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QUANTIFYING LEGISLATIVE UNCERTAINTY: A CASE STUDY IN TAX POLICY

by

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Quantifying Legislative Uncertainty: A Case Study in Tax Policy

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I. INTRODUCTION

There are limits to certainty in the law. The Constitution provides explicitly for uncertainty by giving legislative majorities the ability to change the law, with the consent of the President.¹ Although the Founders hoped for leadership by wise statesmen, they understood that changes in the law need not respond only to changing circumstances.² Laws change when coalitions form that represent ideologies or interests that conflict sufficiently with the status quo. Whether a legislature will or will not enact law is often uncertain. This Article offers an empirical model for quantifying that uncertainty, and it develops this argument in the context of federal income tax rates.

Other scholars have recognized the political system as an important source of legal uncertainty in tax. In one line of scholarship, economists have studied how likely rate changes affect taxpayer behavior.³ In another line of scholarship, legal scholars have studied how Con-

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¹ See U.S. Const. art I, §§ 5, 7.

² See, e.g., *The Federalist* No. 62 (James Madison) (“From this change of [representatives] must proceed a change of opinions; and from a change of opinions, a change of measures. But a continual change even of good measures is inconsistent with every rule of prudence and every prospect of success.”).

³ These studies generally investigate how taxpayers adjust their behavior when rates change. See Gerald Auten & Laura Kawano, U.S. Treasury Dep’t, *How the Rich Respond to Tax Rate Increases: Evidence from High-Income Taxpayer Responses to the 1993 Tax Act* (2013), <http://www.aeaweb.org/aea/2013conference/program/retrieve.php?pdfid=418>; Martin Feldstein, *The Effect of Marginal Tax Rates on Taxable Income: A Panel Study of the 1986 Tax Reform Act*, 103 J. Pol. Econ. 551 (1995); Jon Gruber & Emmanuel Saez, *The Elasticity of Taxable Income: Evidence and Implications*, 84 J. Pub. Econ. 1 (2002); Wojciech Kopczuk, *Tax Bases, Tax Rates and the Elasticity of Reported Income*, 89 J. Pub. Econ. 2093 (2005).

gress should manage the transition when tax laws change.⁴ What makes this Article unique is that it considers the underlying prior question: What makes changes in tax rates likely in the first place?

We find that we can reasonably forecast legislative uncertainty with respect to an important policy variable: tax rates. Two empirical findings drive this result. First, we demonstrate that a legislator's tax rate preference mirrors his or her place on the liberal-conservative spectrum. Thus, we can predict the tax rate preference of any legislator by answering how liberal or conservative the legislator is generally. What top rate does Senator Mitch McConnell prefer? What capital gains rate does President Obama want? This Article gives rough answers to these questions.

Second, the policy positions of key legislators drive changes to tax rates. In a seminal book, Keith Krehbiel provided the powerful insight that the preferences of certain legislators—called pivots—determine whether the law will stay the same or be changed.⁵ These pivots include the President, the median member of the House, and the member of the Senate who is decisive for ending a filibuster.⁶ By referring to a pivot's place on the liberal-conservative spectrum, we can calculate his or her tax rate preference. By comparing these preferences with current law, we can predict whether tax rates will change, whether they will go up or down, and roughly what new rate will result.

By roughly forecasting tax rates, we add some empirical flesh to the idea of legislative uncertainty where little has existed in the literature. Rather than discussing laws as immutable rules, quantifying legislative uncertainty allows us to think about current law in the context of the

⁴ Particular attention has been paid to whether taxpayers' reliance interest should be respected and whether legal changes should be gradual. See Richard A. Epstein, *Beware of Legal Transitions: A Presumptive Vote for the Reliance Interest*, 13 *J. Contemp. Legal Issues* 69 (2003); Michael J. Graetz, *Legal Transitions: The Case of Retroactivity in Income Tax Revision*, 126 *U. Pa. L. Rev.* 47 (1977); Michael J. Graetz, *Retroactivity Revisited*, 98 *Harv. L. Rev.* 1820 (1985); Louis Kaplow, *An Economic Analysis of Legal Transitions*, 99 *Harv. L. Rev.* 509 (1986); Kyle D. Logue, *Tax Transitions, Opportunistic Retroactivity, and the Benefits of Government Precommitment*, 94 *Mich. L. Rev.* 1129 (1996); Steven Shavell, *Risk Aversion and the Desirability of Attenuated Legal Change*, 16 *Am. L. & Econ. Rev.* 366 (2014); Kirk J. Stark, *The Elusive Transition to a Tax Transition Policy*, 13 *Am. J. Tax Pol'y* 145, 164-65 (1996).

⁵ Keith Krehbiel, *Pivotal Politics* (1998); see also David W. Brady & Craig Volden, *Revolving Gridlock: Politics and Policy from Jimmy Carter to George W. Bush* (2d ed. 2006); Gary W. Cox & Matthew D. McCubbins, *Setting the Agenda: Responsible Party Government in the U.S. House of Representatives* (2005).

⁶ Ending a filibuster (that is, invoking cloture) requires a three-fifths supermajority vote. This means that the sixtieth Senator is pivotal. See notes 69-72 and accompanying text. As we discuss in Part III, there are other legislators that may matter as well.

feasible or likely range of laws in the near future.⁷ The fact that laws change, and that different areas of the law vary in their stability, has broad implications. The behavioral effects of the law depend on how citizens and businesses expect the law to change in the future.⁸ The desirability and effectiveness of major legal reforms depend on their political durability.

Although this Article focuses on tax law, its argument is more general. Our methodology and the insights that it provides regarding legislative uncertainty may apply to other areas; however, tax policy is an especially important context for two reasons. First, the literature on taxation places a large emphasis on the negative effects of uncertainty—uncertainty in tax law is held to be the cause of great harm to businesses and the economy as well as complicating the legal environment.⁹ Numerous observers have called for Congress to stop changing the law in order to create a more certain environment.¹⁰

Second, tax law deals in quantifiable policies. Although taxation is a complicated field with a wide range of policy variables and concerns, the predominant focus is on the rates at which different kinds of income are taxed, and in particular, on the highest rates. The fact that we can quantify these policies will allow us to make an (admittedly crude) attempt to quantify the uncertainty associated with them. The question is not what the rate will be at some moment in the future, but what the range of possible rates is—and, more specifically, the relative likelihood of those rates. We find that both the current top marginal rate and the current capital gains rate are near the top of their respec-

⁷ From a Knightian perspective, this Article pushes the discussion from one of legislative *uncertainty* to one of legislative *risk*. When outcomes are uncertain, Knight distinguishes risk, where the distribution of outcomes is known, from uncertainty, where the distribution of outcomes is unknown. See Frank Knight, *Risk, Uncertainty and Profit* (1921).

⁸ See Part IV.

⁹ See Martin Feldstein, *On the Theory of Tax Reform*, 6 J. Pub. Econ. 77, 94 (1976) (“This general discussion suggests the desirability of reducing the uncertainty about future tax laws.”). Uncertainty can result in misallocated resources, decreased investment, and reduced government revenue. See Francisco Gomes, Laurence J. Kotlikoff & Luis M. Viceira, *The Excess Burden of Government Indecision*, in *Tax Policy and the Economy* 125, 125-63 (Jeffrey Brown ed., 2011); Kevin A. Hassett & Gilbert E. Metcalf, *Investment with Uncertain Tax Policy: Does Random Tax Policy Discourage Investment?*, 109 Econ. J. 372 (1999); Ellen R. McGrattan, *Capital Taxation During the U.S. Great Depression*, 127 Q.J. Econ. 1515 (2012); cf. Scott R. Baker, Nicholas Bloom & Steven J. Davis, *Measuring Economic Policy Uncertainty* (Nat’l Bureau Econ. Research, Working Paper No. 21633, 2015), www.nber.org/papers/w21633.

¹⁰ See, e.g., President’s Advisory Panel on Federal Tax Reform, *Simple, Fair, and Pro-Growth: Proposals to Fix America’s Tax System*, at xiii (2005), <https://www.treasury.gov/resource-center/tax-policy/Documents/Report-Fix-Tax-System-2005.pdf> (“Frequent changes in the tax code, which often add to or undo previous policies, as well as the enactment of temporary provisions, result in uncertainty for businesses and families. This volatility is harmful to the economy and creates additional compliance costs.”).

tive distributions. In other words, the uncertainty of these rates is asymmetric. They are more likely to decrease than increase. This asymmetry has important implications for fundamental tax policy questions. How does the capital gains rate affect the allocation of capital? (The asymmetric uncertainty of the capital gains rate exacerbates capital lock-in.) What is the future of the federal deficit? (Existing deficit projections are likely too low once asymmetric uncertainty is taken into account.) What role can taxes play in stemming the tide of rising inequality? (Addressing inequality through rate increases will require significant leftward shifts in legislator preferences.)

Lawmakers should also take future legislative uncertainty into account when designing major reform. Too much attention is paid to *enacting* reform and not enough is dedicated to reform's *sustainability*. The last two experiments with major tax reform in the United States were much celebrated when passed in 1969 and 1986 but largely unraveled within a decade.¹¹ We demonstrate that the tax-rate compromises in these reforms were predictably unstable because they involved politically extreme rates. There were obvious coalitions to reverse those rate changes once they were considered separately. Our framework suggests that each constituent piece of any major reform should be evaluated separately for political stability.

This Article proceeds as follows. Part II estimates legislator preferences with respect to tax rates. Part III demonstrates how these preferences are translated into law. Our framework explains the evolution of tax rates over the past forty years. Part IV explores the legislative uncertainty of tax rates. We investigate how the asymmetric uncertainty of these rates influences several important policy debates. Part V uses the lens of legislative uncertainty to analyze the stability of major reform. Part VI concludes and briefly considers extensions of our methodology.

II. MEASURING LEGISLATOR PREFERENCES

In order to account for politicians' actions, we need some way of simplifying their political positions. It would be an impossible task to catalogue each politician's views on a myriad of tax policy issues. For one thing, politicians often avoid taking firm public positions, so most of this information is unavailable. In lieu of characterizing politicians' positions on each and every issue or tax rate, we can characterize their general ideology across *all* issues and then examine how well this characterization works in particular cases.

¹¹ See Section V.B.

A surprising finding in political science is that voting in Congress can be characterized by a simple structure, particularly since the end of the civil rights era.¹² Imagine that we give each legislator a single left-right score—a summary of how “liberal” or “conservative” they are relative to their fellow legislators. Now imagine that for each bill we pick a cut-off or “cut-line.” Legislators to the left of that cut-off vote together, and legislators to the right of that cut-off vote together. If we choose these scores and cut-lines wisely, it turns out that we can accurately characterize most of the votes cast in Congress, even though there is a wide range of voting margins, from unanimous to evenly split.¹³

The most famous and frequently used algorithm is Keith Poole and Howard Rosenthal’s DW-NOMINATE.¹⁴ DW-NOMINATE assigns each legislator a score between -1 (extremely liberal) and +1 (extremely conservative) and determines a cut-line for each roll call vote in that same space.¹⁵ Besides giving us good scores for legislators who vote on common legislation, DW-NOMINATE has a number of other advantages. One advantage is that it allows us to compare legislators who have not even served together. For instance, imagine we wish to compare the position of Newt Gingrich, whose time in the House of Representatives ended in 1999, to Eric Cantor, whose career in Congress began in 2001. Gingrich and Cantor never voted on the same piece of legislation. John Boehner, however, overlapped both legislators, voting on many bills that Gingrich voted on as well as many bills that Cantor voted on. In his time serving with Gingrich, Boehner was just to his right, voting more often on the conservative side of votes in those instances when Gingrich voted with the Democrats. In his time in Congress, Cantor racked up a more conservative record than Boehner, voting more often on the right of a given cut-line. Thus, we can

¹² The canonical citation for this result is Keith T. Poole & Howard Rosenthal, *Ideology & Congress* 32-57 (2007).

¹³ *Id.* at 32-41. A remarkable finding from political science shows a one-dimensional model (where each legislator receives a single score) accurately predicts most votes, with little to be gained from additional dimensions. *Id.* at 34.

¹⁴ *Id.* at 12-30. DW-NOMINATE assumes an underlying calculus of choices with a stochastic component and minimizes the probability that any given legislator makes an “unlikely” choice, such as a very conservative legislator voting for a very liberal bill.

¹⁵ For each vote, DW-NOMINATE determines a policy location for the status quo and the proposed bill. It assumes that the cut-line is halfway between the status quo and the proposed bill location. *Id.* at 27. The model assumes that each legislator votes for the policy option that is closer to him or her, with one catch. There are random, idiosyncratic features to each bill and legislator that may lead that legislator to vote in a way that is unexpected. If, however, the legislator is sufficiently far from the cut-line, then the random component of the bill’s desirability is unlikely to outweigh the systematic component. *Id.* at 26-27. This logic, and the assumption of a particular form for the “utility” or desirability of the bill over the status quo, leads to an optimal choice for the scores and cut-lines. *Id.*

conclude that Cantor is to the right of Gingrich (at least Gingrich the congressman).

In actual fact we have much more information about the relative policy locations of Gingrich and Cantor. Many people served with both congressmen. Using this method we can chain together even legislators that served decades apart because of the overlapping generations of legislators bridging them. We can also compare Senators to Members of the House of Representatives by using the 642 legislators who have served in both chambers. We should note that the inventors of DW-NOMINATE caution against putting too much stock in comparisons over very long periods of time.¹⁶ After all, the congressional agenda can change dramatically over time, as could perhaps the very meaning of the single “dimension” underlying the votes. Indeed, we show that a naïve comparison of positions over time could be highly misleading with regards to preferences regarding the top marginal tax rate. However, as long as we are wary of these sorts of problems when mapping policy preferences into the political space, our conclusions should emerge unscathed. We now turn to this part of our endeavor.

A. *The Simple Structure of Legislative Voting*

In this Section we show that DW-NOMINATE accurately characterizes votes on tax rates over the past four decades. In other words, votes on tax bills fit nicely within the one-dimensional structure of legislative voting described above. Our sample consists of the twenty-three major tax policy bills of the last forty years.¹⁷ Appendix A shows the bills in our sample as well as their effect on the major “headline” tax rates.

Take the example of the Jobs and Growth Tax Relief Reconciliation Act of 2003.¹⁸ Most significantly, this bill reduced the taxation of net capital gains from 20% to 15% and reduced the rate on dividends to the same preferential rate.¹⁹ The following plot provides a visual representation of the votes. Each legislator in a particular Congress is represented by a square. The solid squares represent Republicans, and the shaded squares represent Democrats. Dark and light shades

¹⁶ See *id.* at 148-52.

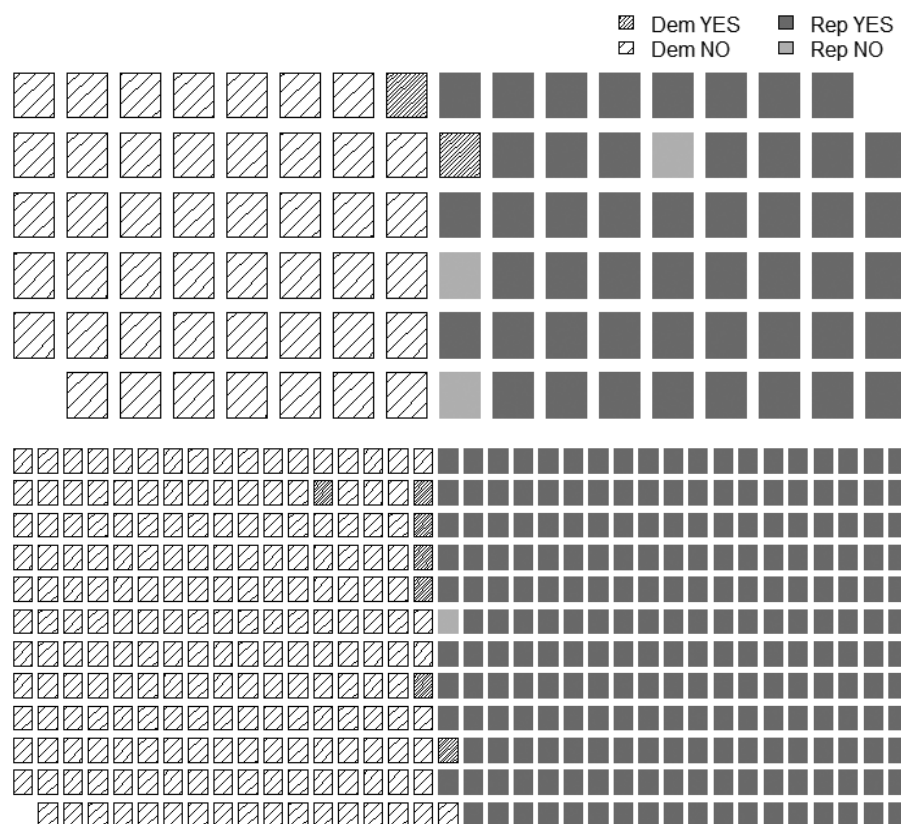
¹⁷ We use a list of major tax legislation published by the Office of Tax Analysis in the Treasury Department. Jerry Tempalski, U.S. Dep’t of Treasury, Revenue Effects of Major Tax Bills (U.S. Treasury Dep’t Office of Tax Analysis, Working Paper 81, 2006), <http://www.treasury.gov/resource-center/tax-policy/tax-analysis/Documents/WP-81.pdf>; Jerry Tempalski, Revenue Effects of Major Tax Bills, Updated Tables for All 2012 Bills (2013), www.treasury.gov/resource-center/tax-policy/tax-analysis/Documents/WP81-Table2013.pdf.

¹⁸ Pub. L. No. 108-27, 117 Stat. 752 (2003).

¹⁹ *Id.* §§ 301-02, 117 Stat. 758-60.

indicate whether that particular legislator voted for or against, respectively, the bill in question. The legislators in the House and Senate are organized based on their DW-NOMINATE scores. The squares on the left side of each plot represent the most liberal legislators. The squares on the right side of each plot represent the most conservative legislators.

FIGURE 1
VOTE COALITIONS ON THE JOBS AND GROWTH TAX RELIEF
RECONCILIATION ACT OF 2003
SENATE (TOP) AND HOUSE (BOTTOM)



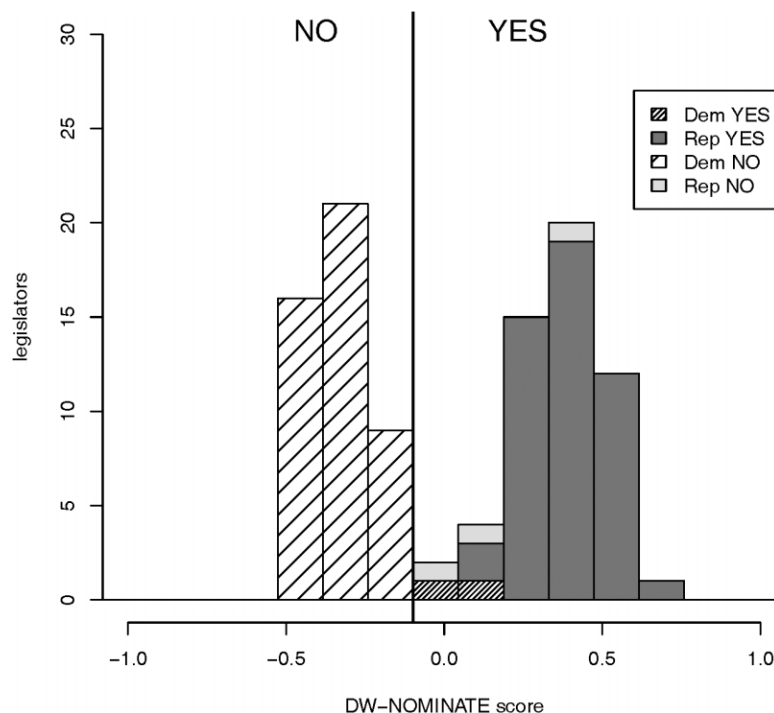
These plots show voting that hews closely to party lines, with Democrats generally opposing and Republicans generally supporting the bill. The light squares are generally on the left, indicating “no” votes by liberals, and the dark squares are generally on the right, indicating “yes” votes by conservatives. This is unsurprising given that this bill significantly reduced tax rates. However, parties do not explain all of the voting behavior. The dark-shaded squares in the middle of each

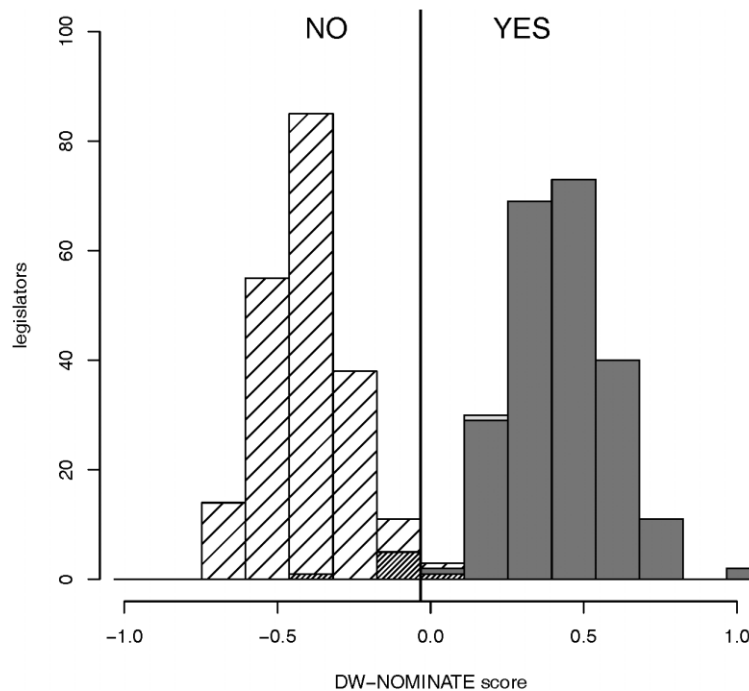
plot represent Democrats who voted for the bill, in contrast to the overwhelming majority of their colleagues. There are also several light-solid squares that represent Republicans who voted against the bill.

