are evenly divided between pardon and commutation applications in the period since 1967—the only period in which separate data on pardon and commutation applications are available. Prior to 1967, pardon and commutation applications are grouped into the single clemency category (which also includes a small number of reprieves). In order to avoid losing roughly two-thirds of our observations, equation (5) focuses on clemency applications rather than pardons or commutations separately.

mand curve and an increase in N_p in equilibrium. To test this hypothesis, we added N_a as a right-hand variable in equation (6).

Table 3 describes in more detail the variables in the regression analysis and Tables 4 and 5 presents the regressions. Table 4 contains regression estimates of equation (6) for pardons and commutations separately over the 1900–2005 period, but not applications (equation (5)), because separate data on pardon and commutation applications are not available before 1967. Table 5 presents two-stage-least squares regressions of equations (5) and (6) for clemency (pardons and commutations combined) applications and grants. All regression estimates use robust standard errors.

Overall, the regression results support the model. Turning first to the pardon and commutation regressions (equation (6)) in Table 4, we find that democratic presidents (who we assumed earlier would be less tough on crime) are more likely to grant both pardons and commutations. The coefficient on *Dem* is positive and statistically significant in both regressions and of substantial magnitude—there is roughly a 25 percent increase in pardons and a 44 percent increase in commutations under Democratic presidents. None of the other president-specific variables (*FirstTerm* and *Transition*) are statistically significant, although presidents appear more likely to grant pardons during their second term than during their first term and (surprisingly) fewer pardons during their last year in office—with the dramatic exception of Clinton’s last year, indeed his last month. The Democratic house variable (*DemHouse*) is positive and highly significant in the pardon but not the commutation regression. Why the difference? A possible explanation is that pardons attract greater public attention than commutations. Hence the president stands to gain greater benefits (or lose less) from a pardon than from a commutation the more liberal is the electorate (as measured by the percent of Democratic house members). Consistent with this explanation, *DemHouse* has a positive and significant impact on pardons but not on commutations.

Table 3 DEFINITION OF VARIABLES	
<i>App</i>	Number of clemency (pardons, commutation and other) applications
<i>Clemency</i>	Number of clemency grants
<i>Pardons</i>	Number of pardons
<i>Commutations</i>	Number of sentence commutations
<i>Pending</i>	Number of pending clemency applications at beginning of year
<i>Postwar</i>	Dummy variable that equals 1 in the four years following the end of a war and 0 otherwise
<i>Prohibition</i>	Dummy variable that equals 1 in the 1919 to 1933 time period (prohibition) and 0 otherwise
<i>War</i>	Dummy variable that equals 1 during WWI, WWII, Korea and Vietnam and 0 otherwise
<i>PostWar</i>	Dummy variable that equals 1 in the four years following the end of a war and 0 otherwise
<i>Dem</i>	Dummy variables that equals 1 if president a democrat and 0 if a republican
<i>DemHouse</i>	Percentage of Democratic House Members
<i>FirstTerm</i>	Dummy variable that equals 1 in president's first year and 0 otherwise
<i>Transition</i>	Dummy variable that equals 1 in last year in office (assuming president serves entire term) and 0 otherwise
<i>Parole</i>	Number of persons released on parole
<i>Distance</i>	Average number of years between completion of sentence and pardon
<i>CRIME</i>	FBI index of total violent and property crime per 100,000 persons
<i>Year</i>	Time Trend

Table 4
REGRESSION ANALYSIS OF PARDONS AND COMMUTATIONS

<i>Independent Variables</i>	<i>Pardons (4.1)</i>	<i>Commutations (4.2)</i>
<i>Dem</i>	45.87 (2.72)**	20.71 (2.80)**
<i>FirstTerm</i>	-24.93 (1.53)	0.12 (0.01)
<i>Transistion</i>	-27.66 (1.02)	4.75 (0.44)
<i>DemHouse</i>	1.80 (2.07)*	0.79 (1.27)
<i>Prohibition</i>	40.76 (2.76)**	112.30 (6.17)**
<i>PostWar</i>	42.48 (1.91)	30.40 (1.54)
<i>War</i>	51.86 (2.01)*	5.09 (0.40)
<i>Parole</i>	0.01 (2.72)**	-0.01 (3.07)**
<i>year</i>	-1.34 (5.04)**	-0.59 (7.08)**
<i>Constant</i>	2581 (4.99)	1152 (6.92)**
<i>Observations</i>	106	106
<i>R-squared</i>	.42	.68

