The Transformation of Prison Regimes in Late Capitalist Societies*

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Abstract

Recent studies argue that cultural and political-economic shifts have led to a sea change in penal regimes among modern western societies, resulting in more punitive social policies in general and a trend toward higher incarceration rates in particular. This is a special case of a wider argument that globalization has led to a decline in state autonomy and convergence on a market-based model of economic and social policy. The empirical literature on welfare states, however, finds persistent diversity in institutional structures and policy outcomes. Focusing on incarceration rates as the outcome of interest, this study evaluates these arguments by applying a Bayesian change-point model to four decades of data from 15 countries. Results show that a regime shift did occur, but incarceration rates increased mainly among countries with unregulated labor markets, decentralized polities, and/or weak labor unions. Profound institutional differences persist and are fateful for incarceration trajectories.

Introduction

Recent analyses suggest that over the last half century there has been a sea-change in the penal regimes of modern western societies. This suggestion has been motivated by unprecedented growth in rates of criminal incarceration beginning in the 1970s—most conspicuously in the U.S. but to some degree in other countries as well—coincident with a rising tide of troubles associated with globalizing economies, widespread deindustrialization, and the apparent erosion of the Keynesian welfare state. Three versions of this argument stand out, and provide a springboard for the present study. For Garland (2001), a new "culture of crime control" has arisen as a backlash against growing social disorder, moral disillusionment, and economic dislocation since the 1970s. This cultural realignment, which occurred first in the U.S. and the U.K. but spread abroad in the 1980s and '90s to become a distinctive *malaise* of late modern societies, is animated by widespread perceptions of risk, distrust of government solutions to social and economic problems, and nostalgia for imagined traditional values. The dominant norms of this culture prescribe the freedoms of market individualism for the fortunate and increased use of punitive segregation for criminals and other unredeemables; its iconic architectural achievements are the gated community and the ever-expanding prison. Simon's (2007) diagnosis touches on the same themes, but reverses Garland's etiology: rather than argue that a cultural shift has led to a change in crime-control strategies, he suggests instead that politically-driven punitive reforms in criminal justice have created a "culture of fear" that in turn has transformed democratic institutions. In his view this sense of lurking danger has inflected control strategies not only in courts and prisons, but also in the workplace, the school, and the family.

The most ambitious and empirically detailed account of regime change is offered by Wacquant (2009). He begins by observing the trend toward intensified penal repression in the U.S.

and some other countries over the last few decades, and links it, on the one hand, to the collapse of urban industrial labor markets in sectors that historically provided points of entry for low-skilled immigrants and minorities, and on the other to the decommodification of welfare and wholesale disinvestment from urban centers. These master trends have led to the increasing segregation, isolation, impoverishment, and incarceration of marginal populations, particularly nonwhite domestic minorities and immigrants. His most distinctive argument is that the emergent neoliberal regime is one in which punishment and welfare are no longer complementary—masculine and feminine impulses of the state, respectively—but rather institutional co-conspirators in the production of a society that is radically stratified on the basis of class and caste: "the poverty of the social state against the backdrop of deregulation elicits and necessitates the grandeur of the penal state" (2009, p. 19).

These studies have been widely praised, and deservedly so, for their compelling interpretations of recent penal trends and for their attempts to place those trends within a wider context of institutional transformation. They share an expansive vision of penality not as a set of narrowly technical strategies for controlling crime, but as a broad social field—comprising law and legislatures, public as well as private administrative agencies, animating ideologies and discourses, and the everyday practices of officials and citizens—that is deeply embedded in, and co-constitutive of, the variegated institutional landscape of modern societies. They differ as well, not only in how they characterize the post-1970s transformation, but also in the substance and specificity of their arguments about how this transformation has occurred. To Simon, the recent trend toward mass incarceration in the U.S. was inaugurated by the failure of the New Deal political coalition and its associated ideology of social and economic reform; the result has been the seemingly infinite expansion of the "waste management prison" (2007, ch. 5) that operates on the actuarial logic of segregation and risk management rather than rehabilitation (Feeley and Simon 1992). To Garland,

the death knell of the old "penal-welfare" regime was rung by rapidly increasing crime rates across the advanced Western democracies—a "massive and incontestable social fact" (Garland 2001, p. 90) that fueled widespread fear and a festering distrust of government's ability to solve social problems, and particularly of rehabilitative penal policies. While Garland invokes other factors contributing to penal transformation—including demographic changes, ascendant right-wing politics, and mass media—their relative contribution and causal precedence is unclear; the ultimate causal agent is the "culture of late modernity" itself. Wacquant's argument, by contrast, is relatively easy to parse in causal terms. In his analysis, the driving force behind regime change is the apparently sweeping success of neoliberalism, not just as a theory of markets that prescribes industrial deregulation and welfare retrenchment, but also as a philosophy of individual responsibility that encourages the expansion of the state's penal apparatus (2009, p. 307). Thus while Garland (2001, p. 111-38), like David Harvey (2005), sees intensified penal repression as an aberration that contradicts the spirit of neoliberalism, Wacquant sees it as evidence of the success of the neoliberal political project (2009, p. 300-02).

These are profound differences, and perhaps not empirically resolvable. But in this analysis I am less concerned with the genealogy of the contemporary penal regime than with the generalizability of the regime-change argument and its implications for the comparative sociology of crime and punishment. Empirically, these analyses focus mostly on the U.S. as exemplar: Simon is careful to restrict his argument to the American case; Garland treats Britain as America's twin, emphasizing the cultural similarities between the two countries and eliding their structural differences; and Wacquant extends insights from the U.S. to France. In their theoretical interpretations, however, both Garland and Wacquant treat penal regime change as to some degree a transnational process. Garland argues that the "culture of control" he finds conspicuous in the U.S. and Britain is a local adaptation to a more general set of challenges posed by late modern social

organization (2001, p. 193-4). At the same time, however, his argument implies broader generality, since key elements of the transformation he describes—especially political assaults on welfare and economic regulation, and the exploitive tendencies of "market forces that neoliberalism has so effectively liberated" (2001, p. 200)—can be observed in varying degrees across the developed world. Wacquant is more forthright: in his argument, penal regime change is a constitutive element of the neoliberal political project. Thus America is not a deviant case, but rather the "living laboratory of the neoliberal future."[1] In a recent "theoretical coda," Wacquant (2010, p. 210-17) has qualified this prediction by recognizing that some developed democracies continue to reject neoliberal economic reforms along with American-style penal repression. This observation anticipates some of the arguments I develop in this paper.

The question may be stated in this way: Is prison regime change a localized or generalized phenomenon? To what degree is the neoliberal project associated with intensified penal repression, and how thoroughly has it transformed the political economies of western democratic societies? To answer these questions requires an explicitly comparative analysis of data from a broad sample of developed countries in order to understand how penal practices are related to the broader institutional order of society, and how that relationship may have changed. I pursue such an analysis in two steps. First, I situate the regime-change argument within a larger debate about the impact of global change on western political economies, and especially on the trajectory of welfare state development. The dominant side in that debate—so taken for granted that it is often called simply the "globalization thesis" (Garrett 1998)—predicts that western political economies are tending toward convergence. In this scenario, growing capital mobility and trade interdependence have eroded national political capacities and given rise to a transnational regime of unfettered markets, weakened political institutions, minimal social protection, and the marketization of all sorts of social

[1] This is the title of the prologue to *Punishing the Poor* (Wacquant 2009, p. xi).

relations. Applied to the more specific domain of penal policy, Wacquant's and Garland's analyses imply a cross-national tendency toward increasingly punitive means of managing inequality, and a narrowing of national differences in the causal logic that drives penal practices. Drawing on the political economy and social policy literatures, I outline an alternative argument that acknowledges the homogenizing pressures of globalization and the persuasiveness of neoliberal ideology, but emphasizes also the importance of national institutional structures in shaping countries' responses to global trends. This alternative argument predicts persistent heterogeneity in social policy in general, and in penal practices in particular, based on enduring—and perhaps increasingly salient—institutional differences.

The second step is to build on these alternative scenarios to derive and test an analytical model of structural transformation in prison regimes. I focus empirically on incarceration rates as the outcome of interest, an appropriate choice given that Wacquant, Garland, and Simon identify a general upswing in punitiveness as the leading indicator of the late modern penal regime. Two issues are at stake in this analysis. The first is the existence and timing of the structural break: When, if at all, did western democracies embark on a new trajectory of criminal punishment? Theory here is imprecise, since Simon, Garland, and Wacquant are interested in regime change more as a process than as an event. The comparative social and economic policy literature offers more specific clues, but different studies see structural change occurring at different times. The model described below makes no assumption about the timing of regime change—whether and when a structural break occurred are treated as empirical questions. The second and more interesting issue is change in the causal logic of imprisonment. Regime change implies more than a shift in the mean rate of incarceration; it implies a qualitative shift in the prison's relationship to the social order. If regimes change, then so must the models that describe them empirically. More specifically, if countries are tending toward convergence, then the distinctions that shaped alternative penal trajectories for much

of the 20th century should erode under the new regime. I elaborate my approach theoretically in the next section, and later describe methods for modeling change in prison regimes.

