Judicial Federalism and Representation

Jonathan P. Kastellec*
Princeton University
jkastell@princeton.edu

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Abstract

This paper evaluates how the power of federal courts in a system of federalism affects state-level representation. I develop a framework in which federal courts establish a "federal floor" in a given policy area, thus creating an asymmetry—states in which the legislature has chosen a lower level are compelled to shift policy to the floor, whereas states in which legislatures or voters prefer levels above the floor are unaffected. I develop versions of the framework in which the status quo at the state level may lag behind changes in public opinion, and in which cross-state moral externalities exist. In doing so, I use the framework to recast the familiar "counter-majoritarian difficulty"—the problem of unelected judges striking down legislation enacted by elected legislatures—as an issue of federalism. To illustrate the framework, I present a quantitative analysis of the path to the legalization of same-sex marriage in all 50 states, using both original and existing data on public opinion, federal and state judicial decisions, and state-level policy.

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1 Introduction

Under the system of federalism in the United States, federal courts exert power over both the federal government and state governments. With their sweeping power of judicial review, federal judges can strike down both federal and state laws. The latter gives federal courts the ability to affect policy implementation in all 50 states. Via their interpretation of the U.S. Constitution, federal judges can establish a *minimum* level of constitutional protection that states must provide to their residents. This level constitutes a federal "floor" for legal policy, below which no state can lawfully set policy. The combination of federalism and vertical judicial review of state statutes means that the actions of federal judges and state legislatures are inherently tied together. As a result, federal courts can mediate the relationship between state policy and state-level public opinion.

In this paper I examine how the ability of federal courts to establish federal floors affects representation—specifically, the relationship between public opinion and policy at the state level. To do so, I develop a framework that is based on models of the effect of federal mandates on policy choices, when policy is a function of choices made at both the state and federal levels (Crémer and Palfrey 2000). In the framework, a federal court can unilaterally establish a federal floor in a given policy area—for example, how much protection does the Constitution provide for women to obtain an abortion without interference from states? This floor thus establishes a minimum level of protection that states must provide.

My purpose in developing this framework of judicial federalism is three-fold. First, I use it to evaluate the effect of federal floors on state-level representation, and thus on the development of policy in a system of federalism. Because courts can implement floors but not ceilings, the effect of judicial review of state statutes on representation is *asymmetric*: states in which the legislature has chosen a lower level are compelled to shift policy to the floor, while states with policy levels above the floor are unaffected. This means the ability of

policy to match the preferences of the median voter of a state will depend on the relationship between the location of those preferences and the location of the floor.

Second, I use the framework to make predictions about the distribution of the types of constitutional challenges across state and federal courts. If the Supreme Court either chooses not to establish a federal floor, or "lowers" the floor by reducing the amount of constitutional protections in a given issue area, the prospect of challenges being successful in lower federal courts will be minimal or reduced, due to the nature of strict vertical *stare decisis* in the federal judicial hierarchy. Non-existent or low federal floors, in turn, should induce litigants to bring more challenges in *state* courts, given that state court judges, via interpretation of their state constitutions, are free to raise the floor above the level of protection beyond that provided by the U.S. Supreme Court.

Finally, I use the framework to recast the familiar "counter-majoritarian difficulty"—the problem of unelected judges striking down legislation enacted by elected legislatures—as an issue of federalism. Most theoretical and empirical accounts of the counter-majoritarian difficulty focus on Supreme Court invalidations of federal legislation enacted by Congress. While this use of judicial review is surely important, throughout its history the Supreme Court has been much more active in striking down state legislation than federal legislation. The framework allows for more precise definitions of when a decision is in fact counter-majoritarian. Specifically, I develop versions both with and without scenarios in which the status quo at the state level may lag behind changes in public opinion, and with and without the presence of cross-state moral externalities, in which voters care about policies not just in their states but in all states. I then show that the existence of lagging status quos or cross-state externalities is a necessary condition for a decision to be classified as *pro-majoritarian*. For example, in the presence of externalities, the implementation of a federal floor benefits voters who prefer higher levels of constitutional protection, due to the positive externalities of states in "low protection" states being forced to shift their policies. Conversely, a floor

harms voters who prefer lower levels of protection, since they suffer both immediate policy losses and negative externalities from other states shifting their policies to accommodate a federal court's mandate. Comparing net beneficiaries to net losers from the mandate allows for a classification of whether a given decision is pro- or counter-majoritarian.

To illustrate the framework, I present a quantitative analysis of the path to the legalization of same-sex marriage in all 50 states, using both original and existing data on public opinion, judicial decisions, and state-level policy. Early on in the debate over gay marriage, public opinion was decidedly against legalization, and federal courts provided no constitutional protections for the rights of gays and lesbians to legally marry. As a result, activists pursued challenges to state bans in state courts, some of which were receptive to these claims. As public opinion shifted dramatically in the direction of supporting gay marriage, many states implemented legalization via statutes or voter referenda. Most states did not, however, and federal courts (at every level of the federal judicial hierarchy) established a federal right to same-sex marriage over the course of 2013 to 2015. In states where opinion majorities favored retaining a ban on same-sex marriage, the implementation of a federal floor resulted in a mismatch between state opinion and policy. However, in a majority of states, federal courts actually brought policy in line with opinion majorities, due to the fact the legal status quo lagged behind the change in public support for gay marriage. Finally, I use simulations to examine how the presence of cross-state externalities changes the effects of the introduction of federal floors on overall voter utility. These results have important implications for understanding the power of federal courts and the nature of representation in a system of federalism.

2 Vertical vs. Horizontal Judicial Review

In evaluating the Supreme Court's role in the American political system, it is useful to distinguish between "horizontal" versus "vertical" judicial review (Friedman and Delaney 2011). The former refers to judicial review of the "coordinate branches of the [national]

government by the Courts," while the latter refers to "review of the constitutionality of the actions of the state and local governments under the U.S. Constitution" (Whittington 2008, 1258, fn. 4). Thus, federal courts are directly enmeshed in the twin pillars of the American constitutional design: federalism and the separation of powers.

Questions of federalism have surrounded the federal courts since the founding. In reaction to the failures of governance under the Articles of Confederation—which featured no national courts—the framers made the U.S. Constitution the "supreme law of the land," with every state bound by it. While there was general agreement over the need for a national Supreme Court, there were deep divisions over whether and to what extent federal courts in general—as opposed to state courts—should be tasked with reviewing the accordance of state laws with the U.S. Constitution. These divisions led to a series of compromises resulting in Article III of the Constitution, which delegated to Congress choices over both the structure of lower federal courts and the scope of the federal courts' appellate jurisdiction.

While the Supreme Court famously consolidated its power of horizontal judicial review in 1803 in *Marbury v. Madison*, most of the political battles the Court fought in its early decades concerned vertical review. The Court's decision in *Chisolm v. Georgia*, in which it ruled in favor of the executor of a South Carolina merchant who sued the state of Georgia over outstanding payments, led to an immense backlash from the states and the quick passage of the 11th Amendment. However, the Court would prove more successful in later decades (in cases such as *McCulloch v. Maryland*) in striking down state laws that posed a threat to the economic and political functioning of the national government. As Friedman and Delaney (2011, 105) argue, "over time national officials came to understand that the judiciary was an essential ally in their struggles with the states," thereby endowing the Court with "vertical supremacy," which it continues to exercise today.

2.1 Federal judicial power and representation

Perhaps the core tension in any federation is the division of power between the national and state governments. This tension is enhanced with respect to federal judicial power, given the ability of unelected and life-tenured federal judges to strike down federal *and* state laws. Such power has given rise to the so-called "counter-majoritarian difficulty." As first formulated by Bickel (1962, 16-7), the difficulty is that "when the Supreme Court declares unconstitutional a legislative act or the action of an elected executive, it thwarts the will of representatives of the actual people of the here and now; it exercises control, not in behalf of the prevailing majority, but against it." The counter-majoritarian difficulty is thus fundamentally a question of representation.

The exercise of horizontal versus vertical judicial review raises distinct (if overlapping) questions about federal courts and representation. Yet quantitative evaluations of the counter-majoritarian difficulty have tended to implicitly discount the importance of federalism. This can be seen in two important strands of research on the Court's decision making. First, there exists a large literature on whether the decisions of the U.S. Supreme Court align with majority opinion (see e.g. Epstein and Martin 2010, McGuire and Stimson 2004, Giles, Blackstone and Vining 2008). These studies tend to focus on *national-level public opinion*, ignoring the distribution of opinion across states. This metric makes sense when evaluating the justices' review of federal legislation. But when the Supreme Court reviews *state legislation*, the metric is less clear, as the Court is potentially disrupting the connection between state-level public opinion and state policies.

Second, there is a significant literature on whether the Court is constrained by Congress or the president, or both. If such constraint exists, it would potentially mitigate the counter-majoritarian difficulty, since the Court would be less likely to strike down acts of Congress, which are passed by elected officials. Typically, however, these studies either focus solely on judicial review of Acts of Congress (e.g. Clark 2011, Segal, Westerland and Lindquist 2011)

or pool constitutional decisions that involve both state and federal law (Meernik and Ignagni 1997, Segal 1997, Bailey and Maltzman 2008). Perhaps most famously, Robert Dahl's (1957, 282) argument that the Supreme Court only rarely will be out of step with the dominant national political coalition expressly set aside what Dahl called the "ticklish" question of the Court's consideration of state laws (Casper 1976).

The empirical focus on horizontal judicial review is not surprising, given the salience of the Supreme Court's invalidation of congressional acts. Yet this focus obscures the fact that throughout its history, the Court has been much more active in invalidating state laws, compared to federal laws. As of 2014, according to the Congressional Research Service, the Supreme Court had invalidated 177 federal laws, compared to *955* state laws (Government Publishing Office 2016*a*, 2016*b*). Moreover, vertical judicial invalidations have potential implications for all 50 states. For example, in their study of the Supreme Court's review of state statutes, Lindquist and Corley (2013, 8) find that 25% of the Court's decisions in which it evaluates a state statute "have the potential to adversely [and directly] affect state statutes from 21 or more states," because other states have similar or identical statutes to the one under consideration. Moreover, this statistic understates the implied effect of an invalidation of a state law, since such a decision sets the federal floor below which no state can go, meaning the policy implications of an invalidation may extend to all 50 states. However, while their study is important, Lindquist and Corley do not evaluate the relationship among public opinion, state statutes, and the effect of the Supreme Court's decisions.

2.2 The Role of Moral Externalities

How then might we frame the decision by federal courts to inject themselves into vertical politics? One way is using the lens of externalities. In the broader literature on federalism, many theories focus on *economic* externalities. These types of externalities—for example, how pollution in one state creates negative spillover effects in other states—are particularly salient in studies of "fiscal federalism," which concern the provision of public goods across

the national and state level (see e.g. Oates 1972, Rodden 2006, Weingast 2009, Gordon and Landa 2016).

While certain types of judicial decisions—e.g. anti-trust rulings—can create or mitigate economic externalities across states, decisions implicating constitutional protections are more likely to implicate *moral* externalities (Cameron 2005, Janeba 2004). Some citizens may care not just about policy in their home state—that is, policy that *directly* affects them—but also policy in other states. This utility over out-of-state policy arises from moral concerns. A quintessential example in American history is slavery: northern opposition was driven in part by disgust over the practice of slavery in Southern states, even though slavery was banned in the north (Graber 2006). Moral externalities, of course, can run in both directions. A person opposed to abortion, for example, may suffer from abortion restrictions being minimal in other states, even if such restrictions exists in that person's home state; conversely, a person who supports the right to an abortion and lives in a state with few restrictions may nevertheless perceive harm to women in other states with reduced access to abortions.

The presence of cross-state moral externalities means that the use of vertical judicial review may have a "unifying" function, if the distribution of preferences is such that national majorities may benefit from courts "reining" in outlier states. Whittington (2007, 107), notes that "the Supreme Court has often used the power of judicial review to bring states into line with the nationally dominant constitutional vision." *Brown v. Board of Education*, which struck down segregation statutes in multiple states, illustrates this function of federal courts. While there was substantial opposition to the decision, it was concentrated in the Southern states, which were directly affected; national majorities, on the other hand, favored the decision. Moreover, "northern voters were largely appalled" by many of the tactics used by officials in the Southern states to defy the Court's decision (Klarman 2012, 187).

2.3 Courts and status quo biases

A second way to frame the use of vertical judicial review is to consider the possibility that state policy may not match state majority opinion, in which case the decision by a court to alter policy may actually enhance representation. Such a disconnect may occur for several reasons. First, legislative majorities may understand the public's desire for policy change but fear exercising such change for political reasons, and thus may prefer to defer to courts and their use of judicial review (Graber 1993, Lovell 2003, Lemieux and Lovell 2010). Second, the status quo biases inherent in the United States' separation-of-powers system may lead to a disconnect in the mapping from public opinion to policy, when the former moves and the latter does not (Lax and Phillips 2012, Kastellec 2016*a*). As a result, the status quo as established by statutes may lag behind public opinion, perhaps due in part to blocking by entrenched interests (Whittington 2005, Klarman 1997). As noted in Kastellec (2016*a*, 5), "when evaluating judicial review with respect to the counter-majoritarian difficulty, it is crucial to compare not just the correspondence between public opinion and judicial decisions but also how those decisions relate to the location of the legislative status quo" (see also Berry, Bueno de Mesquita and Gersen 2013).

3 Judicial federalism and representation: a framework

How might we incorporate the role of externalities and status quo biases into a framework for analyzing judicial federalism and representation? While not modeling the judiciary, a series of recent formal theories by Palfrey and Cremer (1999, 2000, 1996, 2006) provide a useful foundation. Of particular relevance here, Crémer and Palfrey (2000) present a theory that examines the effects of federal mandates—i.e. a minimum policy below which no state can go below—on voter utility. The establishment of a federal mandate in the first stage affects voting over state policies in the second stage, and more voters will be made worse off by the creation of a mandate than there are voters who will benefit. Cameron (2005) uses

Crémer and Palfrey (2000) to develop a theory in which the Supreme Court strategically chooses whether to assert jurisdiction in a given area of the law, as a function of expected enforcement costs over states, should the Court assert jurisdiction and establish a national floor. The framework I develop builds directly off the formal theories presented in Crémer and Palfrey (2000) and Cameron (2005).[1]

It is worth noting that, in developing the framework, I set aside any evaluation of whether judicial review is normatively desirable above and beyond its effect on the linkages between public opinion and policy. Of course, one defense of judicial review is that the Constitution prohibits some sets of policy choices—even ones that may be broadly popular—and the task of judges is to decide where that line is (e.g. Ely 1980).[2] Alternatively, McGinnis and Somin (2004) argue that the very structure of federalism requires federal courts to intervene for citizens to best obtain the benefits of federalism. While recognizing these important normative considerations, my purpose in this paper is to focus solely on the positive consequences of judicial federalism as it pertains to representation.

[1]It is worth noting that courts have not been absent from theories of federalism more broadly. For example, scholars have examined how courts may enforce the "federal bargain" between state governments and the national governments (Riker 1964, Bednar and Eskridge Jr 1994, Bednar 2004). Similarly, in the formal model presented in Carrubba (2009), for example, federal courts help state governments overcome collective action problems by incentivizing compliance with national regulatory regimes. These theories, however, do not focus on representation. Separately, within the broader literature on policy diffusion in the states (see e.g. Shipan and Volden 2006; 2008), there are several papers on the theme of "top-down federalism" (Karch 2012, McCann, Shipan and Volden 2015), in which the actions of federal politicians may spur states to change their policies. The role of federal courts in structuring state policy, however, are not considered in these studies; the framework I develop can be viewed as examining the role of courts in top-down federalism. (In general the literature on policy diffusion has not really considered the role of federal courts, but see Patton (2007), Hoekstra (2009), and Hinkle (2015) for important exceptions.)