Notes: (1) All regression use robust standard errors; (2) “**” denotes significant at 5% level and “***” significant at 1% level in 2-tailed test. (3) All R-squares are adjusted

Table 4 also includes three dummy time variables to test the impact on pardons and commutations of Prohibition (1919-1933) and the four war and post-war periods (World War I and II, Korea, and Vietnam). We predict that weakening public support for Prohibition in the 1920s and 1930s would increase the president’s net benefits from granting clemency to persons convicted of violating the liquor laws. Thus we expect and find that the number of pardons and commutations significantly increased during prohibition. Since the president can probably realize the benefits of clemency sooner by commuting a person’s sentence than by pardoning him after he completes his sentence years later, Prohibition should have a bigger impact on commutations than on pardons. The regression analysis supports this hypothesis; the coefficient on the prohibition variable is

more than twice as large in the commutation regression than in the pardon regression (112 compared to 54).²⁸ We also find a significant increase in pardons but not commutations during wartime and postwar periods (the *War* and *PostWar* variables). One explanation is that the president uses a pardon as a reward for distinguished military service. The reward hypothesis is consistent with the fact that Wilson, Truman, and Carter all granted blanket pardons (not included in our pardon data) to persons who had been honorably discharged from military service following the end of a war. In contrast, we would not expect an increase in commutations in wartime or in postwar periods. A commutation cannot be used as a reward for military service since it would have to occur before rather than after military service. (It would be odd to commute a sentence of someone who had committed a crime after being discharged from the service.) Our results also don't support the hypothesis that commutations are used as a recruiting device, to induce prisoners to enter military service.

With respect to the remaining variables in Table 4, we find a negative and statistically significant effect of *Parole* on commutations but a positive and significant effect on pardons. The negative or substitution effect on commutations is understandable since an increase in the number of persons paroled, which effectively shortens the offenders' time in prison, should reduce the number of prisoners whom the president is likely to find suitable for early release via a commutation. It is unclear, however, why *Parole* should have any significant effect of pardons as opposed to commutations. The positive and significant coefficient in the pardon regression suggests that parole is often a first step towards an eventual pardon, although the time lag between parole and pardon would attenuate this effect. Finally, we observe a negative and significant time trend in both the pardon and commutation regressions.

The two-stage least squares regressions in Table 5 combine data on pardons and commutations for the period 1900–2005 and also the shorter period 1931–2005, which allows us to include data on crime and on the average time between conviction and pardon. The economic model predicts that the number of clemency applications will depend positively on the likelihood of a clemency grant and negatively on both the time interval between conviction and clemency (the longer the interval, the fewer the number of periods to enjoy the benefits and the greater the costs in obtaining a grant) and the availability of substitutes, such as parole.

The number of clemency grants (or, as shown below, the likelihood of receiving a grant) has a positive and significant effect on clemency applications in both regressions (5.1) and (5.3). The elasticity of applications with respect to grants (at the mean values) ranges between .6 and .7, implying that a 10 percent increase in grants increases applications by about 6 to 7 percent. This is consistent with our model, which implies an elasticity of less than one, since otherwise total applications would not be an increasing function of the probability of clemency.²⁹ We also find that an increase in the number of persons paroled reduces the number of applications significantly—the implied elasticity is small

²⁸ The difference between the prohibition coefficients in equations (4.1) and (4.2) is statistically significant. Moreover, this difference is also apparent in Figure 2 where commutations (the difference between the clemency and pardon curves) rise more rapidly than pardons during the period of prohibition.

²⁹ To see this, imagine that the elasticity equaled 2 and let $p=g/a$ where p is the probability of receiving a grant, and g and a equal the number of grants and applications respectively. Then a 10 percent increase in g would lead to a 20 percent increase in a and hence a decrease in p .

(between .2 and .6) indicating that a 10 percent increase in the number of persons paroled is associated with a 2 to 6 percent reduction in applications. Notice the negative and significant effect of the distance variable (the average time from conviction to pardon) on the number of applications. The greater the distance, the shorter the time period over which one can enjoy the benefits of a pardon and the weaker the incentive to apply for a pardon. This, in turn, shows up in a decline in clemency applications. The regression coefficient on the distance variable indicates that an additional year of waiting time reduces the number of applications by 68, which implies an elasticity of 1.2.³⁰

Results are mixed for the three time-period dummy variables in the application regressions. The number of applications increased during Prohibition, but the effect is only significant in the post-1930 regression (though it is nearly significant in the 1900–2005 regression).³¹ Applications decrease during wartime and the post-war periods, but the effects are only significant in the 1900–2005 regression. The number of pending applications tends to be positively associated with applications, though the effect is only significant in the 1900–2005 regression; this suggests that the positive correlation between applications in two successive time periods offsets the disincentive to apply for clemency in the current year if there are a large number of pending applications from prior years. Lastly, we observe a positive time trend in applications that corresponds to the increase in the 1900 to 2005 period in the number of federal prisoners (and persons released from prison) that make up the pool of potential clemency applicants.