Theoretical framework

The task in this section is to reframe Wacquant's and Garland's argument about the transnational character of penal regime change within the more general debate about the impact of global change, and particularly the influence of neoliberalism, on western political economies. This is an apt move because Wacquant's and Garland's processual analyses rely for their persuasiveness on the accumulation of evidence and examples rather than the logic of falsification. In that form the case for regime change resists empirical tests: much like the modernization scenarios of an earlier era, it contains no scope conditions and allows for no alternative trajectories of change. In the globalization debate, however, predictions of transnational convergence have been challenged by evidence of patterned heterogeneity in countries' responses to the pressures of globalization. Attention to this debate will thus add theoretical resonance and motivate an empirically tractable set of hypotheses about the existence and direction of prison regime change.

The convergence debate

In much of the globalization literature it is almost a default assumption that transnational competition encourages cultural and political convergence among societies, and impels them more specifically toward convergent economic and social policies. Cultural convergence, driven by new communications technologies and neoliberalism's celebration of unmoored individualism, implies the dissolution of local and historically rooted identities in favor of floating subjectivities (Harvey 1989). Convergence in social policy implies a trend toward fiscal austerity and rollbacks in welfare support. According to Swank (2002a), the globalization literature identifies both economic and

political mechanisms that link the growing internationalization of capital to social policy retrenchment. Market logic channels increasingly mobile investment assets into countries where tax and regulatory burdens are lower, so countries with the most generous welfare schemes are forced to cut back or be priced out of the international market. Democratic politics is an intervening variable: major asset holders have disproportionate influence over electoral outcomes, so elected officials find it convenient to support both market deregulation and welfare retrenchment. Left parties either buy into prevailing neoliberal orthodoxy or become marginalized, and labor unions wither in membership and political influence. Inequality between asset holders and the mass of citizens widens.

The alternative argument predicts continued heterogeneity in institutional structures, cultures, and patterns of inequality. Robertson (1995) goes to the heart of the matter by challenging the fundamental understanding of globalization as a homogenizing "process which overrides locality" (1995, p. 26). Increasing exposure to global trends does not erase local identities and interests, he argues; rather, nationalism and other localisms acquire meaning only *in relation to* putatively hegemonic models—a process he terms "glocalization." In a parallel move, political economists have impugned the tendency in the globalization literature to identify the neoliberal model with capitalism as such, and to assume that western economies are converging on that model. The best-known version of this critique is Hall and Soskice's (2001) "varieties of capitalism" typology, which distinguishes between liberal market economies, in which transactions involving trade, finance, and labor are organized in markets animated by short-term competitive interest; and coordinated market economies, which are characterized by institutional arrangements that encourage cross-class compromise in the interest of long-term growth. The more highly regulated coordinated regime is not only durable among developed economies, as Hall and Soskice argue; there is some

evidence that the bloom is off the neoliberal rose among transitional and developing economies as well (Nederveen Pieterse 2004).

Most germane to the present study is the rich literature on welfare states and social policy. The most important theoretical progenitor of this literature is Esping-Andersen (1990, 1999), whose "three worlds" typology of western capitalist societies established a theoretical framework for many subsequent studies. Work in this tradition recognizes the downward pressure exerted by global competition on social spending, but argues that liberal, social democratic, and conservative corporatist societies show characteristically different patterns of inherited expectations, institutional arrangements, and political capacities, and thus respond to global threats in different ways. Support for this view comes from empirical, often quantitative, research showing, for example, that neocorporatist labor-market regulation is not inimical to economic growth, even in a globalized economy; that while inequality has grown sharply in many countries, redistributive tax and welfare policies have reduced it in others; and that robust welfare systems are dependent on the influence of nationally-organized labor unions and strong left parties (Garrett 1998; Garrett and Lange 1986; Hibbs 1997; Hicks 1988; Hicks and Kenworthy 1998, 2003; Hicks and Misra 1993). Some of this work tests for temporal shifts in welfare and inequality regimes in response to global shocks, and results often show widening differences across countries with varying institutional arrangements and political dynamics. There is no clear agreement about when this structural transformation occurred: for some, the OPEC oil embargo of 1973-74 marked the emergence of a new global economic epoch (Hicks and Misra 1993; Hicks and Swank 1992; Hicks, Swank, and Ambuhl 1989); others emphasize the recession of 1981-82 (Swank 1992), and still others treat the 1990s as a distinct policy epoch (Kenworthy 1996, 2002). Swank (2002a) has conducted the most comprehensive and rigorous comparative test of the convergence thesis applied to welfare states. He finds no evidence of a general drift toward the American model of welfare austerity. On the contrary, his analysis shows

that corporatist democracies have in many cases enhanced their welfare efforts to protect vulnerable citizens from the depredations of capital flight. Retrenchment is most apparent in the liberal democracies, where policy making authority is decentralized and welfare institutions have historically been organized around market norms.

Convergence and heterogeneity in prison regimes

The convergence debate is implicit in the recent literature on prison regime change. The idea that links the two discussions is that in modern societies the prison is an important node in the network of institutions that shape and manage inequality—that it is, in effect, a continuation of social policy by other means. This idea was first floated by Wilkins (1991; Wilkins and Pease 1987), and has recently gained empirical traction in research on the effects of mass incarceration on inequality in the U.S. (Western 2006) and in comparative analyses of punishment and social policy regimes in the U.S. and cross-nationally (Beckett and Western 2001; Sutton 2004, 2010). A central finding from the comparative research is patterned heterogeneity in policy regimes: prisons tend to flourish in settings where institutional capacities for mitigating inequality are weak. The question now is whether that pattern has changed, and if so how, as the result of transnational pressure for market-friendly social policy reform.

Wacquant argues forcefully that countries worldwide are converging on the American model, and in doing so he expands the conventional conception of neoliberalism. Taken at face value as an ideology of market freedom, he points out, neoliberalism is incomplete because it ignores the disruptive potential of social groups that lack the resources to compete effectively. Thus apparently passive pro-market reforms—industrial deregulation, fiscal austerity, and welfare retrenchment—must be complemented with aggressive tactics to contain and manage underclass populations. Wacquant's regime-change argument, as well as the more culturally-driven versions sketched by

Garland and Simon, are persuasive when applied to the U.S., and perhaps the U.K. But the more ambitious prediction of worldwide convergence in penal regimes is untested, and has been challenged in terms that echo the larger convergence debate. Cavadino and Dignan (2006), for example, apply an elaborated version of Esping-Anderson's (1990) model of welfare regimes in their study of adult and juvenile penal policies across twelve developed countries. Their most striking finding is the degree to which Scandinavian social democracies have maintained their relatively moderate and inclusionary stance toward criminality. More generally, Cavadino and Dignan argue, wide cross-national variation in penal strategies persists, marked by close affinities between penal regimes and broader institutional responses to inequality. Lacey (2008) takes Cavadino and Dignan's insights as a baseline for investigation, but more explicitly challenges the convergence thesis as it is reproduced in Wacquant's and Garland's work, and seeks to build a more focused structural model to explain variation in penal harshness across societies and over time. Building on Hall and Soskice's (2001) model of production regimes, Lacey argues that the distinction between coordinated and liberal market economies implies a complex set of economic, political, and cultural differences that in combination are fateful for penal policy. Coordinated economies are not only more hospitable to economic regulation than liberal economies; they are more oriented toward planning for long-term growth, and inclined to make investments in education and training that will sustain growth; they have greater capacities for coordinated economic and social policymaking; and their political systems encourage wide consultation and cross-class compromise. Heterogeneity, thus, is deeply rooted and persistent: coordinated economies tend to have relatively universalistic social policies in general, and less exclusionary penal regimes in particular (Lacey 2008, p. 55-112).

From theoretical debate to empirical analysis

While Lacey is critical of the convergence thesis as applied to penal policy, she is careful not to underestimate the persuasiveness of neoliberal ideology, or of the American superpower as a social policy exemplar. Her mostly theoretical analysis invites more systematic empirical investigation of transnational trends in penal regimes. I take up this challenge in terms of two more specific analytical questions. First, has a change occurred in the penal regimes of modern western societies—can we empirically discern a structural break not only in the scope of incarceration, but also the prison's place in the institutional landscape? Second, if regime change has occurred, what form has it taken? Are the western democracies moving toward the American model of mass incarceration operating as a continuation of neoliberal economic and welfare policies, or has the international policy space been reorganized in more complex ways?

Answers to these questions require, first, a plausible general model of penal severity that is grounded in existing empirical research, and that also captures the theoretical concerns raised by the authors just reviewed. Second, they require an analytical strategy that is capable of identifying shifts in both degrees of punitiveness and the causal forces that drive incarceration trends. As a theoretical baseline, this analysis builds on an "opportunity structures" model that has been elaborated in recent cross-national research on incarceration, and which encompasses arguments by Wacquant (2009), Cavadino and Dignan (2006), and Lacey (2008) about the impact of neoliberalism on penal policy. Consistent with these studies, the basic theme of the opportunity structures model is that prisons are embedded in a broad network of institutions that shape life-course opportunities, sort individuals into legitimate or illegitimate social roles, and thereby determine the shape and degree of inequality within societies. Just as schools, robust labor markets, and even the military provide opportunities for positive mobility, and welfare systems attempt to put a floor under opportunity failure, jails,

prisons, and other stigmatizing institutions define paths toward long-term negative mobility (Western 2006).