[2]This defense is directly relevant in the issue of gay marriage, for example. Many normative arguments for courts striking down bans on same-sex marriage—even when such bans were broadly popular—centered on the harm done to gay and lesbian Americans (see e.g. Eskridge 1996).

3.1 Preliminaries

I consider a federation of S states, where s denotes individual states.[3] Each state has a continuum of voters, who are denoted by i; let i, s denote voter i in state s. It is useful to denote separate levels of aggregation within the government. Let N denote the set of all voters in all states, or the *national* district. Let $C_1, C_2, ..., C_k$ denote the set of *circuits* within the government, of number k. The name "circuit" is derived, of course, from the U.S. Courts of Appeals, which are divided into geographic units. More generally, circuits can be thought of as aggregations of two or more states. Each circuit consists of a subset of the set of all states; these subsets are both exhaustive and mutually exclusive (i.e. every state appears in one and only one circuit). Let $a \in \{N, C, S\}$ generically devote a given level of aggregation.

Voters have single-peaked preferences over a one-dimensional policy space $x \in [0, \bar{x}]$. Rather than a standard rendering of a one-dimensional spatial model, the policy space here is best characterized as the "amount of protection" for a specified activity by an individual. In the abortion context, for example, a policy of 0 would mean a complete ban on all abortions under any circumstances, whereas $\bar{x}$ would mean a total protection of a woman's right to obtain an abortion under any and all circumstances. Let x_s denote the implemented policy in a given state. The policy space can encompass a wide range of issues, including issues in which ideological conservatives would prefer greater protections. For an example with reverse ideological polarity, consider the issue of gun rights; a policy of 0 would mean a complete ban on individual ownership of any firearms, while a policy of $\bar{x}$ would mean unrestricted access to any and all firearms.

Denote the ideal point of voter i in state s as t_{is}; voters prefer state policies that are closer to their ideal point. For now, assume no externalities or spillovers from policies in

[3]The model could be generalized to consider much smaller jurisdictions (e.g. legislative districts), as is done in Crémer and Palfrey (2000). Because I focus on state policy making in this paper, I consider states as the smallest political unit.

other states. Assuming linear loss, the utility function for a voter can be stated as:

$$U_{is}(x) = -|t_{is} - x_s| \tag{1}$$

It is useful to summarize the preferences of the median citizen at each level of aggregation in the government. Let m_s denote the median citizen's ideal policy in state s, m_c denotes the median citizen's ideal policy in circuit c, and m_n denotes the "national" median voter. Let m_a generically refer to the median voter at level of aggregation a.

3.2 The structure of federal floors

In formal theories of federal mandates, state policy results from the interaction of preferences aggregated nationally as well as preferences in individual lower units (see e.g. Crémer and Palfrey 2000). Judicial federalism and the power of judicial review simplifies matters a great deal, since courts can act unilaterally to change policy. Let FC denote a federal court, where SC denotes the Supreme Court; CC_k denotes a circuit court in circuit k, and DC_s a district court in state s. With slight abuse of notation, denote the ideal policy of each court by this same notation. Thus, SC denotes the Supreme Court's ideal federal floor.

In the absence of federal court action, states are unconstrained and free to choose to set policy anywhere in the policy space $x \in [0, \bar{x}]$. A federal court then sets a *federal floor*, denoted F_a. With F_a in place, the set of allowable policies shifts to $[F_a, \bar{x}]$.[4]

If implemented, F_a applies to the jurisdiction of the court that implements it. For example, a floor set by a district court F_{DC} would apply only to the state in which the district court is located; a floor F_{CC} would apply to all the states in a given circuit; and a floor F_{SC} applies nationally. Under the norms of strict vertical *stare decisis*, federal floors set by higher courts supersede decisions by lower courts. The utility of a federal court is

[4] For the purposes of this model, I assume that states fully comply with the federal floor and do not set policies below the floor. Alternatively, one could assume that such policies are struck down by a federal court as unconstitutional. Future work could both endogenize the choice of the federal floor based on expected compliance by the states (something that Cameron (2005) does with respect to federal jurisdiction) and accordingly make the federal court a strategic actor. Such a model would help us understand the *location* of federal floors, whereas I am more concerned with their *effects* on representation.

$\sum_s |t_a - FC|$—that is, the average distance between its ideal point and all state policies that fall under the court's jurisdiction.[5]

3.3 Policy implementation in the absence and presence of federal floors

For now, and following the basic model in Crémer and Palfrey (2000), assume that state policy is selected via referendum. Thus, in the absence of a federal floor, state policy would be set at m_s, the median voter in a state. This result follows straightforwardly from the assumptions of single-peaked preferences and a single policy dimension (and the lack of any agenda control).

Now assume that a federal court decides to implement a federal floor. Given its utility function, a federal courts's strategy best strategy is simply to set F_a at its ideal policy. This is because a court cannot "lower" policy in states with ideal points that are higher than FC, so it has no incentive to set the floor higher than its ideal point. Similarly, setting the floor lower makes the court weakly worse off, since states with median voters between F_a and FC will set their policies in this interval (see Lemma 2 in Cameron 2005).

With a federal floor in place, policies below F are now off-limits, and hence state policy is set at $x_s^* = \max\{F_a, m_s\}$. This result is illustrated in Figure 1: all states where the median voter prefers $x < F_a$ see policy "shifted" to F_a. These are the states affected by the establishment of the federal floor. Conversely, states where the median voter prefers $x \geq F_a$ are unaffected by the federal floor.

> **Result 1**: *The implementation of a federal floor only affects policies in states where the median voter is located below the federal floor. In the absence of cross-state externalities, the implementation of a federal floor also only affects voters in states where the median voter is located below the federal floor.*

While straightforward, this result is fundamental to understanding the role of judicial review by federal courts in a federal system. The establishment of a federal floor cuts off the ability

[5] An alternative utility function would allow district and circuit courts to care about policies in states outside their jurisdictions. In addition, one might assume courts with jurisdictions over multiple states weigh state policies by the size of state populations (as voters do once we introduce externalities below). Because, as above noted in footnote 4, courts in this framework are are not really strategic actors, the simpler utility function is sufficient.

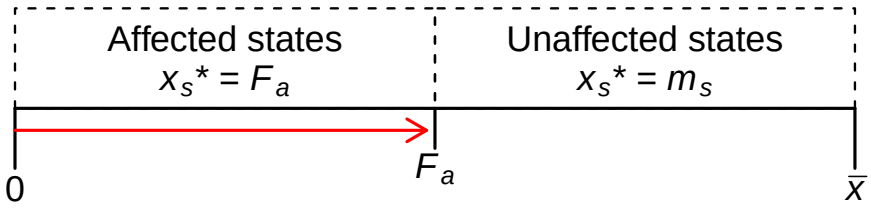

Figure 1: Illustrating the effect of a federal floor on state policy making.

of some states—but not all states—to implement their preferred policy. In particular, those with a "low demand" for protections in a given issue are affected, while "high demanders" are not. This, of course, has important consequences for representation: it means that the ability of state policy to match state opinion when a federal floor has been set will be asymmetric.

Of floors and ceilings Given this result, one immediate question is whether the policy dimension can be "flipped" such that the floor of a given dimension becomes a ceiling, depending on who is being protected. Suppose, for example, with respect to the issue of abortion, the policy space was re-interpreted as the amount of protection owed to the *fetus*, rather than the woman. If so, then increasing the level of the federal floor would mean that states would have to pass laws to *restrict* access to abortion to meet the federal floor. If such an inversion is readily available, then the analytical bite of the model presented here would be diminished.

It seems unlikely that there is a general principle that speaks to the "stability" of a given policy dimension. Rather, each area of the law requires contextual analysis of whether inverting floors and ceilings is practical, given the nature of judicial decision making in that particular area. For example, returning to abortion, in theory federal judges could reach the conclusion that the fetus has constitutional rights that cannot be abridged via statutes providing for legal abortion. Indeed, some judges did make this argument around the time *Roe v. Wade* was decided—see e.g. Judge Burke's dissenting opinion in the New York case of *Byrn v. New York Health & Hospitals Corporation* (286 N.E.2d 887). However, this conclusion has never been endorsed by a majority opinion at either the state or federal

level—judges who rule against challenges to abortion statutes argue that states are free to legalize abortion, but are not constitutionally compelled to do so. Thus, even among the justices of the U.S. Supreme Court who have favored overturning *Roe*, the battle over the location over the federal floor has been played on the dimension where the rights of the woman are implicated (Kastellec 2016*b*).[6]

More generally, the structure of judicial power means that in many settings the polarity of a policy dimension should be relatively fixed. For example, through its interpretation of the Bill of Rights, the Supreme Court has provided various protections to criminal defendants (e.g. the necessity of Miranda warnings) that states must meet. It is difficult to imagine that federal courts would accept arguments that a given state has provided *too much* protection to a defendant based on the claim that the rights of states were being violated.[7] Thus, in many contexts it should be fairly clear that a dimension cannot easily be inverted.

3.4 Judicial floors and voter utility

I now consider how the establishment of a judicial floor affects aggregate voter utility. Continue to assume that state policy perfectly matches the preferences of the median voter within each state. It is first useful to consider how the implementation of a judicial floor affects the *direct policy utility* of a voter within an affected state—that is, ignoring the

[6]Interestingly, this context may differ cross-nationally. In Germany, for example, the Federal Constitutional Court in the 1970s *did* rule that the fetus had rights within the meaning of the German Constitution, and thus the dimension was flipped in this instance (Kommers 1994). The structure of the judicial federalism framework could be altered to accommodate alternative institutional arrangements in other federal systems, including Germany (Vanberg 2004; 2010).

[7]One might object here by invoking the Supreme Court's use of the doctrine of "independent and adequate state grounds," under which the Court will not review decisions by state courts that rest solely on state law. In the 1983 case of *Michigan v. Long* (463 U.S. 1032), the Court reversed a decision of the Michigan Supreme Court ruling unconstitutional a warrantless search of a defendant in his car. The U.S. Supreme Court ruled that unless a state court expressly stated it was relying on state law, the Court would assume it relied on federal law; in doing so the majority reversed the Michigan Supreme Court, ruling that the Court had improperly ruled the search unconstitutional based on its interpretation of existing *federal* law. While this doctrine and case undoubtedly implicate judicial federalism, at issue was *not* the ability of state courts to establish greater protections for defendants, but rather whether the state court actually based its decision on federal or state law. As Devins (2010, 1636, fn.28) notes, "federal courts cannot question state court judgments in cases implicating both federal and state claims so long as there are adequate and independent state grounds supporting the judgment."

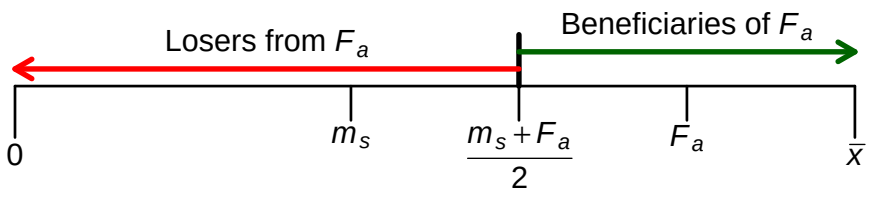

Figure 2: Illustrating winning and losing voters.

role of any externalities. Again the median voter in a state is the relevant benchmark: if $F_a \leq m_s$, the implementation of the floor does not affect policy, and voters' utilities are likewise unaffected. Conversely, if $F_a > m_s$, many voters lose from such a decision (since the floor is to the right of the median voter). Some voters, however, will benefit. Specifically, as seen in Figure 2, there is a cutpoint $\frac{m_s+F_a}{2}$ that lies halfway between the median voter's ideal point and the judicial floor. Voters to the left of the cutpoint do worse under the floor, while voters to the right do better. Not surprisingly, voters with ideal points more extreme than the median and the location of the floor have more to lose and gain, while centrist voters see smaller utility shifts. The total shift in voters' policy utility can be expressed simply as:

$$\gamma_s = \sum_{i,s} (|t_{is} - m_s| - |t_{is} - \texttt{max}(F_s, m_s)|) \tag{2}$$

That is, the total shift is given by the distance between the voter and the median state voter (i.e the "old" policy), minus the distance between the voter and the new policy, which is determined by whether the voter's state is affected by the federal floor. By construction, γ_s cannot be positive: setting the floor at or below the state median voter does not affect voters' policy utility, while setting it above induces an overall decline in utility.

When we move to federal decisions that affect multiple states (i.e. circuit courts or the Supreme Court), the effect of judicial floors on aggregate voter utility is subtler. The calculation of net shift in voters' policy utility proceeds similarly, only now we consider all voters in level a:

$$\gamma_a = \sum_{i,s} (|t_{is} - m_s| - |t_{is} - \texttt{max}(F_a, m_s)|), \forall s \in a. \tag{3}$$

The location of the state median voter is still the benchmark, but now the relevant comparison is a judicial floor that affects voters in multiple states. It is straightforward to see that γ_a also cannot be positive: the floor does not affect voters in states with median voters *above* the floor, but it induces a shift in policy away from the ideal point of voters who reside in states with median voters *below* the floor.

For illustration, consider the following numerical example. Suppose there are three states comprising a total of 99 voters, with 22 voters in state 1, 45 in state 2, and 32 in state 3. Let $\bar{x}$=100. In each state, the ideal points of voters are drawn from a normal distribution; the mean ideal point of voters is increasing in each state. Specifically, the mean ideal point is 25, 50, and 75 in states 1, 2, and 3, respectively, with a standard deviation of 20 in each state (ideal points below 0 and above 100 are truncated at the limits). Figure 3A depicts these distributions, along with the location of the respective median voters in each state.

Suppose these three states are in the same circuit—m_c depicts the overall circuit median—and a circuit court sets a floor F_c. Imagine the floor was set sequentially at every integer on x—Figure 3B depicts the net utility shift from setting the floor at a given location on the horizontal axis. The dotted (red) horizontal lines indicates a net utility shift of zero—values above and below this line respectively indicate positive and negative shifts in voter utility, by comparing net voter utility before and after the introduction of a federal floor at each specific value. Figure 3B shows that there is no effect of establishing a federal floor until it hits just above the location of m_1 (around 20), at which point the extreme "low demand" voters in state 1 suffer a utility loss from the floor being set above m_1. As the floor gets increasingly higher—particularly when it exceeds m_2 and m_3—more voters are increasingly affected. As the floor approaches $\bar{x}$, only the most high demand voters benefit, while all other voters suffer a utility decline.