By their position on the plot, we can see that the Democrats that voted in favor of the bill were the most conservative members of their party as measured by DW-NOMINATE score. Similarly, the Republicans that voted against the bill were the most liberal members of their party. DW-NOMINATE scores are much better than party alone at explaining how legislators voted on this legislation.

Two important pieces of information are missing in the above plots. Since we are simply ordering the legislators based on their DW-NOMINATE scores, the plot does not show the density of legislators in the space. Secondly, the plot does not contain a characterization of the bill in question. The following plot remedies those shortcomings, using a simple histogram.

FIGURE 2
AN ALTERNATIVE PRESENTATION OF VOTE COALITIONS IN 2003
SENATE (FIRST) AND HOUSE (SECOND)





Focus on the bottom graph representing the House vote. Once again solid bars represent Republicans and shaded bars represent Democrats. Dark hues represent yes votes and light hues represent no votes. The vertical line (at a DW-NOMINATE score of -0.03) is the cut-line. Legislators to the right of the cut-line are predicted to vote yes, and legislators to the left of the cut-line are predicted to vote no. The model predicts the voting behavior well. The light hues (legislators voting no) are generally on one side of the cut-line and the dark hues (legislators voting yes) are on the other side of the cut-line.

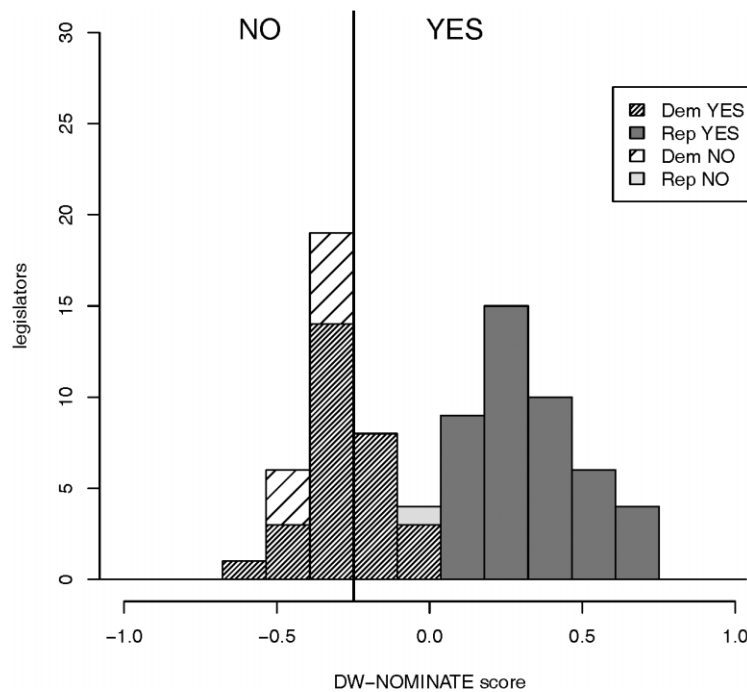
But the measure makes some “classification errors”—legislators whose actual voting did not match their predicted voting. There are some legislators voting yes that are predicted to vote no (that is, dark hues to the left of the cut-line). There are also some legislators voting no that are predicted to vote yes (that is, light hues to the right of the cut-line). Notably, these classification errors are not randomly distributed across the spectrum. The errors are concentrated in the cells that are closest to the cut-line. These are the legislators that are closest to being indifferent between the status quo and the new bill. The model predicts that there will be the most uncertainty with respect to the voting of these legislators. They are more likely to be swayed by idiosyncratic considerations.

One might protest that DW-NOMINATE only characterizes the 2003 vote well because of the polarization between the two parties.

To this we offer two responses. Much of the voting on the 2003 legislation can be explained by parties—Republicans voted yes and Democrats voted no. However, DW-NOMINATE is significantly more precise because it identifies the legislators that break from party-line voting. It tells us which Republicans are likely to vote no and which Democrats are likely to vote yes.

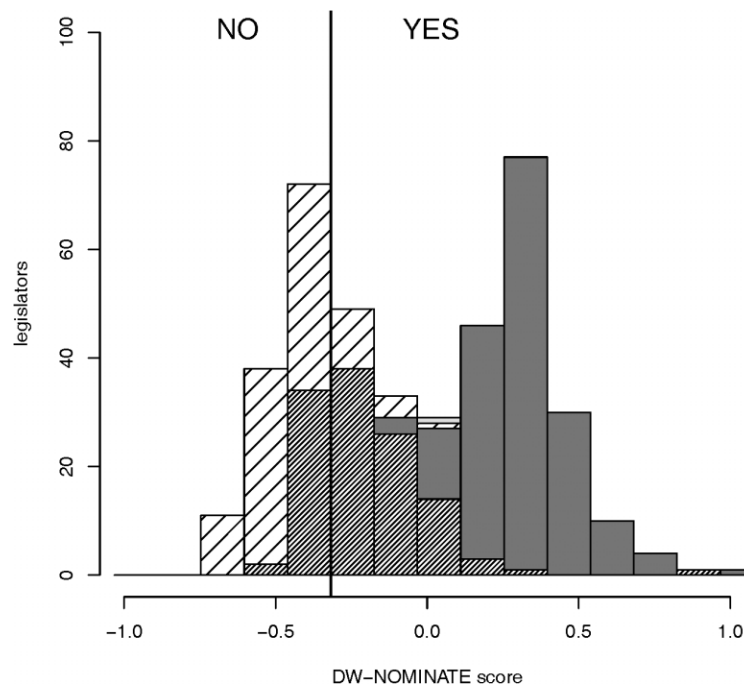
Moreover, DW-NOMINATE performs well even when the voting is not along party lines. Tax bills with bipartisan support are also well-characterized by the measure. Consider for example the Economic Recovery Act of 1981,²⁰ enacted during a time with a Republican president, Republican majority in the Senate, and Democratic control of the House. This bill significantly reduced ordinary income and capital gains rates.²¹

FIGURE 3
VOTE COALITIONS IN THE ECONOMIC RECOVERY ACT OF 1981
SENATE (FIRST) AND HOUSE (SECOND)



²⁰ Pub. L. No. 97-34, 95 Stat. 172 (1981).

²¹ Id. §§ 101-02, 95 Stat. at 176-87.



In the histograms representing the 1981 vote, there is clearly the same pattern to the voting. The only difference is that the cut-line splits the Democratic Party (rather than falling between the parties as in 2003). Republicans almost uniformly voted in favor of this legislation.²² Legislators to the left of the cut-line, all Democrats, generally voted against the legislation. Democratic and Republican legislators to the right of the cut-line generally voted yes. In the cells closest to the cut-line, voting behavior is uncertain. Once again, these are the Democratic legislators that were closest to indifferent between the status quo and the bill. This bill is well-characterized even though the voting did not track party lines. DW-NOMINATE is similarly useful for other bills where the votes do not track party affiliation.

B. Using Cut-lines to Measure Legislator Preferences

Almost every bill that changes rates is well-characterized by DW-NOMINATE. For each of these bills, DW-NOMINATE provides a cut-line that accurately separates the yes and no votes. We can use this information to map legislative preferences onto the DW-NOMINATE space. Take, for example, the 1993 Act, which raised the top

²² Only one Republican in each chamber voted against the legislation.

marginal tax rate from 31% to 39.6%.²³ The cut-line for that vote was -0.15, a “score” that is just left of center.²⁴ Legislators with lower DW-NOMINATE scores are predicted to vote yes. Legislators with higher DW-NOMINATE scores are predicted to vote no. The actual voting of legislators closely matched the predictions.

What can we say about the preferred top marginal tax rate for legislators? Those legislators with lower (more liberal) DW-NOMINATE scores (voting yes) preferred the new rate of 39.6%. Legislators with higher DW-NOMINATE scores (voting no) preferred the old rate of 31%. How about those legislators who were really close to the cut-line of -0.15? These legislators were close to indifferent between the new and the old rates. Using the cut-line on the bill, we can anchor a particular DW-NOMINATE score (-0.15) to a particular preference on the top marginal tax rate (35.3%).²⁵

This mapping is the foundation of our unpacking of the legislative uncertainty surrounding the future of tax rates. Having anchored tax policies to DW-NOMINATE scores, we can make statements about how the political landscape would need to change in order to produce particular changes in tax laws (or at least tax rates, for now).

In this project, we focus on mapping the most salient²⁶ of preferences--the top marginal rate and the capital gains rate--onto the DW-NOMINATE space.²⁷ Since these rates are highly salient, roll call

²³ Omnibus Budget Reconciliation Act of 1993, Pub. L. No. 103-66, § 13202, 107 Stat. 312, 461.

²⁴ DW-NOMINATE scores have no natural scale, so the assignment of particular numbers is arbitrary. In general the scores are formulated so that the most liberal legislator is at -1 and the most conservative is at +1, so 0 is in the middle of the spectrum. See Poole & Rosenthal, note 12, at 15-16 (mapping five congressmen at their respective positions on the DW-NOMINATE scale).

²⁵ 35.3% is the average of 31% and 39.6%. This approach assumes that legislator preferences are symmetric with respect to small deviations from their preferred rate.

²⁶ The tax literature has distinguished two dimensions of tax salience. Economic (or market) salience refers to how a tax (or a tax design feature) affects economic decision-making. Political salience refers to how important a tax (or tax design feature) is for political purposes. See David Gamage & Darien Shanske, Three Essays on Tax Salience: Market Salience and Political Salience, 65 Tax L. Rev. 19, 20 (2011); Deborah H. Schenk, Exploiting the Salience Bias in Designing Taxes, 28 Yale J. on Reg. 253, 272-74 (2011). Top marginal rates have high economic and political salience. See, e.g., Schenk, *supra*, at 274.

²⁷ In this project, we focus on top *statutory* marginal rates for capital gains and ordinary income. The top effective marginal rate sometimes can exceed the top statutory rate. The statutory rates can be quite artificial. For example, there can be bubble rates created by phase-outs of exemptions or deductions. As Len Burman recently showed with respect to Representative Camp's tax reform proposal, many different provisions can create bubble rates in excess of the top marginal rate. See Leonard Burman, Hidden Taxes in the Camp Proposal, Urban-Brookings Tax Pol'y Ctr. (Feb. 27, 2014), <http://taxvox.taxpolicycenter.org/2014/02/27/hidden-taxes-in-the-camp-proposal/>. Our intuition is that the top statutory rate is more salient to voting behavior than these effective (bubble) rates. Our empirical models confirm that intuition. This means that there may be more flexibility with respect to setting marginal *effective* rates. See discussion accompanying note 195.

votes generally reflect preferences on these rates. Even if a bill contains 100 different provisions, the voting on that bill will be predominantly explained by a handful of major provisions.²⁸ Smaller provisions may explain a vote or two, but only for those legislators who were indifferent on the package of major provisions.²⁹

An important objection to our methodology relates to bills that involve simultaneous changes to multiple rates. We draw a distinction between legislation where the important policies all move in the same direction (“one-sided legislation”) and legislation where important policies move in both directions (“compromise legislation”). The 1981 Act³⁰ is an example of one-sided legislation, while the Tax Reform Act of 1986³¹ is an example of compromise legislation.³² Where a piece of legislation moves rates in the same direction, the challenges posed by multiple shifts in policy can be overcome. We effectively assume that the legislators located at the cut-line are indifferent to the change in the top rate and are also indifferent to the change in the capital gains rate.

Where policies move in opposite directions, interpreting the cut-line is difficult because in a certain sense the status quo may have the very same position as the new policy in the ideological space. Compromise legislation is easily spotted. The histogram for such votes will not follow a neat pattern where a cut-line distinguishes between yes-no votes. DW-NOMINATE does not characterize these votes well. Compare the voting histograms for the 1981 Act (Figure 3) to the histograms for the 1986 Act (Figure 4). The 1986 legislation reduced the top marginal rate from 50% to 28% and decreased the top corporate tax rate from 46% to 34%.³³ But it also increased the capital gains rate from 20% to 28%.³⁴ The first two rate changes moved policy in a

²⁸ We acknowledge that tax legislation often contains many other provisions, like changes to the personal exemption or changes to the width of tax brackets that are important to the determination of tax liability. The fact that our mapping fits well is evidence that changes to top rates are generally among the most important provisions. See Schenk, note 26, at 280 (“In fact, it is the highest [marginal tax] rate that garners all the attention—virtually no attention is paid to the other rate brackets. . . . Thus, what is salient is the top nominal marginal rate.”).

²⁹ For a theoretical explanation of why marginal legislators are the most likely to be bought, even in cases where margins are not minimal winning coalitions, see Tim Groseclose & James M. Snyder, Jr., *Buying Supermajorities*, 90 *Am. Pol. Sci. Rev.* 303 (1996).

³⁰ Economic Recovery Act of 1981 (ERTA), Pub. L. No. 97-34, 95 Stat. 172.

³¹ Pub. L. No. 99-514, 100 Stat. 2085 (1986).

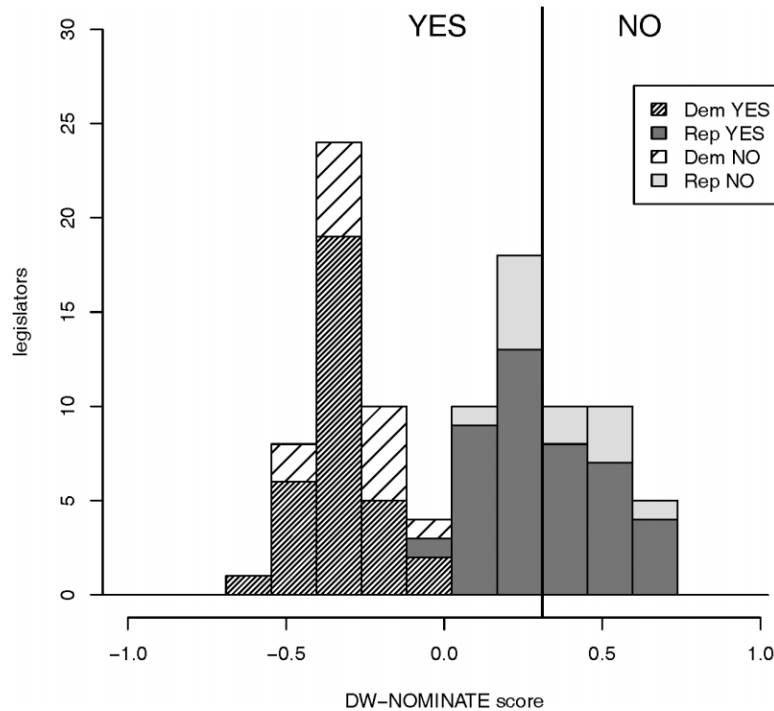
³² All legislation involves some compromise. In deciding whether a piece of legislation is one-way or compromise legislation, we focus on the most salient provisions of the bill. Note that some bills will only have a single salient provision.

³³ 1986 Act, note 31, §§ 101, 601, 100 Stat. at 2096, 2249.

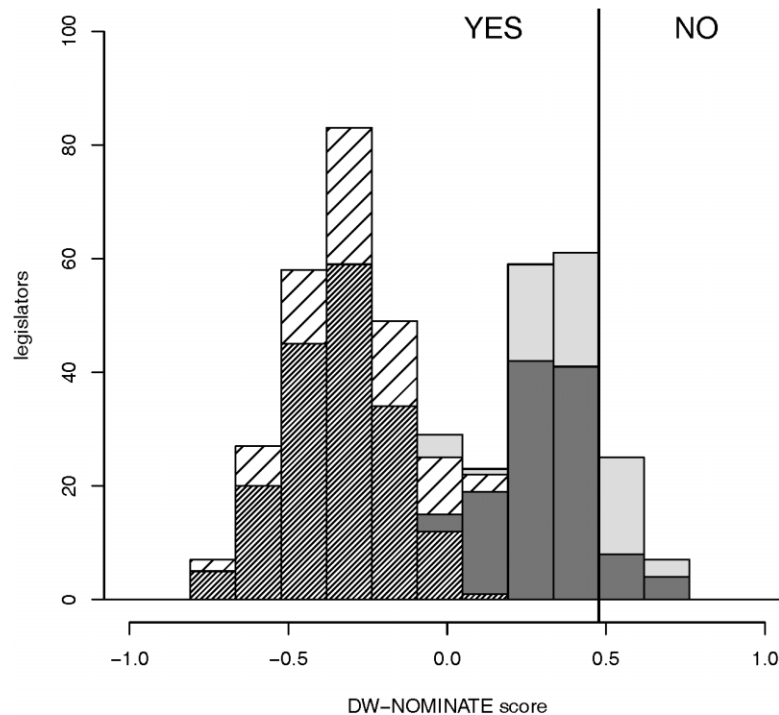
³⁴ *Id.* § 302, 100 Stat. at 2218.

conservative direction. The latter change moved policy in a liberal direction.³⁵

FIGURE 4
VOTE COALITIONS IN THE 1986 TAX REFORM ACT
SENATE (FIRST) AND HOUSE (SECOND)



³⁵ Our discussion of the 1986 reform is somewhat simplistic here in order to demonstrate the concept of compromise legislation. In fact this was one of the most complicated pieces of tax legislation in the twentieth century. At the same time that corporate and individual rates were lowered, the tax base was broadened substantially by eliminating some deductions. This means that some individuals saw disproportionately large increases in taxes. Although corporate rates were decreased, the revenue raised from the corporate tax actually increased as a result of the broader tax base. The increased corporate tax burden and the increase in the capital gains rate may have had a compound effect on owners of capital. This is further complicated by the fact that the economic incidence (or burden) of the corporate income tax remains an open question. The 1986 Act is exceptional in these regards, but our simple description is still accurate. The change in individual rates was explicitly designed to counterbalance the effect of the corporate and capital gains tax rates in terms of the overall tax revenue raised. In other words, all parties enjoyed a set of rate changes they preferred and a set of rate changes they disliked.



Legislators from across the liberal-conservative spectrum voted for and against the bill. Extreme conservatives joined with extreme liberals both in support of and in opposition to this legislation. DW-NOMINATE estimates a cut-line, but the cut-line does not do a good job of describing voting behavior. These histograms look very different from the well-characterized histograms for the 1981 Act or the 2003 Act. Why does the voting behavior for compromise bills look so haphazard? The 1986 legislation contained significant changes to tax rates in opposite directions. Depending on their relative preferences on various tax rates, legislators from across the ideological spectrum could vote for or against the legislation. For many legislators, the rate changes may have roughly offset, resulting in voting driven by particularistic provisions.³⁶

Since the cut-line for such legislation is poorly specified, we cannot use it to estimate the preferences of the indifferent legislator. Thus, compromise legislation does not fit neatly within our methodology. Fortunately (from a measurement perspective, but perhaps not from a policy perspective), such legislation is relatively rare. We have much

³⁶ See Jeffrey H. Birnbaum & Alan S. Murray, *Showdown at Gucci Gulch: Lawmakers, Lobbyists, and the Unlikely Triumph of Tax Reform* (1987) (detailing the passage of the Tax Reform Act of 1986).

more difficulty making statements about the likelihood of compromise legislation rather than one-sided legislation. Our methodology, however, allows us to examine the political stability of any such rate compromise. We return to this point in Part V.