The general prediction of the opporunity structures model is that across societies and over time, investments in legitimate and illegitimate life-course opportunities are inversely related. Since the major constituency of prisons everywhere is young, poorly schooled, and unskilled men, attention focuses primarily on how assertively societies manage the crucial youth-to-adulthood transition. This tradeoff operates at three levels. The first level concerns the relative capacities of alternative life-course paths: conditional on the supply of eligible young men, incarceration rates should be higher when opportunities in the labor market, education, and the military are scarce, and when social welfare and monetary policies are designed to reinforce market norms rather than reduce inequality. The second level concerns the distribution of political power: strong labor movements and powerful social-democratic parties are likely to encourage more ameliorative and inclusive social policies generally, and thus to disfavor exclusionary policies like mass incarceration. At the third level, the model focuses on relatively fixed institutional attributes of societies that provide a context for political negotiations and impose path dependencies on trajectories of social policy development. One attribute is whether economic institutions are organized around corporatist or market liberal principles: neocorporatist societies are characterized by centrally regulated labor markets and cooperative social policies, while market liberal societies encourage competitive labor markets and invidious social policies; thus, as Lacey (2008) argues, neocorporatist societies should show lower levels of penal severity. The other attribute of interest is the relative centralization of the state. Centralized bureaucratic states are inclined to generate universalistic policies in response to problems of public welfare because of their superior revenue-generating abilities, their capacity to monopolize functional and administrative expertise, and the fact that, compared to federalized polities like the U.S., they offer relatively few veto points to which

particularist groups can gain access. In general, polity centralization, like neocorporatism, should discourage exclusionary policies such as incarceration.

The roles of labor movements, left parties, neocorporatism, and state centralization are central to wider debates about global change. The convergence approach maintains that unions and left parties have grown weaker, that neocorporatist labor-market regulation has eroded, and that national states have lost much of their sovreignty over domestic policy under the onslaught of transnational economic competition—in short, that these societies have grown more alike as they have converged on the neoliberal model. This suggests two dynamic predictions about changes in prison regimes. The first is that regime change as described by Garland and Wacquant implies an upswing in penal severity: insofar as western societies have become more exclusionary in general, incarceration rates in particular should have risen. The second prediction concerns change in the causal logic of incarceration: if the convergence thesis is true, the effects of measured covariates should decline—that is, move toward zero—under the second regime as societies become more alike with regard to life-course patterns, political dynamics, and institutional structures. The heterogeneity approach yields no prediction about average incarceration rates, but suggests no change in estimated effects, or perhaps stronger effects (away from zero) as differences among societies sharpen.

Data and estimation

Sample and data

The data for this analysis represent a sample of 15 affluent capitalist democracies observed over 41 years, from 1960 to 2000. The dependent variable is (log) incarceration rates, measured as the number of inmates, including those under sentence and on remand, per 100,000 population. This is a standard measure of penal severity, but it is important to acknowledge that it cannot capture the

full range of punitive trends that are of concern to Garland, Simon, and Wacquant—particularly the securitization of everyday life and the differential impact of penality on racial-ethnic outsiders, immigrants, and the poor. Surely, however, it is a leading indicator of punitiveness more generally, moreover one that is unusually amenable to measurement. As Wilkins and Pease (1987, p. 20) have argued, "The incarceration rate is an excellent proxy for many other measures of societies' responses to acts defined as crimes; moreover it is generally available, simple, and highly variable."[2]

Independent variables are of two types: measures of life-course opportunities and the distribution of political power vary among countries and over time, while neocorporatist institutions and polity centralization vary across countries, but are treated as stable over time. Four variables measure flows of individuals through the opportunity structure. The supply-side impact of young male cohorts is measured by the number of males age 15 to 24 as a percentage of the population. On the demand side, capacities of legitimate life course paths are represented by male labor force participation rates, male secondary and tertiary school enrollment ratios, and military enlistments as a percentage of the population. Policies for managing inequality are measured by inflation rates and welfare spending as a share of GDP. Political power is represented by union density and left party dominance. The model also includes homicide rates as a control for the incidence of crime. Homicide rates are not an ideal measure because they are not highly associated with rates of other kinds of violent crime, nor with much more numerous property crimes. A saving grace is that homicide rates are available; moreover they are recorded with a relatively high degree of accuracy (Monkkonen 1989), and they are likely to have an outsized effect on public perceptions of criminality (Zimring and Hawkins 1997).

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[2] Incarceration data come from a variety of sources, including country statistical abstracts, the Council of Europe (2009), and Falck et al. (2003). Data sources for independent variables are detailed in the Appendix.

These time-varying data are displayed in figure 1 as boxplots arrayed by year to show trends. The plots have the standard form: each box shows the distribution of countries in a given year; the lines in the middle of the boxes are the yearly medians, the boxes contain the central 50 percent of the distributions (25^{th} and the 75^{th} percentiles), and the whiskers mark the outer fences (1.5 times the interquartile range). Plot (a) offers no evidence of a wholesale shift in incarceration rates, but the outliers—the U.S. on the high end, and the Netherlands on the low end—suggest major changes may have been afoot beginning in the 1970s. The trajectories of some independent variables show clear changes in the late 1970s or early '80s that lend credence to the regime change thesis. Young male cohorts (b) declined sharply as shares of the population as the baby boom generations aged out; male labor force participation (c) declined steadily through the 1980s, then stabilized; inflation (f) dropped sharply in response to tight money policies adopted in the early 1980s; and growth in welfare spending (g) slowed during the 1980s and reached a plateau in the '90s. Union density (h) shows a more ambiguous shift: median union density declined after 1979, but the variance across countries increased as well. Male school enrollments (d) and military enlistments (e) show fairly steady trends over four decades, though enlistments declined more sharply after the end of the Cold War; and there is no apparent trend in the appeal of left parties (i). U.S. pre-eminence in homicide rates is apparent in the last plot (k), along with a slight and steady upward trend among other countries. Early tests in which these time-changing variables were measured in levels were unstable, and in some cases yielded uninterpretable results, likely because of strong time-trends in many cases. For the results reported here, measures with strong time trends across countries—young males, male labor force participation, male education enrollments, military enlistments, welfare spending, and homicide—are de-trended by taking first differences (the inflation rate is a measure of change by definition). It is worth noting that this re-expression does not change the estimate of the change point at all.

— Figure 1 here —

Neocorporatism and state centralization are treated as fixed attributes. The indicator of neocorporatism is taken from a composite measure compiled by Hicks and Kenworthy (1998, 2002) that reflects capacities for cooperative decision-making among business federations, unions, and government. In its original form it varies over time within countries; I treat it as time-invariant by taking country means. This entails an inconsequential loss of sensitivity, since with the present sample 97 percent of the variance is cross-national. As an indicator of state centralization I use a factor scale derived by Hicks and Swank (1992) that combines revenue centralization, unitary rather than federal government, and early consolidation of key social welfare policies. A scatterplot showing country scores on neocorporatism and state centralization appears in figure 2, with lines in the graph showing means on each axis. Clearly these are independent measures (r = -0.20), and the present sample captures a good range of high and low values on both axes.

— Figure 2 here —

Some variables include missing observations, and missing data are dealt with in different ways. A very small number of missing values on the dependent variable are filled in with linear interpolation, as are occasionally missing counts of male secondary and tertiary students. Counts of young males in the population are available only at five- or ten-year census intervals, depending on the country; estimates for intervening years are interpolated as well. More serious problems arise with welfare spending, which is missing for Austria prior to 1970, and union density, which is missing for New Zealand prior to 1978. For these observations, I impute values as part of the estimation routine. This strategy is described more fully below.

Estimation: a Bayesian change-point model

Estimation of a model of structural change is easy if you know where the break point is—if, for example, you have a theory that associates regime change with a particular event, or if previous research points unambiguously to a specific date.[3] In that case a simple solution is to create a variable, say I_t, that takes on a value of one in the change year and every year after that, and zero otherwise; then define a model in which all coefficients (including the intercept) are contingent on I_t:

$$\hat{y}_{jt} = x'_{jt}\alpha + (x'_{jt}\beta)I_t \tag{1}$$

where x is a matrix of predictors for country j in year t, α signifies the coefficient estimates for the first regime, and β contains estimates of the shift from one regime to the other. But in cross-national research the location of the break point is usually uncertain because our theory and research are fuzzy. This is a more serious problem than it may first appear, because different change points imply different sets of regressors, and thus different parameter estimates.

A Bayesian change-point model deals with this problem by treating the timing of structural change, as well as the α and β parameters, as unknowns to be estimated. The model can be described with a simple elaboration of equation (1):

$$\hat{y}_{jt} = x'_{jt}\alpha + (x'_{jt}\beta)I_t(\theta) \tag{2}$$

Here the value of I_t is contingent on θ, a variable that locates the change point. Fully Bayesian estimation involves specification of prior distributions for θ and other parameters to be estimated, then fitting the model by simulating draws from the posterior distributions using the Gibbs sampler. The sampler iteratively updates estimates of α, β, and θ, conditional on each other and the data, eventually converging on the full unconditional posterior distributions. Because different values of θ

[3] The following discussion borrows heavily from Western and Kleykamp (2004).

yield a range of different models, estimation involves a form of Bayesian model averaging in which the conditional posteriors of the coefficients from alternative models are weighted by the posterior probability of each model (Western 1996).