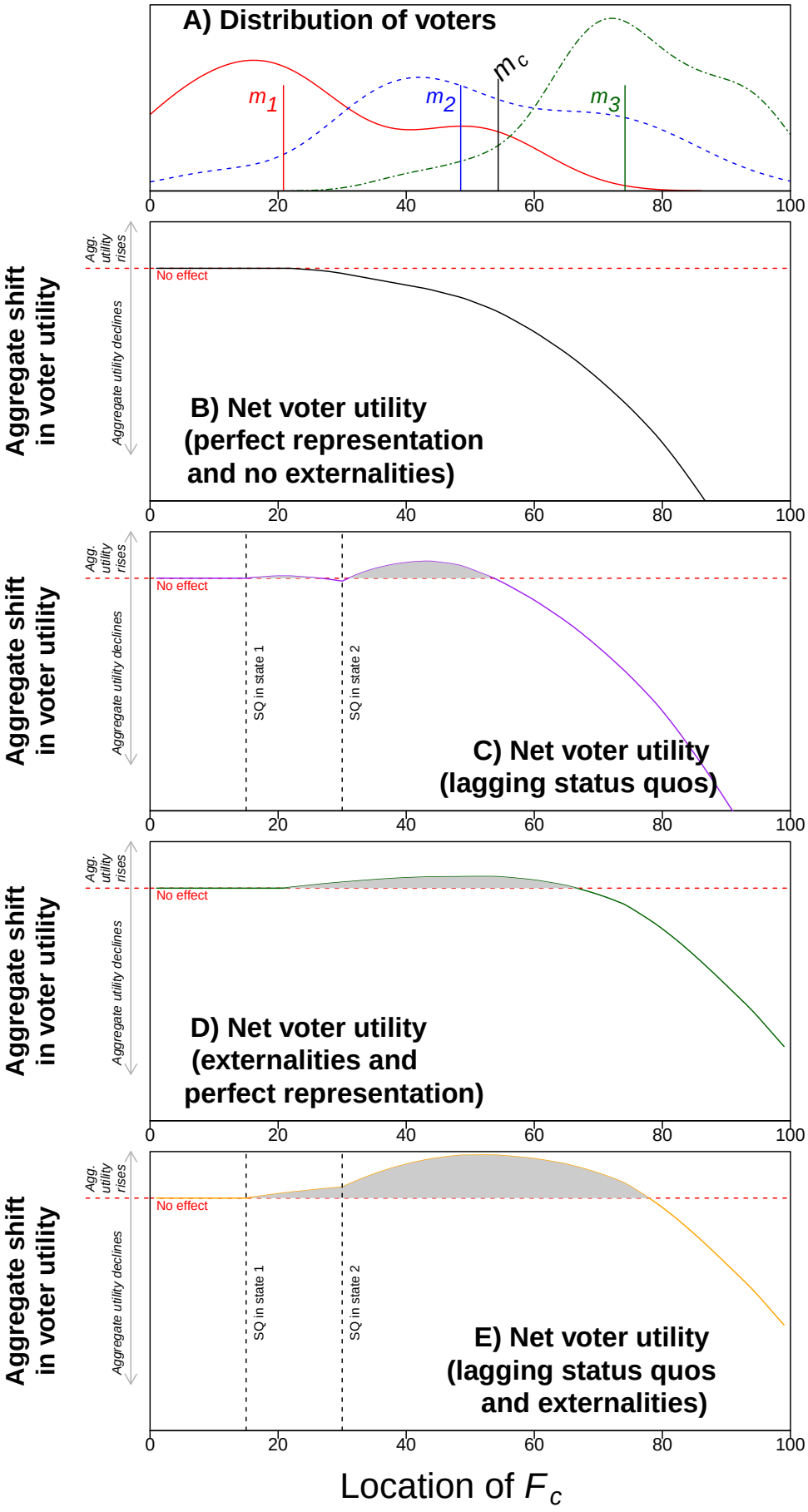

Figure 3: The effect of a federal floor. A) The distribution of voters in a hypothetical 3-state example. Panels (B) through (E) depict aggregate shifts in utility as the floor is set sequentially from 0 to 100, under the scenarios described in each panel label. See text for further details.

3.5 Incorporating state legislatures and status quo policies

So far I have assumed that state policy is set via referendum. Thus, in the absence of judicial intervention, state policy would be set perfectly at the location of the state median voter. Now assume that state policy is decided by a representative legislature. One possibility is that legislatures perfectly reflect the will of state majorities. In Crémer and Palfrey (2000), shifting from a referendum system to elected legislatures has a substantive impact on policy, as it results in the federal mandate being placed at the median of all median voters across districts, rather than the overall median of all voters. In the model here, however, it actually produces no meaningful differences, given that F_a is set by a court. If state legislatures perfectly represented the state median voter, then state legislatures would set policy at x_s^* = max $\{F_a, m_s\}$, and everything would be the same as above.

Now consider the scenario where this is a potential mismatch between state policy and current state-level opinion. Let q_s denote the status quo policy of state s. Accordingly, $|m_s - q_s|$ represents the lag between what the current state median prefers and existing policy. Thus, there exists a range of federal floors that will improve upon the utility of the median voter; whether this is the case depends on the location of the state median relative to the status quo. Specifically, if $m_s > q_s$, any floor that is to the right of q_s and to the left of $2m_s - q_s$ will benefit the median voter. Conversely, if $m_s < q$, then the introduction or movement of a federal floor has either no effect or makes the state median voter worse off: the former occurs if $F_a \leq q_s$, the latter if the floor is above q_s. Again, we see the asymmetric effect of federal floors, which is visualized in Figure 4: they only improve the representation of voters who are "higher" on a given policy dimension.

Returning to the question of how federal floors affect aggregate voter utility, including in the presence of externalities, we can restate Eqs. 3, but with q_s replacing m_s:

$$\gamma_a^{sq} = \sum_{i,s} (|t_{is} - q_s| - |t_{is} - \texttt{max}(F_a, q_s)|), \forall s \in a \tag{4}$$

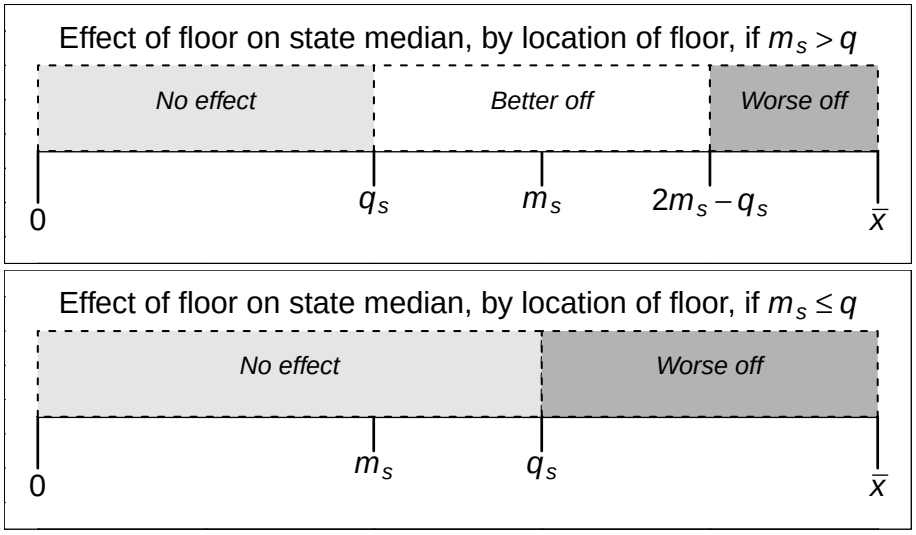

Figure 4: Effect of a federal floor on state median's utility, depending on whether the median is to the right of the state status quo (top) or the left of the status quo (bottom).

To see how the inclusion of lagging status quos may affect representation, I return to the numerical example in Figure 3. Whereas previously state policy defaulted to the location of the state median voter, now assume that the status quo in states 1 and 2 lag "below" the location of the median: specifically assume $q_1 = 15$ and $q_2 = 20$ ($ms_1 = 21$ and $ms_2 = 49$). Figure 3C presents the shift in net voter utility, at every level of the federal floor. Because many more voters in states 1 and 2 benefit from even floors well above their ideal point, in contrast to Figure 3B there are now regions (indicated via shading) in which the establishment of a federal floor *increases* voter utility—particularly in the region between $q_2 = 20$ and just above ms_2; floors in this range benefit many voters in state 2 (and state 1 as well), while not affecting voters in state 3.[8]

3.6 Adding externalities

Now let us introduce the possibility of cross-state externalities in voters' utility functions. To motivate this possibility, I modify voters' utility function as follows:

$$U_{is}(x) = -\phi_s|t_{is} - x_s| - \alpha_{is}\sum_{j \neq s}\phi_j|t_{is} - x_j|, \tag{5}$$

where $\alpha \geq 0$ denotes the sensitivity of voter (i, s) to policy in states $j \neq s$, and $\phi_s \in (0, 1)$

[8] As can be seen in Figure 3C, there is a small region between q_1 and q_2 where the introduction of a federal floor benefits a majority of voters in state 1.

denotes the relative size of state s, with $\sum_{s \in S} \phi_s = 1$. Thus, externalities for an individual voter are weighted by the distance between her ideal and policy in all other states, as well as the relative size of each state.

Given this utility function, the total shift in voter's utility after the introduction of a federal floor can be expressed as follows:

$$\gamma_a^e = \sum_{i,s} \left(\left| -\phi_s |t_{is} - x_s| - \alpha_{is} \sum_{j \neq s} \phi_j |t_{is} - x_j| \right| - \left| -\phi_s |t_{is} - \texttt{max}(F_a, m_s)| - \sum_{j \neq s} \phi_j |t_{is} - \texttt{max}(F_a, m_s)| \right| \right), \forall s \in a. \tag{6}$$

While this expression is more complicated, the basic intuition is the same: voters compare their utility under the absence of a federal floor to that under the floor, which will now affect their utility gained or lost from policies being moved in states affected by the floor, even if their state is unaffected directly by the introduction of a floor.

How does the introduction of externalities affect the overall picture of voter gains and losses? Returning to the numerical example, Figure 3D depicts the shift in aggregate voter utility as the federal floor is set increasingly higher. To highlight the importance of externalities, Figure 3D returns to the assumption of perfect representation (i.e. state policy is set at the location of the median state voter), as assumed in Figure 3B. For simplicity, I assume that α_{is} is uniformly distributed between 0 and 1; ϕ_j is based directly on the number of simulated voters in each state.

Figure 3D shows that the introduction of "moderate" floors—here in the range of roughly 25 to 70—induce positive net voter utility shifts (again indicated by the shaded region). This is because even though the setting of a floor has no *in-state* direct effect on many voters' policy utility, "high-demand" voters now reap the gains from "low-demand" states being forced to set higher policies, thereby moving out-of-state policy closer to the high-demanders' ideal points. This shift, of course, induces *negative* externalities for low demand voters (these externalities are top of their in-state policy loss). However, in this example, only when the

floor exceeds 70 or so (i.e above m_3) do the overall utility losses from the floor exceed the benefits. This example illustrates the classic case of courts bringing "outlying minorities" in line with national majorities, as voters who favor higher protection see federal courts move policy closer to their ideal points in states where the median voter prefers lower levels of protection.

Combining lagging status quos and externalities What happens if we allow for both lagging status quos and the presence of cross-state externalities? Figure 3E combines the analyses in Figure 3C and Figure 3D. That is, the status quos lag behind the median voters in both state 1 and state 2, and the same distribution of externalities analyzed in Figure 3D is assumed. Figure 3E reveals that, in this scenario, utility gains exist from the setting of federal floors at every level except very low levels (where they have no effect) and very high levels (beyond the ideal point of the median voter in state 3).

3.6.1 Defining a counter-majoritarian decision

Taking the analyses of federal floors as a whole, the judicial federalism framework directly facilitates a definition of whether a decision is counter-majoritarian. We can simply look at the effect of an introduction of a federal floor and evaluate its effect on overall voter utility. Recall that by construction, γ_s cannot be positive; this means that when only direct policy utility is considered, and if perfect representation of the median voter is assumed, a federal court decision to establish a floor *must* be counter-majoritarian (as long as the floor affects at least one state). However, allowing for lagging status quos and/or externalities changes things, as both γ_a^{sq} and γ_a^e can be positive. If they are positive, then more voters are benefitting from the court's setting of a federal floor—such a decision is thus *pro-majoritarian.* If γ_a^{sq} or γ_a^e is negative, however, then the decision is counter-majoritarian. This leads directly to this result:

> **Result 2**: *A necessary condition for the establishment of a federal floor to be pro-majoritarian is either the existence of lagging status quos or the presence of cross-state externalities.*

One upshot of this result is that it is not straightforward to evaluate whether a decision by a federal court is pro- or counter-majoritarian. Such determinations must be made in light of both the location of the status quo in each state and one's assumptions about how voters evaluate out-of-state policy.

3.7 State courts

In this section, I introduce state courts, who comprise the final piece of the judicial federalism framework. Under the supremacy clause of the U.S. Constitution, state courts are obligated to respect floors set by the Supreme Court, but they can also interpret their own state constitutions as providing greater protection (Devins 2010). Let SF_s denote a floor set by a state court in state s, where $SF_s >= F_{SC}$.[9] If a state court sets a floor, then policy is set at $x_s^* = \max\{SF_s, m_s\}$.

This aspect of the model speaks directly to the so-called "new judicial federalism" (see e.g. Devins 2010). As the Burger and Rehnquist Courts turned rightward and limited the Supreme Court's interpretations of individual rights, liberals turned to state courts for judicial expansion of such rights. In essence they were asking state courts to set constitutional floors far above the level the U.S. Supreme Court was willing to extend.

One implication of the fact that state floors can be above but not below the federal floor is that state courts should be more active in areas of the law with lower federal floors, since litigants are less likely to bring those cases to federal courts. Even when the Supreme Court has ruled a restriction constitutional, based on the justices' understanding of the federal constitution, state courts may still find it unconstitutional under their state constitution.

4 Evaluating the legalization of gay marriage

To illustrate the judicial federalism framework, I turn to a quantitative analysis of the legalization of gay marriage, which fits the framework for several reasons. First, as I demon-

[9]Though the issue is somewhat murky, state courts are not bound by decisions of lower federal courts (see e.g. Frost (2015)). Thus, state courts are only restricted by a federal floor set by the U.S. Supreme Court.

strate shortly, there has been significant variation both over time and across states in public opinion. Second, in a majority of states, legalization was implemented by courts, with state courts, lower federal courts, and the U.S. Supreme Court all playing a role in striking down existing state bans on gay marriage. Third, as I discuss below, the issue of cross-state externalities have played a significant role in both public opinion on the issue and in judicial deliberations regarding the proper role of the judiciary in bringing about this particular social change. Finally, the battle over gay marriage nicely captures the complexities of policy change in a system of federalism; as Keck (2009, 156) notes, since the 1990s, "the legal and political conflicts over [gay] rights have been highly decentralized, with multiple simultaneous battles proceeding in various state judiciaries, 12 federal circuits, and at times the Supreme Court, the White House and the governors' mansions, the halls of Congress and the state legislatures, and in about half the states, the direct democracy process as well."[10]

The history of same-sex marriage reform—which came about in the larger context of the broader liberalization of gay rights—has been well documented, and only a brief review is necessary here.[11] Same-sex marriage first emerged as a issue in the early 1970s, with courts rejecting the first claims of a constitutional right to gay marriage. The first explicit state legislative bans were passed in this decade, although only in a handful of states.

The debate moved to the national stage in the early 1990s, sparked by a decision of

[10]In two papers closely related to this one, I use the abortion context to use evaluate the judicial federalism framework. First, Kastellec (2016*a*) presents an analysis that is similar in some respects to this paper, showing that courts who struck down restrictive abortion statutes before *Roe v Wade* was decided were generally acting in a pro-majoritarian fashion. That article, however, does not consider the role of externalities, and also relies on static estimates of public opinion. Second, Kastellec (2016*b*) examines how the combined decisions of federal and state courts—that is, the location of the combined floor—structure whether states can implement majority-preferred policies. This paper examines abortion policy following *Roe v. Wade*, and shows that states were more likely to implement abortion restrictions favored by majorities during periods in which the combined floor was lower, meaning more such restrictions were deemed constitutionally permissible. Collectively, Kastellec (2016*a*;*b*) and this paper apply the framework to study various aspects of policy change in two important issue areas—in each area, courts have had a large influence in policy-making at the state level.

[11]For a thorough historical analysis of the road to same-sex marriage, see Klarman (2012), upon which I draw extensively in this section.

the Hawaii Supreme Court.[12] The court did not directly rule on the constitutionality of gay marriage in Hawaii, but expressed deep skepticism that the refusal of state officials to provide wedding licenses to same-sex couples satisfied the state Constitution's guarantees of equal protection. This decision sparked a huge backlash, both in Hawaii and nationally. Many state legislatures moved swiftly to pass bans on gay marriage, while in 1996 Congress passed and President Clinton signed the Defense of Marriage Act (DOMA), which both permitted states to refuse to recognize same-sex marriages from other states and prohibited the federal government from recognizing same-sex marriages for the purposes of federal law. Over the next decade or so, voters in a majority of states would pass constitutional amendments to their state constitutions expressly banning same-sex marriage.