C. *Legislator Preferences on Tax Rates*

As the last Section showed, most tax bills that change rates are well characterized by DW-NOMINATE. The cut-lines produced by the algorithm allow us to create a mapping of tax rate preferences onto the liberal-conservative spectrum.³⁷ This mapping works in both directions. It allows us to move from the DW-NOMINATE space to tax rate preferences and vice-versa. Given a legislator with a particular DW-NOMINATE score, the mapping predicts his or her tax rate preferences. Alternatively, given a bill proposing a particular tax rate, the mapping predicts which legislators are likely to support that rate. Table 1 summarizes a simple linear regression model of this relationship.

TABLE 1
LEGISLATOR PREFERENCES ON TAX RATES

Dependent Variable: DW-NOMINATE Score of Indifferent Legislator

	<i>Model 1</i>	<i>Model 2</i>	<i>Model 3</i>
<i>Constant</i>	0.427 (0.133)*	0.437 (0.146)*	0.722 (0.123)***
<i>Capital gain</i>	-0.0317 (0.006)***	-0.0345 (0.0093)**	-0.0489 (0.0072)***
<i>Top rate</i>	-0.0146 (0.003)***	-0.0223 (0.0046)***	-0.0312 (0.0050)***
<i>Capital gain * year</i>		0.000509 (0.000252)	
<i>Top rate * year</i>			-0.000339 (0.000106)**
<i>Year</i>		-0.0161 (0.0061)*	-0.00543 (0.00352)
<i>Adjusted R-squared</i>	.64	.75	.82

The dependent variable in the regression is the DW-NOMINATE cut-line for each bill (that is, how liberal or conservative the indifferent legislator is). “Capital gain” denotes the average of the top rate that applied to capital gains under prior law and the top rate that ap-

³⁷ The method that we use for mapping DW-NOMINATE scores to tax rates is similar to the approach first used in the context of the minimum wage. See Keith Krehbiel & Douglas Rivers, *The Analysis of Committee Power: An Application to Senate Voting on the Minimum Wage*, 32 *Am. J. Pol. Sci.* 1151 (1988); Keith T. Poole & Howard Rosenthal, *The Spatial Mapping of Minimum Wage Legislation*, in *Politics and Economics in the Eighties* 215 (Alberto Alesina & Geoffrey Carliner eds., 1991).

plies to capital gains under the bill. “Top rate” denotes the average of the top marginal income tax rate under prior law and the top marginal income tax rate under the bill. In other words, “capital gain” and “top rate” are our estimates of the tax rate and capital gains preferences of the indifferent legislator.³⁸ “Year” is the year that the legislation is enacted.³⁹

Model 1 includes just two explanatory variables, “capital gain” and “top rate.” Our intuition is that higher rates should be preferred by more liberal legislators. In other words, we would expect the coefficients for each of these variables to be negative. The regression shows exactly the expected relationship. Both coefficients are negative and statistically significant at the .001 level. The model has a fairly high adjusted R-squared of .64.⁴⁰ Model 1 confirms our basic intuition—liberal legislators prefer high tax rates (both capital gain and top marginal) and conservative legislators prefer low rates.

Models 2 and 3 explore how those preferences have shifted over the past forty years. Model 2 explores whether legislator preferences with respect to the capital gains rate have shifted over time by including the year as a variable in the mapping. Model 3 similarly explores whether legislator preferences with respect to the top marginal rate have shifted over time.

Model 2 adds two additional explanatory variables, the year (“year”) and a variable interacting (that is, multiplying) the capital gain variable with the year (“capital gain * year”). The interaction captures any time trend in the mapping of capital gains rates onto the DW-NOMINATE space. The coefficients for the two explanatory variables from Model 1 remain statistically significant (but now only at the .01-level) and have the expected sign. The coefficient for the interaction variable is not statistically significant at the .05-level. This suggests that the mapping of capital gains preferences onto the DW-NOMINATE space has been stable over the past several decades.⁴¹ In other words, legislator preferences regarding the capital gains rate have been consistent and predictable based on DW-NOMINATE

³⁸ To be more technically precise, “capital gain” and “top rate” each are interacted with (that is, multiplied by) dummy variables that are “1” if the bill changed the rate and “0” if the bill left the rate unchanged. When a bill does not change a rate, the coefficient for that rate is effectively restricted to 0. Intuitively, if a bill leaves these rates unchanged, then the rate should not have any influence on the cut-line for the legislation.

³⁹ The base year is 2010. For example, 1968 is the year “-42” for our purposes.

⁴⁰ Adjusted R-squared measures how well the regression model fits the data.

⁴¹ In our sample, the earliest piece of legislation involving a capital gains rate change is 1978. Revenue Act of 1978, Pub. L. No. 95-600, § 301, 92 Stat. 2763, 2820. We can only speculate as to the mapping of capital gains rate preferences prior to this time.

scores.⁴² If we put a moderate liberal from the 1970's into a time machine and brought him to the present, he might not be surprised by what moderate liberals today prefer with respect to the capital gains rate. Senator Jacob Javits (1978 DW-NOMINATE score of -0.16)⁴³ and Senator Claire McCaskill (2012 DW-NOMINATE score of -0.16)⁴⁴ could talk about the capital gains rate over lunch and perhaps find that they more or less agree with each other. The model predicts that they would both think that a capital gains rate of roughly 20% would be ideal. Recall that this prediction comes from a model based on the legislators' relative positions as measured by their DW-Nominate scores, and that it thereby takes into account the tax bills they have voted on as well as all of the tax bills their colleagues, and in fact all other legislators throughout this time period, have voted on. The assumption of linearity is admittedly important here, and as always there is uncertainty stemming from the model itself as well as uncertainty over the choice of model.

Model 3 adds "year" and "top rate * year" as explanatory variables to Model 1. This variable captures any shift over time in legislator preferences with respect to the top rate. The coefficient for this variable is statistically significant at the .01-level. This indicates a substantial rightward shift in preferences in the top rate over the past forty years. Note that the coefficients for the original explanatory variables remain significant at the .001-level and have the expected sign. The additional variable dramatically improves the fit of the model—the adjusted R-squared jumps up to .82.

Return to the example of the time-traveling Senator Javits. We saw earlier that Senator Javits and Senator McCaskill would generally agree with respect to the capital gains rate. But if their lunch conversation veered into a discussion of the top marginal rate, Senator Javits might wonder if he had wandered into an alternate universe. Model 3 predicts that Senator Javits's preference with respect to the top rate was roughly 55% in 1974. However, Senator McCaskill's preference is predicted to be closer to 35%. According to Model 3, there has been roughly a 20% reduction in the top marginal rate preferred by moderate liberals.

⁴² Note that in Model 2, the "year" coefficient is significant at the .05-level and is negative. In Model 3, "year" is imperfectly picking up changes in legislators' preferences with respect to the top rate.

⁴³ Voteview, http://voteview.uga.edu/ftp/junkord/SL01113D21_BSSE.DAT (last visited Aug. 15, 2016).

⁴⁴ *Id.*

This was reflected in the votes on the 2001 Bush tax cuts.⁴⁵ The 2001 tax act moved the top rate from 39.6% to 35%.⁴⁶ Legislators with DW-NOMINATE scores close to Senator Javits' score of -0.16 voted overwhelmingly in favor of the change.⁴⁷ If Senator Javits were sitting in the observation gallery as these roll call votes were taking place, he would have been shocked. This is a tax rate cut that Senator Javits would clearly not have voted for in 1978. In 1978, only the conservative wing of the Republican Party would have voted for the 2001 Bush tax cut.⁴⁸

Another way to see the change in rate preferences is to consider where 55% (Senator Javits' predicted top rate preference in 1978) would fall on the liberal-conservative spectrum today. Model 3 predicts that in 2014, 55% maps onto a DW-NOMINATE score of -0.95. If Senator Javits tried to create a PAC⁴⁹ to support a 55% rate, he'd have a hard time finding any legislators willing to listen. There are no current members of Congress whose DW-NOMINATE scores are that liberal.⁵⁰ Over the past four decades, a policy preference that was relatively moderate within the Democratic Party has become so extreme that there is no one in Congress today predicted to have that preference.

While the mapping of capital gains rates onto the DW-NOMINATE space has been stable, our empirical results show a significant right-

⁴⁵ See Economic Growth and Tax Relief Reconciliation Act of 2001 (EGTRRA), Pub. L. No. 107-16, 115 Stat. 38.

⁴⁶ *Id.* § 101, 115 Stat. at 42.

⁴⁷ There were ten legislators with DW-NOMINATE scores within 0.03 of Senator Javits. Representatives Robert Cramer (AL-5), Mike Ross (AK-4), Tim Roemer (IN-3), Jim Matheson (UT-2), Collin Peterson (MN-7), and Chris John (LA-7), and Senator Blanche Lincoln (AK) voted for the tax cut. Only Representatives Ike Skelton (MO-4) and Baron Hill (IN-9), and Senator Birch Bayh (IN) voted against it.

⁴⁸ The cut-line in 1978 for a bill pitting 35% against an existing policy of 39.6% would have been +0.20. A useful comparison is the Economic Recovery Act of 1981, Pub. L. No. 97-34, 95 Stat. 172. The cut-line for the 1981 legislation (-0.28) was very similar to the cut-line for the 2001 tax cut (-0.25). In other words, both pieces of legislation were supported by center-right coalitions. However, there was a significantly different policy choice made in 1981 when compared to 2001. Focusing on top marginal tax rates for the moment, the 1981 legislation reduced the top marginal tax rate from 70% to 50%. ERTA, § 101, 95 Stat. at 176-82. In contrast, the 2001 legislation reduced the top marginal tax rate from 39.6% to 35%. EGTRRA § 101, 11 Stat. at 42. This is a significant shift. Remember that the cut-line tells us how conservative or liberal the indifferent legislators are. In 1981, the moderately liberal legislator was indifferent between a top marginal rate of 70% and 50%. By 2001, a similarly liberal legislator was indifferent between top marginal rate of 39.6% and 35%.

⁴⁹ See Federal Election Comm'n, http://www.fec.gov/ans/answers_pac.shtml (last visited on Aug. 15, 2016).

⁵⁰ In the 113th Congress the most liberal member of Congress is Dennis Kucinich, with a common-space DW-NOMINATE score of -0.78. See Voteview, note 43.

ward drift in legislator preferences regarding the top marginal rate.⁵¹ Why the rightward shift in top tax rates? There are a number of possible explanations, each of which has some explanatory power (the following is not intended to be exhaustive). First, there was the subsiding budgetary pressure of World War II, the Korean War, and the Vietnam War. Scholars have shown that military conflicts are important explainers of increases in tax rates.⁵² The claim of this literature is that fiscal pressure must combine with a compelling moral cause in order to induce broad public support for higher rates.⁵³ As debt-levels came down, legislator preferences may have shifted towards lower rates.⁵⁴ Second, the economic rationale against very high tax rates (such as discouraging economic growth, reducing labor supply, and the like) has become more widely accepted during this time.⁵⁵ Third, both parties have recently found it politically expedient to lower rates (and politically difficult to raise rates)—the parties began competing regarding the lowering of taxes most notably during the lead-up to the Tax Reform Act of 1986.⁵⁶

This time trend complicates a study of the uncertainty regarding the top rate. Most importantly, are legislator preferences with respect to the top rate still shifting to the right? If so, then any conclusions regarding the future of the top rate would necessarily be speculative. We hypothesize, however, that the rightward shift on the top rate oc-

⁵¹ Top marginal rates do not provide a complete picture of how the rich have been taxed over this time period. In the early years of our sample, the top marginal rate applied only at much higher income levels. For example, in 1965, the top marginal rate of 70% applied to income in excess of roughly \$1.5 million (adjusted for inflation). See Tax Found., *Federal Income Tax Rates History* (2013), http://taxfoundation.org/sites/default/files/docs/fed_individual_rate_history_nominal.pdf. In contrast, the top marginal rate of 39.6% applies to income in excess of \$464,850 in 2015. IRC § 1. Thus, preferences with respect to the taxation of the rich may not have shifted quite as much as preferences regarding the top marginal rate.

⁵² See Steven A. Bank, Kirk J. Stark & Joseph J. Thorndike, *War and Taxes* (2008); Kenneth Scheve & David Stasavage, *The Conscription of Wealth: Mass Warfare and the Demand for Progressive Taxation*, 64 *Int'l Org.* 529 (2010).

⁵³ See Scheve & Stasavage, note 52, at 530 (arguing that calls for the costs of war to be borne evenly by all members of society led to the development of progressive taxation systems); see also Martin J. McMahon, Jr. & Alice G. Abreu, *Winner-Take-All Markets: Easing the Case for Progressive Taxation*, 4 *Fla. Tax Rev.* 1, 12 (1998) (“The most significant factor in the creation of the steeply graduated rate schedule that characterized our income tax system between the 1950s and the 1980s and that many have come to regard as the prototype for progressive taxation was the need for revenues in World War II.”).

⁵⁴ Unfortunately, our sample does not go back far enough to test whether the declining debt-to-GDP ratio during those decades explains the rightward shift in rates. We do show in Section II.D that the recent *increase* in debt-to-GDP ratios has not been accompanied (at least yet) by a leftward shift in rate preferences.

⁵⁵ See Adam Bonica, Nolan McCarty, Keith T. Poole & Howard Rosenthal, *Why Hasn't Democracy Slowed Rising Inequality?*, 27 *J. Econ. Persp.* 103 (2013).

⁵⁶ Tax Reform Act of 1986, Pub. L. No. 99-514, 100 Stat. 2085.

curred earlier in our sample, and that rate preferences have been more or less stable since the late 1980's.⁵⁷ Model 4 tests this by allowing the time trend to be different before and after 1986.⁵⁸ In other words, Model 3 assumed that top rate preferences with respect to the top rate changed at a linear rate throughout the sample period. Model 4 asks whether the shift in top rate preferences was different before and after 1986. Model 4 provides some evidence that this may be the case. It suggests that the actual shift in top rate preferences took place before 1986. The coefficient for the year variable after 1986 is not statistically significant at the .10-level. In other words, preferences with respect to the top rate appear to have been stable (or at least indistinguishable from stable) since 1986. Model 5 presents this hypothesis test in a more straightforward fashion. Here, we limit the sample to those votes that occurred after 1986 and perform the same regression as in Model 3. The coefficient for the variable picking up the year trend is not statistically significant at the .10-level. Moreover, the estimate for the coefficient is an order of magnitude smaller than the coefficient in Model 3.

Models 4 and 5 suggest that preferences with respect to the top rate have been relatively stable since the late 1980's. With this stable mapping, it is possible to discuss uncertainty with respect to the top rate.⁵⁹ First, however, we should address one prominent alternative hypothesis about tax rates.

⁵⁷ See Krehbiel, note 5, at 60-63 (noting that the 1980's marked a transition to a more restrictive budgetary environment where political decisions regarding taxing and spending were more tightly linked); Don Fullerton, Charles E. Walker & Russell B. Long, *Tax Policy, in American Economic Policy in the 1980s*, at 165, 171 (Martin Feldstein ed., 1994) ("1981 represents a watershed moment in the making of tax policy, from an era of constantly projected surpluses to one of constantly projected deficits. . . [T]he making of tax policy would never be the same.").

⁵⁸ In choosing 1986 as the cut-off year, we do not mean to imply that this year has special significance. We could equally well have chosen a range of years, particularly since the bills in our data are sparse. Cf. Christina D. Romer & David H. Romer, *The Macroeconomic Effects of Tax Changes: Estimates Based on a New Measure of Fiscal Shocks*, 100 *Am. Econ. Rev.* 763, 795 (2010). In exploring the effect of exogenous tax changes on output, the authors make a similar decision to divide their time sample into pre-1981 and post-1981 periods. They find a reduction in effect that they attribute to (1) stronger Federal Reserve response to tax changes, (2) greater concern over the long-run fiscal health of the United States, and (3) reduced dependence of consumer spending on disposable income.

⁵⁹ We generally use Model 5 for forward-looking purposes. We generally use Model 3 when discussing the historical evolution of rates.

TABLE 2
 TESTING THE TEMPORAL SHIFT IN TOP RATE PREFERENCES (4 AND 5)
 AND THE EFFECT OF THE DEFICIT ON TAX RATE PREFERENCES (6)
 Dependent Variable: DW-NOMINATE Score of Indifferent Legislator

	<i>Model 4</i>	<i>Model 5</i>	<i>Model 6</i>
<i>Constant</i>	0.649 (0.142)***	1.292 (.090)***	0.658 (0.139)***
<i>Capital gain</i>	-0.0414 (0.0064)***	-0.0776 (.0047)***	-0.0418 (0.0063)***
<i>Top rate</i>	-0.0273 (0.0049)***	-0.0420 (.00238)***	-0.0280 (0.0053)***
<i>Top rate * year</i>		-.0000770 (.0000913)	-0.000384 (0.000138)*
<i>Top rate * year * pre-1986</i>	-0.000358 (0.000133)*		
<i>Top rate * year * post-1986</i>	-0.000340 (0.000258)		
<i>Deficit-to-gdp ratio</i>			0.0047 (0.0189)
<i>Adjusted R-squared</i>	.78	.97	.78

D. Does the Fiscal Environment Affect Tax Rate Preferences?

An interesting feature of our statistical models is that they explain the tax rate preferences of legislators using purely political variables. We can fairly confidently predict a legislator's preferences on the top rate and the capital gains rate by using his or her DW-NOMINATE score. The statistical models suggest that a legislator's rate preferences are strongly determined by how liberal or conservative that legislator is. A natural question is what other variables influence rate preferences. A reasonable hypothesis is that the deficit might influence how legislators vote on tax rates. The general intuition is that if the deficit is high, then there may be greater tolerance for higher tax rates. Conversely, if the deficit is low, legislators may prefer relatively lower tax rates. If legislators' preferences regarding the top rate were influenced by the deficit, we would expect cut-lines generally to move to the right as the deficit (relative to GDP) moves higher. Changes in deficits alter the policy implications of different rates, so it is reasonable to expect that the deficit should be an important factor.⁶⁰

⁶⁰ Others have found that fiscal policy does seem to respond to short-term fluctuations in the deficit. See Alan J. Auerbach, *Fiscal Policy, Past and Present*, in 2003 *Brookings Papers on Economic Activity* 75, 85-86 (reporting a negative relationship between the budget surplus and the lagged budget surplus); Henning Bohn, *The Behavior of U.S. Public Debt and Deficits*, 113 *Q.J. Econ.* 949 (1998) (presenting evidence that the primary budget surplus responds to changes in the debt-GDP ratio once war-time spending and cyclical fluctuations are properly accounted for). This highlights that top rates are but one lever in fiscal policy and that some tools are regulatory and do not require legislative ac-

Model 6 adds the deficit-to-GDP ratio as an additional explanatory variable. The coefficient for the deficit-to-GDP ratio is positive, which is the expected sign. As the deficit rises, we expect cut-lines to shift to the right—the indifferent legislator would be increasingly conservative. However, the coefficient is not statistically significant at the .10-level. Furthermore, the deficit-to-GDP ratio does not improve the fit of the model. The adjusted R-squared of Model 6 is lower than the adjusted R-squared for Model 3.

These results are robust to the specification of the fiscal climate. We tried a variety of variables including both the debt-to-GDP ratio and the deficit-to-GDP ratio. It also does not matter whether the measure of the debt or deficit is current or lagged a year.⁶¹

The contemporaneous level of public debt and the deficit do not improve our understanding of how legislators vote on tax rates. Rather it is a political variable—how liberal or conservative a legislator is—that provides a more accurate explanation of how legislators have voted on tax rate legislation over the past forty years. The *political* variables remain significant at the .01-level. More importantly, the coefficients for these variables are not affected by the addition of these variables measuring the fiscal environment.⁶²

Political variables are more important than fiscal or economic variables in explaining how politicians have voted on tax rates over the past forty years. This is a surprising and important result because deficits and surpluses have played a starring role in the popular narrative regarding changing tax rates.⁶³ According to that *fiscal* narrative,

tion. We are reporting a narrower result: Voting on top marginal tax rates does not seem to be affected by the level of debt or deficit.

⁶¹ A variety of robustness checks are reported in Appendix B.

⁶² This is also true in the robustness checks reported in Appendix B.