The change-point model of incarceration rates used here assumes that y_{jt} —the (log) rate of incarceration in country *j* in year *t*—is normally distributed with equal variances across countries: $y_{jt} \sim N(\hat{y}_{jt}, \sigma^2)$. Since the model combines time-varying and time-invariant predictors, I use a multilevel model that includes random country-level intercepts and fixed effects coefficients. The micro-level model predicts incarceration rates in terms of covariates **x** that vary across countries and years:

$$\hat{y}_{jt} = \alpha_{0j} + \mathbf{x}'_{jt}\boldsymbol{\alpha} + (\beta_{0j} + \mathbf{x}'_{jt}\boldsymbol{\beta})I_t(\theta) \tag{3}$$

This is the same as equation (2) except the intercepts α_0 and β_0 vary randomly across countries, as denoted by the *j* subscript. At the macro level, the random intercepts are modeled as functions of neocorporatism and state centralization. Assuming that the intercepts are normally distributed $\alpha_{0j} \sim N(\hat{\alpha}_{0j}, \tau_\alpha^2)$, $\beta_{0j} \sim N(\hat{\beta}_{0j}, \tau_\beta^2)$, the appropriate macro-models are

$$\begin{aligned} \hat{\alpha}_{0j} &= \gamma_{\alpha 0} + \gamma_{\alpha 1} \times \text{Neocorporatism}_j + \gamma_{\alpha 2} \times \text{State centralization}_j + \mu_{\alpha j} \\ \hat{\beta}_{0j} &= \gamma_{\beta 0} + \gamma_{\beta 1} \times \text{Neocorporatism}_j + \gamma_{\beta 2} \times \text{State centralization}_j + \mu_{\beta j} \end{aligned} \tag{4}$$

Parameters of interest are the hyperparameters γ from the macro-model and the effects coefficients α and β from the micro-model.

I set weakly informative priors in a few cases. To generate priors for the first regime, I estimated a baseline model with the same general form and the same data but no change point, $\hat{y}_{jt} = \eta_0 + \mathbf{x}'_{jt}\boldsymbol{\eta}$, used the posterior means from that model to specify prior means for γ_α and $\boldsymbol{\alpha}$, and gave the distributions nearly infinite variances so the sampler would be free to explore the parameter

space away from the prior means: $\gamma_\alpha \sim N(\eta_0, 1000)$, $\boldsymbol{\alpha} \sim N(\boldsymbol{\eta}, 1000)$. All parameters γ_β and $\boldsymbol{\beta}$ associated with the regime shift were given priors with zero means and similarly wide variances. These are conservative priors in the sense that they presume no change in the coefficients between periods, hence no structural regime change. This leaves it up to the likelihood to pull the regimes apart, as called for by the data. Variances for *y* and for the macro-models were given uninformative flat distributions: $\sigma^2 \sim U(0,1)$, $\tau^2_{\alpha,\beta} \sim U(0,1)$. The change point was given a weakly informative categorical prior that spread 90 percent of the probability mass evenly across the middle 30 years of the observation period (1966-95) and divided the remaining ten percent between the first and last five years (1961-65 and 1996-2000). Models that gave completely uninformative flat priors to the change point failed to converge because the chains tended to wander into the extreme ends of the time period and get stuck. This modest constraint is amply justified, since available literature suggests that regime change is most likely to have occurred in response to the first oil shock in the early 1970s or after the second oil shock and subsequent global recession in the early 1980s.[4]

Bayesian estimation offers a convenient method for imputing missing values for welfare spending and union density (Gelman and Hill 2007, ch. 25). The only necessary assumption is that data are missing at random. Randomness here has the very specific meaning that observations are missing for reasons that are unrelated to the variable's value—or more concretely, for example, that the OECD did not neglect to record welfare spending in Austria for some years because spending was especially high or low. Based on this assumption, fully Bayesian imputation proceeds by specifying a distribution based on nonmissing values, contingent on other variables from the model

[4] Models were estimated with the WinBUGS program (Lunn, Thomas, Best, and Spieghalter 2000), using the R2WinBUGS interface in R (Sturtz, Ligges, and Gelman 2005). I ran two parallel sequences of 10,000 simulations, discarded the first 5000 samples, and retained 1000 of the remainder for analysis. Convergence was monitored using the $\hat{R}$ statistic, and all reported coefficients were at the optimal 1.0 level.

of interest. In this case, preliminary analysis showed that welfare spending is predicted reasonably well by male labor force participation and left party dominance, and union density by military enlistments, inflation, and left party dominance (note that the goal is not causal inference, but accurate prediction, so theoretically meaningless associations present no problem). Models for welfare spending, union density, and incarceration rates are then fit jointly and iteratively.

Results

Results from the change-point model of incarceration rates are shown in table 1. The first four columns contain statistics on the posterior distributions for the first regime (estimates of γ_α and $\boldsymbol{\alpha}$). The first column contains posterior means, which I treat as coefficient estimates. The next two columns show credible intervals—that is, the lower and upper bounds of the central 95 percent of the posterior distributions. The third column shows the proportion of each posterior sample that falls on the same side of zero as the mean—a measure of the probability of a true effect. The middle four columns report the estimated change point and parameter estimates for γ_β and $\boldsymbol{\beta}$, the vectors estimating changes between regimes. The sums of respective distributions yields the posterior distributions for the second regime; these are reported in the last four columns. For added clarity, posterior densities for the two regimes are plotted in figure 3. Following a common practice in the estimation of multilevel models, all covariates are centered on their grand means and divided by two standard deviations.

— Table 1 and figure 3 here —

The first thing to note is that the model points to 1987 as the beginning of a new penal regime. This is rather surprising, since most analysts locate the emergence of a new global order earlier, as a response to either the 1973-74 oil shock or the global recession of the early 1980s. Coefficient estimates for the first regime are mostly as expected from earlier research. Since the

covariates are centered, the intercept in the first column is the predicted mean of y_{jt} during 1960-86; thus the estimated mean incarceration rate under the first regime is $e^{4.29} \approx 73$ inmates per 100,000 population. More importantly, country averages varied according to their institutional structures: mean incarceration rates were probably lower in neocorporatist countries (the posterior warrants 84 percent confidence in a true effect), and they were clearly and substantially lower in countries with highly centralized polities. Coefficient estimates for three of the four life-course effects are counterhypothetical: the mean estimate for growth in the young male population is negative (with over 99 percent confidence), male labor force participation shows no impact on incarceration rates, and the estimate for military enlistments is positive. The estimated effect of growth in male school enrollments is negative, as expected. Estimates of inequality and political power effects also conform to expectations. Coefficient estimates for inflation and growth in social welfare spending are strongly negative, suggesting that economic redistribution helped to keep incarceration rates in check. The impact of union strength is negative and very large: the mean estimate suggests that a two standard deviation difference in union density is associated with a 26 percent shift in incarceration rates. The impact of left party strength is much smaller, but also negative and nearly 90 percent certain.

What changed after 1986? Look first at the intercept: the posterior mean indicates an 18 percent rise in the predicted incarceration rate for the average country, and the estimate comes with high certainty (95 percent). The net estimate of the intercept under the second regime is about 4.5, which translates to an average incarceration rate of 90 per hundred thousand population. There are also marked shifts in the effects of many of the covariates, suggesting a large-scale reorganization of the causal logic of imprisonment. The negative impact of neocorporatism may have grown stronger: the mean shift coefficient is negative, but the posterior offers only a modest 76 percent assurance of a real shift; still, the estimated net effect under the second regime (-0.4) is about half again as large as that for the first regime. To put this in terms of real countries, consider relatively liberal Australia

and corporatist Finland, which lie nearly two standard deviations apart on the wage coordination scale used here. If we treat the mean estimates as true and ignore other covariates, under the first regime Australia's incarceration rate is predicted to exceed Finland's by 26 percent, and under the second regime by 40 percent. There is no discernible change in the impact of state centralization. Here we might compare France, the exemplar of administratively centralized democracy, to federalized Canada. They are separated by a little over two standard deviations on the centralization measure, so under both regimes Canada's incarceration rate is predicted to exceed that in France by about 44 percent.

The pattern of shifts in the effects of time-changing variables is complex. Effects of social welfare spending and left party dominance move toward zero, offering some support to the convergence argument. The welfare-imprisonment tradeoff is about half as strong under the second regime as under the first. This is a sensible result, reflecting the widespread slowdown in welfare spending growth from the 1980s on (figure 1(g)). The inhibitory effect of left party strength disappears completely. Three other shifts suggest increasing heterogeneity. While male labor force participation is unrelated to incarceration rates in the first period, the net effect in the second period is negative and highly certain. The mean coefficient estimate of -0.048 under the second regime indicates that a two standard deviation increase in participation rates lowers incarceration rates by an average of nearly five percent. The negative effect of inflation increases markedly—if we compare the posterior means, it grows four and a half times. The mean union density effect doubles under the second regime. For this variable, two standard deviations is 44 percent, roughly the average difference in unionization rates between the U.S. and Norway in 1987-2000; the mean coefficient estimate predicts a 51 percent disparity in incarceration rates between the two countries under the second regime. The negative effect of male school enrollments is undiminished. Other results are theoretically irrelevant: the unexpectedly negative estimate for young male cohorts goes away, and

neither the weak positive estimate for military enlistment growth nor the strong negative estimate for homicide rates changes at all.