Toward the middle of the 2000s, however, public opinion began to shift toward favoring gay marriage. Concomitantly, courts were also becoming more receptive to arguments against the constitutionality of same-sex marriage bans. In 1999, Vermont's Supreme Court ordered the legislature to either allow same-sex marriage or to implement civil unions (with equivalent benefits to marriage);[13] the legislature chose the latter in 2000. In 2004, Massachusetts became the first state to legalize following a ruling a year earlier by the Massachusetts Supreme Court that the state constitution precluded a ban on same-sex marriage.[14]

A few years later, supporters of gay marriage brought several challenges in federal court to DOMA, which the U.S. Supreme Court struck down (in relevant part) in 2013.[15] The majority opinion, however, expressly declined to rule on the constitutionality of *state* bans on same-sex marriage. Over the next two years, numerous challenges to individual state bans were brought in federal courts, with many (though not all) federal district and circuit judges voting to strike bans as unconstitutional. (Over this period, many states had legalized same-

[12] *Baehr v. Lewin*, 852 P.2d 44.
[13] *Baker v. State of Vermont*, 744 A.2d 864.
[14] *Goodridge v. Department of Public Health*, 798 N.E.2d 941.
[15] *U.S. v. Windsor* (133 S. Ct. 2675).

sex marriage via either legislation or ballot initiatives.) Finally, in 2015, the U.S. Supreme Court found a constitutional right to same-sex marriage, making it legal in all 50 states.[16]

The policy space To place this history within the confines of the judicial federalism framework, first note that the fight over gay marriage (and gay rights more generally) maps neatly into the policy space considered in the model. The dimension represents the amount of protection gay individuals have against state preclusion of the benefits of marriage. Preferences higher on the dimension indicate greater support for the rights of gay Americans; a policy of 0, for example, would mean the complete denial of any such benefits, whereas $\hat{x}$ denotes the full panoply of marriage rights and the name of "marriage." Thus, the federal floor for the protection of same-sex marriage is now at its maximal level. Civil unions, which some states implemented before the legalization of gay marriage, represent an intermediate policy between complete bans and complete allowance.

4.1 Data

To evaluate the linkages among public opinion, judicial decisions, and state policy, I collected data on all three.[17] (Complete details on the data collection components can be found in the appendix.) First, using multilevel regression and post-stratification (MRP), I generated dynamic estimates of *state-level* opinion on whether gay marriage should be legalized, for each year between 1993 and 2015.[18] To capture changes in opinion over time, as well as cross-state heterogeneity, I estimated a model that estimates varying intercepts for states, in which these intercepts are allowed to vary over time. These estimates were created in a fully Bayesian manner. I summarize public opinion using the median estimates from the relevant parameters; also, whenever possible, I incorporate the uncertainty of the estimates (based on their posterior distribution).[19]

[16] *Obergefell v. Hodges*, 135 S.Ct. 2584

[17] I exclude Washington, D.C. from all the data and analyses.

[18] As detailed in the appendix, these estimates build on previous static estimates of support for gay marriage generated via MRP (Lax and Phillips 2009*a*;*b*).

[19] I present two validity checks of the estimates in the appendix.

Next, for each year from 1993 to 2015, I measured both when and how states implemented bans on gay marriage (either statutorily through state legislation or via amendments to state constitutions).[20] I then measured when each state legalized gay marriage, and whether it was done via legislation (or referenda) or via judicial decisions. For the latter, I collected a dataset of state and federal decisions that ruled on the constitutionality of state gay-marriage bans. For state decisions, I collected only those decided by state supreme courts. For federal decisions, I collected the universe of decisions by district and circuit court judges.

4.2 Initial public opinion and state policy

Figure 5 depicts the estimates of public opinion in each state from 1993 to 2015; the shaded regions depict 95% confidence intervals. In each plot, the vertical axis depicts the estimated percentage of residents in each state who support legalized gay marriage. The states are sorted from lowest to highest support, based on the estimates of opinion in 2015. In line with the trend in national support, the figure shows an increase in support in every state over this period. However, both the base rate of support (i.e. the "intercept") and the slope of change differ significantly across states. At the low end, for example, support in Mississippi rose from 13% (95% confidence interval of [8%,18%]) in 1993 to 35% [30%,40%] in 2015. At the high end, support in Massachusetts started at 45 [38%,52%] and rose to 77% [75%,80%]. Early in this period, however, public opinion was decidedly against gay marriage, even among the states that would eventually come to support it. The earliest estimated support for gay marriage to cross 50% in any state was in 2002 (in Massachusetts); the median year across states for crossing the 50% thresholds (including states still below it as of 2015) was 2012.

Next, the regular-dashed (red) lines in Figure 5 depict the year in which a state first

[20] Six states—Connecticut, Massachusetts, New Mexico, New York, Rhode Island, and Vermont—never passed explicit bans against same sex marriage. As the debate over gay marriage took shape, in these states the legal status quo was murky; in some states, whether licenses would be issued came down to the discretion of individual county clerks (Klarman 2012, 100). However, it is clear that even in these states same-sex couples did not enjoy equivalent marriage rights to opposite-sex couples.

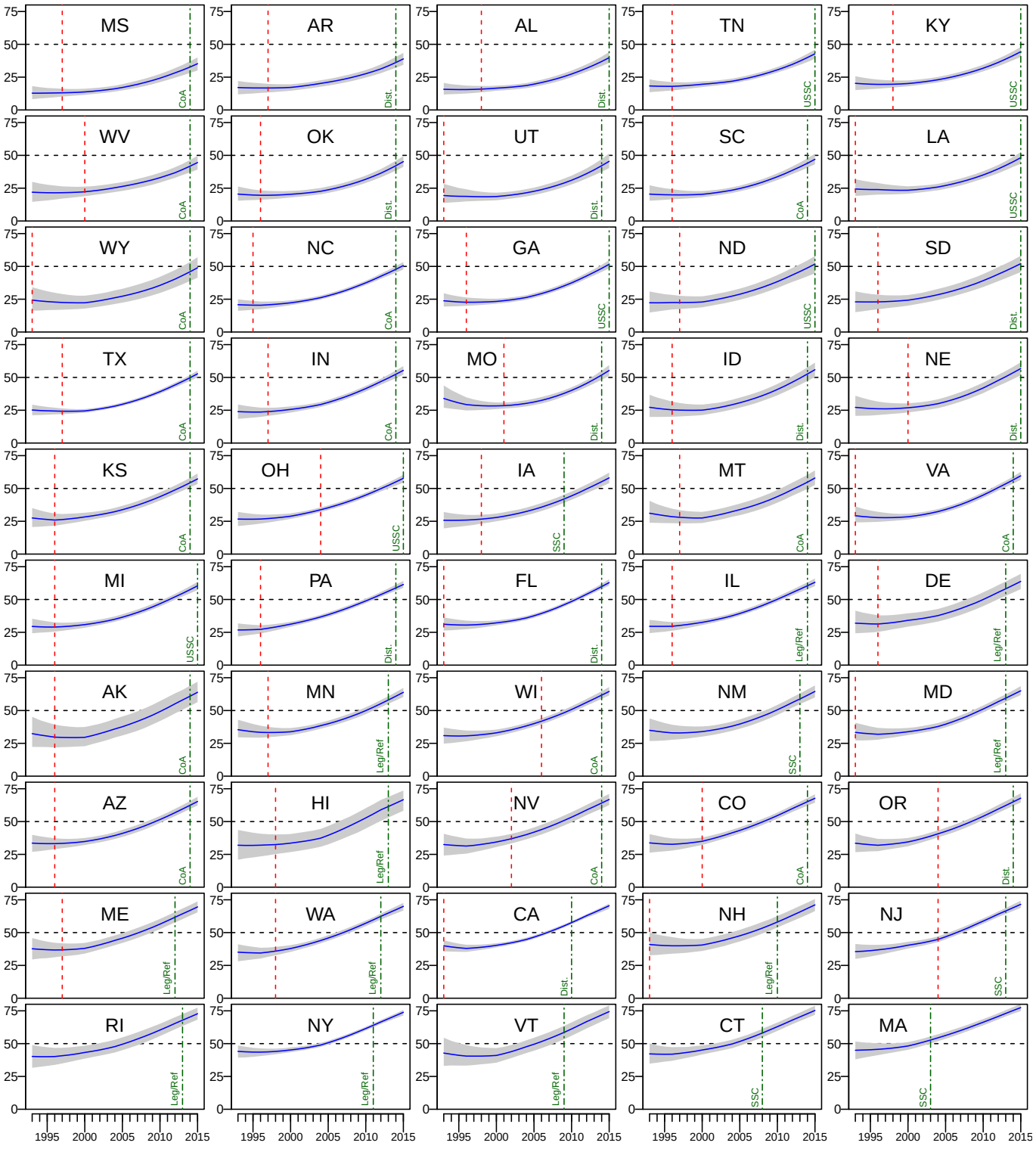

Figure 5: *State-level support for gay marriage, 1993-2015. States ordered by increasing support as of 2015. Regular-dashed (red) lines indicate when bans were passed (before 1993 depicted at 1993). Dot-dashed (green) lines indicate when and how gay marriage was legalized.* `Leg/Reg`*=via legislation or referenda.* `SSC`*=states supreme court.* `Dist`*=federal district court.* `CoA`*=federal Courts of Appeals.* `USSC`*=U.S. Supreme Court.*

implemented a ban on gay marriage, either through statutory or constitutional means. (The dot-dashed (green) lines depict the year and method by which gay marriage was legalized; I return to this below.) The earliest ban was enacted in 1973. (Eight states in all implemented bans before 1993; for convenience in Figure 5 I indicate their passage year at 1993.) The latest year of initial implementation was in 2006. Figure 5 shows that for every state that implemented a ban, public opinion at that time opposed legalized gay marriage, and thus these bans matched public policy with majority opinion—this can be seen by examining the intersection of the opinion estimates with the regular-dashed (red) lines, which always occurs below the 50% level of opinion.[21] Thus, the only mismatches in representation occurred in the small number of states that did *not* pass bans on gay marriage. However, as discussed in footnote 20, even in these states same-sex couples did not enjoy equivalent marriage rights to opposite-sex couples, and thus policy in effect matched public opinion.

If public support for gay marriage had remained at the low levels seen in the 1990s, the implementation of a federal floor (or a state court striking down gay marriage) would have been highly counter-majoritarian, given that a majority of voters in no states supported it. Indeed, this fact helps explain the extensive backlash to the Hawaii Supreme Court's decision in 1993, and the fear that courts would impose same-sex marriage on the country. In terms of Figure 1, such an imposition would mean that every state (in the relevant jurisdiction) would be affected by the federal floor. However, public opinion on gay marriage shifted rapidly in the two decades that followed, leading voters, legislators, and courts to respond in different ways.

[21] We can extend this comparison by looking separately at state constitutional bans on gay marriage, which occurred as late as 2012 (in North Carolina). 31 states passed such bans. In all but one, estimated opinion in a given state, for the year the ban was voted on, was below 50% as well. The one exception was California, where in 2008 voters narrowly approved a ban on same-sex marriage by a 52-48 vote; in this year, an estimated 52% of Californians *supported* gay marriage, according to the estimates.

4.3 Low federal floors and state court rulings

In this section I evaluate the role of state courts in adjudicating challenges to existing bans on gay marriage. Recall from the framework that a consequence of a low (or non-existent) federal floor is that litigants should be more likely to bring challenges in state courts. In line with the overall trajectory of the issue over the past three decades, the U.S. Supreme Court initially established a very low level of protection for gay rights. In 1972, the Court dismissed an appeal of a decision by the Minnesota Supreme Court that upheld the denial of a marriage license to the same-sex couple.[22] In 1986, the Court upheld the constitutionality of state bans on sodomy;[23] this precedent led lower federal courts in subsequent years to reject challenges to other forms of discrimination against gays, such as employment discrimination (Klarman 2012, 38). Ten years after *Bowers*, the Court issued its first decision in support of gay rights, striking down a Colorado constitutional amendment that prohibited any type of government action intended to protect gay persons against discrimination.[24] Then, in 2003, the court overruled *Bowers*, but in doing so did not address the constitutionality of same-sex marriage bans.[25]

As a result, until very recently, litigants and interest groups seeking to challenge gay-marriage bans had little reason to believe that federal courts would be receptive to their claims. Thus, early efforts focused on state courts in liberal states (such as Hawaii, Vermont, and Massachusetts) where judges might be more receptive to striking down bans based on their state constitutions (Klarman 2012, 55,89).

However, these early decisions (particularly the 2003 Massachusetts decision) in support

[22] *Baker v. Nelson*, 409 U.S. 810.

[23] *Bowers v. Hardwick*, 478 U.S. 186.

[24] *Romer v. Evans*, 517 U.S. 620.

[25] *Lawrence v. Texas*, 539 U.S. 558. In her concurrence, Justice O'Connor [at. 2488] explicitly distinguished bans on sodomy versus bans on gay marriage. "Unlike the moral disapproval of same-sex relations—the asserted state interest in this case—other reasons exist to promote the institution of marriage beyond mere moral disapproval of an excluded group," she wrote. In his dissent, however, Justice Scalia famously (and presciently) argued that the reasoning by the majority in *Lawrence* strongly implied the unconstitutionality of same-sex marriage bans.

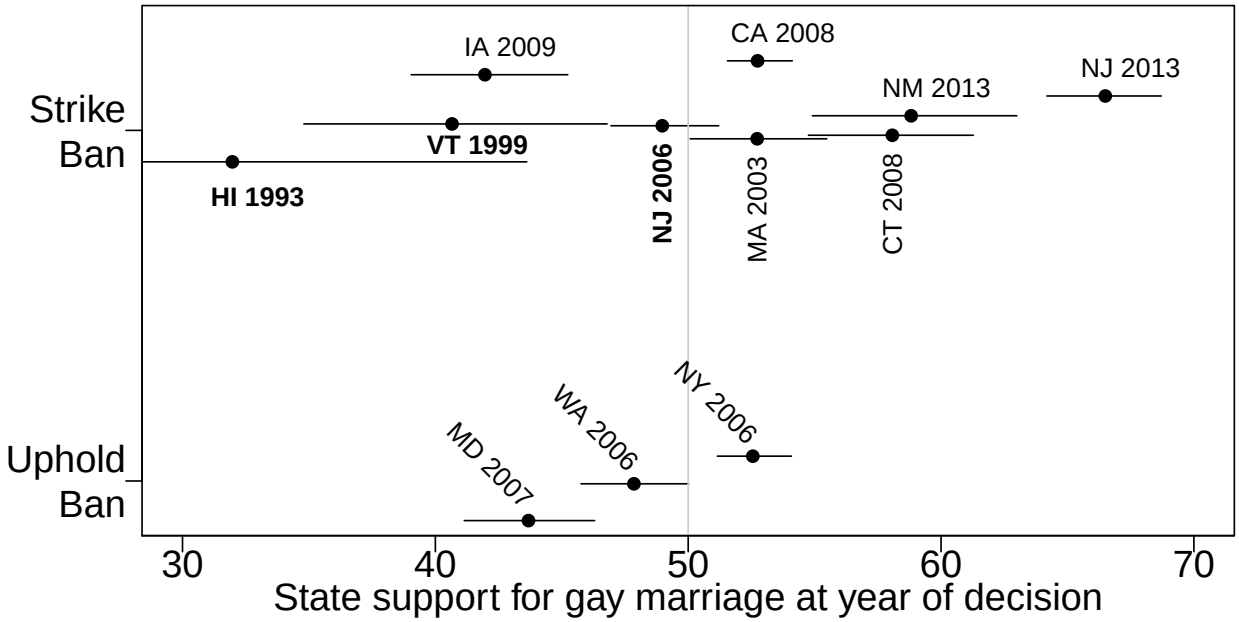

Figure 6: *State supreme court decisions on gay-marriage bans. The points depicts estimated state-level support, in the year a court issued a given decision, with 95% confidence intervals indicated by the horizontal lines. Decisions in which the court upheld (struck) the ban are on the bottom (top) of the graph. Bolded labels indicate decisions where courts didn't fully mandate the legalization of same-sex marriage, but required the state to implement the functional equivalent (i.e. civil unions).*

of gay marriage rights, combined with the Supreme Court's decision in *Lawrence v. Texas* in 2003, helped spur a movement among gay-marriage opponents to push for amendments to state constitutions banning same-sex marriage. Such bans had been passed in four states prior to 2003; in 2004 alone, voters in 13 states approved referenda banning same-sex marriage, and by 2012 thirty-one states would amend their constitutions. These amendments effectively made state courts off-limits to challenges seeking legalization in those states. In the terms of the model, these amendments meant that state supreme courts could not interpret their constitutions as providing protections above the federal floor (which at the time was also 0), since the amendments explicitly ruled out such interpretations.