⁶³ See, e.g., Marco Battaglini & Stephen Coate, A Dynamic Theory of Public Spending, Taxation, and Debt, 98 Am. Econ. Rev. 201 (2008) (finding borrowing and tax policy are ultimately determined by shocks to the value of public goods); Bohn, note 60 (concluding U.S. fiscal policy satisfies an intertemporal budget constraint); Duane Swank & Sven Steinmo, The New Political Economy of Taxation in Advanced Capitalist Democracies, 46 Am. J. Pol. Sci. 642 (2002) (arguing international competition and budgetary pressure are now the main determinants of tax policy); Alberto Alesina & Roberto Perotti, The Political Economy of Budget Deficits (Nat'l Bureau of Econ. Research, Working Paper No. 4637, 1994), www.nber.org/papers/w4637 (comparing a variety of different models, all of which concern economic fundamentals). It is important to note that we are talking about tax *rate* legislation specifically. Economic and fiscal variables may play a larger role in explaining legislator voting on other types of tax legislation. For example, one would expect economic variables to be quite relevant with respect to stimulus tax legislation, such as the Tax Reduction Act of 1975, Pub. L. No. 94-12, 89 Stat. 26, the Economic Stimulus Act of 2008, Pub. L. No. 110-185, 122 Stat. 613, and the American Recovery and Reinvestment Act of 2009, Pub. L. No. 111-5, 123 Stat. 115. Each was intended as a response to a significant economic slowdown. The voting coalitions for these pieces of legislation are well-characterized by DW-NOMINATE (that is, the voting histograms show a clear cut-line). Where that cut-line forms depends largely on the depth of the economic slowdown and the

Bush I raised taxes in 1990 as part of a grand compromise with respect to the budget deficit.⁶⁴ Clinton raised rates further in response to continuing deficits.⁶⁵ Bush II cut taxes because of budgetary surpluses in the late 1990's and early 2000's.⁶⁶ Our empirical model offers an alternative *political* narrative that focuses on the changing composition of Congress, a stable set of preferences regarding the capital gains rate, and a rightward shift of preferences regarding the top marginal rate.⁶⁷ Although our perspective allows for the possibility that some legislators may be responsive to deficits, it implies that pivots usually act for political reasons. For example, it may indeed be the case that President George H.W. Bush cared about deficits, but "his" tax increase was only possible because of the political logic of Congress. The next Part presents this political narrative, tracing how rates have evolved in tandem with shifts in the U.S. political landscape over the past four decades. Looking into the past aids us in Part IV when we look to the future to consider rate uncertainty.

III. THE POLITICAL EVOLUTION OF TAX RATES

We now have a mapping that predicts legislator preferences on the top marginal rate and capital gains rate. The next step is to look at how those preferences are translated into law. The U.S. legislative process has a large number of "vetogates"—steps in the process where a potential bill can be stymied. Under the U.S. Constitution, majorities in both houses of Congress must approve a bill before it becomes law. Even if passed by the Senate and the House, the President can veto the bill (subject to veto-override by supermajority votes in both

size of the proposed stimulus. We can see this by comparing the 2008 and 2009 Acts. Both were responses to the Great Recession. The cut-line for the 2008 legislation was +0.52. There was a consensus (shared by everyone but the most conservative legislators) that the Great Recession required demand-side stimulus. As the Great Recession stretched on into 2009, the political debate focused on the size of additional stimulus. The cut-line for the 2009 legislation was +0.08. Liberals and centrists supported this bill. The disagreement from the right focused on the size of the stimulus relative to the prevailing economic conditions. Thus, it is clear that economic conditions can have an effect on the coalitions that form on certain other types of tax legislation.

⁶⁴ Bush even won the John F. Kennedy Library's 2014 Profile in Courage Award for putting the country first in his decision to raise taxes. Elizabeth Barber, George H.W. Bush Honored for Courage with 1990 Tax Hikes, Reuters (May 4, 2014, 9:54 PM), <http://www.reuters.com/article/2014/05/05/us-usa-kennedy-bush-idUSBREA4308G20140505>.

⁶⁵ See David E. Rosenbaum, The Clinton Tax Bill; Clinton Proposal for Tax Increases Passes First Test, N.Y. Times (May 14, 1993), <http://www.nytimes.com/1993/05/14/us/the-clinton-tax-bill-clinton-proposal-for-tax-increases-passes-first-test.html> (outlining President Clinton's plan to raise taxes in order to counteract the growing deficit).

⁶⁶ See Bush: Surplus Justifies Tax Cut, CBS News (Feb. 24, 2001, 11:38 AM), <http://www.cbsnews.com/news/bush-surplus-justifies-tax-cut/>.

⁶⁷ This is not to say that fiscal considerations are completely unimportant. Part III argues that fiscal pressures are useful in understanding Bush I's tax increase in 1990.

chambers of Congress).⁶⁸ And those are only the vetogates explicitly contained in the Constitution. The filibuster rule in the Senate⁶⁹ and the ability of the House majority to control what bills come to a vote⁷⁰ mean that determined minorities can also effectively veto potential legislation.

These vetogates result in a significant status quo bias—it is difficult to enact legislation.⁷¹ A majority in the House, a majority in the Senate, and usually the President must agree to any shift in policy.⁷² In order to change the top marginal rate, congressional majorities and the President must agree that the current rate is either too high or too low. On the other hand, if they disagree—for example, if the President thinks the current rate is too low and Congress thinks the current rate is too high—the result will be legislative inaction or gridlock.

Thus, there are certain legislators whose preferences are “pivotal” to the enactment of legislation.⁷³ These pivotal legislators include the President, the median member of the House, and the median member of the Senate.⁷⁴ Borrowing the framework of Krehbiel’s landmark book, *Pivotal Politics*, we can characterize the feasible range of policies in terms of these “pivots.”⁷⁵

Since it is constitutionally prohibited to pass legislation without these pivots on board, we call them “hard” pivots. It is *impossible* to pass legislation without the consent of these hard pivots. There are other potentially pivotal legislators, like the sixtieth Senator and the median member of the majority party in the House. Work in political science does not always agree about the ability of the majority party to block legislation in the House or the ability of filibusters to block legislation in the Senate, but most observers agree that it can be very difficult to pass legislation without these pivotal actors, particularly if they are determined to exert the prerogatives given to them by legislative rules.⁷⁶ Whereas majorities of each chamber carry constitutional legitimacy, other pivotal actors are subject to public sentiment against

⁶⁸ U.S. Const. art. I, § 7.

⁶⁹ Senate Rule XXII.

⁷⁰ See Cox & McCubbins, note 5, at 24.

⁷¹ See George Tsebelis, *Veto Players: How Political Institutions Work* 19-32 (2002) (discussing how the number of and distance between veto players effects the stability of an existing policy).

⁷² Depending on the type of bill, sixty Senators and a majority of the majority party in the House may also have to agree with the shift in policy.

⁷³ Krehbiel, note 5, at 23-24; Brady & Volden, note 5, at 42.

⁷⁴ On a one-dimensional issue (like a tax rate), the median legislator in each chamber is pivotal because if the median legislator votes for a bill, a majority of the chamber also will vote for that bill.

⁷⁵ Krehbiel, note 5, at 23.

⁷⁶ See, e.g., Cox & McCubbins, note 5, at 42-43 (concluding that a bill not favored by a majority of the majority party will rarely pass because senior office-holders will block the

“obstructionism” as well as the ability of majorities to change the rules of each chamber—a drastic step, but not an impossible one.⁷⁷ Since it is *difficult* (rather than impossible) to pass legislation without the consent of these pivots, we call them “soft” pivots.⁷⁸

We can use DW-NOMINATE to estimate how liberal or conservative each pivot is. For example, Table 3 provides the DW-NOMINATE scores of the pivots in the 113th Congress.

TABLE 3
DW-NOMINATE SCORES OF PIVOTS IN THE 113TH CONGRESS

<i>Hard Pivot</i>	<i>DW-NOMINATE</i>
President (P)	−0.33
Senate Median (SM)	−0.19
House Median (HM)	+0.28
<i>Soft Pivot</i>	<i>DW-NOMINATE</i>
Left Filibuster (F) ⁷⁹	−0.23
Right Filibuster (F) ⁷⁹	+0.28
Median of Majority Party in House (MM)	+0.50

It is worth pausing to note that one of our pivotal legislators is not a legislator at all, and does not vote on bills. While the President has the power to block bills, he or she does not take a position on most votes in Congress. As a result, the President’s DW-NOMINATE score is based on a much smaller sample of Presidential requests and vetoes, and so the position of Presidents will tend to be less accurate than the position of legislators. More importantly, the fact that the President acts as an individual has great significance. When the me-

legislation from reaching the floor). But see Krehbiel, note 5, at 23 (not considering the median member of the House majority as pivotal).

⁷⁷ Chamber majorities sometimes exercise their ability to change the rules and strip power from veto players. David R. Mayhew, *Parties and Policies: How the American Government Works* 281-82 (2008) (discussing how institutional rules have changed in the past in the Senate). For instance, in November of 2013 the majority in the Senate limited the power of the filibuster to block executive appointments. Jeremy W. Peters, In Landmark Vote, Senate Limits Use of the Filibuster, *N.Y. Times*, Nov. 22, 2013, at A1. This sets a clear precedent for eliminating the filibuster entirely if the majority chooses to do so at some future date. Some congressional scholars might argue that committees once held veto authority, but most would agree that committee chairs in recent decades do not have the power to block important legislation. See, e.g., Steven S. Smith, Jason M. Roberts & Ryan J. Vander Wielen, *The American Congress 208-13* (8th ed. 2013) (discussing the decline in power of committee chairs in both the House of Representatives and Senate as compared to their 1950’s and 1960’s predecessors).

⁷⁸ For example, the sixtieth senator’s support is unnecessary if the tax bill is passed through the reconciliation procedure. Tonja Jacobi & Jeff VanDam, *The Filibuster and Reconciliation: The Future of Majoritarian Lawmaking in the U.S. Senate*, 47 *U.C. Davis L. Rev.* 261, 264 (2013).

⁷⁹ Depending on which way a bill proposes to move policy, the sixtieth senator is a different legislator.

dian Senator votes in a way we do not expect, this is rarely important, because “errors” by some Senators are likely to be offset by “errors” by other Senators. However, there is only one President, and so the President’s idiosyncrasies can change outcomes, and they are difficult to predict. This point is important in our discussion of the history of tax rates.⁸⁰

FIGURE 6
PLOT OF PIVOTS IN THE 113TH CONGRESS

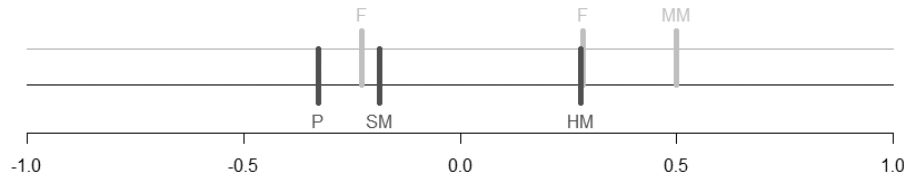


Figure 6 plots the pivots in the DW-NOMINATE space. The hard pivots are plotted using dark gray, and the soft pivots are plotted using light gray. To see how this plot helps us predict legislative action, consider the following two examples. In the first example, assume that the existing capital gains rate is 20%. According to our statistical models, a capital gains rate of 20% roughly maps onto a DW-NOMINATE score of -0.27.⁸¹ The DW-NOMINATE score of -0.27 tells us that this is a relatively liberal policy. Clearly, the Republicans in the House would like to lower this rate. Let’s say that the House passes a bill to lower the capital gains rate to 15%.⁸² Such a bill would not become law because the President would veto it.⁸³ Figure 7 plots the current capital gains rate with the pivots. The current rate falls in between the President and the House median. The President will veto any rightward shift in policy because it shifts policy away from his preference. Any leftward shift in policy will not pass the House because it shifts policy away from the House median.

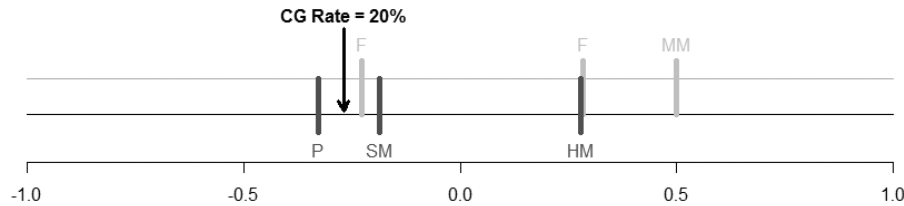
⁸⁰ See notes 100-09 and accompanying discussion.

⁸¹ Model 3 predicts that a 20% capital gains rate maps roughly onto a DW-NOMINATE score of -0.27. Model 5 predicts that a 20% capital gains rate maps onto -0.26.

⁸² Since the median member of the House prefers the bill to current law, every legislator to the right of the median member of the House will also prefer the bill to current law.

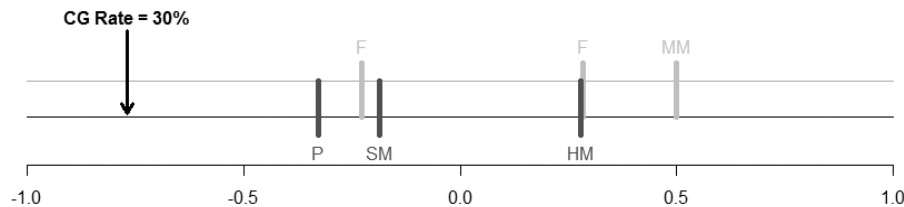
⁸³ Moreover, that bill would be filibustered in the Senate. The sixtieth Senator (DW-NOMINATE score = -0.24) likes the current capital gains rate and will not be interested in a reduction in the capital gains rate to 15%.

FIGURE 7
CURRENT RATE OF 20%: NO LEGISLATIVE ACTION IS POSSIBLE



As a second example, consider what would happen if the existing capital gains rate was instead 30%. Our statistical model tells us that a 30% capital gains rate maps onto a DW-NOMINATE score of -0.77. It is an extremely liberal policy. In this example, all of the pivots would support a reduction in the capital gains rate. In Figure 8, the current rate is to the left of all the pivots. For instance, every pivot would support a bill to reduce the capital gains rate to 20%.⁸⁴ The bill would be approved by a majority of the House, approved by a majority of the Senate, and signed by the President into law.

FIGURE 8
CURRENT RATE OF 30%: ALL THE PIVOTS WANT TO MOVE
THE RATE DOWN



The space between pivots is referred to as the “gridlock zone.”⁸⁵ When current law falls in the gridlock zone, successful legislative action is impossible.⁸⁶ In the first example, the current rate was between the pivots. The President wanted to move policy to the left, but the House wanted to move policy to the right. Thus, no legislative action was possible. By contrast, when the current rate falls outside of the gridlock zone, legislative action is possible.⁸⁷ In the second example,

⁸⁴ This can be seen spatially by comparing Figures 8 and 7. The 20% rate (DW-NOMINATE = -0.27) is closer than the 30% rate (DW-NOMINATE = -0.77) to all of the pivots.

⁸⁵ Krehbiel, note 5, at 38.

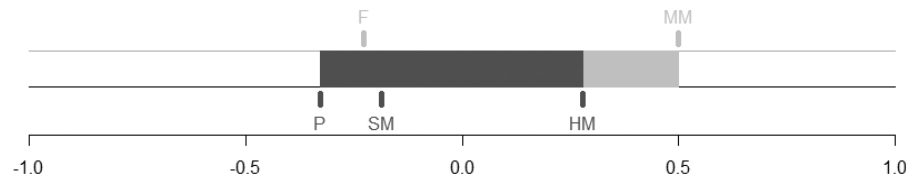
⁸⁶ Id.

⁸⁷ Even if the status quo falls outside of the gridlock zone, legislative action is not guaranteed to occur immediately. This might be due to inattention or lack of space on the legislative agenda. See note 115 (discussing political salience as one reason why the capital gains rate has sometimes been slower to respond than the top marginal rate to changes in

all of the pivots wanted to reduce the capital gains rate. It is likely that a rate-reducing bill would be enacted.

Figure 9 provides a visualization of the gridlock zone for the 113th Congress. The dark gray area indicates the “hard” gridlock zone—the gridlock zone defined by the hard pivots. The light gray area is the “soft” gridlock zone. The soft gridlock zone is always larger than the hard gridlock zone because it incorporates all of the hard and soft pivots. When the current rate falls in the dark gray area, that rate generally cannot be changed in either direction. When the current rate falls inside the light gray area, it is difficult (but not impossible) to change that rate.

FIGURE 9
GRIDLOCK ZONE FOR THE 113TH CONGRESS



Layering our mapping of rates onto the pivotal politics theory can serve as a foundation to predict legislative action and gridlock. In order to make this as clear as possible, we invert this mapping. Instead of plotting bills in the space of DW-NOMINATE, we place legislators in the position of their (estimated) most preferred tax rate, starting with top marginal income tax rates. Figure 10 plots (1) our mapping of the gridlock zone and (2) the evolution of the top marginal rate since 1968. Again, the dark gray area indicates the “hard” gridlock

the gridlock zone). Policy change can also be delayed by strategic behavior. Tax policy is an ongoing contest, and any permanent change in law will form a new status quo. Thus, legislators sometimes may find it advantageous to delay a policy change until circumstances change or until an election has occurred. See Sarah Anderson, Daniel M. Butler & Laurel Harbridge, *Legislative Holdouts* (Inst. for Pol’y Research, WP-14-21, 2014), <http://www.ipr.northwestern.edu/publications/docs/workingpapers/2014/IPR-WP-14-21.pdf> (finding that Republicans, legislators in the majority, and legislators who fear punishment from their constituency are more likely to holdout); Wioletta Dziuda & Antoine Loeper, *Dynamic Collective Choice with Endogenous Status Quo*, 124 J. Pol. Econ. 1148, 1171 (2016) (if legislators vote strategically to avoid setting a new status quo that may be disadvantageous in the future, the result is that pivots vote as if their ideal points were further apart than they actually are). Strategic considerations can also encourage legislation. If legislators expect the balance of power to shift away from them in the future, they may be better served agreeing to enact a more moderate policy now. See Thomas Romer & Howard Rosenthal, *Political Resource Allocation, Controlled Agendas, and the Status Quo*, 33 Pub. Choice 27 (1978) (a more extreme status quo gives greater leverage to whoever controls the legislative agenda in the future).

zone and the light gray area indicates the “soft” gridlock zone.⁸⁸ The black line traces the progress of tax rates, with horizontal moves indicating a legislative change in the rate. Diagonal lines indicate cases where the rates were scheduled to revert to a prior rate due to a sunset provision in the law.

FIGURE 10
THE PIVOTAL POLITICS OF TOP MARGINAL TAX RATES

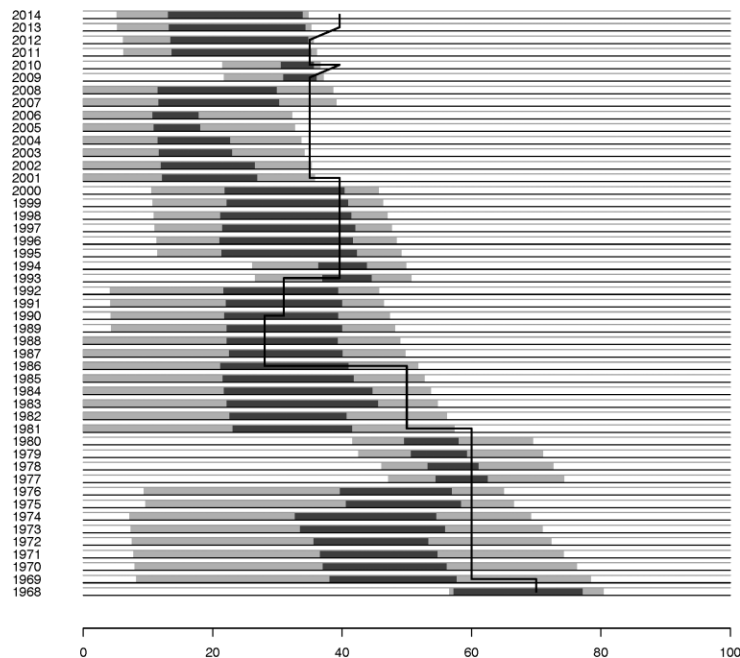
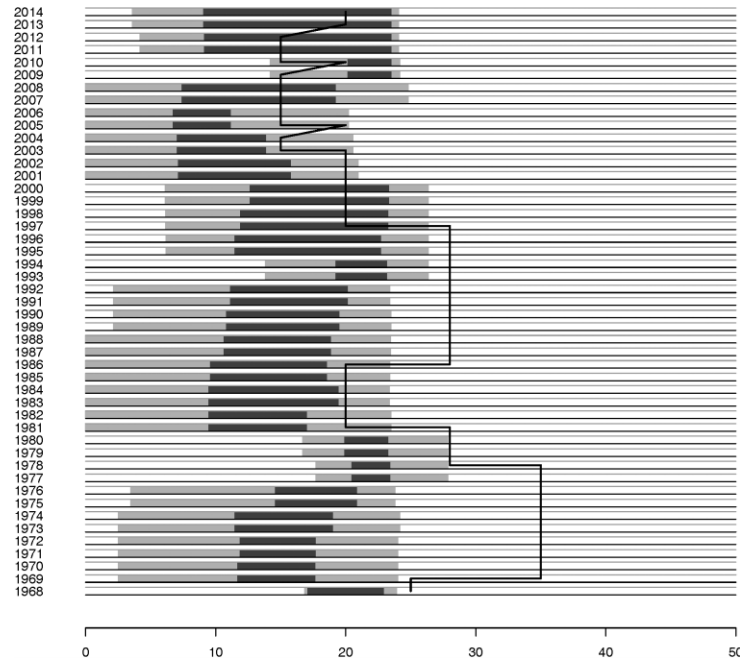


Figure 10 provides a political roadmap of how and why top income tax rates have changed over the past half century. Figure 11 provides a similar roadmap for capital gains rates. It is important to look at both of these graphs together, particularly in cases where both rates have changed.