The clemency regressions in Table 5 include the same right-hand-side variables as the pardon and commutation regressions in Table 4, plus two additional variables: the number of applications and the crime rate (available since 1930). We noted earlier that an increase in applications should increase the number of clemency-suitable applicants and therefore increase the number of clemency grants, while the higher the crime rate the higher the political costs to the president of granting clemency and the fewer the number of clemency grants. The results in Table 5 support these hypotheses. Applications have a positive and significant effect on clemency grants in both the 1900–2005 and post-1930 regression. The crime rate has a negative and significant negative impact on clemency grants.

³⁰ An increase in distance should only effect pardon applications, which account for 42 percent of clemency applications since 1969 (separate pardon and commutation application data are not available before 1969). If we assume the impact of distance is limited to pardon applications, then the elasticity would be about 2.9 (1.2/.42).

³¹ The difference between the two regressions is not surprising. Assuming there is lag in sentencing prohibition violators, we would expect that the main increase in applications would occur during the later years of prohibition, which are the only ones included in the post-1930 regression.

Table 5
2SLQs Regression Analysis of Applications and Grants: 1900–2005
(t-statistics in parentheses)

	<i>Applications</i> (5.1)	<i>Clemency Grants</i> (5.2)	<i>Applications</i> (5.3)	<i>Clemency Grants</i> (5.4)
<i>Clemency</i>	2.96 (4.74)**	-	2.60 (2.96)**	-
<i>Applications</i>	-	0.14 (3.09)**	-	0.11 (3.47)**
<i>Dem</i>	-	38.97 (2.25)*	-	27.75 (1.19)
<i>FirstTerm</i>	-	-20.45 (1.19)	-	5.27 (0.26)
<i>Transition</i>	-	-40.08 (1.54)	-	-49.90 (1.63)
<i>DemHouse</i>	-	2.52 (2.42)**	-	3.04 (1.84)
<i>Prohibition</i>	189.98 (1.88)	86.84 (2.02)*	342.98 (3.58)**	30.24 (0.56)
<i>War</i>	-203.66 (2.06)*	54.03 (2.16)*	-143.05 (1.36)	37.47 (1.06)
<i>PostWar</i> (2.34)*	-208.52 (2.89)**	75.54 (0.51)	39.13 (0.24)	6.57
<i>Pending</i>	0.29 (2.42)*	-	0.13 (1.17)	-
<i>Parole</i>	-0.06 (2.75)**	0.01 (2.24)*	-0.10 (3.48)**	.023 (2.84)**
<i>Distance</i>	-	-	-68.34 (2.49)*	-
<i>Crime</i>	-	-	-	-0.05 (2.12)*
<i>Year</i>	5.34 (1.93)	-2.69 (9.10)**	19.90 (2.44)*	-0.49 (0.29)
<i>Constant</i>	-10113 (1.88)	5122 (69.04)**	-35573 (2.38)*	882 (0.27)
<i>Observations</i>	106	106	75	75
<i>R-squared</i>	.43	.67	.55	.69

Notes: (1) All regression use robust standard errors; (2) The absolute value of t statistics are in parentheses; (3) “*” denotes significant at 5% level and “**” significant at 1% level in 2-tailed test. (4) All R-squares are centered.

The effects of the other variables on clemency grants in Table 5 are similar to those in the single-equation estimates presented in Table 4. The number of clemency grants is higher for a Democratic president (*Dem*) and House (*DemHouse*) although these effects are only significant in the 1900–2005 regression. The coefficients on the president's term (*FirstTerm*) and his last year in office (*Transition*) are negative but never significant. As before, the number of grants is higher during Prohibition, wartime, and the post-war years, but these effects are only significant in the 1900–2005 period. *Parole* has a small but significant positive effect on the number of clemency grants, which reflect the offsetting positive and negative effects of *Parole* on pardons and commutations, respectively, in Table 4.