As a result, state supreme courts only heard challenges in a subset of the states that did not implement such constitutional bans. Unsurprisingly, public opinion was relatively liberal in these states. Figure 6 depicts the states in which state supreme courts ruled on gay

marriage bans. The points (which are jittered vertically) depict the level of public opinion in that state in the year (indicated by the state-year label) in which a decision was issued; the horizontal lines indicate 95% confidence intervals. Decisions in which the court upheld (struck) the ban are on the bottom (top) of the graph; the bolded labels indicate decisions in which the Court did not fully mandate the legalization of same-sex marriage, instead requiring the state to implement the functional equivalent (i.e. civil unions).

A total of 11 challenges were heard in 10 states (the New Jersey Supreme Court heard challenges in both 2006 and 2013). As Figure 6 shows, in every state but one in which supreme court judges struck down state bans on gay marriage, public support for legalization was either close to 50% or well above it. The one exception was Iowa, where only an estimated 42% [38, 45] supported gay marriage in 2009. The next year, three justices who had voted to strike the state's ban were defeated in retention elections, following an organized campaign against them by gay marriage opponents. (In addition, as noted earlier, voters in California narrowly passed a constitutional amendment in 2008, which overturned the California Supreme Court's decision that year legalizing same-sex marriage.) Conversely, state judges in Maryland, Washington, and New York rejected challenges. Thus, while state judges in only a relatively small number of states interpreted their constitutions as providing protections above the federal floor in this period, in these states the judges were usually aligned with public opinion.

4.4 Changing public opinion and lagging status quos

Even as voters in many states approved constitutional bans on gay marriage in the middle of the 2000s, public opinion was swiftly moving in the direction of support for legalization. The constitutional amendments not only prevented state courts from interpreting their state constitutions, but they also helped to "lock in" the status quo of banning same-sex marriage—changing the status quo would require a constitutional amendment, and not regular legislation (i.e. statutory change). Thus, in many states the shift in public opinion

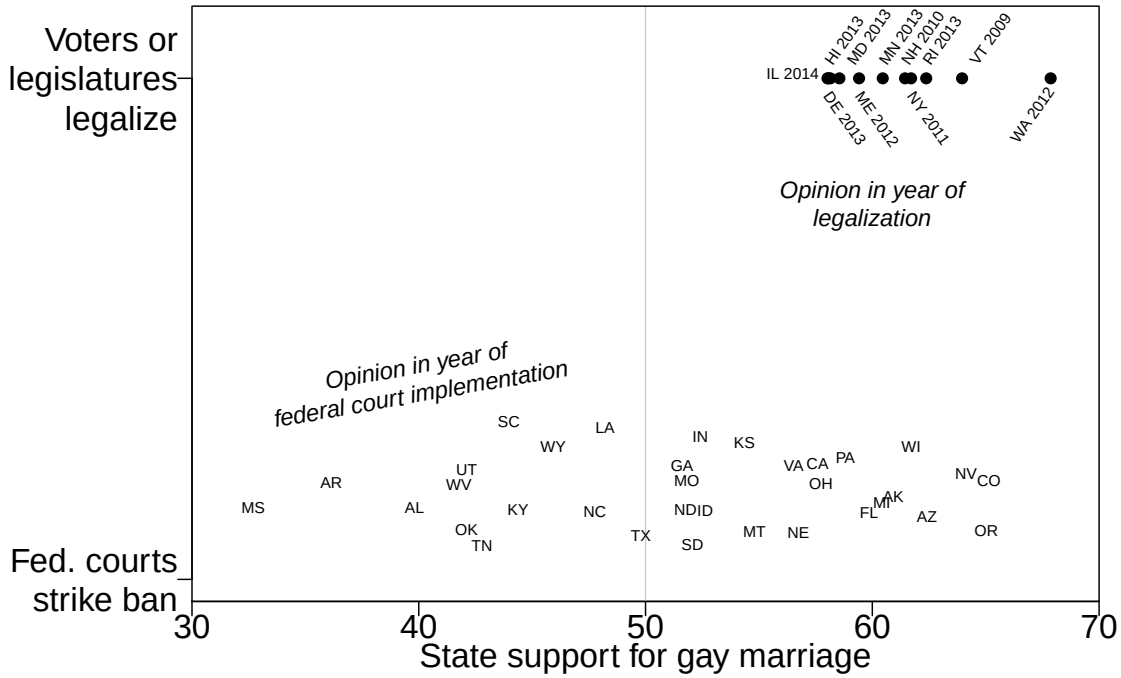

Figure 7: *State support for gay marriage versus decisions by voters/legislators to legalize, versus implementations by federal courts. See text for details.*

created the "lagging status quo" scenario seen at the top of Figure 4, as bans in same-sex marriage would remain in place. In 11 states, however, either citizens or legislators voted to implement same-sex marriage.

To illustrate the relationship between public opinion and the status quo, I present Figure 7. The horizontal axis depicts estimated state-level support, while the vertical axis distinguishes states where voters or legislators legalized gay marriage (on the top of the graph) from states where bans were kept in place—until they were eventually struck down by a federal court (on the bottom of the graph). Beginning with the top of the graph, the points and labels give the level of opinion in the year in which each state implemented legal gay marriage. (For example, the Vermont legislature approved same-sex legislation in 2009, at which point an estimated 59% [53%, 63%] of state residents favored it.) Recall from Figure 5 that in every state a majority of residents did *not* support gay marriage early on; however, Figure 7 shows that by the time of legislative or voter implementation, public support was well above 50%. Thus, in these states, policy was shifted to match the preferences of the state median voter as those preferences moved away from the status quo; in terms of Figure

4, q_s and m_s became aligned again.[26]

Next consider the bottom of Figure 7, which depicts states that maintained their bans (until federal courts struck them down); states in which state courts implemented same-sex marriage are not included. The state labels indicate the levels of estimated opinion in the year federal courts acted (the height of the labels are jittered to make them easier to read); the first federal judicial invalidation of a state ban came in 2010 (California), while the last came when the U.S. Supreme Court decided *Obegefell* in 2015. Comparing the top and bottom states, it is clear that the states where federal courts eventually struck down bans are ones which tended to have lower support for gay marriage. However, in many states, existing policy lagged behind the movement in public opinion.[27]

4.5 The introduction of federal floors

While the first federal challenge to a state ban on gay marriage was heard in 2005 (excluding the case of *Baker v. Nelson* in 1971) it was not until after the U.S. Supreme Court decided *Windsor* in 2013 that challenges reached federal courts in large numbers. The 16 states in which legislators, voters, or state judges had implemented same-sex marriage would, of course, be unaffected by the introduction of a floor, since policy was already above it. All told, federal courts heard 44 challenges to policies in these 34 states; the overlap is due to challenges for a particular state being heard by both the district court and the Courts of Appeals (and, in one case, also at the U.S. Supreme Court). Thirty-six of these decisions resulted in invalidations of state bans, while eight decisions upheld them as constitutional.

How can we evaluate how federal decisions affected all other states in light of the theory of

[26]Figure 5 presents this result in a more directly dynamic way. Looking at the states where voters or legislatures implemented reform (i.e. the "Leg/Ref" states), the dot-dashed (green) lines, which depict the year of legalization, always intersect public opinion *after* public opinion has crossed the 50% mark.

[27]In the interest of clarity, I suppress confidence intervals from this plot. The confidence intervals for state opinion in the"top" states always exclude 50%. For 11 of the 34 "bottom" states, the confidence intervals include zero, meaning it is statistically uncertain what opinion majorities in such states favored. Of these 34 states, the point estimates for 21 are above 50%. Fourteen of these 21 states have confidence intervals that exclude 50%.

judicial federalism? First, setting aside for now any cross-state externalities, we can ask how counter-majoritarian was each decision. As shown in Figure 3B in the theory section, if state policy perfectly matched the preferences of the state median voters, then the introduction of a federal floor would necessarily be counter-majoritarian (even as voters "above" the state median in states with bans would benefit). The existence of lagging status quos, however, means that federal floors would be welfare improving in some states. Returning to Figure 7, at the time of federal judicial intervention, fully 21 states had opinion majorities in favor of same-sex marriage where bans nevertheless remained in place. While support in some of these states (e.g. Georgia and Missouri) was only just above 50%, in states like Colorado, Oregon, and Nevada, sizable majorities in favor of same-sex marriage existed.

Recall the "level-specific" nature of federal floors: district court decisions only apply to individual states, Courts of Appeals decisions to an entire circuit, and Supreme Court decisions nationally. A salient feature of the judicial hierarchy is that when a circuit court or the Supreme Court implements a federal floor, the introduction of a floor will impact "affected" states differently, depending on the relationship between the preferences of the median voter and the status quo. Consider the 4th circuit, for example, which includes Maryland, West Virginia, Virginia, North Carolina, and South Carolina. In 2014, a three-judge panel struck down North Carolina's ban on same-sex marriage. Maryland voters had approved a referendum legalizing gay marriage in 2013, and thus the state was unaffected by the decision. The remaining four states had bans in place that were struck by the panel's decision. A majority of voters (56% [53,60]) in Virginia supported gay marriage in 2014, and thus the decision actually aligned policy with median preferences. Opinion majorities in West Virginia and the Carolinas, however, supported the bans, and hence the decision was counter-majoritarian with respect to those states.

4.6 The role of cross-state externalities

As is the case with many hotly contested social issue, the issue of moral externalities has been front and center in the fight over gay marriage. This has been particularly true with respect to opponents of same-sex marriage, many of whose arguments have focused on the deleterious effect that legalization might have on broader societal norms (Hatzis 2006). Allen and Price (2015, 146) summarize these arguments (without necessarily endorsing them) as follows:

> A legal change that recognizes same-sex couples as "married" could change the cultural and social meaning of marriage for everyone, and therefore change both well-being and behavior. It has been argued, for example, that same-sex marriage accentuates the view that marriage is based on love, not children and commitment. When such a view is generally adopted it can have effects on marital behavior in general. Persons in loving relationships might be quicker to marry, and married persons who come to consider their relationship to be unloving might be more willing to divorce. Hence, marriage and divorce rates might change through this general change in social norms, which could result from same-sex marriage.

Such beliefs help explain the extent of the backlash to the Hawaii Supreme Court's decision in the 1990s. On the one hand, the scope of the backlash is surprising, given the strength of public opposition to gay marriage at the time made it unlikely that legislators or judges in other states would follow suit. On the other hand, if opponents of gay marriage suffered negative externalities from the potential implementation of gay marriage in even a single state, the reaction makes more sense.[28]

In addition, in this period, the issue of gay marriage was likely less salient among supporters of gay marriage, relative to opponents. Writing in 2003, Judge Richard Posner framed this asymmetry as follows:

> It is apparent from [the state of the law and public opinion at the time] that the

[28] One complicating factor here is that the issue of marriage blurs the lines between "in-state policy utility" and "out-of-state utility," as envisioned in the framework, since marriages performed in one state had traditionally been recognized in other states. The desire not to recognize same-sex marriages across states helped spur passage of DOMA in 1996, as well as similar laws in many states (Klarman 2012, 61-3).

> opponents of homosexual marriage feel much more strongly about the issue than the supporters. The supporters of marriage, after all, are mainly heterosexuals ... for most of them—an exception may be family members of homosexuals—is that homosexual marriage does not bother them. They do not feel passionate about the issue; it does not affect them. But many of the opponents are passionate in their opposition because they feel deeply threatened by the proposed change in the concept of marriage.[29]

Indeed, the implementation of a federal floor in 2003 would have likely induced significant negative externalities for opponents of gay marriage that would have outweighed positive externalities for supporters. However, as opinion has evolved toward greater support for gay marriage, it seems likely that the sensitivity of supporters to out-of-state policies has grown concomitantly. One reason, as suggested by Posner, is that more Americans now have family members or friends who are gay.[30]

How, then, should externalities factor into the analysis of the introduction of federal floors for gay marriage? First, as discussed in Section 2.2, one way to place the issue of cross-state externalities within debates over the counter-majoritarian dilemma is to think about the Supreme Court specifically (and federal courts more generally) "using the power of judicial review to bring states in line with the nationally dominant constitutional vision" (Whittington 2007, 107). While it would be overreaching to say that a "dominant constitutional vision" had emerged by the time federal courts started striking down state laws, a clear national majority in favor of same-sex marriage was in place.

[29] In this article, Posner argued against the imposition of a federal floor for legal marriage. Due mainly to the change in public opinion, he came to change his mind (Posner 2015) and wrote an opinion for a three-judge panel of the 7th Circuit in 2014 striking down Wisconsin's ban on gay marriage (*Baskin v. Bogan)*, 766 F.3d 648).

[30] Public opinion polling confirms this rise. A 1992 CBS/New York Times poll found that 19% of Americans have "any close friends or family members who are gay or lesbian." By 2015, a Pew poll found that 88% Americans knew at least one gay or lesbian person. Of those who did, 59% answered yes to the question, "And thinking about your close family members and closest friends, are any of them gay or lesbian, or not?" See `www.people-press.org/2015/06/08/support-for-same-sex-marriage-at-record-high-but-key-segments-remain-opposed/` (accessed 20 May 2016).

Which states then were "pulled in" by the federal courts? Figure 8A plots the estimated support for gay marriage in each state, as of 2015, against the size of each state (based on the 2010 census). The dashed horizontal line depicts the 50% mark, while the solid line depicts national support (62% in 2015). The states with plain (red) text are those in which federal courts implemented gay marriage by striking down state bans, while the states with italic (green) text are states that already had gay marriage in place (via either legislation/referenda or state court decisions).

Thus, using Figure 8A, we can separate the "in-state" versus "out-of-state" effects of the introduction of federal floors. With respect to the former, as discussed earlier, the striking of bans in states where policy lagged behind changes in public opinion (i.e. the plain-text (red) states above the 50% line) was pro-majoritarian. Conversely, the implementation of gay marriage in states where opinion majorities opposed gay marriage—all of which had bans in place—was counter-majoritarian. With respect to externalities, even in states where gay marriage was already in place, the introduction of federal floors induced positive externalities for supporters in these states, even though the actions of federal courts had no effect on their own state policies. Conversely, the implementation of gay marriage by federal courts created negative externalities for opponents in every state, on top of any in-state policy loss suffered by those in states where bans had been in place. Finally, while there is only a weak relationship between state size and state-level public opinion, most of the states where opinion majorities favored same-sex marriage are below the median state in terms of population; furthermore, many of the states are in the South.