⁸⁸ In Figures 10 and 11, there are years in which the soft gridlock zone appears to extend to 0%. In each case, this is due to a very conservative Republican president. This should not be interpreted to mean that those Republican presidents' preferred rates were actually 0%. Rather this result is driven by two empirical limitations. First, as noted earlier, we have less precise DW-NOMINATE scores for presidents relative to legislators. See text accompanying note 80. Second, our mapping of tax rates is much more accurate for moderate legislators (because they are usually the indifferent legislators on rate votes). It is worth noting that it is rarely the conservative pivots that matter in how tax rates evolve. Instead, it is usually the liberal pivots that determine when and how rates will change.

Pick up the story in 1978, and focus first on the capital gains rate.⁸⁹ As seen in Figure 11, the existing capital gains rate of 35% was an extremely liberal policy, which fell outside of the gridlock zone. Tax rates of this magnitude were a relic of costly involvement in World War II, the Korean War, and the Vietnam War, but in 1978 they were no longer thought to be necessary.⁹⁰ Legislation was passed moving the capital gains rate to 28%⁹¹ because the lower rate was preferred by all of the pivots. Legislative action with respect to the capital gains rate in 1978 fits within our theory of changing tax rates—the existing capital gains rate was outside the gridlock zone and therefore legislative action was possible.⁹²

FIGURE 11
THE PIVOTAL POLITICS OF TOP CAPITAL GAINS TAX RATES



⁸⁹ Section V.B discusses the Tax Reform Act of 1969, Pub. L. No. 91-172, 83 Stat. 487 (an example of rate compromise legislation).

⁹⁰ See Bank et al., note 52, at 143 (“Whether or not one believes that ‘shared sacrifice’ through higher wartime taxes was ever an important American value, by the end of the war in Vietnam, that principle had plainly suffered a setback.”).

⁹¹ Revenue Act of 1978, Pub. L. No. 95-600, §§ 401-03, 92 Stat. 2763, 2866-69.

⁹² One question is how such a high capital gains rate was ever enacted in the first place (especially given that capital gains rates have been relatively stable through time). The 1969 Act involved a significant rate compromise. The 35% capital gains rate was paired with a significant reduction in the top rate. Section V.B discusses rate compromise legislation and reasons why it may have taken several years for the capital gains rate to be brought back down to a more moderate level.

But why wasn't the top rate also changed (Figure 10)? In 1978, the top rate on unearned income was 70% and the top rate on earned income was 50%.⁹³ To simplify our analysis use the average top rate of 60% (the result is similar whether we use 50% or 70%). Figure 10 shows that the top marginal rate fell within the gridlock zone. In contrast to the capital gains rate, the top marginal rate was significantly more moderate.⁹⁴ Our mapping predicts that the President and the median member of the House majority would have supported an increase in the top rate. However, it predicts that the Senate median would oppose any such increase. At that time, the Democrats controlled the Senate. In other words, that median Senator was a Democrat. This further demonstrates that our framework is more useful than parties in analyzing the possibility of legislative action. An observer that focused solely on parties might be surprised that the top marginal rate was not increased in 1978 given that the Democrats controlled the White House, enjoyed a significant majority in the House, and had a filibuster-proof supermajority in the Senate. It also sheds light on why one rate was changed while the other was not.

After the 1978 legislation, both policies were within the gridlock zone. Our theory leads us to expect no legislative action until the gridlock zone moves. Consistent with this expectation, no rate legislation was passed in the ninety-sixth Congress (1979-1980). That Congress had a very similar gridlock zone to the Congress that reduced the capital gains rate in 1978. The midterm election did not change the balance of political power—Democrats retained control of both chambers of Congress.

But elections can shift the gridlock zone. The 1980 election brought a significant change to the U.S. political landscape. Ronald Reagan defeated the incumbent President Carter. The Republicans won twelve net seats in the Senate and took control of a chamber of Congress for the first time since 1954.⁹⁵ These electoral changes are reflected in a significant shift in the gridlock zone (in both Figures 10 and 11). As a result of this shift, neither the capital gains rate nor the top rate was in the gridlock zone. Legislative action was again possible. In 1981, the Economic Recovery Tax Act moved the top rate

⁹³ Emmanuel Saez, Taxable Income (Sept. 15, 2016, 6:45 PM), http://eml.berkeley.edu/~saez/course/Labortaxes/taxableincome/taxableincome_attach.pdf.

⁹⁴ The capital gains rate mapped onto a DW-NOMINATE score of -0.82, while the top marginal rate mapped onto a much more moderate DW-NOMINATE score of -0.33.

⁹⁵ See David S. Broder, *Is It a New Era?*, Wash. Post (Nov. 19, 1980), <http://www.washingtonpost.com/archive/politics/1980/11/19/is-it-a-new-era/dd9f4895-30f4-42de-bfbf-5c400cb25586/> (discussing the Republican party's victories in the 1980 Presidential and congressional elections).

down to 50% and the capital gains rate to 20%.⁹⁶ After this change, both of the new policies were in the gridlock zone.

Our expectation is that the rates could not be further changed until the gridlock zone shifted again. Figure 10 shows that the gridlock zone remained stable from 1981 through 1992.⁹⁷ Contrary to our expectations, there were two rate changes during this time. The first was the 1986 Act,⁹⁸ which we discuss in depth in Section V.B. Since this legislation involved a rate compromise, it is best understood as a piece of legislation that did not move the status quo (the black line moves in opposite directions in Figures 10 and 11). Consistent with this understanding, our model estimates that the status quo and the new bill are very close to each other—the increase in one rate roughly offset the decrease in the other.

The other piece of legislation during this period was the rate increase in 1990.⁹⁹ Given our theory of legislative action, this bill is surprising. The existing top rate of 28% was squarely within the gridlock zone (see Figure 10). How was this tax rate changed? When we look more closely at the pivots, we see that both the Senate and the House median pivots preferred a shift to a higher tax rate. That the rate increase passed both chambers of Congress is unsurprising. But our model predicts that President George H.W. Bush preferred the existing rate.¹⁰⁰

Why didn't Bush veto the rate change? Our prior caveat, that the idiosyncrasies of the President matter, is important here.¹⁰¹ By supporting the 1990 Act, President Bush was violating a highly salient campaign promise. He justified breaking this promise on the basis of the need to address the rising budget deficit, and the fact that failing

⁹⁶ Economic Recovery Tax Act of 1981 (ERTA), Pub. L. No. 97-34, §§ 101-02, 95 Stat. 172, 176-87.

⁹⁷ This is not to say that there were not meaningful changes in Congress during that time. For example, in 1986 Democrats reclaimed control of the Senate. E.J. Dionne Jr., *Elections; Democrats Gain Control of Senate, Drawing Votes of Reagan's Backers; Cuomo and D'Amato are Easy Victors; What Awaits Congress; Broad G.O.P. Losses*, N.Y. Times, Nov. 5, 1986, <http://www.nytimes.com/1986/11/05/us/elections-democrats-gain-control-senate-drawing-votes-reagan-s-backers-cuomo-d.html?pagewanted=all>. The relative stability of the gridlock zone tells us that this change did not meaningfully change the possibility of legislative action. Because the median member of the House remained a moderate liberal throughout this period, changes in the control of the Senate had minimal effect on the size of the gridlock zone.

⁹⁸ Tax Reform Act of 1986, Pub. L. No. 99-514, 100 Stat. 2085.

⁹⁹ Omnibus Budget Reconciliation Act of 1990, Pub. L. No. 101-508, § 11101, 104 Stat. 1388, 1403-05.

¹⁰⁰ The model also predicts that the rate increase did not have the support of the necessary supermajorities in the House and Senate to override a presidential veto.

¹⁰¹ See text accompanying note 80.

to pass a budget would trigger a government shutdown.¹⁰² The simplest explanation for Bush's failure to veto is that he did not *want* to veto. On this issue, the President had idiosyncratic preferences that were different from those of similarly conservative Reagan-era legislators, with their focus on cutting taxes.

Many blamed Bush's failure to win re-election on the fact that he broke his "no new taxes" pledge by signing the 1990 budget.¹⁰³ To better understand his perspective, it helps to take a closer look at the context and content of this legislation. The 1990 rate increase is the smallest rate change in our sample. In general, the smaller the rate change, the less salient one would expect that change to be in how legislative actors vote on a particular bill. Usually changes in top tax rates are by far the most consequential parts of a major tax bill, but the 1990 Act is an exception to this rule. According to contemporaneous estimates by the Joint Committee on Taxation, the increase in the income tax rate was not even one of the five most significant revenue-raising provisions in the 1990 Act.¹⁰⁴

Even though the 1990 Act changed the top statutory rate,¹⁰⁵ that change arguably was not the most important characteristic of this bill.¹⁰⁶ The rate change was just one of many revenue-raising provisions necessary to avert a potential government shutdown and avoid the automatic cuts (that is, sequestration) required under the Gramm-

¹⁰² See Andrew Rosenthal, Bush Now Concedes a Need for "Tax Revenue Increases" to Reduce Deficit in Budget, N.Y. Times (June 27, 1990), <http://www.nytimes.com/1990/06/27/us/bush-now-concedes-a-need-for-tax-revenue-increases-to-reduce-deficit-in-budget.html?pagewanted=1> (discussing President Bush's decision to go back on his promise of "Read my lips: No new taxes!").

¹⁰³ See Barber, note 64.

¹⁰⁴ The income tax rate increase was projected to raise \$11.2 billion between 1991 and 1995. Larger revenue raisers included increasing the income cap on the Medicare tax (\$26.9 billion), extending and increasing the gas tax (\$25 billion), limiting itemized deductions (\$17.9 billion), making permanent the telephone tax (\$13 billion), and extending and increasing the aviation tax (\$11.9 billion). Staff of the Joint Comm. on Tax'n, JCX-45-90, Budget Reconciliation (H.R. 5835)—Revenue Provisions as Reported by the Conferees 2-3 (1990), <https://www.jct.gov/publications.html?func=startdown&id=3227>.

¹⁰⁵ The increase in the Medicare income tax cap from \$51,300 to \$125,000 created a significant bubble rate of 2.9%. See FICA Rate History, <https://uwservice.wisconsin.edu/docs/publications/pay-fica-rate-history.xlsx> (last visited Aug. 24, 2016). Because Medicare remained capped (until 1993), the increase in the income cap did not affect the top marginal rate faced by the highest-income taxpayers. See Tax Found., Social Security and Medicare Tax Rates, Calendar Years 1937-2009 (2009), <http://taxfoundation.org/article/social-security-and-medicare-tax-rates-calendar-years-1937-2009>.

¹⁰⁶ In fact the increase in individual tax rates was projected to raise less than half of the revenue of the more regressive increase in the gasoline tax. See Joint Comm. on Tax'n, note 104. One can view the 1990 Act as compromise legislation; salient features of the bill pushed policy in both a liberal and conservative direction. Increases in progressive income taxes and an expansion of the earned income tax credit favored liberals. Increases in regressive consumption taxes favored conservatives.

Rudman-Hollings Balanced Budget Act.¹⁰⁷ The temporary limitation on itemized deductions was projected to raise significantly more revenue over the budget window from 1991-1995, and the rate change was projected to raise only slightly more revenue than the temporary phase-out in the personal exemption.¹⁰⁸

In many ways, the 1990 Act is the exception that proves the rule. Over the past forty years, it is the only time a rate is changed in a single direction when the existing rate was already inside the hard gridlock zone. Moreover, it is hard to imagine another piece of rate-changing legislation where the rate change is not the most salient feature. As President Bush found out in the 1992 election, rates matter.¹⁰⁹ More specifically, they seem to matter more than deficits.¹¹⁰

Returning to Figure 10, all of the other rate changes to top income rates since 1990 follow the expected pattern. Rate changes occur after shifts in the gridlock zone.¹¹¹ Congress can change rates when the existing rate falls outside of the gridlock zone, or at least the “hard” gridlock zone.¹¹² Figure 10 shows a significant leftward shift in the gridlock zone in 1992 and a significant rightward shift in the gridlock zone in 2000. In both cases, the shift in the gridlock zone was followed by changes in tax rates.¹¹³

Figure 11 shows that the capital gains rate has evolved similarly. Rate changes occur after shifts in the gridlock zone. There is one exception in 2010, when the 15% capital gains rate was temporarily re-

¹⁰⁷ Balanced Budget and Emergency Deficit Control Act of 1985 (Gramm-Rudman-Hollings Act), Pub. L. No. 99-177, 99 Stat. 10378.

¹⁰⁸ See Joint Comm. on Tax’n, note 104, at 2.

¹⁰⁹ See Barber, note 64. The 1990 tax increase is often blamed for Bush’s failure to win a second term. He faced significant criticism from the conservative wing of the Republican Party for violating his “Read my lips: No new taxes” campaign pledge. *Id.*

¹¹⁰ See discussion in Section II.D.

¹¹¹ The exceptions are in 2005 and 2010, which involved renewals of temporary legislation. Since the expiration of temporary legislation results in a return to prior law, we would expect temporary legislation to be renewed unless the underlying permanent rate is inside the gridlock zone. See Jason S. Oh, *The Pivotal Politics of Temporary Legislation*, 100 Iowa L. Rev. 1055, 1074 (2015) (“[T]he relative position of the underlying permanent policy to the gridlock zone influences the renewal of temporary legislation and the content of that legislation if it is renewed.”).

¹¹² There are some examples of status quos that fall within or near the soft gridlock zone (2005, 2003, and 1993). In each of these cases, the bills were passed through reconciliation. Reconciliation is a procedure for passing budgetary legislation. Debate is limited in the Senate, which avoids the filibuster. In each case, the tax rate change would not have passed but for the use of reconciliation. For a discussion of the reconciliation process and tax reform, see generally Rebecca M. Kysar, *Reconciling Congress to Tax Reform*, 88 Notre Dame L. Rev. 2121 (2013).

¹¹³ Figure 10 shows that the current rate of 39.6% may fall just outside of the gridlock zone. As shown in Part IV, depending on the model used, the current rate is just inside or just outside of the gridlock zone.

renewed for two years.¹¹⁴ In that case, the capital gains rate moved in the opposite direction that we would expect. The underlying permanent rate of 20% was in or close to the gridlock zone, and the 2010 legislation moved the rate *away* from the gridlock zone. Our model would predict that the capital gains rate of 15% should not have been renewed at that time.¹¹⁵

There are a number of mitigating factors in this case. First of all, top rates follow the expected pattern: The sunset rate was outside of the gridlock zone at the time, and was lowered as a result. Secondly, the “Great Recession” that began in 2009 was in full swing at this time, and a raise in rates was thought to be an unacceptable fiscal shock. Thirdly, the change was set to sunset in two years. In 2012, an agreement was reached that allowed the capital gains rate to revert to 20% (that is, the 15% rate expired).¹¹⁶ The eventual agreement reached fits well into our predictions.

IV. ESTIMATING TAX RATE UNCERTAINTY

This Part moves the analysis from the past to the future. What can we say about tax rate uncertainty? Under what circumstances can tax rates change? When legislative action is possible, what is the range of potential rates? What is the probability distribution of those rates? And how does this distribution frame the growing fiscal challenges faced by the U.S. government and other important policy issues?

We focus on two time horizons in making our projections. Our strongest conclusions relate to short-run uncertainty—tax rates during the current Congress and the next Congress. Over that two- to four-year period, we are fairly confident that the mapping of tax rate preferences will be stable, and we have relatively robust estimates of alternative outcomes in upcoming elections.

¹¹⁴ Tax Relief, Unemployment Insurance Reauthorization, and Job Creation Act of 2010, Pub. L. No. 111-312, § 102, 124 Stat. 3296, 3298.

¹¹⁵ Figure 10 shows that the top rate is quickly adjusted whenever that policy falls outside of the gridlock zone. In contrast, Figure 11 shows that there were two extended periods of time during which the capital gains rate was outside of the gridlock zone (1969 to 1977 and 1986 to 1997) and no legislative action was taken. One possible explanation is that during those times, the capital gains rate was less salient than the top marginal rate and therefore less likely to command attention on the legislative agenda. This may no longer be the case. Since the turn of the millennia, the capital gains rate has featured heavily in political debates on taxation. Figure 11 shows that the capital gains rate has been much more responsive to recent changes in the gridlock zone.

¹¹⁶ American Taxpayer Relief Act of 2012, Pub. L. No. 112-240, § 102, 126 Stat. 2313, 2318 (2013). Because of a 3.8% Medicare surtax on net investment income, the top effective rate on capital gains is actually 23.8%. As discussed earlier, we focus on top statutory rates in this project. See note 27. Note that a 23.8% capital gains rate falls very close to the liberal end of the current gridlock zone.

We also make more speculative projections regarding the medium-run uncertainty of tax rates. The medium-run is the time period over which our mappings of tax rate preferences remain stable. It is difficult to predict how long that is. The types of events capable of changing these mappings are large, exogenous, and difficult to predict. A future military conflict or a shift in the global economy that affects the U.S. government's ability to borrow could cause a significant shift in tax rate preferences. There are reasons we should not be projecting indefinitely into the future. In the nineteenth century, people did not realize that the politics of the first half of the twentieth century would be dominated by two world wars.¹¹⁷

On the other hand, the medium-run could be quite long. The mapping of capital gains rates has been relatively stable over the past four decades, and the mapping of top marginal rate preferences has been relatively stable over the past three. These mappings have been stable through the Persian Gulf Wars, the conflicts in Iraq and Afghanistan, several stock market crashes, and the Great Recession.¹¹⁸ As yet, the mapping has not been responsive to increasing budget deficits. Thus, with the aforementioned caveats, we think projecting tax rate uncertainty over the medium-run is valuable.

A. Capital Gains Rate Uncertainty

The capital gains (and dividend) tax rate is one of the most important features of our tax system and a potential source of significant uncertainty in investment, savings, and business decisions. Expectations regarding future capital gains and dividend rates inform a variety of taxpayer behavior and planning. When an entrepreneur forms a new business, the choice-of-entity question—whether to organize the venture as a partnership or a corporation—depends (in part) on the relative tax burden under these alternative structures. The relative tax burden is affected by future capital gains and dividend rates. When a private equity fund structures its compensation or an employer determines whether it will issue incentive stock options or nonqualified stock options, the expected capital gains tax rate is also key. Many investment decisions depend on expectations regarding the capital gains rate. Should an investor purchase growth stock or stock that

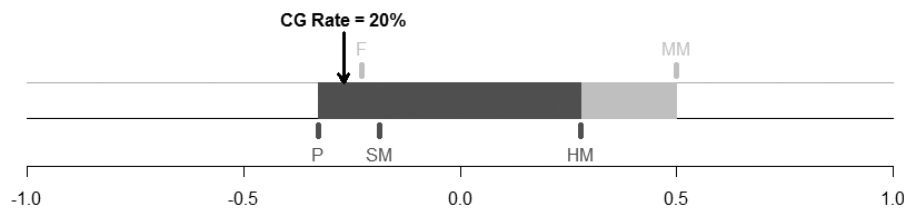
¹¹⁷ See Mayhew, note 77, at 328-57 (describing exogenous events like economic depressions, assassinations, and wars that can drive policy change).

¹¹⁸ Kenneth Scheve and David Stasavage argue that modern conflicts do not raise the same fairness concerns as mass mobilization wars of the past. They point to World War I and II as a primary cause for different attitudes towards taxation in the early and mid-twentieth century. See Kenneth Scheve & David Stasavage, *Taxing the Rich* 181-84 (2016).

pays dividends? Should an investor sell her appreciated capital assets today or wait until next year?

Moreover, the future of investment taxation informs important tax policy questions. The capital gains rate plays a significant role in determining the over-all progressivity of our tax system. Thomas Piketty and others have argued that investment taxation is an extremely important determinant of inequality in the accumulation of wealth.¹¹⁹ Since public and private decisions involving the capital gains rate are often long-term decisions, uncertainty is potentially costly. Historically, the capital gains rate has been changed not infrequently—eight times since 1969.¹²⁰ Since 1997, the capital gains rate has oscillated between 15% and 20%.¹²¹ Can we expect that trend to continue?

FIGURE 12
CURRENT CAPITAL GAINS RATE RELATIVE TO PIVOTS
IN THE 113TH CONGRESS



First consider short-run rate uncertainty. It is unlikely there will be a change in the capital gains rate during President Obama's remaining time in office. The current capital gains rate of 20%¹²² maps very closely to his ideal point. It is likely that Obama would veto any bill proposing a lower rate. Upward changes in the tax rate are similarly unlikely. Even if President Obama would support a higher rate, several other pivots (including the House and Senate median legislators) would stymie any such legislation.