Taking these results altogether, evidence regarding the central arguments is mixed—but interestingly so. The substance of the convergence argument—anticipating a general increase in punitiveness fueled by increasingly influential neoliberal policies—finds support in the upward shift in predicted average incarceration rates, the withering role of social welfare as a counterweight to incarceration, and the vanishing influence of left parties. But there is evidence as well of continuing, and in some ways increasing, heterogeneity. This is particularly apparent with regard to differences in institutional structure: centralized polities incarcerated their citizens at lower rates than federal polities by about the same amount under both regimes, and neocorporatist economies may have become even more resistant than before to the use of incarceration as a means to manage inequality. The weakening of left parties is overwhelmingly counteracted by the growing influence of union strength. Monetary policies and labor market opportunities matter more under the second regime, and educational opportunities matter no less.

Assessing model fit

How faithful are these results to the data on which they are based? Model fit is an important issue in any quantitative analysis, though one that often receives only implicit attention. It is a particularly pressing issue in quantitative analyses of macrosocial change because of the chronic tension between highly stylized formal models and complex, nuanced, and contingent historical processes (Isaac and Griffin 1989; Ragin 1987, 2000; Western and Kleykamp 2004). The shift in western penal regimes suggested by this analysis could not have happened instantaneously, but rather must have played itself out at uneven rates across societies through complicated processes of bargaining and adjustment within and across institutional domains. The model used here radically simplifies that

transformation by stipulating a single change point for any and all contingencies affecting incarceration rates across societies. Even assuming that the explanatory variables are well chosen and accurately measured, results from such a model may be unhinged from reality. Can clean models accurately represent messy historical processes?

The Bayesian approach used here accommodates historical messiness by treating it explicitly as a form of model uncertainty. This allows for more realistic, and typically more humble, assessments of the inferential value of particular coefficient estimates, but does not address the plausibility of the model as a whole. In a classical regression framework one typically evaluates model fit by comparing the point predictions or residual errors to the observed data. The problem is trickier in Bayesian analysis because coefficient estimates contain a random component; indeed the very notion of a predicted value loses its clarity when coefficient estimates are distributions rather than points. This property can be turned to account, however, through the use of Bayes marginal model plots, or BMMPs (Cook and Weisberg 1997; Pardoe and Cook 2002), which use the posterior samples generated by Bayesian regression analysis to simulate a range of plausible predictions that can then be compared to observed data. The procedure for creating BMMPs as used here has three steps:

1. Draw subsamples of estimates of all parameters in the model—including variance parameters—from the posterior samples. A convenient sample size is 100.
2. Using these subsamples and the observed covariates, generate predictions of $\hat{y}$. For samples of 100 coefficient estimates, the result is N × 100 simulated values.
3. Smooth the observed values of *y* and the simulated $\hat{y}$ in terms of a common criterion variable *h*, and plot the smoothed values against *h*.

Given the multilevel structure of the present model, the procedure is a bit more complicated than this summary suggests because one must simulate the random intercepts (from the hyperparameters,

variance parameters, and observed values of neocorporatism and state centralization) before simulating $\hat{y}$. In addition, parameter estimates are conditional on the estimate of the change point, which itself has a random element. Neither of these complications changes the basic logic of the procedure. When they are plotted, simulations of $\hat{y}$ will appear as a band; a model may be considered plausible if the line representing the smooth of the observed *y* values lies entirely within the band of simulations.

Choice of *h* is a substantive one, since different yardsticks challenge the model in different ways. Three potential challenges are salient here. The first, common to all regression analyses, is how well the model fits across the range of the dependent variable: To what degree are results driven by extreme values? Second and more substantively, the most problematic aspect of the model is historical time, which appears in the model indirectly: How well does the formally simple change-point model account for observed trends in incarceration rates? A third challenge is that the model does not address potential direct effects of globalization on social policies at the national level. It could be argued, for example, that estimated effects of life course, political, and institutional variables, as well as observed shifts in those effects, are spurious byproducts of countries' unevenly increasing vulnerability to the transnational economy. Ideally, one could control for such effects by including a measure of global incorporation in the statistical model. This is impossible in this case because appropriate data on international trade and investment are unavailable for years before 1970. A reasonable *post hoc* alternative is to plot observed and simulated means with respect to some measure of internationalization for the period in which that measure is available. If their trajectories diverge markedly we should suspect a fatal omission.

Figure 4 contains BMMPs that address these challenges. In each plot the gray lines are smooths of 100 simulations of $\hat{y}$, and the black line is a smooth of the observed means. Panel (a) speaks to our most general concerns by plotting observed and simulated outcomes against fitted

values from the model.[5] In the first plot, the observed values are at all points within the range of the simulations, suggesting that the model fits the data rather well overall. In panel (b), observed and simulated data are plotted over time. The chief concern here is that the model may have forced a two-regime solution on a much more complex historical process. Again the plot shows that the observed mean lies within the band of the simulations at all points, however, so the fit of the model with respect to time appears to be satisfactory. In panel (c) the horizontal axis is foreign direct investment (annual inflows) as a percentage of country GDP, logged to tame severe skewness. Again it appears from the simulations that the model adequately incorporates that association, although model uncertainty is greater as levels of foreign direct investment increase. There is no evidence here that the model suffers for not including a direct measure of globalization.

— Figure 4 here —

Summary and Discussion

The predominant argument in the recent literature on imprisonment is that the prison is is best understood not as a specialized tool for controlling crime, but rather as a crucial node in a complex network of institutions that interdependently shape social policy and patterns of inequality. A corollary argument, put most assertively by Wacquant (2009), is that sometime over the last forty years the relationship of the prison to other major social institutions has undergone a qualitative change, particularly among the western democracies. According to this argument, the therapeutic state has given way to the global market; in this dour new world, risk and insecurity are chronic conditions to be quarantined rather than cured. The prison has therefore assumed a more prominent place in the social order, as both a metaphor of the new austerity and a repository for growing numbers of the hopeless, hostile, and unredeemable.

[5] Fitted values were calculated using the posterior means, shown in in table 1, as point estimates.

This latter argument is persuasive in the case of the U.S., the U.K., and other countries where neoliberalism has been ascendant, but its generalizability is dubious. I have treated it as a special case of a more general thesis about globalization, according to which the homogenizing influence of neoliberalism has produced major changes in the economic and political organization of western states. In this hypothetical new regime the state does not disappear, it is repurposed: as the capacity for ameliorative social policy has declined, the inclination toward punitive social control has grown stronger. I challenged this thesis with regard to incarceration trends by drawing from the comparative political economy and welfare state literatures an alternative perspective that finds persistent cross-national heterogeneity in social policy, supported by long-term institutional path dependencies and shorter-term political dynamics. This alternative perspective recognizes that countries have been forced to adapt to economic and cultural internationalization, but adaptations are channeled by highly inertial and country-specific institutional arrangements.

This study brought data from a sample of 15 advanced western democracies to bear on these arguments, using a Bayesian change-point model designed to search for a structural break in the causal logic of incarceration. Results from the model confirm that a break occurred and locate it in the late 1980s. Confirming expectations raised by Wacquant (2009), the most striking feature of the structural break is an 18 percent increase in the average predicted rate of incarceration. Further support comes from the attenuated tradeoff between welfare spending and incarceration, and especially from the disappearance of left party resistance to incarceration. Scholars have argued that Clinton's "third way" strategy and Blair's New Labour compromise encouraged the punitive turn in the U.S. and Britain; these findings suggest that left party impotence is a much broader trend. But regime change does not imply the wholesale abandonment of the welfarist model in favor of the prison as the dominant response to inequality. Differences in opportunity structures with regard to labor markets, education, monetary policy, and even welfare spending continue to shape differences

in penal trends. Most important statistically, and most theoretically resonant, are differences in institutional structure and the strength of organized labor. Polity centralization lowers incarceration rates by about the same amount under both regimes. The counter-punitive influence of neocorporatism increases somewhat under the second regime, and the negative impact of union strength increases dramatically.