How can we weigh these positive versus negative externalities? It seems unlikely that a direct measure for the sensitivity of citizens to out-of-state policy (the α parameter) can be found—at least one that adequately places the sensitivity of both supporters and opponents on the same scale (as well as their joint distribution). Accordingly, I use a simulation approach to illustrate how the introduction of federal floors benefitted and harmed supporters

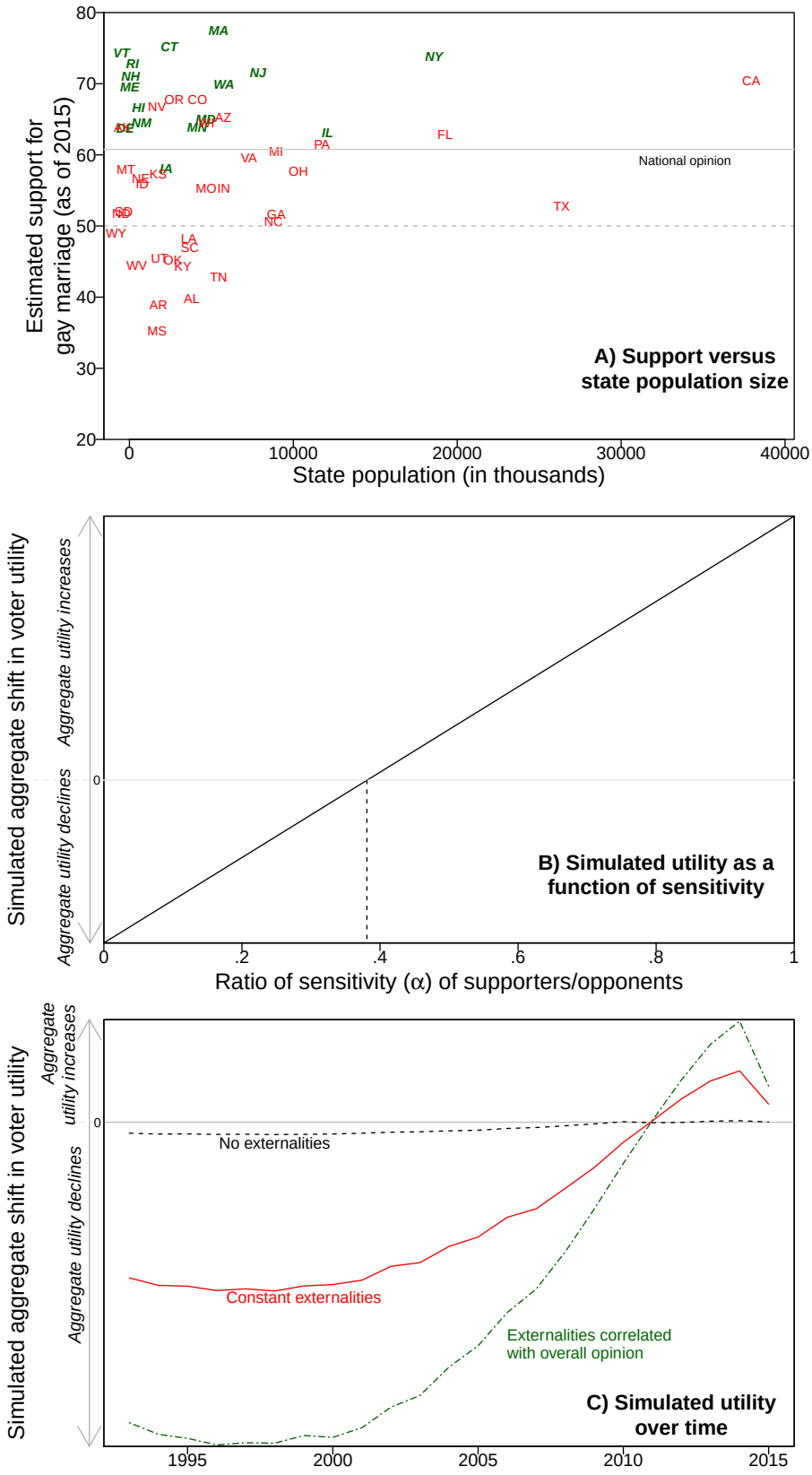

Figure 8: The role of externalities in federal courts' implementation of gay marriage. **A)**: The estimated support for gay marriage in each state versus the size of each state. The dashed horizontal line depicts the 50% mark, while the solid line depicts national support (62% in 2015). The states with plain (red) text are those in which federal courts implemented gay marriage by striking down state bans, while the states with italic (green) text are states that already had gay marriage in place (via either legislation/referenda or state court decisions). **B)**: Simulations of the effect of voter sensitivity to out-of-state policy on overall voter welfare. See text for details. **C)**

and opponents of gay marriage, and to examine the aggregate impact of these decisions.

I perform two simulation analyses. First, I created a simulated "voter-level dataset," with the number of voters in each state proportional to actual state population (as of 2010). Then, for each "voter," I simulated their support for gay marriage, using a binomial distribution based on the estimated level of support in 2015.[31] Next, define κ as the ratio of the sensitivity of supporters (s) of gay marriage to the sensitivity of opponents (o) (i.e. $\frac{\alpha_s}{\alpha_o}$); thus, if $\kappa = .5$, supporters and opponents weigh out-of-state policy equally.[32] For every value of κ, and or each voter, I then compared their "utility" before and after the introduction of a federal floor (based on Eq. 5 above) taking into account the status quo in their respective states. I then calculated the overall total utility for each level of κ; I assume that if policy matches their preferences, they receive a benefit of 1, and vice versa.

The results are presented in Figure 8B. The horizontal axis depicts κ. The vertical axis depicts the simulated net utility shift from the introduction of a federal floor—similar to Figure 3. The solid gray line indicates no net shift in utility from the introduction of the floor. Figure 8B shows that the degree to which the introduction of the federal floor is pro-majoritarian is directly increasing in κ. As supporters care more about out-of-state policy than opponents, they gain more from the introduction of a federal floor than opponents lose. Due to the assumptions of the simulation, and the distribution of overall opinion in 2015, the "crossover" point at which the decision turns from counter- to pro-majoritarian occurs when $\kappa \sim .4$.

Next, I perform a simulation analysis over time. For each year from 1993 to 2015, I again create a simulated voter-level dataset, with the both the proportion of voters across states and the distribution of opinion based on the actual levels of each in each year. Then, in

[31] That is, if the estimated support in a given state was 60%, each voter had a 60% change of supporting gay marriage and 40% chance of opposing it.

[32] It is certainly likely that α is heterogeneous across voters. However, the assumption of constant sensitivity within groups is sufficient to motivate the major point.

every year, I calculate the overall utility shift from the introduction of a federal floor, again taking into account the status quo in each state in each year. I do these calculations under three assumptions: first, voters have no cross-state externalities ($\alpha = 0$); second, supporters and opponents have positive but constant sensitivities (I assume $\alpha = .5$); third, that the ratio of sensitivity for supporters versus opponents is increasing over time as a function of the distribution of national opinion in a given year.

The results are presented in Figure 8C. Each version of α show the same substantive pattern: the introduction of a federal floor would have been counter-majoritarian until a national majority favored same-sex marriage, which occurred in 2011. However, the existence of externalities has a "multiplier" effect. Under the assumption of both constant externalities and (especially) correlated externalities over time, the introduction of a federal floor early on would have been drastically more counter-majoritarian compared to the assumption of no externalities, because most voters would have suffered losses both from the introduction of same-sex marriage in their states *as well as* all other states. Symmetrically, the introduction of a federal floor after 2011 means that many voters are doubly benefitting from the implementation of same-sex marriage both in their state and nationwide.[33]

Taken together, the results in Figure 8 allow us to place the implementation of gay marriage by federal courts in the larger context of federalism and the counter-majoritarian difficulty. In his dissent in *Obergefell*, Justice Scalia argued:

> Until the courts put a stop to it, public debate over same-sex marriage displayed American democracy at its best. Individuals on both sides of the issue passionately, but respectfully, attempted to persuade their fellow citizens to accept their views. Americans considered the arguments and put the question to a vote. The electorates of 11 States, either directly or through their representatives, chose to expand the traditional definition of marriage. Many more decided not to. Win

[33]The top two lines trend downward in 2015 because by the time the U.S. Supreme Court acted that year, many of the remaining states without legalized gay marriage—i.e. those in which the federal district courts and Courts of Appeals had not struck down their bans—are those with majorities opposed to gay marriage, and hence the gain in cross-state externalities among supporters is (partially) canceled out by the in-state losses in those states.

> or lose, advocates for both sides continued pressing their cases, secure in the knowledge that an electoral loss can be negated by a later electoral win. That is exactly how our system of government is supposed to work.

It is certainly true that federal courts cut off the prospect of gay marriage being legalized at the state level with the introduction of a federal floor for the right to marriage. Yet, the results above show both that in many cases state opinion majorities favored legalization and benefited from federal court intervention into the policy arena. In addition, the existence of cross-state externalities, combined with the national distribution of opinion, mitigates the force of Scalia's counter-majoritarian critique.[34]

5 Conclusion

In the United States, and increasingly around the world, courts have a substantial degree of political power. The federal structure of the U.S. political system means that such power extends both horizontally and vertically. In this paper, I showed that the ability of federal courts to establish constitutional floors below which states cannot set policy has real substantive bite, as it directly affects the ability of state legislatures to implement majority-preferred policies. At the same time, the existence of lagging status quos or cross-state externalities, or both, means that the introduction of federal floors can actually be welfare enhancing for voters. Thus, this paper joins a burgeoning literature demonstrating how, in some circumstances, courts actually can move policy in a way that benefits opinion majorities—both within and across the states of a federation (see e.g. Frymer 2003, Whittington 2005, Lain 2012, Kastellec 2016*a*). This, of course, is *not* to say that courts *never* act in counter-majoritarian ways; rather, this paper, in tandem with Kastellec (2016*a*;*b*), illustrates how the effect of judicial review on state-level representation is ambiguous, and requires careful analysis of the contexts in which courts are acting.

While the counter-majoritarian difficulty has animated discussions of judicial review for

[34]For a similar argument to mine, see Krimmel, Lax and Phillips (2016, 18).

over half a century, precise definitions of what is "counter-majoritarian" have often been lacking, as many commentators have noted, (see e.g Friedman 1993, Bassok and Dotan 2013). To be sure, the framework developed here is specific, as it rests on a particular conception of what courts do, is situated in vertical politics rather than horizontal politics, and assumes a rather reduced form of utility for voters (although the framework could easily accommodate factors like the intensity of preferences and salience across issues). But the virtue of this parsimony is that it produces a clear definition of pro- versus counter-majoritarianism, and also provides a way to understand the nature of judicial intervention in policy development in a system of federalism and diffuse powers.

Moving forward, while I mainly used the judicial federalism framework as an accounting device, the underlying architecture could be extended in a number of ways to study strategic interactions among and between judges, lawmakers, and the public, within the context of federalism. First, whereas I assume the Supreme Court does not consider any implementation costs when establishing a federal floor, one could allow the location of the floor to be affected by the distribution of state opinion (similar to the approach taken in Cameron (2005)). Second, unlike federal judges, state court judges are either elected or face re-appointment, and thus their incentives to establish *state* constitutional floors may be directly affected by the popularity of such an implementation (see e.g. Caldarone, Canes-Wrone and Clark 2009). Third, rather than assuming perfect compliance with federal floors, one could examine the conditions under which state lawmakers may either seek to go around them or to implement clearly unconstitutional laws that will be struck down by federal courts in an effort to "pander" to their constituents who favor such policies (Fox and Stephenson 2011).

Finally, the framework could be extended to consider how litigants and activists weigh local policy gains against potential nationwide backlash. For instance, Keck (2009) argues that even when the early successes of the gay rights movement did provoke a negative reaction, those early victors helped engender success down the road by raising the salience

of gay rights in general. Similarly, the introduction of same-sex marriage as an issue helped make civil unions an attractive "compromise" option, suggesting that activists may attempt to shift the relevant dimension over which constitutional rights are sought. Given that the emergence of new issues being debated at the state level is a pervasive feature of the U.S. federalism system (see e.g. the recent battles over the rights of transgender persons), adopting the framework along with these lines could prove fruitful for understanding the nature of policy development, and judicial reactions to that development, at the state level.

References

Allen, Douglas W and Joseph Price. 2015. "Same-Sex Marriage and Negative Externalities: a Critique, Replication, and Correction of Langbein and Yost." *Econ Journal Watch* 12(2):142–160.

Bailey, Michael A and Forrest Maltzman. 2008. "Does Legal Doctrine Matter? Unpacking Law and Policy Preferences on the US Supreme Court." *American Political Science Review* 102(03):369–384.

Bassok, Or and Yoav Dotan. 2013. "Solving the Countermajoritarian Difficulty?" *International journal of constitutional law* 11(1):13–33.

Bates, Douglas. 2005. "Fitting Linear Models in R Using the lme4 Package." *R News* 5(1):27–30.

Bednar, Jenna. 2004. "Judicial Predictability and Federal Stability Strategic Consequences of Institutional Imperfection." *Journal of Theoretical Politics* 16(4):423–446.

Bednar, Jenna and William N Eskridge Jr. 1994. "Steadying the Court's Unsteady Path: A Theory of Judicial Enforcement of Federalism." *Southern California Law Review* 68:1447.

Berry, Chris, Ethan Bueno de Mesquita and Jacob Gersen. 2013. "Pro-Majoritarian Courts." University of Chicago, Harris School working paper.

Bickel, Alexander M. 1962. *The Least Dangerous Branch: The Supreme Court at the Bar of Politics*. Yale University Press.

Bishin, Benjamin G and Charles Anthony Smith. 2013. "When do Legislators Defy Popular sovereignty? Testing Theories of Minority Representation Using DOMA." *Political Research Quarterly* 66(4):794–803.

Caldarone, Richard P, Brandice Canes-Wrone and Tom S Clark. 2009. "Partisan Labels and Democratic Accountability: An Analysis of State Supreme Court Abortion Decisions." *The Journal of Politics* 71(02):560–573.

Cameron, Charles M. 2005. "Endogenous Preferences about Courts: A Theory of Judicial State Building in the Nineteenth Century." *Preferences and Situations: Points of Intersection between Historical and Rational Choice Institutionalism. New York: Russell Sage Foundation* pp. 185–215.

Carrubba, Clifford James. 2009. "A Model of the Endogenous Development of Judicial Institutions in Federal and International Systems." *The Journal of Politics* 71(01):55–69.

Casper, Jonathan D. 1976. "The Supreme Court and National Policy Making." *The American Political Science Review* pp. 50–63.

Caughey, Devin and Christopher Warshaw. 2015. "Dynamic Estimation of Latent Opinion Using a Hierarchical Group-Level IRT Model." *Political Analysis* 23(2):197–211.

Clark, Tom S. 2011. *The Limits of Judicial Independence*. New York: Cambridge University Press.

Crémer, Jacques and Thomas R Palfrey. 1996. "In or Out?: Centralization by Majority Vote." *European Economic Review* 40(1):43–60.

Crémer, Jacques and Thomas R Palfrey. 1999. "Political Confederation." *American Political Science Review* 93(01):69–83.

Crémer, Jacques and Thomas R Palfrey. 2000. "Federal Mandates by Popular Demand." *Journal of Political Economy* 108(5):905–927.

Crémer, Jacques and Thomas R Palfrey. 2006. "An Equilibrium Voting Model of Federal Standards with Externalities." *Journal of Public Economics* 90(10):2091–2106.

Dahl, Robert. 1957. "Decision-Making in a Democracy: The Supreme Court as National Policy-Maker." *Journal of Public Law* 6(2):279–295.

Devins, Neal. 2010. "How State Supreme Courts Take Consequences into Account: Toward a State-Centered Understanding of State Constitutionalism." *Stanford Law Review* pp. 1629–1693.

Ely, John Hart. 1980. *Democracy and Distrust: A Theory of Judicial Review*. Harvard University Press.

Enns, Peter K and Julianna Koch. 2013. "Public Opinion in the US States 1956 to 2010." *State Politics & Policy Quarterly* 13(3):349–372.