Readers with comments should address them to:

Professor Richard A. Posner
University of Chicago Law School
1111 East 60th Street
Chicago, IL 60637

Chicago Working Papers in Law and Economics
(Second Series)

For a listing of papers 1–200 please go to Working Papers at <http://www.law.uchicago.edu/Lawecon/index.html>

201. Douglas G. Baird and Robert K. Rasmussen, Chapter 11 at Twilight (October 2003)
202. David A. Weisbach, Corporate Tax Avoidance (January 2004)
203. David A. Weisbach, The (Non)Taxation of Risk (January 2004)
204. Richard A. Epstein, Liberty versus Property? Cracks in the Foundations of Copyright Law (April 2004)
205. Lior Jacob Strahilevitz, The Right to Destroy (January 2004)
206. Eric A. Posner and John C. Yoo, A Theory of International Adjudication (February 2004)
207. Cass R. Sunstein, Are Poor People Worth Less Than Rich People? Disaggregating the Value of Statistical Lives (February 2004)
208. Richard A. Epstein, Disparities and Discrimination in Health Care Coverage; A Critique of the Institute of Medicine Study (March 2004)
209. Richard A. Epstein and Bruce N. Kuhlik, Navigating the Anticommons for Pharmaceutical Patents: Steady the Course on Hatch-Waxman (March 2004)
210. Richard A. Epstein, The Optimal Complexity of Legal Rules (April 2004)
211. Eric A. Posner and Alan O. Sykes, Optimal War and *Jus Ad Bellum* (April 2004)
212. Alan O. Sykes, The Persistent Puzzles of Safeguards: Lessons from the Steel Dispute (May 2004)
213. Luis Garicano and Thomas N. Hubbard, Specialization, Firms, and Markets: The Division of Labor within and between Law Firms (April 2004)
214. Luis Garicano and Thomas N. Hubbard, Hierarchies, Specialization, and the Utilization of Knowledge: Theory and Evidence from the Legal Services Industry (April 2004)
215. James C. Spindler, Conflict or Credibility: Analyst Conflicts of Interest and the Market for Underwriting Business (July 2004)
216. Alan O. Sykes, The Economics of Public International Law (July 2004)
217. Douglas Lichtman and Eric Posner, Holding Internet Service Providers Accountable (July 2004)
218. Shlomo Benartzi, Richard H. Thaler, Stephen P. Utkus, and Cass R. Sunstein, Company Stock, Market Rationality, and Legal Reform (July 2004)
219. Cass R. Sunstein, Group Judgments: Deliberation, Statistical Means, and Information Markets (August 2004, revised October 2004)
220. Cass R. Sunstein, Precautions against What? The Availability Heuristic and Cross-Cultural Risk Perceptions (August 2004)
221. M. Todd Henderson and James C. Spindler, Corporate Heroin: A Defense of Perks (August 2004)
222. Eric A. Posner and Cass R. Sunstein, Dollars and Death (August 2004)
223. Randal C. Picker, Cyber Security: Of Heterogeneity and Autarky (August 2004)
224. Randal C. Picker, Unbundling Scope-of-Permission Goods: When Should We Invest in Reducing Entry Barriers? (September 2004)
225. Christine Jolls and Cass R. Sunstein, Debiasing through Law (September 2004)
226. Richard A. Posner, An Economic Analysis of the Use of Citations in the Law (2000)
227. Cass R. Sunstein, Cost-Benefit Analysis and the Environment (October 2004)
228. Kenneth W. Dam, Cordell Hull, the Reciprocal Trade Agreement Act, and the WTO (October 2004)
229. Richard A. Posner, The Law and Economics of Contract Interpretation (November 2004)
230. Lior Jacob Strahilevitz, A Social Networks Theory of Privacy (December 2004)
231. Cass R. Sunstein, Minimalism at War (December 2004)
232. Douglas Lichtman, How the Law Responds to Self-Help (December 2004)
233. Eric A. Posner, The Decline of the International Court of Justice (December 2004)
234. Eric A. Posner, Is the International Court of Justice Biased? (December 2004)
235. Alan O. Sykes, Public vs. Private Enforcement of International Economic Law: Of Standing and Remedy (February 2005)
236. Douglas G. Baird and Edward R. Morrison, Serial Entrepreneurs and Small Business Bankruptcies (March 2005)
237. Eric A. Posner, There Are No Penalty Default Rules in Contract Law (March 2005)
238. Randal C. Picker, Copyright and the DMCA: Market Locks and Technological Contracts (March 2005)
239. Cass R. Sunstein and Adrian Vermeule, Is Capital Punishment Morally Required? The Relevance of Life-Life Tradeoffs (March 2005)
240. Alan O. Sykes, Trade Remedy Laws (March 2005)
241. Randal C. Picker, Rewinding *Sony*: The Evolving Product, Phoning Home, and the Duty of Ongoing Design (March 2005)
242. Cass R. Sunstein, Irreversible and Catastrophic (April 2005)
243. James C. Spindler, IPO Liability and Entrepreneurial Response (May 2005)