These latter two findings deserve further attention. Given the structure of the model, it is convenient to speak as if the effects of neocorporatism and union strength are contingent on regime (or time period). But it is equally valid, and and makes more substantive sense, to say that regime change is contingent on levels of neocorporatism and union strength. This point is illustrated in figure 5, which uses the posterior samples to unpack interactions between regimes and covariate effects. Panel (a) shows predicted incarceration rates against the standardized measure of neocorporatism for the first and second regime. The black lines are the predicted means, and the gray lines mark the central 50 percent of the probability distributions (25^{th} and 75^{th} percentiles) at each point along the x-axis. As the coefficient estimates in table 1 showed, the difference in the slopes—denoting change in the effect of neocorporatism—is not great. The more important point is that regime differences are most apparent at low values of neocorporatism; given the uncertainty of the estimates, differences between regimes are essentially nonexistent for countries in the upper half of the neocorporatism scale. Put more simply, the increase in average incarceration rates was concentrated among countries with the least regulated labor markets. Panel (b) shows predicted incarceration rates against union density. Here a similar pattern appears, but more sharply drawn because the slope changes more from the first to the second regime. The rise in mean incarceration rates is dramatic among the least unionized countries, and nonexistent among those where union density is above the median. In short, the bump in average incarceration rates after 1987 was concentrated among countries with unregulated labor markets, low levels of unionization, or both.

— Figure 5 here —

It is important to acknowledge some limitations to the present analysis and to the findings generated from it. The first limitation is that the change-point model is constrained to find only one structural break separating two penal regimes, and it ignores differences in the timing of regime change among different countries or subsets of countries. The model no doubt simplifies a complex reality, but that is what models are intended to do; the question is whether its simplifications are reasonable. In this case, the two-regime model is compatible with the relevant theory,[6] and posterior simulations indicate that it conforms satisfactorily to the observed data. It may be harder to justify, however, in studies that cover longer historical periods. A second limitation is that while incarceration rates, the outcome studied here, is the most conspicuous indicator of punitive trends, it hardly captures the full range of changes in penal sanctions and criminal procedure that Cavadino and Dignan (2006) have catalogued among the western democracies. Nor can this analysis offer an account of correlative changes in social welfare policy, education, employment, patterns of inequality, and the spatial ordering of the urban milieu that are of interest to Garland, Simon, Wacquant, and others. This is not a flaw in the analysis—measures, like models, are inevitably simplifications of reality—but it suggests caution about the inferences we draw from it. These results show that, with regard to criminal punishment, the neoliberal project is a partial achievement that is held in check most effectively by institutional structures that encourage political closure around egalitarian social policies—regulated labor markets and strong, centralized states—and by the strength of organized labor. This conclusion harmonizes with findings of prominent critics of the conventional globalization thesis (e.g. Garrett 1998; Swank 2002a), and by Lacey's (2008) critique of

[6] Garland and Wacquant both describe a single regime change, from the "penal-welfarism" that dominated correctional policy for most of the 20th century to a new "culture of control" (Garland) or a regime more compatible with the neoliberal political project (Wacquant). Similarly, the globalization literature describes a single dominant shift, from an era of Fordist industrial organization and Keynesian economic policy to one in which global markets predominate.

catastrophist theories of penality. But it cannot be, and is not intended to be, the last word on penal regime change, nor on the larger issue of global convergence. Rather it is an invitation to pursue complementary analyses of regime change across the wide network of institutional domains in which the prison is embedded, particularly welfare states, labor markets, education, and structures of income and wealth inequality. Finally, it is important to note that regime change might look quite different in later analyses with longer time frames. So far, modern western democracies continue to display considerable variety in institutional forms and the distribution of political power, with manifest implications for incarceration practices. The neoliberal experiment has not become a universal norm. Still, social policy in general, and incarceration in particular, are moving targets, and there is no reason to believe that the new regime outlined here represents a stable equilibrium. The economic meltdown currently underway may push the developed world toward the kind of neoliberal consensus that Wacquant sees taking shape; but alternatively, it may signify the limits of the penal state.

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Figure 1. Boxplots of time-changing variables used in the analysis, 15 affluent democracies, 1960-2000

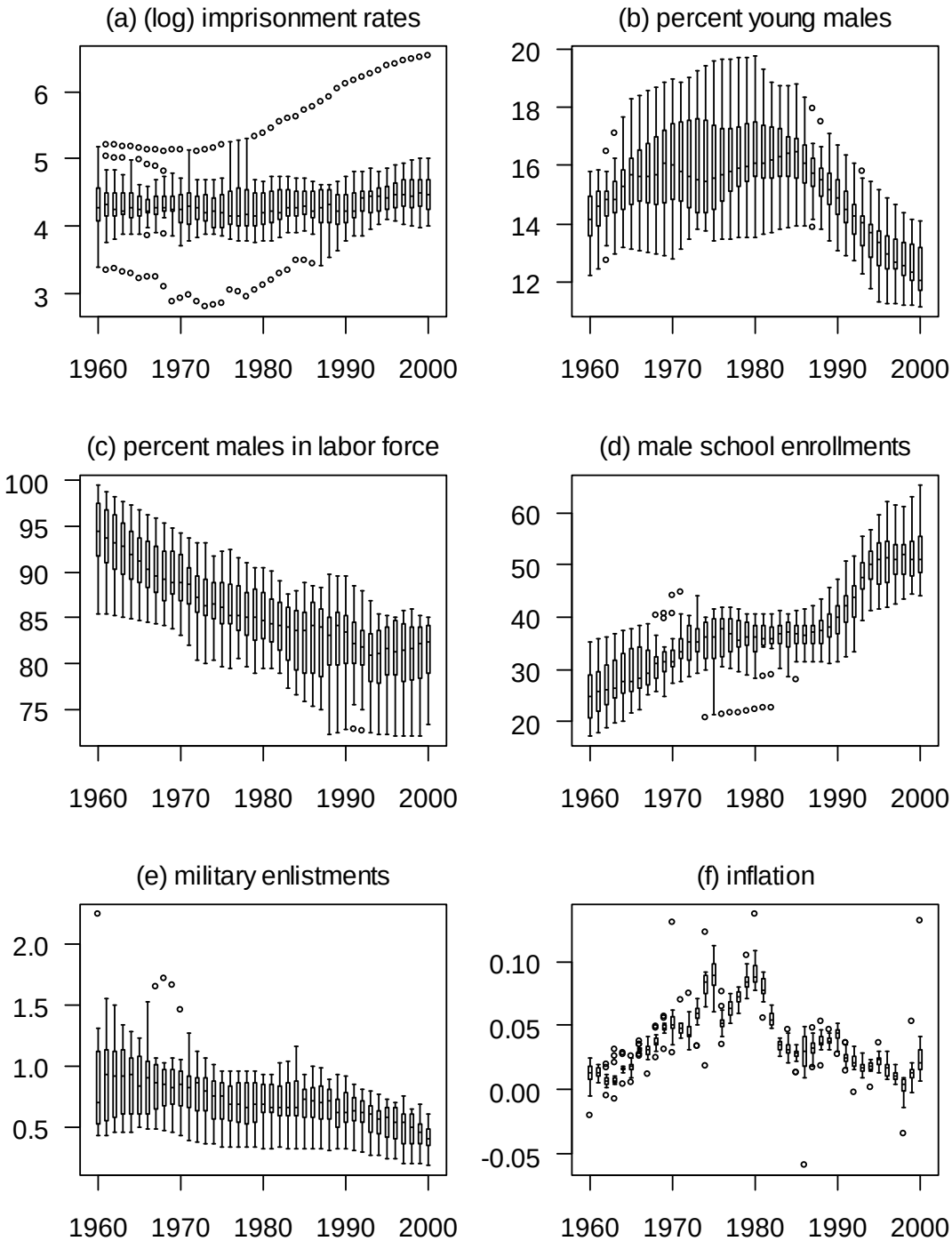


Figure 1. (continued)