Epstein, Lee and Andrew D Martin. 2010. "Does Public Opinion Influence the Supreme Court-Possibly Yes (But We're Not Sure Why)." *University of Pennsylvania Journal of Constitutional Law* 13:263.

Eskridge, William N. 1996. *The Case for Same-Sex Marriage: From Sexual Liberty to Civilized Commitment*. New York: Free Press.

Fox, Justin and Matthew C Stephenson. 2011. "Judicial Review as a Response to Political Posturing." *American Political Science Review* 105(02):397–414.

Friedman, Barry. 1993. "Dialogue and Judicial Review." *Michigan Law Review* pp. 577–682.

Friedman, Barry and Erin F Delaney. 2011. "Becoming Supreme: The Federal Foundation of Judicial Supremacy." *Columbia Law Review* pp. 1137–1193.

Frost, Amanda. 2015. "Inferiority Complex: Should State Courts Follow Lower Federal Court Precedent on the Meaning of Federal Law?" *Vanderbilt Law Review* 68(53).

Frymer, Paul. 2003. "Acting When Elected Officials Won't: Federal Courts and Civil Rights Enforcement in U.S. Labor Unions, 1935–85." *American Political Science Review* 97(03):483–499.

Gabry, Jonah. 2016. "Bayesian Applied Regression Modeling via Stan: An R Package." Version 2.9.0-3.

Gelman, Andrew and Donald B Rubin. 1992. "Inference from Iterative Simulation using Multiple Sequences." *Statistical science* pp. 457–472.

Gelman, Andrew, John B Carlin, Hal S Stern, David B Dunson, Aki Vehtari and Donald B Rubin. 2014. *Bayesian Data Analysis, Third Edition*. Taylor & Francis.

Giles, Micheal W, Bethany Blackstone and Richard L Vining. 2008. "The Supreme Court in American Democracy: Unraveling the Linkages Between Public Opinion and Judicial Decision Making." *The Journal of Politics* 70(02):293–306.

Gordon, Sanford C. and Dimitri Landa. 2016. "Fail-Safe Federalism." New York University Working Paper.

Government Publishing Office. 2016*a*. "Acts Of Congress Held Unconstitutional In Whole Or In Part By The Supreme Court Of The United States." `https://www.gpo.gov/fdsys/pkg/GPO-CONAN-2002/pdf/GPO-CONAN-2002-10.pdf`. Accessed 15 March 2016.

Government Publishing Office. 2016*b*. "State Constitutional And Statutory Provisions And Municipal Ordinances Held Unconstitutional Or Held To Be Preempted By Federal Law (1789–2002)." `https://www.gpo.gov/fdsys/pkg/GPO-CONAN-2002/pdf/GPO-CONAN-2002-11.pdf`. Accessed 15 March 2016.

Graber, Mark A. 1993. "The Nonmajoritarian Difficulty: Legislative Deference to the Judiciary." *Studies in American Political Development* 7(1):35–73.

Graber, Mark A. 2006. *Dred Scott and the Problem of Constitutional Evil*. Cambridge: Cambridge University Press.

Hatzis, Aristides N. 2006. "The Negative Externalities of Immorality: the Case of Same-Sex Marriage." *Skepsis* 17:52–65.

Hinkle, Rachael K. 2015. "Into The Words: Using Statutory Text to Explore the Impact of Federal Courts on State Policy Diffusion." *American Journal of Political Science* 59(4):1002–1021.

Hoekstra, Valerie. 2009. "The Pendulum of Precedent: US State Legislative Response to Supreme Court Decisions on Minimum Wage Legislation for Women." *State Politics & Policy Quarterly* 9(3):257–283.

Janeba, Eckhard. 2004. "Moral Federalism." *The BE Journal of Economic Analysis & Policy* 5(1).

Karch, Andrew. 2012. "Vertical Diffusion and the Policy-Making Process The Politics of Embryonic Stem Cell Research." *Political Research Quarterly* 65(1):48–61.

Kastellec, Jonathan P. 2016*a*. "Empirically Evaluating the Counter-Majoritarian Difficulty: Public Opinion, State Policy, and Judicial Decisions Before Roe v. Wade." *Journal of Law & Courts* 4(1):1–42.

Kastellec, Jonathan P. 2016*b*. "How Courts Structure State-Level Representation." Princeton University working paper. Available at SSRN: `http://papers.ssrn.com/sol3/papers.cfm?abstract_id=2809345`.

Kastellec, Jonathan P, Jeffrey R Lax and Justin Phillips. 2014. "Estimating State Public Opinion with Multi-Level Regression and Poststratification using R." Princeton University working paper. Available at `www.princeton.edu/~jkastell/MRP_primer/mrp_primer.pdf`.

Keck, Thomas M. 2009. "Beyond Backlash: Assessing the Impact of Judicial Decisions on LGBT Rights." *Law & Society Review* 43(1):151–186.

Klarman, Michael J. 1997. "Majoritarian Judicial Review: The Entrenchment Problem." *Georgetown Law Journal* 85:491–554.

Klarman, Michael J. 2012. *From the Closet to the Altar: Courts, Backlash, and the Struggle for Same-Sex Marriage*. Oxford University Press.

Kommers, Donald P. 1994. "The Constitutional Law of Abortion in Germany: Should Americans Pay Attention?"(1994) 10." *Journal of Contemporary Health and Policy* 10(1):1–32.

Krimmel, Katherine L, Jeffrey R Lax and Justin H Phillips. 2016. "Gay Rights in Congress: Public Opinion and (Mis)Representation." *Public Opinion Quarterly* Forthcoming.

Lain, Corinna Barrett. 2012. "Upside-Down Judicial Review." *Georgetown Law Journal* 101:113–1649.

Lax, Jeffrey R and Justin H Phillips. 2009*a*. "Gay Rights in the States: Public Opinion and Policy Responsiveness." *American Political Science Review* 103(03):367–386.

Lax, Jeffrey R. and Justin H. Phillips. 2009*b*. "How Should We Estimate Public Opinion in the States?" *American Journal of Political Science* 53(1):107–21.

Lax, Jeffrey R and Justin H Phillips. 2012. "The Democratic Deficit in the States." *American Journal of Political Science* 56(1):148–166.

Lemieux, Scott E and George Lovell. 2010. "Legislative Defaults: Interbranch Power Sharing and Abortion Politics." *Polity* 42(2):210–243.

Lewis, Daniel C, Frederick S Wood and Matthew L Jacobsmeier. 2014. "Public Opinion and Judicial Behavior in Direct Democracy Systems:Gay Rights in the American States." *State Politics & Policy Quarterly* 14(4):367–88.

Lindquist, Stefanie A and Pamela C Corley. 2013. "National Policy Preferences and Judicial Review of State Statutes at the United States Supreme Court." *Publius: The Journal of Federalism* 43(2):151–178.

Lovell, George I. 2003. *Legislative Deferrals: Statutory Ambiguity, Judicial Power, and American Democracy*. New York: Cambridge University Press.

McCann, Pamela J Clouser, Charles R Shipan and Craig Volden. 2015. "Top-Down Federalism: State Policy Responses to National Government Discussions." *Publius: The Journal of Federalism* 45(4):495–525.

McGinnis, John O and Ilya Somin. 2004. "Federalism vs. States' Rights: A Defense of Judicial Review in a Federal System." *Northwestern University Law Review* 99(1):89–130.

McGuire, Kevin T and James A Stimson. 2004. "The Least Dangerous Branch Revisited: New Evidence on Supreme Court Responsiveness to Public Preferencess." *Journal of Politics* 66(4):1018–1035.

Meernik, James and Joseph Ignagni. 1997. "Judicial Review and Coordinate Construction of the Constitution." *American Journal of Political Science* pp. 447–467.

Oates, Wallace E. 1972. *Fiscal Federalism*. London: Edward Elgar.

Patton, Dana. 2007. "The Supreme Court and Morality Policy Adoption in the American States The Impact of Constitutional Context." *Political Research Quarterly* 60(3):468–488.

Posner, Richard A. 2015. "Eighteen Years On: A Re-Review." *Yale Law Journal* 125:533–42.

Riker, William H. 1964. *Federalism: Origin, Operation, Significance*. Boston: Little, Brown.

Rodden, Jonathan. 2006. *Hamilton's Paradox: The Promise and Peril of Fiscal Federalism*. Cambridge University Press.

Segal, Jeffrey A. 1997. "Separation-of-Powers Games in the Positive Theory of Congress and Courts." *American Political Science Review* 91:28–44.

Segal, Jeffrey A, Chad Westerland and Stefanie A Lindquist. 2011. "Congress, the Supreme Court, and Judicial Review: Testing a Constitutional Separation of Powers Model." *American Journal of Political Science* 55(1):89–104.

Shipan, Charles R and Craig Volden. 2006. "Bottom-Up Federalism: The Diffusion of Antismoking Policies from U.S. Cities to States." *American Journal of Political Science* 50(4):825–843.

Shipan, Charles R and Craig Volden. 2008. "The Mechanisms of Policy Diffusion." *American Journal of Political Science* 52(4):840–857.

Shirley, Kenneth E and Andrew Gelman. 2015. "Hierarchical Models for Estimating State and Demographic trends in U.S. Death Penalty Public Opinion." *Journal of the Royal Statistical Society: Series A (Statistics in Society)* 178(1):1–28.

Stan Development Team. 2016*a*. "RStan: the R interface to Stan, Version 2.9.0.".

Stan Development Team. 2016*b*. "The Stan Math Library, Version 2.9.0.".

Vanberg, Georg. 2004. *The Politics of Constitutional Review in Germany*. Cambridge University Press.

Vanberg, Georg. 2010. "The Will of the People: A Comparative Perspective on Friedman." *Michigan State Law Review* pp. 717–28.

Warshaw, Christopher and Jonathan Rodden. 2012. "How Should We Measure District-Level Public Opinion on Individual Issues?" *The Journal of Politics* 74(01):203–219.

Weingast, Barry R. 2009. "Second Generation Fiscal federalism: The Implications of Fiscal Incentives." *Journal of Urban Economics* 65(3):279–293.

Whittington, Keith E. 2005. ""Interpose Your Friendly Hand": Political Supports for the Exercise of Judicial Review by the United States Supreme Court." *American Political Science Review* 99(04):583–596.

Whittington, Keith E. 2007. *Political Foundations of Judicial Supremacy: The Presidency, the Supreme Court, and Constitutional Leadership in U.S. History*. Princeton University Press.

Whittington, Keith E. 2008. "Judicial Review of Congress Before the Civil War." *Georgetown Law Journal* 97:1257–1332.

Appendix

This appendix provides information on the data and measures used in the paper.

Measuring public opinion on gay marriage

To measure public opinion on gay marriage, I build on prior data and modeling by Lax and Phillips (2009a; 2012; 2009b).[35] In these papers, Lax and Phillips develop static estimates of state-level opinion of several issues related to gay rights, including same-sex marriage, using multilevel regression and poststratification (MRP)—see also Warshaw and Rodden (2012), Bishin and Smith (2013), and Lewis, Wood and Jacobsmeier (2014). There are two stages to MRP. In the first stage, opinion is modeled as a function of demographic characteristics of respondents and geography, using random effects. In the second stage, the estimates are poststratified according to the true proportion of each "demographic-geographic" type in each state (Kastellec, Lax and Phillips 2014)

To develop the estimates of opinion used in the paper, I began with the dataset of polls on gay marriage analyzed in Lax and Phillips (2009*a*), which covered the years 1996 to 2008. I both backdated and updated this data in order to include every usable poll from 1993 to 2015. I did this by searching the *iPoll* archives (available at `ropercenter.cornell.edu/CFIDE/cf/action/ipoll/index.cfm`), using the keyword search: "marr% and (gay or same-sex or homosexual)".[36] I only retained polls with questions that specifically asked about respondents views' on same-sex marriage (and not, for example, on whether they approved of civil unions). In addition, only polls for which individual-level data that contained sufficient demographic and geographic data were retained. For each respondent, I coded their race, age, gender, level of education, and state of residence. Combining the existing data with the original data left me with a "megapoll" of 69 unique polls. For computational convenience, I drop observations with any missing data in terms of their response on the same-sex question

[35] Full citations for the references in the appendix appear at the end of the appendix.

[36] A complete list of polls and question wordings is available upon request.

or any of the demographic or geographic predictors used in the model detailed below; this left me with 76,064 individual responses.[37]

To date, all of the MRP estimates of support for same-sex marriage (referenced above) have been static. Given the sweeping changes in public opinion on this issue in the last decades, and particularly in the period leading up to the Supreme Court's decision in *Obergefell* in 2015, a dynamic approach is required. There are multiple options for accommodating changes over time in the MRP framework. One approach is that of Pacheco (2011; 2014), who uses a "rolling-MRP" method to generate dynamic estimates of public opinion in several issue areas; Enns and Koch (2013) use a similar strategy to estimate policy mood, partisanship, and ideology at the state level over time. In this approach, separate models are estimated in either discrete or overlapping time periods (e.g. either every year or in "moving windows" of multiple years).

While useful in these applications, this approach carries limitations in other settings. First, it requires the use of polling questions that are administered at regular intervals over time; in the same-sex marriage data I collected, there are several years with no usable polls. Second, estimating separate models over time potentially throws out useful information from the data; for instance, knowing the propensity of residents in (say) Alabama to support same-sex marriage in 1993 surely helps predict opinion in that state in 2015, even allowing for change over time.

Accordingly, I follow the general approach of Caughey and Warshaw (2015) and Shirley and Gelman (2015) and estimate a single model that incorporates and estimates change over time. As has been well documented, national support for same-sex marriage has increased dramatically over the last two decades.[38] Inspection of the disaggregation measures of state opinion—that is, taking the mean level opinion for every state-year combination in the

[37] Overall 14% of responses to the same-sex marriage question were missing.

[38] See e.g. Gallup's trend data at `http://www.gallup.com/poll/117328/marriage.aspx` (accessed 4 May 2016).

data—revealed that most states have followed a similar pattern, although the states have differed dramatically in their baseline levels of support (i.e. their "intercepts"). To account for such opinion change, I estimated a multilevel model that estimates varying intercepts for states; these intercepts are allowed to vary over time. Specifically, I include both a linear and quadratic trend in the model, which allows for the "effect" of time on opinion to vary across states.

The model also includes random effects for age, race, gender, and education; these do not vary over time. Specifically, with respect to these non-varying random effects, I model response as a function of gender; one of four age groups (18-29, 30-44, 45-64, and 65+); race (white, black and hispanic) and one of four education groups (less than high school, high school graduate, some college, and college graduate). To provide better estimates of the state effects, I follow Lax and Phillips (2009b) and include two state-level predictors. The first is the Democratic share of the two-party presidential vote, based on every presidential election between 1992 and 2012; for non-election years, I linearly interpolate the measure based on the two closest elections (for 2013-2015, I simply use the 2012 measure). The second state-level predictor is the percent of evangelical Protestants and Mormons.[39]

Formally, let i denote individual responses, and let $y_i = 1$ denote a response in favor of support for same-sex marriage. Let n denote the number of respondents in the data. Let s, a, and e denote, respectively, indices for states, age, and education. Let f denote the interaction of gender and race; this variable takes on one of six values: female black, female white, female hispanic, male black, male hispanic, and male white. Next, let t denote a time trend; this variable takes on the value of the year the poll was taken minus 1993 (the year of the first poll in the dataset). For computational efficiency, I center this variable by subtracting each observation from the mean in the dataset and divide by two standard

[39]This measure, which is static, comes from 1990 American Religion Data Archive—see `http://www.thearda.com/`

deviations, such that the average value is zero and the variable is on a similar scale to the other predictors. t^2 denotes the square of this rescaled variable. (Rescaling also helps break the strong correlation between the time and time-squared.) Denote the presidential vote share measure *dem*, and the percentage of evangelical Protestants and Mormons *relig*.