Turning to medium-run uncertainty, consider how the political landscape would have to change in order for Congress to pass a clean bill moving the capital gains rate from 20% to 25%.¹²³ Our analysis has

¹¹⁹ See Leonard Burman & Peter D. Ricoy, *Capital Gains and the People Who Realize Them*, 50 Nat'l Tax J. 427 (1997); Thomas Piketty, *Capital in the Twenty-First Century* 373-75 (Arthur Goldhammer trans., 2014); Emmanuel Saez & Gabriel Zucman, *Wealth Inequality in the United States Since 1913: Evidence from Capitalized Income Tax Data*, 131 Q.J. Econ. 519 (2016).

¹²⁰ See Appendix A.

¹²¹ *Id.*

¹²² Due to the surtax on net investment income, the top *effective* rate on capital gains is 23.8%. See note 27.

¹²³ By "clean," we mean a hypothetical bill making a single rate change.

demonstrated a stable mapping of capital gains rates onto the liberal-conservative spectrum. The statistical model predicts that only legislators with DW-NOMINATE scores more liberal than -0.39 would support that rate increase. -0.39 is roughly the DW-NOMINATE score of Senators Dick Durbin, Barbara Mikulski, or John Kerry.¹²⁴ In other words, for a move from 20% to 25%, we would need a President, a majority in the Senate, and a majority in the House that was more liberal than John Kerry. This seems very unlikely even in the medium term.¹²⁵

How about a change in the opposite direction? What would the political landscape have to look like for Congress to pass a clean bill moving the capital gains rate from 20% back to 15%? The mapping predicts that legislators more conservative than -0.15 would support such a change. Our model says that moderate liberals would be willing to support a reduction in the capital gains rate. This may be somewhat surprising, but recall that this was true in 2003.¹²⁶ We predict that if a Republican wins the presidency and Republicans retain control of both chambers of Congress, a capital gains tax reduction could occur.¹²⁷ Such a rate reduction is also possible if Democrats have only a slim majority in either house—there is a possibility that moderate Democrats would join with Republicans to make that change.¹²⁸ It should be noted that there are many fewer moderates of either party than there were in the past. For example, in the 113th Congress, there were only three Democratic Senators and seven Democratic members of the House that were predicted to vote for a 15% rate.¹²⁹ How would the political landscape have to change in order for the capital gains rate to be lowered even further from 15% to 10%? The statistical model predicts that only legislators with DW-NOMINATE scores more conservative than +0.10 would support that change. Almost

¹²⁴ See Voteview, note 43.

¹²⁵ We should stress that we are talking about the likelihood of legislation that moves rates in one direction. Rate compromise legislation, discussed in Section V.B, is rare and difficult to predict.

¹²⁶ See Figure 11.

¹²⁷ Unless the Republicans have a filibuster-proof supermajority in the Senate, such a rate reduction probably would be temporary because of restrictions placed on bills passed through reconciliation.

¹²⁸ Passing a rate reduction during a time when Democrats control one or both chambers of Congress would require navigating the objection of one or more soft pivots (the House majority median pivot and the filibuster pivot). Because of the availability of the reconciliation procedure, passing a rate reduction is more likely if Democrats control the Senate than if Democrats control the House.

¹²⁹ The Senators are Joe Donnelly (IN), Clare McCaskill (MO), and Joe Manchin (WV). The Representatives are Ann Kirkpatrick (AZ-1), Rob Barber (AZ-2), Kyrsten Sinema (AZ-9), John Barrow (GA-12), Collin Peterson (MN-7), Mike McIntyre (NC-7), and Jim Matheson (UT-4).

every current Republican Senator has a DW-NOMINATE score more conservative than +0.10. The closest one to that score is Senator Susan Collins.¹³⁰ DW-NOMINATE tells us that Senator Collins would be roughly indifferent between a 15% and 10% capital gains rate. Susan Collins, however, is the least conservative member of her caucus. All the other Republicans are predicted to prefer the 10% rate. If the Republicans were to simultaneously win the House, the Senate, and the Presidency, there is a reasonable chance that we could see a capital gains rate as low as 10%.

One thing to keep in mind is that we are less confident about how capital gains rates below 15% translate into the DW-NOMINATE space. Since our sample includes many votes comparing capital gains rates from 35% to 15%, we are fairly confident regarding questions involving capital gains rates in that range. The possibility of a 10% rate in the future requires us to extrapolate our mapping. Thus, the discussion regarding the possibility of a 10% rate is necessarily more speculative.

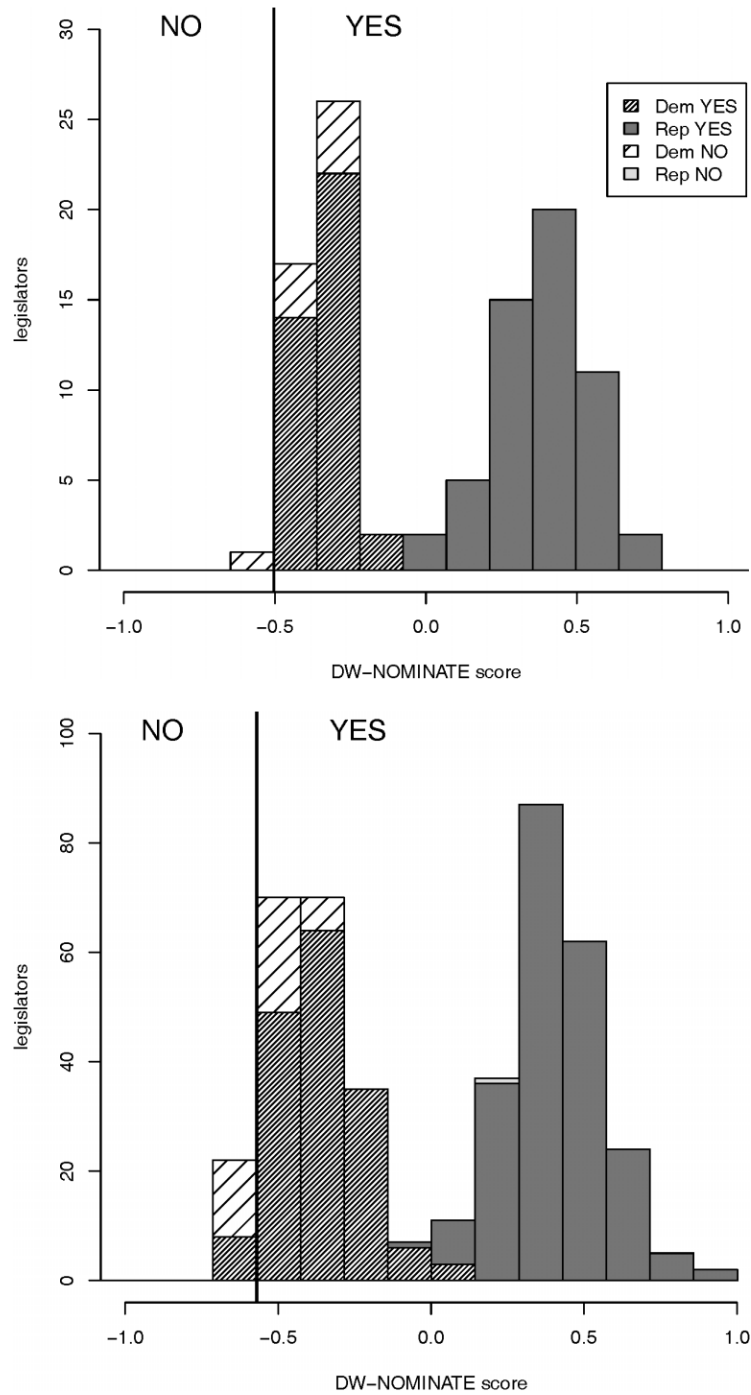
In summary, our statistical results suggest fairly strong conclusions regarding short-term uncertainty with respect to the capital gains rate. Although the sample we have used to estimate our mapping is small, the observations that result are surprisingly consonant with a simple theory. By combining this theory with projections regarding the outcomes of elections, we can approximate the probabilities of various changes to the capital gains rate during the current and proximate Congresses.

In the short-run, it seems unlikely that the capital gains rate will move up or down. In the medium-run, it seems that capital gains rates will stay within a range of 15% to 20%. There is a possibility that capital gains rates will fall further, but it seems very unlikely that capital gains rates will increase. In other words, we appear to currently be near the top-end of the distribution of possible capital gains rates. Looking at the vote histograms for the Taxpayer Relief Act of 1997 (which reduced capital gains rates from 28% to 20%)¹³¹ reinforces this conclusion. Supermajorities voted in favor of the rate reduction, while only the most liberal Democrats voted against it.

¹³⁰ Voteview, note 43.

¹³¹ Taxpayer Relief Act of 1997, Pub. L. No. 105-34, § 311, 111 Stat. 788, 831-36.

FIGURE 13
VOTE HISTOGRAMS FOR TAXPAYER RELIEF ACT OF 1997
SENATE (TOP) AND HOUSE (BOTTOM)



Understanding the legislative uncertainty of the capital gains rate has important policy ramifications. A few examples highlight the importance of thinking about the current rate within the context of a *distribution* of possible future rates.

1. *Capital Lock-In*

Generally, an investor does not pay tax on the increase in the economic value of an asset until that asset is sold. Taxpayers will often avoid selling investments in order to defer tax liability.¹³² This phenomenon is called “capital lock-in” and is generally undesirable because it results in inefficient allocations of capital.¹³³ The higher the tax rate, the higher the efficiency cost of capital lock-in.¹³⁴ Intuitively, the larger the tax cost of switching investments, the more likely investors are to hold onto otherwise undesirable assets. Reducing lock-in is one of the primary rationales for having a preferential rate on capital gains.¹³⁵

Prior scholarship has noted that capital lock-in may be responsive to whether the tax rate change is viewed as permanent or transitory.¹³⁶ There is also evidence that investors sell capital assets immediately before an anticipated rate increase in order to take advantage of the lower rate.¹³⁷ This empirical evidence demonstrates that investor expectations regarding the capital gains rate can have a significant effect on capital lock-in.

Our analysis suggests that capital lock-in also depends on where the current rate falls within the distribution of possible future rates.¹³⁸ There is a big difference between a current rate of 20% when the range of potential rates stretches from 20% to 30% and a rate of 20%

¹³² Tax deferral is valuable for taxpayers because of the time value of money. A taxpayer who defers a tax liability can earn a return on the deferred amount.

¹³³ See Alan J. Auerbach, *Retrospective Capital Gains Taxation*, 81 *Am. Econ. Rev.* 167, 167 (1991).

¹³⁴ See Staff of the Joint Comm. on Tax’n & Cong. Budget Office, *JCX-56-12, New Evidence on the Tax Elasticity of Capital Gains* (2012), <https://www.jct.gov/publications.html?func=startdown&id=4472>.

¹³⁵ See Leonard E. Burman, *The Labyrinth of Capital Gains Tax Policy: A Guide for the Perplexed* (1999); Noël B. Cunningham & Deborah H. Schenk, *The Case for a Capital Gains Preference*, 48 *Tax L. Rev.* 319, 350-59 (1993). But see Daniel Halperin, *A Capital Gains Preference Is Not EVEN a Second-Best Solution*, 48 *Tax L. Rev.* 381 (1993) (rejecting the capital gains preference as a solution to the capital lock-in problem).

¹³⁶ See Leonard E. Burman & William C. Randolph, *Measuring Permanent Responses to Capital Gains Taxes in Panel Data*, 84 *Am. Econ. Rev.* 794 (1994) (noting that the estimated effect on capital gains realization behavior of permanent changes is substantially smaller than the effect of transitory changes).

¹³⁷ See Joint Comm. on Tax’n & Cong. Budget Office, note 134, at 4.

¹³⁸ Another way to think about the distribution of potential rates is that it provides information regarding whether the capital gains rate is temporary or permanent.

when the range of potential rates extends from 10% to 20%. Currently, we are closer to the latter situation. The current rate is near the top-end of the distribution of possible rates.

Being at the top-end of the distribution potentially exacerbates the efficiency cost of capital lock-in. By waiting to sell their appreciated assets, politically savvy investors know that they are not only getting the benefit of deferral but may also get the benefit of a lower rate in the future. Moreover, those same investors are not particularly concerned about higher capital gains rates in the future. Relative to a lower rate (for example, 15%), a capital gains rate of 20% may therefore have two effects on capital lock-in. The first is the elastic response well documented in the literature.¹³⁹ The second is the legislative uncertainty effect. While we can presume that most taxpayers are aware of the current capital gains rate and adjust their behavior, only the politically savvy would be aware of where the current rate falls in the distribution of potential rates. The rich realize the vast majority of capital gains—over 61% of capital gains are realized by people in the ninety ninth percentile of the income distribution.¹⁴⁰ Thus, the legislative uncertainty effect on capital lock-in could be significant so long as there is significant overlap in the populations of very rich and politically savvy investors.¹⁴¹

2. *Capital Gains Taxation and Inequality*

Another interesting example is the role of the capital gains tax rate in the current debate on inequality and the fairness of the tax system. In a recent book that has gained widespread attention, Thomas Piketty reports historical data showing that inequality, as measured by income or wealth, is increasing in the United States. He argues that

¹³⁹ See generally Gruber & Saez, note 3; Kopczuk, note 3.

¹⁴⁰ See Urban-Brookings Tax Pol'y Ctr., Table T13-0246, Distribution of Individual Income Tax on Long-Term Capital Gains and Qualified Dividends by Expanded Cash Income Percentile, 2013, <http://www.taxpolicycenter.org/numbers/Content/PDF/T13-0246.pdf>.

¹⁴¹ Tax rate uncertainty is also essential to whether the dividend tax discourages corporations from distributing dividends. The old view of dividend taxation held that the taxation of dividends inhibited the distribution of dividends. The new view alternatively suggests that dividend taxation does not create a disincentive to distribute dividends so long as any future distributions will be taxed at the same rate. See Mervyn A. King, *Public Policy and the Corporation* (1977); Alan J. Auerbach, *Wealth Maximization and the Cost of Capital*, 93 Q.J. Econ. 433 (1979). According to the new view, the effect of the taxation of distributions depends on the relationship between current and future rates. See Daniel N. Shaviro, *Decoding the U.S. Corporate Tax 80* (2009) (“The new view teaches us that incentive effects on corporate distributions depend not on whether the distributions are taxable, but on the relationship between current and expected future rates.”). The asymmetric uncertainty of capital gains and dividend rates suggests that dividend distributions are currently disincentivized.

this trend is driven by after-tax rates of return to capital that exceed the growth rate.¹⁴² His general solution is an increase in taxation of the return on capital.¹⁴³ Such an approach could include an increase in the capital gains rate.

The capital gains preference is also one of the prime culprits in the low effective rates faced by many of the highest income earners in the United States.¹⁴⁴ Warren Buffet has famously stated that he has the lowest effective tax rate in his office.¹⁴⁵ This is largely because much of his income takes the form of capital gains, which are taxed at the lower preferential rate. A similar issue arises in the debate regarding the taxation of carried interest. Private equity professionals have thus far been able to characterize much of their compensation as capital gains.¹⁴⁶ Despite the fact that some of these private equity fund managers make hundreds of millions of dollars, they pay tax at the capital gains rate.¹⁴⁷ Thus, the capital gains preference significantly undermines the progressivity of the federal income tax system.

These are serious and widespread concerns. Polls consistently show that a majority of Americans believe (1) that increases in inequality are problematic and (2) that the rich do not pay their fair share in taxes.¹⁴⁸ An often-suggested policy intervention is an increase in the capital gains rate.¹⁴⁹ What seems like an obvious policy solution is actually fraught with complications. For example, increasing the capital gains rate would exacerbate the aforementioned problem of capital

¹⁴² See Piketty, note 119, at 372-75.

¹⁴³ His specific proposal is a global tax on capital. See *id.* at 515-39.

¹⁴⁴ The top marginal rate is also very important to this discussion. Pundits often point to the declining top marginal tax rate as evidence of reduced progressivity in the tax system. See, e.g., *id.* at 495-97. Of course, a higher top marginal rate has the potential for greater redistribution, but the top rate can also have indirect effects on inequality as well. For example, Piketty argues that reduced top marginal rates have increased U.S. executive compensation, which has led to increasing inequality. See *id.* at 508-12.

¹⁴⁵ See Chris Isidore, *Buffett Says He's Still Paying Lower Tax Rate Than His Secretary*, CNN Money (Mar. 4, 2013, 11:20 AM), <http://money.cnn.com/2013/03/04/news/economy/buffett-secretary-taxes/>.

¹⁴⁶ See Victor Fleischer, *Two and Twenty: Taxing Partnership Profits in Private Equity Funds*, 83 N.Y.U. L. Rev. 1, 8-16 (2008).

¹⁴⁷ See *id.*

¹⁴⁸ See Juliana Menasce Horowitz, *Inequality, Poverty Divide Republicans More Than Democrats*, Pew Research Ctr. (Jan. 29, 2014), <http://www.pewresearch.org/fact-tank/2014/01/29/inequality-poverty-divide-republicans-more-than-democrats/> (discussing inequality); Kim Parker, *Yes, the Rich Are Different*, Pew Research Ctr. (Aug. 27, 2012), <http://www.pewsocialtrends.org/2012/08/27/yes-the-rich-are-different/> (discussing taxes).

¹⁴⁹ See, e.g., Ezra Klein, *The Case for Raising Taxes on Capital Gains*, Wash. Post: Wonkblog (Sept. 25, 2012), <http://www.washingtonpost.com/blogs/wonkblog/wp/2012/09/25/the-case-for-raising-taxes-on-capital-gains/> (discussing the pros and cons of raising the capital gains rate); see also Office of Mgmt. & Budget, *The Fiscal Year 2013 Budget of the U.S. Government* (2012), <https://www.whitehouse.gov/sites/default/files/omb/budget/fy2013/assets/budget.pdf>.

lock-in. Increasing the capital gains rate is also (somewhat counter-intuitively) expected to lose revenue if rates rise beyond a certain point, unless taxes were divorced from realization of gains, a proposition that is fraught with political and technical complications.¹⁵⁰

Our analysis suggests another difficulty. A significant increase in the capital gains rate would require more than just a wave election that results in unified Democratic control of government. It also would require a significant shift in the capital gains rate preferences of Democrats. Remember that in 1997, a *supermajority* of *Democrats* voted in favor of lowering the capital gains rate.¹⁵¹ In other words, so long as the mapping of capital gains rate preferences remains stable, capital gains rates much higher than 20% seem out of reach. It is possible that a higher capital gains rate could be passed as part of a larger legislative compromise. However, as we discuss below, it is unlikely that any such rate would be politically stable.¹⁵²

It is also hard to imagine circumstances in the near future that would cause the mapping to shift significantly towards higher rates. The global trend is towards lower capital gains tax rates, with many OECD countries moving towards a 0% rate.¹⁵³ If there is any international pressure on capital gains rates, that pressure is downward. Since raising the capital gains rate is not projected to raise revenue, the growing federal debt is unlikely to place fiscal pressure on the capital gains rate. In the long term, growing inequality may apply a countervailing pressure, but so far it has failed to reverse the rightward slide in preferences on top rates or budge the relatively stable preferences on capital gains rates.

B. Top Marginal Rate Uncertainty

The top marginal rate is one of the most salient features of the income tax system, and also a major source of uncertainty, especially for high-income taxpayers. Expectations regarding the future of the top marginal rate influence both *tax* decisions and *real* behavior. The importance of top rate uncertainty in tax planning is most obvious in the compensation and savings areas. How should executives structure their compensation? Should their marginal compensation take the form of additional salary, deferred bonus, or benefits in retirement? Should a working-age taxpayer use a ROTH-IRA or a traditional

¹⁵⁰ See Joint Comm. on Tax'n & Cong. Budget Office, note 134, at 7.

¹⁵¹ In the House, the vote was 389-43. 143 Cong. Rec. H6664-65 (daily ed. July 31, 1997). In the Senate, the vote was 92-8. 143 Cong. Rec. S8480 (daily ed. July 31, 1997).

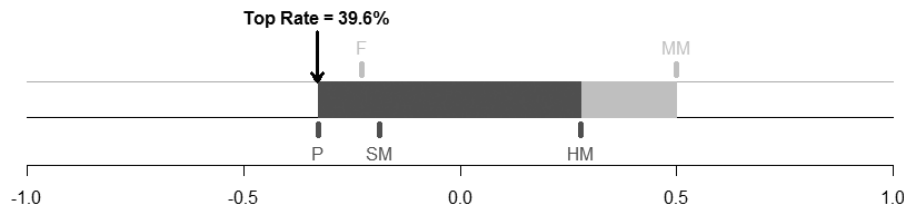
¹⁵² See Section V.B.