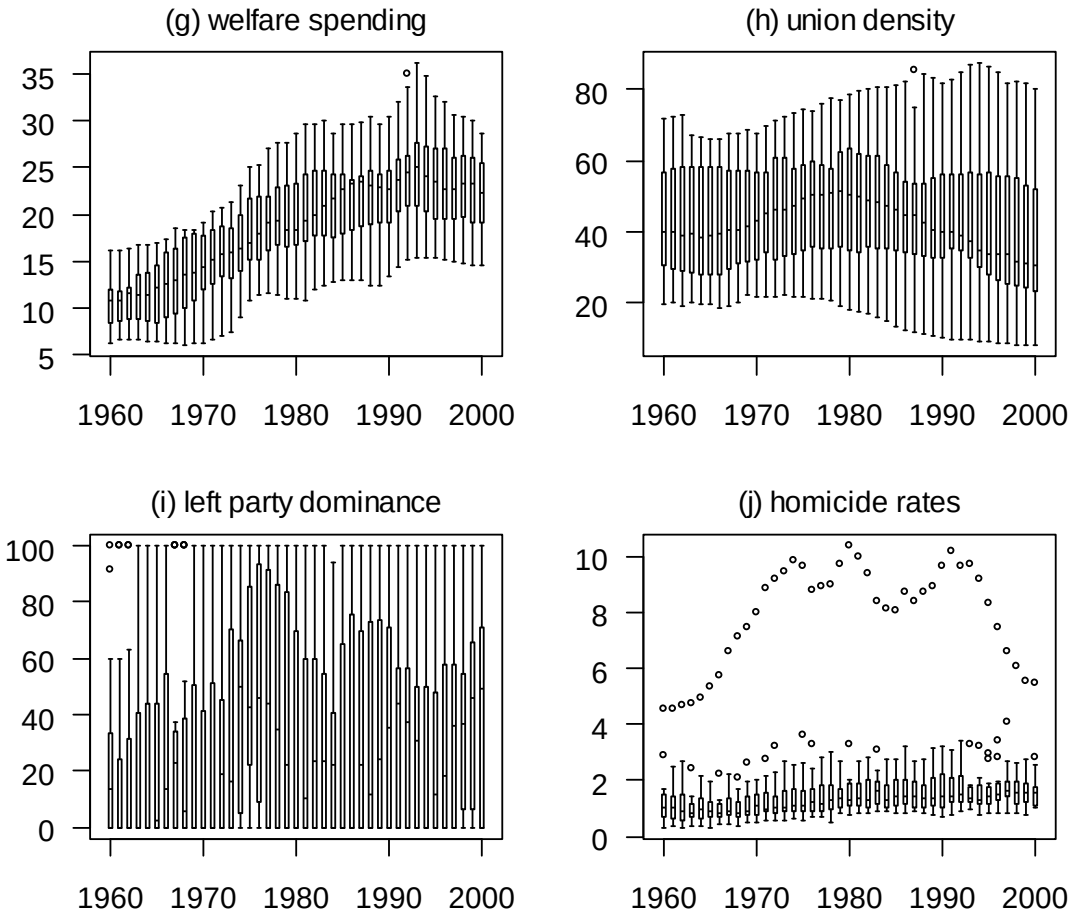


Figure 2. Countries in the Sample by Neocorporatism and State Centralization

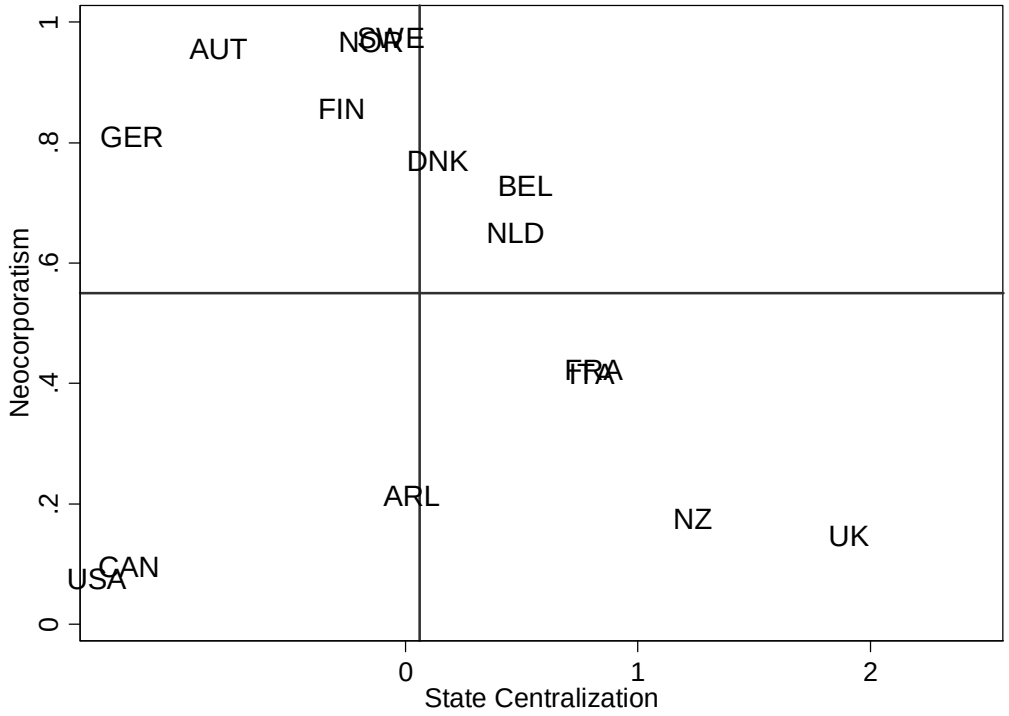
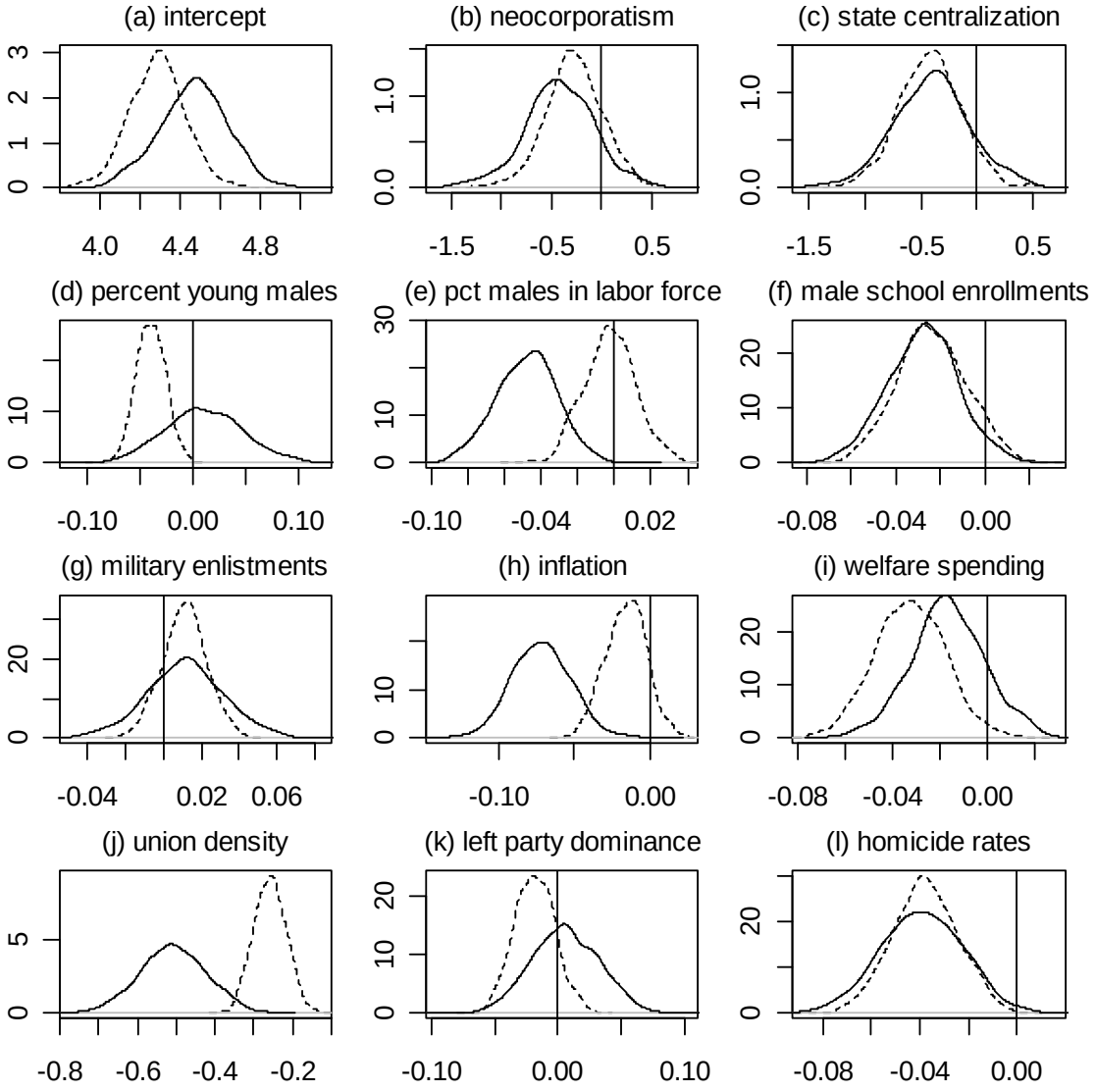


Figure 3. Posterior densities for the change-point model of incarceration rates



NOTE. Dashed lines show posterior densities for 1960-1986, and solid lines for 1987-2000.