I estimated the following model:

$$\begin{aligned}\Pr(y_i = 1) = \text{logit}^{-1}(&\beta^0 + \beta^{time} \cdot t_i + \beta^{time^2} \cdot t_i^2 \\ &+ \alpha_{f[i]}^{female,race} + \alpha_{a[i]}^{age} + \alpha_{e[i]}^{edu} \\ &+ \delta_{s[i]}^{state} + \theta_{s[i]}^{state} \cdot t + \psi_{s[i]}^{state} \cdot t^2), \text{ for } i = 1, ..., n\end{aligned}$$

The random effects are modeled as follows:

$$\begin{aligned}\alpha_f^{female,race} &\sim N(0, \sigma^2_{female,race}), \text{ for } f = 1, ..., 6 \\ \alpha_a^{age} &\sim N(0, \sigma^2_{age}), \text{ for } a = 1, ..., 4 \\ \alpha_e^{edu} &\sim N(0, \sigma^2_{edu}), \text{ for } e = 1, ..., 4\end{aligned}$$

$$\begin{pmatrix} \delta_s \\ \theta_s \\ \psi_s \end{pmatrix} \sim N\left(\begin{pmatrix} \gamma_0^\delta + \gamma_1^\delta dem + \gamma_2^\delta relig \\ \gamma_0^\theta + \gamma_1^\theta dem + \gamma_2^\theta relig \\ \gamma_0^\psi + \gamma_1^\psi dem + \gamma_2^\psi relig \end{pmatrix}, \begin{pmatrix} \sigma_\delta^2 & & \\ \rho\sigma_\delta\sigma_\theta & \sigma_\theta^2 & \\ \rho\sigma_\delta\sigma_\psi & \rho\sigma_\delta\sigma_\theta\sigma_\psi & \sigma_\psi^2 \end{pmatrix}\right), \text{for } s = 1, ..., 50$$

I estimated the model in a fully Bayesian manner using the program Stan, as called from R, using the `rstanarm` package (Gabry 2016, Stan Development Team 2016*a*;*b*). I used weakly informative N(0,5) priors for each parameter. I ran the model on four separate chains for 500 iterations, and saved the last 250 iterations on each, to form a posterior sample size of 1,000. Standard diagnostics indicated good convergence among the four chains. For every parameter, the potential scale reduction factor was less than 1.03, and for all but seven parameters it was less than .01, thus indicating good mixture among the chains (Gelman and Rubin 1992). The effective sample size of the parameters ranged from 227 to 1,000; the minimum is well above the recommended number (Gelman et al. 2014); and for a majority

of parameters the effective sample size was 1,000.[40]

Post-stratification The second stage of MRP estimates requires post-stratifying the results from the first-stage model, according to the true population proportion of "demographic-state" types. To do this, I use the population frequencies from the Census Public Use Microdata Area (PUMA) data for 1990 and 2000. I augmented this with data from the 2009 Census American Community Survey (the 2010 PUMA sample was never released). To estimate frequencies between these years, I use simple linear interpolation. (For years after 2009 in the opinion data, I simply use the 2009 data.) The resulting combined dataset gives the estimated population frequency for every demographic-state type for every year from 1993 to 2015. (The estimates of Democratic presidential vote share and the percentage of evangelical Protestants and Mormons is then merged with this data.)

There are 4,800 combinations of demographic and state values: 50 states $\times$ 4 age groups $\times$ 4 education groups $\times$ 6 race-gender combinations. From the individual-response model, I first calculate the predicted probabilities of support for each demographic-state type, for every year. There are thus 4,800 demographic-geographic types $\times$ eight issues $\times$ 23 years (1993 to 2015) = 110,400 cells—which we can denote "demographic-state-year" types—in which to make a prediction. Let j denote a cell from the set of "demographic-state-year" types, each of which has a predicted value of supporting same-sex marriage in a given year. Denote this prediction $\hat{\lambda}$, which comprises a matrix of 110,400 rows and 1,000 columns (one for each draw from the posterior distribution).

The final step is to post-stratify these predictions using the estimated population frequencies from the combined Census data, which we can denote N_j. Let $\hat{\omega}$ denote an estimate of support in a given state s, for each year y; $\hat{\omega}$ is a matrix comprising 1,150 rows (50 states

[40] As a robustness check, I estimated the model using the `GLMER` command in *R* (Bates 2005), which "approximately" Bayesian and only returns point estimates, rather than full posterior distributions. The median parameter estimates from the Stan model were very similar to the point estimates returned by `GLMER`. However, the Bayesian model naturally provides estimates of uncertainty, and so I present those estimates in the paper.

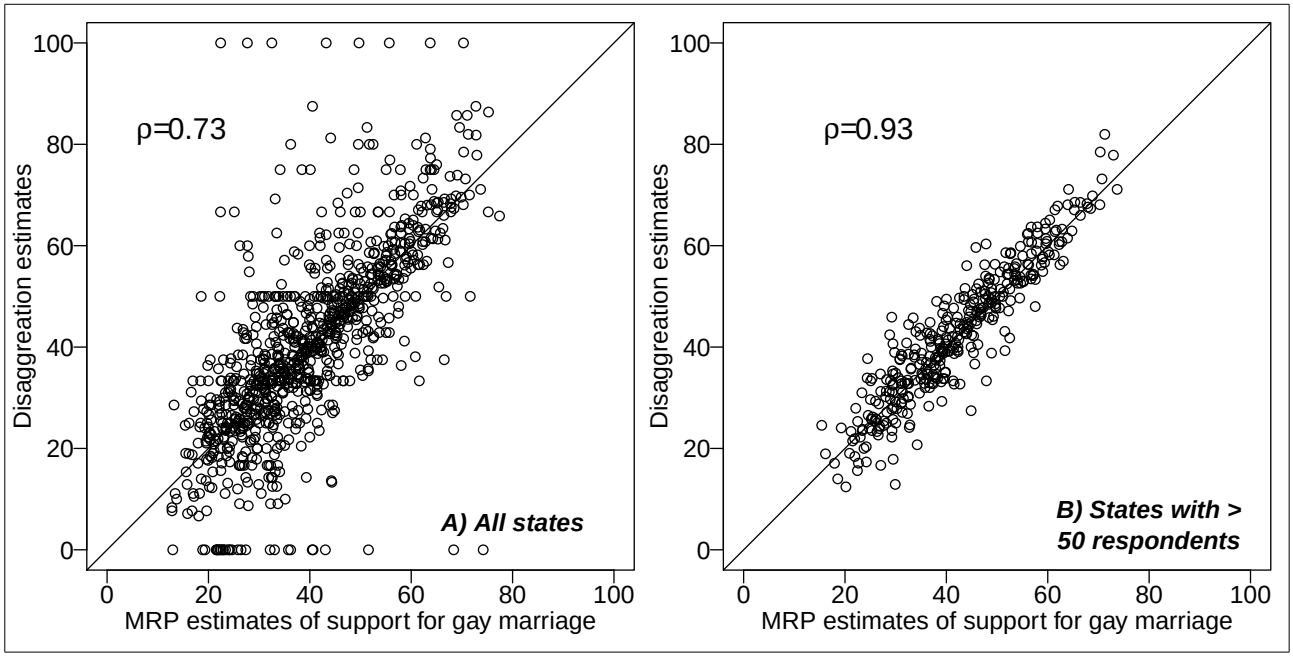

Figure A-1: *Panel A plots the correlation of the MRP and disaggregation estimates for every state-year-policy combination that appears in the data. Panel B plots the correlation only among state-year-policy combinations with at least 50 respondents.*

$\times$ 23 years) and 1,000 columns. Then, $\hat{\omega}_{s_y} = \frac{\sum_{j \in s_y} N_j \hat{\lambda}_j}{\sum_{j \in s_y} N_j}$. The result is 1,000 estimates of opinion for every "state-year" combination. I use the mean estimate from the 1,000 draws to summarize the distribution of each combination.[41]

The estimates of national opinion proceed comparably, except the aggregation is done at the and year level:

$$\hat{\omega}_y = \frac{\sum_{j \in y} N_j \hat{\lambda}_j}{\sum_{j \in y} N_j}$$

Validity checks As a simple validity check, it is useful to compare the MRP estimates to those produced by disaggregation—that is, simply taking the mean level of support for in each state for every year. In these checks I focus solely on the point estimates of support and ignore their uncertainty.

Figure A-1A depicts a scatterplot of the estimates for every state-year combination that appears in the data (i.e. combinations that are completely model-dependent are dropped).

[41]The estimates from using the mean are highly correlated with the estimates based on the median.

The overall correlation between the disaggregation and MRP estimates is .72 (the solid line is a 45-degree line). Of course, for many combinations with small numbers of respondents, the disaggregation estimates will suffer from large amounts of measurement error; this can clearly be seen in the cluster of points at 0 and 100. A more useful comparison is to look at state-year combinations with at least 50 respondents; most such combinations occur in the states with the largest populations, such as California, New York and Texas. Figure A-1B presents a scatterplot of the MRP and disaggregation estimates among such combinations. The correlation, at .93, is significantly stronger (and quite high in absolute terms).

As a second validity check, I follow the lead of Warshaw and Rodden (2012, Figure 2) and conduct an external validation by comparing the MRP estimates to results from referenda on state constitutional amendments to ban gay marriage. Such referenda were held 33 times in 31 states between 1998 and 2012. Of course, those who turnout in such referenda may differ from state residents overall (i.e. those who are likely to be contacted by a national poll using a probability sample), but the results of these referenda still provide a useful benchmark for evaluating the MRP estimates.

Each plot in Figure A-2 evaluates the results of these referenda; the vertical axis depicts the percentage of voters who opposed a constitutional amendment to ban gay marriage in their state (i.e. 100 minus the percentage of voters who supported bans on same-sex marriage). Figure A-2(A) plots this quantity against the disaggregation estimates of state support for gay marriage. The correlation is substantial (.72), but there are a few observations that stray significantly from the 45-degree line. Figure A-2(B) substitutes the MRP estimates, and reveals a much stronger correlation (.86); notably, the very low disaggregation estimates from smaller states (in terms of population) like Idaho and South Dakota are pooled toward the overall mean in the MRP estimates.

One potential reason for some of the discrepancies between the referenda vote and the MRP estimates is that several of the referenda also included measures to ban not just mar-

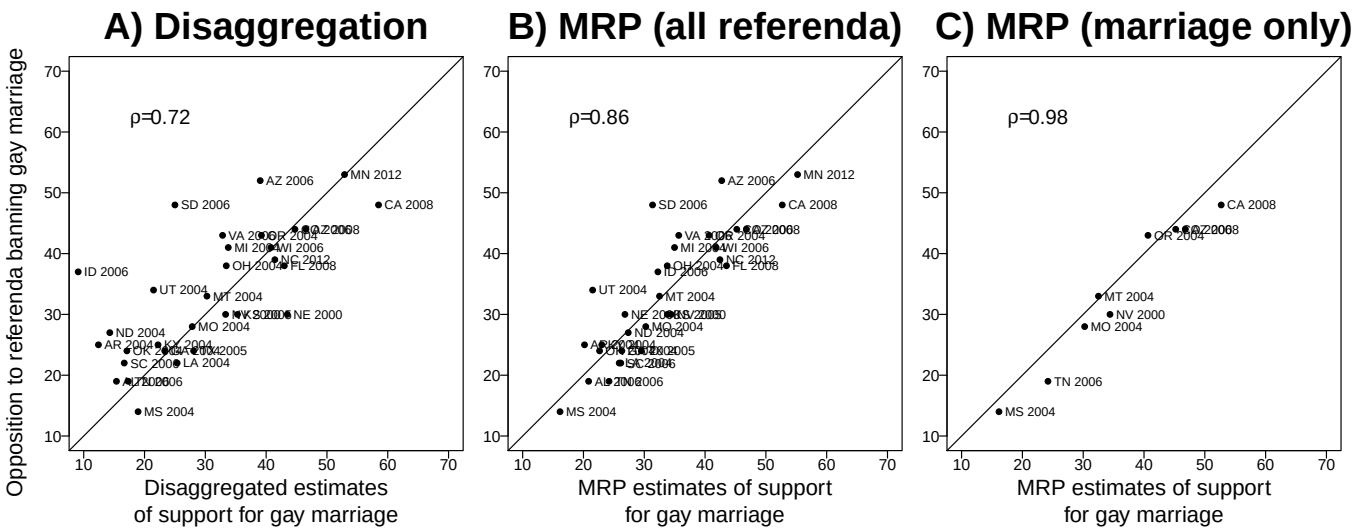

Figure A-2: *Validating the MRP estimates of support for same-sex marriage against referenda results. Panel (A) uses the disaggregated measures of support for gay marriage. Panel (B) uses the MRP estimates. Panel (C) uses the MRP estimates, looking only at referenda in which same-sex marriage was the sole issue on the ballot.*

riage, but also civil unions (and, and in a handful of instances, banning all contracts that resemble marriage-like agreements between non-married individuals). Such policies are more extreme than banning gay marriage, which might account for the MRP estimates for support for gay marriage being lower than opposition to a given constitutional amendment. (For example, whereas the MRP model estimates that only 31% of South Dakotans supported gay marriage in 2006, a referendum that year that proposed banning gay marriage only received 52% support; this measure, however, was of the more extreme variety.[42]) To account for this issue, Figure A-2(C) replicates Figure A-2(B) but only depicts the nine referenda in which same-sex marriage was the sole issue on the ballot. For such referenda, the correlation is .98, and the largest absolute difference between the vote total and the MRP estimates is five percentage points (the mean difference is 2.8 percentage points). Thus, in sum, the MRP

[42]It stated: "Only marriage between a man and a woman shall be valid or recognized in South Dakota. The uniting of two or more persons in a civil union, domestic partnership, or other quasi-marital relationship shall not be valid or recognized in South Dakota." See `http://legis.state.sd.us/sessions/2005/bills/HJR1001p.pdf`

estimates appear to be quite valid.

State policy and judicial decisions

To measure state policy on gay marriage, I used a variety of Internet and news searches to ascertain whether, when, and how each state implemented a ban on gay marriage, as well as legislation and/or state referenda to legalize gay marriage. Particularly helpful were the following web pages put together by ProCon.org (`http://gaymarriage.procon.org/view.resource.php?resourceID=004857`) and the Pew Organization (`http://www.pewforum.org/2015/06/26/same-sex-marriage-state-by-state/`). Klarman (2012), and the references therein, were also helpful.

To search for judicial decisions, I used the Westlaw key number "Marriage and Civil Unions" (92-3438). I read through the cases with this key and identified decisions that ruled on the merits of the constitutionality of a state statute. I cross-checked the resulting cases with Internet and news searches; this page from FindLaw was particularly helpful: (`family.findlaw.com/marriage/developments-in-same-sex-marriage-law.html`) .

For decisions handed down by the Courts of Appeals, I identified which states in the circuit were affected by the panel's decisions. For instance, a panel of the 4th Circuit in 2014 struck down Virginia's ban on gay marriage (760 F.3d 352). At that point, Maryland had legalized gay marriage via referendum in 2013. Thus, the 4th Circuit's decision effectively legalized gay marriage in the three other states in the circuit—West Virginia, South Carolina, North Carolina—all of which still had bans in place as of 2014.

With respect to the U.S. Supreme Court's decision in *Obergefell*, many lower court decisions that had ruled state bans unconstitutional were stayed pending action by the Supreme Court. Thus, the Court in *Obergefell* technically struck down bans in these states, such as Arkansas. However, for the purposes of the empirics, I count the original decision (be it state or district) striking down a ban as the implementing court in the respective state, since if the Supreme Court had decided not to weigh in on gay marriage (as it did for many

months), those lower court decisions would have stood. Thus, *Obergefell* effectively reversed policy in the following seven states: Georgia, Kentucky, Louisiana, Michigan, Ohio, North Dakota, and Tennessee.