244. Douglas Lichtman, Substitutes for the Doctrine of Equivalents: A Response to Meurer and Nard (May 2005)
245. Cass R. Sunstein, A New Progressivism (May 2005)
246. Douglas G. Baird, Property, Natural Monopoly, and the Uneasy Legacy of *INS v. AP* (May 2005)
247. Douglas G. Baird and Robert K. Rasmussen, Private Debt and the Missing Lever of Corporate Governance (May 2005)
248. Cass R. Sunstein, Administrative Law Goes to War (May 2005)
249. Cass R. Sunstein, Chevron Step Zero (May 2005)
250. Lior Jacob Strahilevitz, Exclusionary Amenities in Residential Communities (July 2005)
251. Joseph Bankman and David A. Weisbach, The Superiority of an Ideal Consumption Tax over an Ideal Income Tax (July 2005)
252. Cass R. Sunstein and Arden Rowell, On Discounting Regulatory Benefits: Risk, Money, and Intergenerational Equity (July 2005)
253. Cass R. Sunstein, Boundedly Rational Borrowing: A Consumer's Guide (July 2005)
254. Cass R. Sunstein, Ranking Law Schools: A Market Test? (July 2005)
255. David A. Weisbach, Paretian Intergenerational Discounting (August 2005)
256. Eric A. Posner, International Law: A Welfarist Approach (September 2005)
257. Adrian Vermeule, Absolute Voting Rules (August 2005)
258. Eric Posner and Adrian Vermeule, Emergencies and Democratic Failure (August 2005)
259. Douglas G. Baird and Donald S. Bernstein, Absolute Priority, Valuation Uncertainty, and the Reorganization Bargain (September 2005)
260. Adrian Vermeule, Reparations as Rough Justice (September 2005)
261. Arthur J. Jacobson and John P. McCormick, The Business of Business Is Democracy (September 2005)
262. Adrian Vermeule, Political Constraints on Supreme Court Reform (October 2005)
263. Cass R. Sunstein, The Availability Heuristic, Intuitive Cost-Benefit Analysis, and Climate Change (November 2005)
264. Lior Jacob Strahilevitz, Information Asymmetries and the Rights to Exclude (November 2005)
265. Cass R. Sunstein, Fast, Frugal, and (Sometimes) Wrong (November 2005)
266. Robert Cooter and Ariel Porat, Total Liability for Excessive Harm (November 2005)
267. Cass R. Sunstein, Justice Breyer's Democratic Pragmatism (November 2005)
268. Cass R. Sunstein, Beyond Marbury: The Executive's Power to Say What the Law Is (November 2005, revised January 2006)
269. Andrew V. Papachristos, Tracey L. Meares, and Jeffrey Fagan, Attention Felons: Evaluating Project Safe Neighborhoods in Chicago (November 2005)
270. Lucian A. Bebchuk and Richard A. Posner, One-Sided Contracts in Competitive Consumer Markets (December 2005)
271. Kenneth W. Dam, Institutions, History, and Economics Development (January 2006, revised October 2006)
272. Kenneth W. Dam, Land, Law and Economic Development (January 2006, revised October 2006)
273. Cass R. Sunstein, Burkean Minimalism (January 2006)
274. Cass R. Sunstein, Misfearing: A Reply (January 2006)
275. Kenneth W. Dam, China as a Test Case: Is the Rule of Law Essential for Economic Growth (January 2006, revised October 2006)
276. Cass R. Sunstein, Problems with Minimalism (January 2006, revised August 2006)
277. Bernard E. Harcourt, Should We Aggregate Mental Hospitalization and Prison Population Rates in Empirical Research on the Relationship between Incarceration and Crime, Unemployment, Poverty, and Other Social Indicators? On the Continuity of Spatial Exclusion and Confinement in Twentieth Century United States (January 2006)
278. Elizabeth Garrett and Adrian Vermeule, Transparency in the Budget Process (January 2006)
279. Eric A. Posner and Alan O. Sykes, An Economic Analysis of State and Individual Responsibility under International Law (February 2006)
280. Kenneth W. Dam, Equity Markets, The Corporation and Economic Development (February 2006, revised October 2006)
281. Kenneth W. Dam, Credit Markets, Creditors' Rights and Economic Development (February 2006)
282. Douglas G. Lichtman, Defusing DRM (February 2006)
283. Jeff Leslie and Cass R. Sunstein, Animal Rights without Controversy (March 2006)
284. Adrian Vermeule, The Delegation Lottery (March 2006)
285. Shahar J. Dilbary, Famous Trademarks and the Rational Basis for Protecting "Irrational Beliefs" (March 2006)
286. Adrian Vermeule, Self-Defeating Proposals: Ackerman on Emergency Powers (March 2006)
287. Kenneth W. Dam, The Judiciary and Economic Development (March 2006, revised October 2006)
288. Bernard E. Harcourt: Muslim Profiles Post 9/11: Is Racial Profiling an Effective Counterterrorist Measure and Does It Violate the Right to Be Free from Discrimination? (March 2006)
289. Christine Jolls and Cass R. Sunstein, The Law of Implicit Bias (April 2006)