¹⁵³ See Org. for Econ. Co-operation & Dev., Tax Reform Trends in OECD Countries (2011), available at <https://www.oecd.org/ctp/48193734.pdf>.

IRA to save for retirement?¹⁵⁴ Uncertainty regarding the top rate also affects a number of important *real* decisions. How much will a taxpayer decide to work? How much will a taxpayer save and invest? These decisions are likewise shaped by expectations regarding the future of top marginal rates. The importance of top rate uncertainty to taxpayers is mirrored in the policy arena. As we discuss briefly later, top rate uncertainty has important implications for the efficiency, fairness, and revenue-raising potential of the tax system.

Once again, it is helpful to first consider short-run rate uncertainty, before turning to the medium run. In the short run, our conclusions regarding the top marginal rate are similar to those regarding the capital gains rate. It is unlikely we will see a change in that rate during President Obama's remaining time in office. The current top rate of 39.6% maps very closely to his ideal point although again there is some uncertainty regarding this model prediction and the idiosyncrasies of a president can be important.¹⁵⁵ It is likely that Obama would veto any bill proposing a lower rate. Upward changes in the tax rate are similarly unlikely. Even if President Obama would support a higher rate (debatable given his record of public positions and veto decisions), several other pivots (including the House and Senate median legislators) would stymie any such legislation.

FIGURE 14
CURRENT TOP INCOME TAX RATE RELATIVE TO PIVOTS
IN THE 113TH CONGRESS



An intuitive way to think about medium-run uncertainty is to consider how the political landscape would have to change in order for Congress to pass a clean bill moving the top rate up or down. Republicans will be glad to hear that returning to a top rate of 35% is achiev-

¹⁵⁴ If marginal tax rates stay the same (and various other assumptions hold), then the taxpayer generally will be indifferent between the two vehicles. But if future tax rates are expected to be higher or lower than current rates, a taxpayer generally will have a tax preference for one or the other. See William A. Klein, *Investment Alternatives and Tax Vehicles: Accumulations and Payouts Compared*, 78 *Tax Notes* 1707 (Mar. 29, 1998).

¹⁵⁵ Because of a 0.9% Medicare surtax on earned income, the top effective rate on ordinary income is actually 40.5%. As discussed earlier, we focus on top statutory rates in this project. See note 27.

able. Centrists and conservatives would join in support of a reduction in the top rate from 39.6% to 35%—legislators with DW-NOMINATE scores more conservative than -0.24 are predicted to pursue a rate cut.¹⁵⁶ If in the future there is a point where all the pivots are more conservative than -0.24, the top rate could again be reduced to 35%. This seems likely to happen the next time the Republicans occupy the White House and hold majorities in both chambers of Congress. Our mapping suggests that such a rate cut also could occur if a Republican were in the White House and there were slim Democratic majorities in the House and the Senate. Moderate Democrats have consistently voted for a 35% top marginal rate. Such a rate cut would have to navigate the filibuster rule in the Senate and the ability of the House majority to control the agenda, but it is not out of the question.

How about higher rates? Once again, we must caution against interpreting the mapping outside of the range for which we have data. Our strongest conclusions can be drawn with respect to rates within the range actually observed during that time: 28%-39.6%. The current top rate of 39.6% maps onto a DW-NOMINATE score of roughly -0.33. This is already a relatively liberal policy. Although we are not very confident regarding how rates will map onto more liberal DW-NOMINATE scores, we can state fairly confidently that moving this rate higher would be difficult. In order to move this policy to a higher rate, all of the pivots would have to be more liberal than -0.33. This is (by coincidence) roughly the DW-NOMINATE score of President Obama. In order to enact a higher rate, we would need the Senate median, the House median, and the (future) President to be more liberal than President Obama. Given the current composition of the Democratic caucus, which still has a significant number of moderates, this seems unlikely in the medium term even if Democrats win back both chambers of Congress. It would require a significant polarization of the Democratic party (along the lines of what is currently happening in the Republican party).

How about further rate reductions? Would it be possible to lower the top rate to 30%? Once again, this discussion is somewhat speculative because we do not have very much data on votes involving a top rate lower than 35%. According to the mapping, 30% is a relatively moderate position (DW-NOMINATE score of +0.07). If a bill were proposed to lower the current rate of 39.6% to 30%, the model predicts that legislators that are more conservative than -0.13 would

¹⁵⁶ Since the discussion here focuses on future uncertainty, these scores are calculated using Model 5.

vote in favor.¹⁵⁷ This raises the intriguing possibility that President Bush may have underplayed his hand in 2001. The model suggests that if 30% had been suggested in 2001 (rather than 35%), legislators with DW-NOMINATE scores of -0.13 or greater would have voted in favor of the larger reduction. Given the composition of Congress at that time, he may have had the votes he needed. The predicted vote margins are 52-48 in the Senate,¹⁵⁸ and 233-202 in the House, albeit with substantial uncertainty around those numbers.

In the medium run, the uncertainty regarding the top tax rate is asymmetric. An increase in the top rate is unlikely even if Democrats sweep the Presidency, the House, and the Senate. On the other hand, if the Republicans enjoy unified control, a decrease in the top rate seems quite plausible. Moreover, it is possible that we could observe a reduction in the top rate even with a divided government—specifically a Republican president and thin Democratic majorities in one or both chambers of Congress. The magnitude of any reduction in rates is likely to be limited to five to ten percentage points. The current rate is near the high-end of the possible rate distribution. This has important policy ramifications. We explore two here.

1. *Elasticity of Taxable Income*

The top marginal rate affects taxable income in two ways. First, high-income taxpayers may adjust how much they work in response to the top marginal rate. As rates increase, some taxpayers may work less (because they keep less of what they earn) or more (because they want to maintain their income).¹⁵⁹ Second, high-income taxpayers may use a variety of tactics to shift their income between taxable years. The *elasticity of taxable income* measures the size of this response.¹⁶⁰

¹⁵⁷ 30% corresponds to a score of +0.07. 39.6% corresponds to a score of -0.33. The cutline for a bill proposing a change from 39.6% to 30% would be at the midpoint, -0.13.

¹⁵⁸ The 2001 legislation was passed through reconciliation, and therefore did not require the support of sixty senators.

¹⁵⁹ These are referred to the “substitution effect” and “income effect” respectively. See Matthias Doepke, Andreas Lehnert & Andrew Sellgren, *Macroeconomics* 131 (1999), http://faculty.wcas.northwestern.edu/~mdo738/textbook/dls_ch13.pdf.

¹⁶⁰ There are actually two relevant elasticities—*uncompensated* and *compensated*. The uncompensated elasticity includes both the substitution effect and the income effect. The compensated elasticity only includes the substitution effect. Each elasticity has its own applications. For example, the uncompensated elasticity is more important in measuring the revenue effect of increasing rates, while the compensated elasticity is important for measuring the deadweight loss of taxation. Gruber and Saez have argued that the compensated and uncompensated elasticities of taxable income are quite similar. Gruber & Saez, note 3, at 3.

The elasticity of taxable income is very important from a tax policy perspective. Tax-induced changes in behavior are generally inefficient. The elasticity of taxable income is therefore an important input in designing an efficient income tax system.¹⁶¹ Empirical studies of this elasticity have come to a variety of different conclusions.¹⁶²

Understanding tax rate uncertainty is important for interpreting these empirical results. Take for example, a recent study by Treasury that used data from the 1993 increase in top marginal rates. This study estimated that the elasticity of taxable income for high-income taxpayers had a value between 0.78 and 1.25.¹⁶³ However, that study emphasizes the importance of understanding legislative uncertainty. The authors made adjustments to this elasticity because taxpayers may have been able to anticipate higher rates (and therefore engage in income-shifting strategies). The Treasury study states, “the tax increases of [the 1993 legislation] could have been anticipated in 1992 when Bill Clinton, who made promises during his campaign to increase the taxes on the rich, was elected president.”¹⁶⁴ Taking into account this legislative uncertainty reduces the elasticity estimates to a range between 0.57 and 0.82. The Treasury study provides evidence that taxpayers are sophisticated in anticipating tax rate changes.¹⁶⁵ This is further proof of the importance of taking legislative uncertainty into account explicitly.

Our analysis provides a more robust understanding of legislative uncertainty. In 1993, it was not enough that Bill Clinton was elected and it was not enough that he made a campaign promise. After all, campaign promises often go unfulfilled. If we look at the pivots after the 1992 election, there was a real possibility for a change in the top rate (see Figure 10). Democratic majorities in the House and the Senate meant that the top rate could potentially change.

Moreover, our analysis allows us to at least tentatively consider the effects of top rate uncertainty going forward. If rate uncertainty were symmetric, then a rational (risk-neutral) taxpayer could ignore that uncertainty in making their decisions.¹⁶⁶ However, our analysis shows that top rate uncertainty is asymmetric—current rates are close to the

¹⁶¹ The elasticity of taxable income is a key input of the optimal tax literature.

¹⁶² See sources cited in note 3.

¹⁶³ See Auten & Kawano, note 3, at 3. For example, if the elasticity is .78, a 1% increase in marginal tax rate for high-income taxpayers results in a 0.78% decrease in taxable income.

¹⁶⁴ *Id.* at 5.

¹⁶⁵ See *id.*

¹⁶⁶ Risk-averse taxpayers may respond to tax rate uncertainty even if that uncertainty is symmetric. See James Alm, *Uncertain Tax Policies, Individual Behavior, and Welfare*, 78 *Am. Econ. Rev.* 237 (1988) (arguing that risk-averse taxpayers will reduce their labor supply as tax rate uncertainty increases).

top-ends of their respective distributions. Rational, sophisticated taxpayers will take that asymmetry into account. With respect to tax planning, this suggests that high-income taxpayers will generally shift income into the future.¹⁶⁷ This is in contrast to the acceleration of income observed in 1992-1993 when the short-run uncertainty was asymmetric in the opposite direction.¹⁶⁸

There may also be an effect on real behavior to the extent that real labor-leisure decisions have medium-run stickiness. Let's say a taxpayer has to make a decision today that will affect his or her labor supply over the next decade (for example, medium-run stickiness in labor decisions could relate to education, relocation, or retirement). A rational taxpayer will make that decision based on the current top marginal rate and expected future top marginal rates. Where the uncertainty regarding the top marginal rate is symmetric (rates are equally likely to go up or down), a taxpayer does not lose much in the analysis by simply using the current rate. However, when that uncertainty is asymmetric (as is currently the case), a rational taxpayer should discount the top rate accordingly. In other words, with respect to medium-run labor decisions, the current "high" top marginal rate may affect sophisticated taxpayers less than might otherwise be expected due to expectations regarding future tax rates.

2. *Top Rate and the Deficit*

The top marginal rate is also relevant to discussions of the deficit and federal revenue. When the reduced marginal rates were extended in 2010, the Joint Committee on Taxation estimated that the two-year extension of the top marginal rate would reduce federal revenue by roughly \$60 billion.¹⁶⁹ Other scholars have suggested that it is important to incorporate estimates of uncertainty into budgetary projections.¹⁷⁰ These calls mainly relate to accounting for macroeconomic

¹⁶⁷ Note that this reinforces the always-present incentive to defer income in order to take advantage of the time value of money.

¹⁶⁸ See Auten & Kawano, note 3, at 5 (noting that high-income taxpayers shifted their income from 1993 to 1992 to avoid future tax increases after President Clinton was elected).

¹⁶⁹ See Staff of the Joint Comm. on Tax'n, JCX-54-10, Estimated Budget Effects of the "Tax Relief, Unemployment Insurance Reauthorization, and Job Creation Act of 2010," at 1 (2010), <https://www.jct.gov/publications.html?func=startdown&id=3715>. It should be noted that the reduction of marginal rates for lower income brackets can be equally significant for revenue projections purposes. This is because lower marginal rates affect a broader number of taxpayers. For example, JCT estimated that extending the 10% rate would cost roughly \$89 billion. *Id.*

¹⁷⁰ See, e.g., Pal Ulla, Assessing Fiscal Risks Through Long-Term Budget Projections, 6 OECD J. on Budgeting 127 (2006); see also Rudolph G. Penner, Dealing with Uncertain Budget Forecasts, 22 Pub. Budgeting & Fin. 1 (2002).

uncertainty such as growth rates and employment. We agree that accounting for macroeconomic uncertainty is important. It is also important to consider legislative uncertainty in revenue discussions.

A complete analysis would incorporate uncertainty with respect to all relevant tax and spending policies. But as an example, consider how top rate uncertainty could affect the deficit debate. If legislator preferences with respect to the top rate remain stable, then we are much more likely to observe lower rates rather than higher rates. This suggests that future deficits may be even larger than currently projected.

It is widely acknowledged that any solution to the federal deficit will involve some combination of tax raises and spending cuts.¹⁷¹ In that context, it is interesting to note that we are already at the top-end of politically plausible marginal rates. Closing the deficit gap using higher top marginal rates will require a *substantial* leftward shift in preferences from legislators. Perhaps future deficit crunches will provide sufficient impetus, but we have seen no evidence yet of responsiveness of legislator preferences to deficits or the level of debt. For the reader less inclined to believe the mapping is stable, the takeaway is that the rates necessary to meaningfully close the deficit would require a drastic departure from previously observed voting behavior.

This Part has shown how a mapping of legislative preferences can be combined with the pivotal politics framework to understand legislative uncertainty.¹⁷² We have argued that contextualizing current rates within the distribution of likely future rates has important policy implications.

V. DESIGNING DURABLE REFORM

Rate-compromise legislation—where one rate moves up and another rate moves down—is rare. The only two instances in the last half-century are the significant tax reforms in 1969 and 1986.¹⁷³ In both cases, an increase in the capital gains rate was offset by a de-

¹⁷¹ See, e.g., Cong. Budget Office, R44967, Choices for Deficit Reduction: An Update (2013), <https://www.cbo.gov/sites/default/files/113th-congress-2013-2014/reports/44967-DeficitReduction.pdf>; Nat'l Comm'n on Fiscal Responsibility & Reform, The Moment of Truth (2010), https://www.fiscalcommission.gov/sites/fiscalcommission.gov/files/documents/TheMomentofTruth12_1_2010.pdf.

¹⁷² We reduce legislative uncertainty on some dimensions more than others. Our methodology is most informative regarding *if change is possible* and the *direction of likely change*. It is relatively less powerful at predicting precisely *when change will happen*. See note 115 and accompanying text.

¹⁷³ See Tax Reform Act of 1969, Pub. L. No. 91-172, 83 Stat. 487; Tax Reform Act of 1986, Pub. L. No. 99-514, 100 Stat. 2085.

crease in the top marginal rate.¹⁷⁴ Despite its rarity, rate-compromise legislation remains popular in the tax policy community. Many policy experts and advocates promote bringing the capital gains and top marginal rates closer together.¹⁷⁵

Our model does not allow us to forecast when such compromises will occur. We can forecast one-way changes in rates based on whether those rates fall outside of the gridlock zone. On the other hand, rate-compromise legislation can theoretically move several rates even though they fall within the gridlock zone. In other words, compromise legislation is in theory possible at any time.¹⁷⁶ An extant literature discusses the many nuanced factors necessary for significant legislative compromises.¹⁷⁷ These factors—including the arrival of political entrepreneurs or the mobilization of previously disinterested citizens or groups—are not easy to forecast within the confines of existing theories.

Although we cannot predict when compromise legislation is likely to occur, our framework does allow us to say two interesting things about rate-compromise legislation. First, we can very roughly estimate the necessary trade-off in rate changes. Second and more importantly, our framework allows us to evaluate the *stability* of any such reform. In our opinion, too much time is spent thinking about enacting reform, instead of focusing on how to create durable reform. In many circumstances, including in 1986, rate-compromise legislation is predictably unstable.

A. *Trading Rates*

Our empirical results allow us to roughly estimate the trade-off in rates necessary to form a coalition around rate-compromise legislation. Intuitively, the change in the capital gains rate and the change in the top rate must have comparable influence on legislator voting. If not, legislator voting will be driven by the more salient change, making compromise impossible. We can estimate the trade-off by compar-

¹⁷⁴ Tax Reform Act of 1969, §§ 511, 804, 83 Stat. at 635, 685; Tax Reform Act of 1986, §§ 101, 302, 100 Stat. at 2096, 2218. The 1986 Tax Reform Act also decreased the corporate tax rate from 46% to 34%. Tax Reform Act of 1986, § 601, 100 Stat. at 2249. Unfortunately, we do not have enough data to estimate legislator preferences on the corporate tax rate using roll call votes.

¹⁷⁵ See Ulla, note 170; Penner, note 170.

¹⁷⁶ Perhaps, it is this feature that makes tax reform so tantalizing, and its absence so frustrating.

¹⁷⁷ See generally Frank R. Baumgartner & Bryan D. Jones, *Agendas and Instability in American Politics* (1993); Richard F. Fenno, *Congressmen in Committees* (1973); Daniel N. Shaviro, *Beyond Public Choice and Public Interest: A Study of the Legislative Process as Illustrated by Tax Legislation in the 1980s*, 139 U. Pa. L. Rev. 1 (1990).

ing the coefficients for the capital gains rate variable and the top rate variable in our statistical models. In 2014, the trade-off is roughly a two percentage point change of the top rate for every one percentage point change of the capital gains rate.¹⁷⁸ For example, an increase of five points in the capital gains rate and a decrease in the top rate of roughly ten points could set the stage for a rate compromise. These two rate changes have roughly offsetting effects on the cut-line.

This is merely suggestive, and given the available data, we are unable to speculate as to how a decrease in the corporate rate factors into the analysis. This is an important limitation because most comprehensive reform proposals involve a significant decrease in the corporate tax rate.¹⁷⁹ Unfortunately, we do not have the data to map corporate tax preferences onto the liberal-conservative spectrum. Other than the significant decrease in the corporate rate in the 1986 Act, there have only been two other miniscule (1%-2%) changes in the past four decades.

B. The Instability of Major Rate-Compromises

In many circumstances, rate-compromise legislation will be politically unstable. This occurs when a compromise establishes one or more tax rates that either are outside of the gridlock zone, or will be soon. There is no mechanism that binds future Congresses to respect such a deal.¹⁸⁰ Having made the trade, lawmakers will want to adjust each rate individually after the fact, making the compromise unstable. Recall that when a policy falls outside of the gridlock zone, legislative action is likely. Ironically, rate compromise can induce *greater* instability, the opposite of what many of its proponents desire.¹⁸¹

¹⁷⁸ The coefficient for the capital gains rate in Model 5 is -0.078. The coefficient for the top rate is -.042. The ratio of those coefficients is roughly 2.

¹⁷⁹ See House Ways and Means Comm., Camp Releases Tax Reform Plan to Strengthen the Economy and Make the Tax Code Simpler, Fairer and Flatter (Feb. 26, 2014), <http://waysandmeans.house.gov/camp-releases-tax-reform-plan-to-strengthen-the-economy-and-make-the-tax-code-simpler-fairer-and-flatter/> (proposing lowering the corporate rate to 25%); Ron Wyden, Wyden-Coates Tax Plan, <http://www.wyden.senate.gov/priorities/wyden-coates-tax-plan> (last visited Aug. 18, 2016) (proposing a 24% corporate rate).

¹⁸⁰ On the ability of Congress to bind future legislators, see generally Julian N. Eule, Temporal Limits on the Legislative Mandate: Entrenchment and Retroactivity, 12 Am. B. Found. Res. J. 379 (1987); John O. McGinnis & Michael B. Rappaport, Symmetric Entrenchment: A Constitutional and Normative Theory, 89 Va. L. Rev. 385 (2003); Eric A. Posner & Adrian Vermeule, Legislative Entrenchment: A Reappraisal, 111 Yale L.J. 1665 (2002).

¹⁸¹ Durability may not be the highest priority for (some) legislators. See, e.g., Richard L. Doernberg & Fred S. McChesney, On the Accelerating Rate and Decreasing Durability of Tax Reform, 71 Minn. L. Rev. 913, 914 (1987) (legislators prefer less-durable legislation because it allows them to extract rents); Michael Doran, Tax Legislation in the Contemporary U.S. Congress, 67 Tax L. Rev. 555, 584-86 (2014) (legislator motivations in passing

The capital gains rate established by the 1969 Act (35%) and the capital gains rate established by the 1986 Act (28%) were almost assuredly outside of the gridlock zone—that is, there were legislative coalitions that had the desire and the ability to move those rates back down (see Figure 11). The 35% capital gains rate established by the 1969 Act maps onto a DW-NOMINATE score of roughly -1.00.¹⁸² The 28% capital gains rate established by the 1986 Act maps onto a DW-NOMINATE score of -0.67. Only the most extreme liberals would have supported such capital gains rates if they were not paired with reductions in other rates.