Figure 4. Bayes marginal model plots: observed and simulated (log) imprisonment rates against (a) fitted values, (b) year, and (c) inflows of foreign direct investment

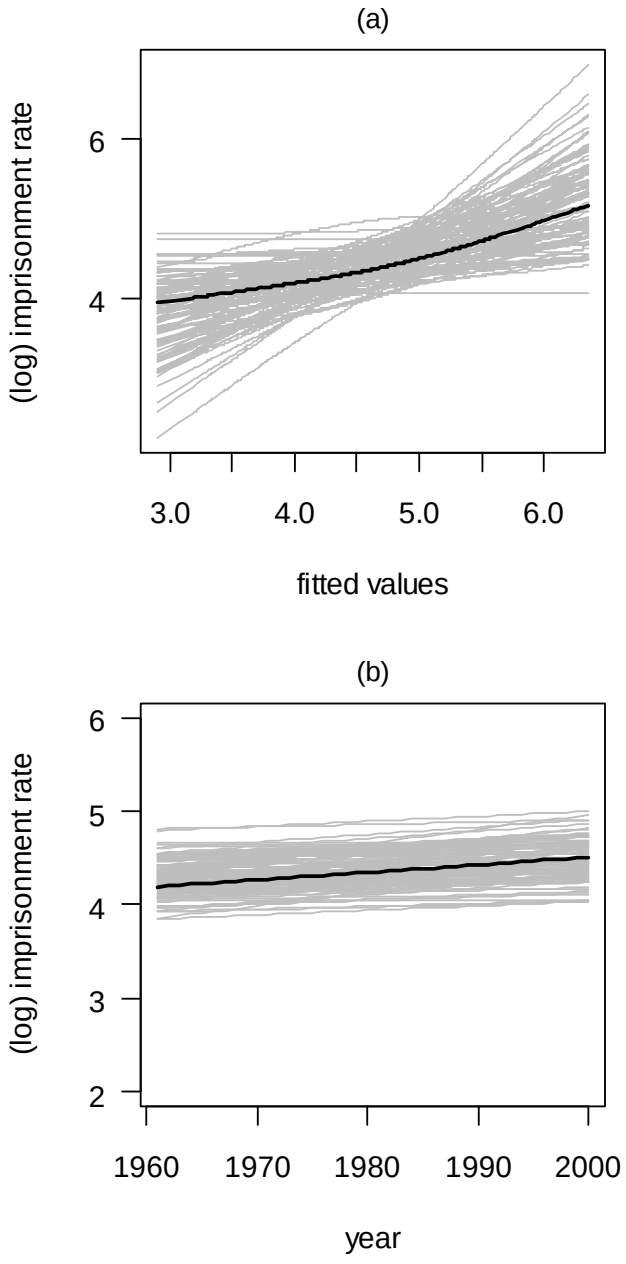


Figure 4 (continued)

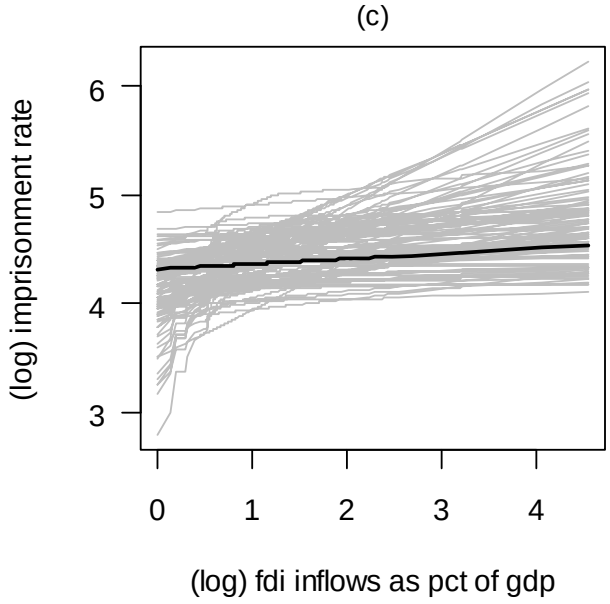
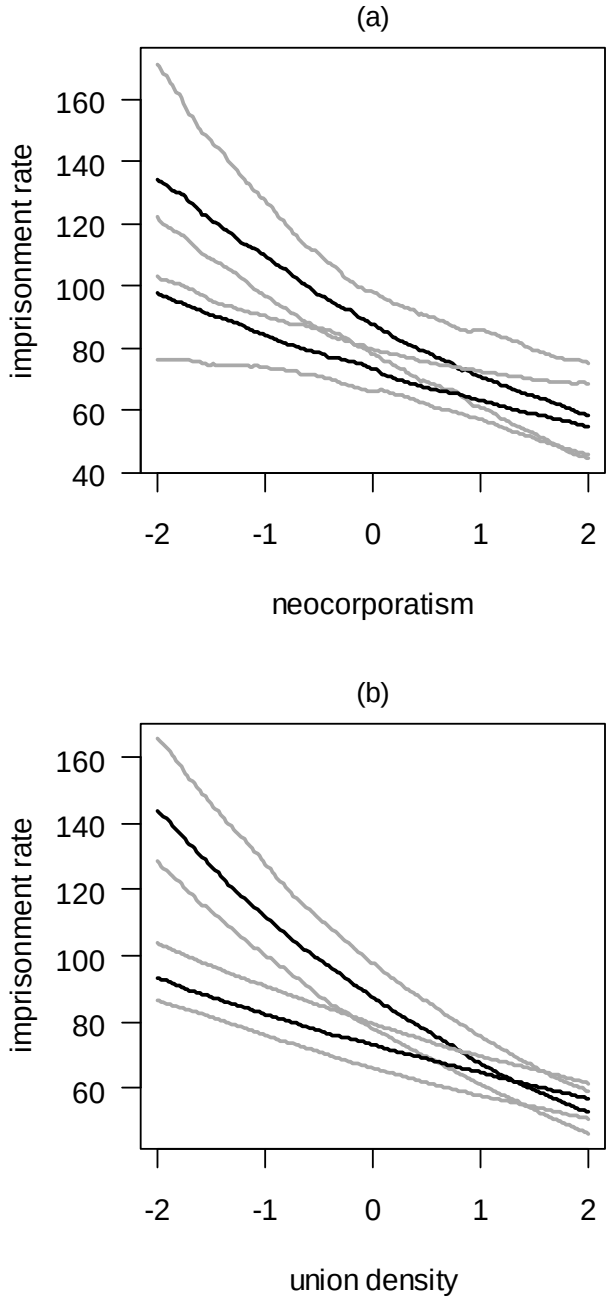


Figure 5. Predicted mean imprisonment rates by neocorporatism (a) and union density (b), by regime



NOTE. Black lines are predicted means and gray lines are 50 percent credible intervals. Lower curves are predictions for the first regime (1960-1986) and upper curves for the second regime (1987-2000).

Table 1. Parameter estimates for the change-point model of incarceration rates

	Regime 1 α				Regime shift β				Regime 2 α + β			
	mean	*2.5%*	*97.5%*	*p|coef|>0*	*mean*	*2.5%*	*97.5%*	*p|coef|>0*	*mean*	*2.5%*	*97.5%*	*p|coef|>0*
Change point					1987	1987	1988					
Intercept	4.288	4.007	4.561	1.000	0.181	-0.026	0.354	0.952	4.469	4.115	4.791	1.000
Neocorporatism	-0.275	-0.856	0.277	0.829	-0.145	-0.594	0.269	0.764	-0.420	-1.200	0.314	0.896
State centralization	-0.420	-0.983	0.142	0.932	0.016	-0.367	0.424	0.537	-0.404	-1.097	0.307	0.884
Percent young males	-0.040	-0.066	-0.011	0.999	0.050	-0.025	0.130	0.888	0.010	-0.062	0.085	0.600
Male labor force partic.	-0.002	-0.028	0.026	0.568	-0.045	-0.089	-0.002	0.980	-0.048	-0.081	-0.015	0.997
Male school enrollments	-0.024	-0.054	0.008	0.925	-0.004	-0.050	0.041	0.576	-0.028	-0.060	0.004	0.961
Military enlistment rate	0.011	-0.011	0.035	0.835	0.000	-0.046	0.050	0.507	0.012	-0.031	0.053	0.721
Inflation	-0.016	-0.043	0.012	0.885	-0.056	-0.103	-0.008	0.987	-0.072	-0.110	-0.032	0.999
Social welfare spending	-0.032	-0.061	-0.002	0.981	0.016	-0.027	0.056	0.772	-0.017	-0.049	0.016	0.859
Union density	-0.259	-0.337	-0.178	1.000	-0.250	-0.436	-0.067	0.997	-0.508	-0.677	-0.337	1.000
Left party dominance	-0.018	-0.049	0.015	0.877	0.024	-0.037	0.086	0.779	0.006	-0.046	0.056	0.591
Homicide rate	-0.038	-0.064	-0.012	0.999	-0.001	-0.044	0.041	0.522	-0.039	-0.073	-0.007	0.989

Appendix Table. Variable Descriptions and Sources

Variable	*Description*	*Source*
Imprisonment rates	Total inmates per 100,000 population	Various (see text)
Neocorporatism	Hicks-Kenworthy wage coordination measure	Hicks and Kenworthy (2002)
State Centralization	Hicks-Swank factor scale	Hicks and Swank (1992)
Percent young males	Males age 15-24 as percent of total population (change from *t-1* to *t*)	United Nations Statistical Office (1948-2006)
Percent males in labor force	Males in the labor force as percent of males 15-64 (change from *t-1* to *t*)	OECD (1999, 2001)
Inflation	GDP deflator (change from *t-1* to *t*)	Heston, Summers, and Aten (2006)
Social welfare spending	Social expenditure as percent of GDP (change from *t-1* to *t*)	OECD (2004)
Young male school enrollments	Males enrolled in secondary and tertiary schools as percent of male population 15-24 (change from *t-1* to *t*)	UNESCO (1955-90), UNESCO Institute for Statistics Data Centre (2009)
Military enlistments	Active-duty military personnel as percent of total population (change from *t-1* to *t*)	Faber (1989), IISS (1983-2001)
Union density	Union members as percent of total labor force	Visser (2009)
Left party dominance	Proportion of total cabinet seats held by left parties (running average from *t-2* to *t-1*)	Swank (2002b)
Homicide rates	Number of homicides per 100,000 population (change from *t-1* to *t*)	World Health Organization (1951-64, 1962-88), WHO Regional Office for Europe (2009)