290. Lior J. Strahilevitz, "How's My Driving?" for Everyone (and Everything?) (April 2006)
291. Randal C. Picker, Mistrust-Based Digital Rights Management (April 2006)
292. Douglas Lichtman, Patent Holdouts and the Standard-Setting Process (May 2006)
293. Jacob E. Gersen and Adrian Vermeule, *Chevron* as a Voting Rule (June 2006)
294. Thomas J. Miles and Cass R. Sunstein, Do Judges Make Regulatory Policy? An Empirical Investigation of *Chevron* (June 2006)
295. Cass R. Sunstein, On the Divergent American Reactions to Terrorism and Climate Change (June 2006)
296. Jacob E. Gersen, Temporary Legislation (June 2006)
297. David A. Weisbach, Implementing Income and Consumption Taxes: An Essay in Honor of David Bradford (June 2006)
298. David Schkade, Cass R. Sunstein, and Reid Hastie, What Happened on Deliberation Day? (June 2006)
299. David A. Weisbach, Tax Expenditures, Principle Agent Problems, and Redundancy (June 2006)
300. Adam B. Cox, The Temporal Dimension of Voting Rights (July 2006)
301. Adam B. Cox, Designing Redistricting Institutions (July 2006)
302. Cass R. Sunstein, Montreal vs. Kyoto: A Tale of Two Protocols (August 2006)
303. Kenneth W. Dam, Legal Institutions, Legal Origins, and Governance (August 2006)
304. Anup Malani and Eric A. Posner, The Case for For-Profit Charities (September 2006)
305. Douglas Lichtman, Irreparable Benefits (September 2006)
306. M. Todd Henderson, Paying CEOs in Bankruptcy: Executive Compensation when Agency Costs Are Low (September 2006)
307. Michael Abramowicz and M. Todd Henderson, Prediction Markets for Corporate Governance (September 2006)
308. Randal C. Picker, Who Should Regulate Entry into IPTV and Municipal Wireless? (September 2006)
309. Eric A. Posner and Adrian Vermeule, The Credible Executive (September 2006)
310. David Gilo and Ariel Porat, The Unconventional Uses of Transaction Costs (October 2006)
311. Randal C. Picker, Review of Hovenkamp, *The Antitrust Enterprise: Principle and Execution* (October 2006)
312. Dennis W. Carlton and Randal C. Picker, Antitrust and Regulation (October 2006)
313. Robert Cooter and Ariel Porat, Liability Externalities and Mandatory Choices: Should Doctors Pay Less? (November 2006)
314. Adam B. Cox and Eric A. Posner, The Second-Order Structure of Immigration Law (November 2006)
315. Lior J. Strahilevitz, Wealth without Markets? (November 2006)
316. Ariel Porat, Offsetting Risks (November 2006)
317. Bernard E. Harcourt and Jens Ludwig, Reefer Madness: Broken Windows Policing and Misdemeanor Marijuana Arrests in New York City, 1989–2000 (December 2006)
318. Bernard E. Harcourt, Embracing Chance: Post-Modern Meditations on Punishment (December 2006)
319. Cass R. Sunstein, Second-Order Perfectionism (December 2006)
320. William M. Landes and Richard A. Posner, The Economics of Presidential Pardons and Commutations (January 2007)