Both of these capital gains rates fell outside of the gridlock zone (and historically would have fallen outside of any gridlock zone in any Congress for the past forty years). Thus, it is unsurprising that capital gains rates came back down in the aftermath of both the 1969 and 1986 reforms. In 1978, the capital gains rate was reduced to 28% without any corresponding increase in the top marginal rate.¹⁸³ In 1997, the capital gains rate was reduced to 20%.¹⁸⁴ Both compromise bills involved an increase in the capital gains rate that was transitory, disappearing in roughly a decade *without any substantial change in the ideological composition of government*. A policy is truly fragile if a legislature composed of similar legislators chooses to reverse itself.

Turning to the top marginal rate, the 1969 compromise established a top rate inside of the gridlock zone. The top rate of 50% mapped onto a very centrist DW-NOMINATE score of +0.08. This explains the stickiness of the change in the top marginal income rate relative to the capital gains rate change. From a long-run perspective, this rate compromise proved to be a poor deal for the left. In contrast, in 1986, the top rate of 28% mapped onto a DW-NOMINATE score of +0.20. This policy fell outside of the gridlock zone once the pivots shifted back to the left. Unsurprisingly, in the aftermath of the 1986 Act, we saw subsequent top rate increases in 1990 and 1993, bringing the tax rate back up.

That it takes several years for these (politically) extreme rates to be changed indicates perhaps a temporary unwillingness to disturb an

legislation include gaining power and prestige, as well as being re-elected); Shaviro, note 177, at 81-87 (enacting legislation increases legislators' prestige and therefore can encourage legislative churn); Richard L. Doernberg & Fred S. McChesney, *Doing Good or Doing Well?: Congress and the Tax Reform Act of 1986*, 62 N.Y.U. L. Rev. 891, 899 (1987) (reviewing Birnbaum & Murray, note 36) (legislation is "rented" to special interest groups for a specified period of time in the expectation of return benefits to legislators).

¹⁸² The DW-NOMINATE scores of these historical rates are estimated using Model 3.

¹⁸³ See Revenue Act of 1978, Pub. L. No. 95-600, §§ 401-03, 92 Stat. 2763, 2866-69.

¹⁸⁴ See Taxpayer Relief Act of 1997, Pub. L. No. 105-34, § 311, 111 Stat. 788, 831-36.

agreed-upon compromise.¹⁸⁵ But these rates are often not stable in the medium run. Once there have been intervening elections, with turnover in Congress and the White House, legislators show a willingness to deal with each rate independent of the other. There will often be obvious and overwhelming coalitions that can be formed to bring one or both rates back within the gridlock zone. Rate-compromise legislation can result in a temporary cycling of rates (by 1997, the 1986 rate changes had more or less been reversed) or one sticky rate change (by 1978, the 1969 capital gains rate change had more or less been reversed while the top rate change stuck).¹⁸⁶

This is a serious challenge to the popular focus on compromise legislation generally. Legislators and citizens are constantly clamoring for compromise on taxation, whether rates or tax expenditures. It is important to keep in mind that when legislation involves a change that *on its own* is unstable (that is establishing a policy outside of the gridlock zone), future legislation will eventually change it.

For example, some proponents of tax reform want to bring the top rate and the capital gains rate closer together. Imagine that a piece of legislation moved both rates to 25%. Based on our empirical mapping of legislator preferences on rates, we suspect that the 25% top rate would be relatively sticky,¹⁸⁷ while the 25% capital gains rate would not be.¹⁸⁸ Figure 15 shows that a capital gains rate of 25% is an extremely liberal policy and falls outside of the gridlock zone. On the other hand, a top rate of 25% is a conservative policy but sufficiently moderate that one or more conservative pivots will cause it to stick.

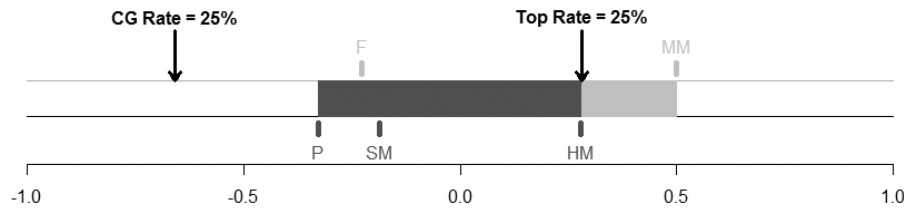
¹⁸⁵ Our model is quite powerful at identifying whether legislative action is possible but is more agnostic about when that legislative action will actually occur. See note 172.

¹⁸⁶ Our model does not explain why the 28% capital gains rate was relatively stickier than the 28% top marginal rate. Since both policies fell outside of the gridlock zone, the model predicts that both policies could have been changed. Why did it take longer to change the capital gains rate? One possibility is that the capital gains rate is less salient than the top marginal rate. See note 115. Another important factor is that there were significant deficits during the early 1990's. Rate reductions were therefore harder to pass given the fiscal climate. This underscores the fact that fiscal variables can also be important to understanding rate uncertainty. See notes 67, 101 and accompanying text.

¹⁸⁷ Model 5 estimates that a top rate of 25% today maps onto a DW-NOMINATE score of +0.28.

¹⁸⁸ Model 5 estimates that a capital gains rate of 25% maps onto a DW-NOMINATE score of -0.66.

FIGURE 15
AN UNSTABLE COMPROMISE ON RATES



Legislators would effectively be trading a semi-permanent reduction in the top rate for a transitory increase in the capital gains rate. This is obfuscated by the fact such compromise would unify the rates. A 25% top marginal rate is much more politically stable than a 25% top capital gains rate. Liberals would be poorly served in the medium run making this trade.

If 25% doesn't work, is there any other unified rate that would be stable? Given the current mapping of legislator rate preferences, the answer is likely no. Any politically stable top marginal rate would result in an unsustainably high capital gains rate. Any politically stable capital gains rate would involve an unsustainably low top marginal rate. This is fundamentally a result of the different mappings of legislator preferences with respect to the top marginal rate and the capital gains rate. So long as legislator preferences on these two issues remain disparate, attempts to unify rates will be unstable in the medium run.

The fact that unifying the rates is an unstable policy does not automatically imply that all possible compromises are unstable. A relatively modest compromise may be more valuable in the long run. Unfortunately, even modest compromises seem untenable in the current political environment. As discussed earlier, both the capital gains rate and the top marginal rate are currently near the top-end of their respective distributions. Any compromise increasing one of those rates would likely be unstable.¹⁸⁹

This is illustrative of a larger point regarding the legislative uncertainty surrounding major reform. Legislative compromise is valuable and necessary. It allows Congress to move policies that are otherwise unmovable—policies that are within the gridlock zone. For example, assume that the current corporate tax rate falls inside the gridlock zone (this seems a reasonable assumption given that corporate tax rate reductions never seem to have any real momentum). Most policy analysts (including the authors) would agree that a lower corporate

¹⁸⁹ This does not rule out the possibility of relatively stable reform involving the corporate tax rate.

rate is desirable in the current environment of very high international capital mobility.¹⁹⁰ Given that the current rate is within the gridlock zone, reducing the corporate rate is only possible through a significant legislative compromise.

But in designing compromise, legislators must be mindful of the political stability of each constituent part of the compromise. The 1986 Act was unstable along a number of dimensions. The top marginal rate was too low to be politically stable. The capital gains rate was too high to be stable. The removal of tax expenditures was politically unstable because of rent-seeking and the biases in the legislative process for concentrated special interests.¹⁹¹

Designing stable reform may involve more modest changes. Where current policy is within the gridlock zone, a modest policy shift is likely to also be within the gridlock zone. In other words, if current policy is politically stable, tweaks to that policy are also likely to be politically stable.¹⁹²

It is interesting to consider Representative David Camp's recent tax reform proposal from that perspective. Camp, the former Chairman of the House Ways and Means Committee, proposed to decrease the top marginal rate by 4% to 35% and increase the capital gains rate by 1% to 21%.¹⁹³ With respect to rates, he proposes a compromise of two modest shifts. Many members of the Republican Party have expressed dismay that the proposed top marginal rate is 35% instead of 25%.¹⁹⁴ It is unsurprising that Republican consensus coalesced around a 25% top rate. Our mapping suggests that the median member of the Republican party has a top rate preference somewhere between 20% and 25%.

Although Camp's proposed top rate may not be low enough for some members of his own party, his proposal does have the benefit of being more politically stable. As discussed earlier, 35% is a fairly politically stable top rate, while 25% is not. The top capital gains rate is also relatively stable. While Camp's proposal may lack ambition, it has the benefit of relative political stability (at least with respect to rates). A lower rate in the short term could lead to a political oppor-

¹⁹⁰ See, e.g., Kimberly A. Clausing, *The Future of the Corporate Tax*, 66 *Tax L. Rev.* 419, 437 (2013) (stating that a basic base-broadening, rate-lowering reform would have merit given the mobility of capital in the global economy).

¹⁹¹ See Jason S. Oh, *The Social Cost of Tax Expenditure Reform*, 66 *Tax L. Rev.* 63, 94-96 (2012) (discussing the unraveling of tax expenditure reform).

¹⁹² One could see this as an additional argument for incrementalism in public policy. See, e.g., Charles E. Lindblom, *The Science of "Muddling Through,"* 19 *Pub. Admin. Rev.* 79 (1959).

¹⁹³ See Burman, note 27.

¹⁹⁴ See Brian Faler, *Why the GOP Gave Up Its Tax Pledge*, *Politico* (Mar. 3, 2014, 5:04 AM), <http://www.politico.com/story/2014/03/republicans-tax-reform-pledge-104149.html>.

tunity to raise rates, and it is possible that the resulting rate could be as high as the current status quo.

VI. CONCLUSION: LEGISLATIVE UNCERTAINTY AND THE LAW

Legislative uncertainty is unavoidable in any democratic legal framework. So long as Congress can change the law, we need to contextualize current law within the distribution of possible future laws. In this Article, we demonstrated one rough empirical method for studying such distributions. Using Congressional roll call votes, we derived a mapping of legislator preferences with respect to tax rates. Layering this mapping onto the pivotal politics framework allowed us to study where current rates fall within the distribution of possible future rates. We showed that legislative uncertainty with respect to tax rates is currently asymmetric—rates are more likely to fall in the medium run than to rise. This has important policy implications for capital lock-in, inequality, revenue estimates, and the labor response to tax rates. Our framework also allows us to think about how to design politically stable tax reform.

Even if politics dictate when these top statutory rates can be changed, there remains a significant amount of tax policy flexibility. Policy entrepreneurs (and their policy advisors) can utilize innovative statutory devices to advance their policy objectives while also permitting members to look like they are voting a certain way. Through bubble rates, phase-outs, and base manipulation, legislators can manipulate effective marginal rates without touching statutory rates.¹⁹⁵

This Article has focused on just two important income tax variables—the top marginal rate and the capital gains rate. Tax legislation involves many other moving pieces. There are other policies for which analyzing uncertainty would therefore be fruitful. These include the income tax base, the estate tax, and employment taxes. On the other side of the fiscal ledger, uncertainty is just as important to spending policy.

While the implications of this research for fiscal policy are significant, our more important contribution is to provide an example of a new approach to law and policy. Explicitly studying legislative uncertainty is valuable in any arena where *future* policy can influence *current* behavior. Legislative uncertainty shapes the behavior of sophisticated economic actors. It influences how we think about major policy issues and it can inform how we design durable reform.

¹⁹⁵ See notes 27, 116, and 155; see also Schenk, note 26, at 276-80 (describing various legislative techniques for raising taxes without changing the nominal top marginal rate).

Our particular methodology requires (1) a salient policy dimension and (2) a large number of roll call votes that are well-characterized by DW-NOMINATE. With respect to the first requirement, our methodology is particularly powerful when policy can be reduced to a number. Many policies have this feature, including those dealing with percentages (for example, tax rates or interest rates), ages (for example, the drinking age), or dollar figures (for example, federal minimum wage).

With respect to the second requirement, we should stress that roll call votes are not the only data source that may be useful for studying legislative uncertainty. Other methods could employ legislators' publicly expressed preferences, election platforms, or constituent survey data. Research along these lines could broaden the scope and applicability of the approach introduced here. But the underlying objective remains the same—to understand the distribution of likely future laws. As we have attempted to show here, understanding that distribution can be a powerful tool for understanding and making policy.

APPENDIX A
TOP MARGINAL RATE CHANGES IN MAJOR TAX LEGISLATION

<i>Bill</i>	<i>Effect on Top Marginal Rate</i>	<i>Effect on Top Corporate Rate</i>	<i>Effect on Capital Gains Rate</i>
Revenue & Expenditure Control Act of 1968 ¹⁹⁶	10% temporary surcharge	10% temporary surcharge	10% temporary surcharge
Tax Reform Act of 1969 ¹⁹⁷	Decreased from 70% to 50% for earned income	None	Raised from 25% to 35%
Revenue Act of 1971 ¹⁹⁸	None	None	None
Tax Reduction Act of 1975 ¹⁹⁹	None	None	None
Tax Reform Act of 1976 ²⁰⁰	None	None	None
Tax Reduction and Simplification Act of 1977 ²⁰¹	None	None	None
Revenue Act of 1978 ²⁰²	None	Reduced from 48% to 46%	Reduced from 35% to 28%
Crude Oil Windfall Profit Tax Act of 1980 ²⁰³	None	None	None
Economic Recovery Tax Act of 1981 ²⁰⁴	Reduced from 70% to 50%	None	Reduced from 28% to 20%
Tax Equity and Fiscal Responsibility Act of 1982 ²⁰⁵	None	None	None
Social Security Amendments of 1983 ²⁰⁶	None	None	None
Deficit Reduction Act of 1984 ²⁰⁷	None	None	None

¹⁹⁶ Pub. L. No. 90-364, § 102, 82 Stat. 251, 251-60.

¹⁹⁷ Pub. L. No. 91-172, §§ 511, 1348, 83 Stat. 487, 635-36, 685.

¹⁹⁸ Pub. L. No. 92-178, 85 Stat. 497.

¹⁹⁹ Pub. L. No. 94-12, 89 Stat. 26.

²⁰⁰ Pub. L. No. 94-455, 90 Stat. 1520.

²⁰¹ Pub. L. No. 95-30, 91 Stat. 126.

²⁰² Pub. L. No. 95-600, §§ 301, 403, 92 Stat. 2763, 2820, 2868.

²⁰³ Pub. L. No. 96-223, 94 Stat. 229.

²⁰⁴ Pub. L. No. 97-34, §§ 101, 102, 95 Stat. 172, 1186.

²⁰⁵ Pub. L. No. 97-248, 96 Stat. 324.

²⁰⁶ Pub. L. No. 98-21, 97 Stat. 65.

²⁰⁷ Pub. L. No. 98-369, 98 Stat. 494.

Tax Reform Act of 1986 ²⁰⁸	Decreased from 50% to 28%	Decreased from 46% to 34%	Increased from 20% to 28%
Omnibus Budget Reconciliation Act of 1987 ²⁰⁹	None	None	None
Omnibus Budget Reconciliation Act of 1990 ²¹⁰	Increased from 28% to 31%	None	None
Omnibus Budget Reconciliation Act of 1993 ²¹¹	Increased from 31% to 39.6%	Increased from 34% to 35%	None
Taxpayer Relief Act of 1997 ²¹²	None	None	Reduced from 28% to 20%
Economic Growth and Tax Relief Reconciliation Act of 2001 ²¹³	Gradually reduced from 39.6% to 35% (temporary)	None	None
Job Creation and Worker Assistance Act of 2002 ²¹⁴	None	None	None
Jobs and Growth Tax Relief Reconciliation Act of 2003 ²¹⁵	Reduced from 38.6% to 35% ²¹⁶ (temporary)	None	Reduced from 20% to 15% (temporary)
Working Families Tax Relief Act of 2004 ²¹⁷	None	None	None
Tax Increase Prevention and Reconciliation Act of 2005 ²¹⁸	None	None	Extended 15% rate (temporary)
Economic Stimulus Act of 2008 ²¹⁹	None	None	None
American Recovery and Reinvestment Act of 2009 ²²⁰	None	None	None

²⁰⁸ Pub. L. No. 99-514, §§ 101, 302, 601, 100 Stat. 2085, 2096, 2218-49.

²⁰⁹ Pub. L. No. 100-203, 101 Stat. 1330.

²¹⁰ Pub. L. No. 100-203, § 11101, 104 Stat. 1388, 403-05.

²¹¹ Pub. L. No. 103-66, § 13201, 13221, 107 Stat. 312, 457, 477.

²¹² Pub. L. No. 105-34, § 311, 111 Stat. 788, 831.

²¹³ Pub. L. No. 107-16, § 101, 115 Stat. 38, 42.

²¹⁴ Pub. L. No. 107-147, 116 Stat. 21.

²¹⁵ Pub. L. No. 108-27, §§ 105, 301, 117 Stat. 752, 755-58.

²¹⁶ This legislation accelerated a rate reduction that was already scheduled to take effect in 2006 under EGTRRA.

²¹⁷ Pub. L. No. 108-311, 118 Stat. 1166.

²¹⁸ Pub. L. No. 109-222, § 102, 120 Stat. 345, 346.

²¹⁹ Pub. L. No. 110-185, 122 Stat. 613.

²²⁰ Pub. L. No. 111-5, 123 Stat. 115.

Tax Relief,
Unemployment
Insurance
Reauthorization,
and Job Creation
Act of 2010²²¹

Extended 35%
rate (temporary)

None

Extended 15%
rate (temporary)

American
Taxpayer Relief
Act of 2012²²²

Reverted to 39.6%

None

Reverted to 20%

²²¹ Pub. L. No. 111-312, §§ 102, 103, 124 Stat. 3296, 3298-99.

²²² Pub. L. No. 112-240, § 101, 126 Stat. 2313, 2315-16 (2013). The American Taxpayer Relief Act of 2012 also added a Medicare surtax of 0.9% on earned income and 3.8% on net investment income (which includes capital gains). *Id.* § 102, 126 Stat. at 2318.

APPENDIX B:

EFFECT OF DEBT AND/OR DEFICIT ON LEGISLATOR VOTING ON RATES

Dependent Variable: DW-NOMINATE Score of Indifferent Legislator

	<i>Model 6 Current Deficit-to- GDP Ratio</i>	<i>Model 6A Lagged Deficit-to- GDP Ratio</i>	<i>Model 6B Current Debt- to-GDP Ratio</i>	<i>Model 6C Lagged Debt- to-GDP Ratio</i>
<i>Constant</i>	0.658 (0.139)***	0.666 (0.134)***	0.656 (0.140)***	0.656 (0.140)***
<i>Capital gain</i>	-0.0418 (0.0063)***	-0.0421 (0.0060)***	-0.0417 (0.0063)***	-0.0417 (0.0063)***
<i>Top rate</i>	-0.0280 (0.0053)***	-0.0285 (0.0053)***	-0.0270 (0.0051)***	-0.0269 (0.0055)***
<i>Top rate * year</i>	-0.000384 (0.000138)*	-0.000400 (0.000139)*	-0.000353 (0.000128)**	-0.000350 (0.000135)*
<i>Deficit-to- GDP ratio</i>	0.0047 (0.0189)			
<i>Deficit-to- GDP ratio (one-year lag)</i>		0.0068 (0.0149)		
<i>Debt-to-GDP ratio</i>			-0.00066 (0.00303)	
<i>Debt-to-GDP ratio (one-year lag)</i>				-0.00073 (0.00340)
<i>Adjusted R- squared</i>	.78	.79	.78	.78

One of the surprising results that we report in Section II.D is that we do not find evidence that the fiscal environment influences the cut-lines of voting on tax rates. Here, we report robustness checks using different measures of the fiscal environment.

Model 6 (reported in Section II.D) measured the fiscal environment by using the current deficit-to-GDP ratio. Model 6A uses the same variable but lags it by one year.²²³ Model 6B uses the current *debt*-to-GDP ratio rather than the *deficit*-to-GDP ratio. Model 6C uses the one-year lagged debt-to-gdp ratio.

Regardless of the variable used to measure the fiscal environment, the coefficients are not statistically significant at the .10-level. The coefficients reported in Model 6 and 6A are at least the expected sign (positive). The coefficients reported in Model 6B and 6C for the debt-

²²³ The Congressional Budget Office reports historical debt-to-GDP ratios. Cong. Budget Office, Historical Budget Data (2014), <http://www.cbo.gov/publication/45249>.

to-gdp ratios are not statistically significant at the .10-level and have the wrong sign.²²⁴

Adding any of these measures of the fiscal environment reduces the adjusted R-squared relative to Model 3.

²²⁴ A negative coefficient suggests that legislators become marginally more resistant to tax rate increases (and marginally more supportive of tax cuts) as deficits increase.