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## POLITICAL UNCERTAINTY IN THE LAW

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*Legal scholarship emphasizes the importance of legislating and adjudicating in a way that reduces legal uncertainty. This view typically treats political uncertainty as a nuisance that cannot be accounted for. In this paper we use tax policy as a model for how to explicitly incorporate political uncertainty into policy-making. We estimate a model of legislator preferences on tax rates and show that the political process can be well understood in terms of the preferences of key legislators. We use our statistical model to forecast the direction of tax rate changes in the future. Estimating political uncertainty offers insights into the behavioral effects of the law, the stability of major legislative reforms, and the likely trajectory of policy change.*

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### Introduction

A hallowed tradition in the study of the law is to emphasize the importance of certainty. Justice Holmes famously stated that “the tendency of the law must always be to narrow the field of uncertainty.”<sup>1</sup> The accretion of judicial precedent and administrative guidance rests on this broad principle. However, 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. Although the Founders hoped for leadership by wise statesmen, they understood that changes in the law need not respond only to changing circumstances.<sup>2</sup> Laws change when coalitions form that represent ideologies or interests that conflict sufficiently with the status quo. Political uncertainty is unavoidable.

Many scholars have recognized the political system as an important source of legal uncertainty.<sup>3</sup> But they treat political uncertainty as an outside force that occasionally disturbs the legal equilibrium. Beyond this bare recognition of political uncertainty, there is surprisingly little consideration of it in legal scholarship.

Analysis of political uncertainty can go further. We find that we can reasonably forecast political uncertainty with respect to an important policy variable: tax rates. Two empirical findings drive this result. First, we demonstrate that tax rate preferences map quite nicely onto the liberal-conservative spectrum. By using roll call votes, we estimate this mapping. It allows us to predict the tax rate preferences of any particular legislator based on how liberal or conservative he or she is. What top rate does Sen.

<sup>1</sup> OLIVER WENDELL HOLMES, JR., *THE COMMON LAW* (1881).

<sup>2</sup> *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.”).

<sup>3</sup> *See, e.g.*, RICHARD A. POSNER, *ECONOMIC ANALYSIS OF LAW* 567 (2007) (“once a statute is passed, it is unlikely, given the press of other legislative business to soon be substantially altered or repealed. The impediments to legislation endow legislation, once enacted, with a measure of durability, thereby increasing the value of and hence the demand for legislation.”); Louis Kaplow, *An Economic Analysis of Legal Transitions*, 99 HARV. L. REV. 509, 527 (1986) (“For example, it is often suggested that, over the long run, uncertainty concerning future government action ... will disrupt investment generally and increase the cost of future government incentive program because such uncertainty diminishes confidence in their permanence.”).

Mitch McConnell prefer? What capital gains rate does President Obama want? Our mapping allows us to give rough answers to these questions.

Second, the policy positions of key legislators drive movement in 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.<sup>4</sup> These pivots include the President, the median member of the House, and the median member of the Senate.<sup>5</sup> Our mapping allows us to calculate the policy preferences of these pivots. By comparing these preferences with current law, we can predict whether tax rates will change, whether they will go up or down, and a rough probability distribution of what rate will result.

By roughly forecasting tax rates, we add some empirical flesh to the idea of political uncertainty where little has existed in the legal literature. The lack of discussion of political uncertainty in the extant literature is an unfortunate oversight given that political certainty is incompatible with democracy (or perhaps any governmental system). Rather than discussing laws as immutable rules, acknowledging political uncertainty allows us to think about current law in the context of the feasible or likely range of laws in the near future. 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. 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 political uncertainty may be applied to many 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.<sup>6</sup>

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<sup>4</sup> KEITH KREHBIEL, *PIVOTAL POLITICS* (1998). *See also* DAVID W. BRADY & CRAIG VOLDEN, *REVOLVING GRIDLOCK: POLITICS AND POLICY FROM JIMMY CARTER TO GEORGE W. BUSH* (2005); GARY W. COX & MATHEW D. MCCUBBINS, *SETTING THE AGENDA: RESPONSIBLE PARTY GOVERNMENT IN THE U.S. HOUSE OF REPRESENTATIVES* (2005).

<sup>5</sup> As we discuss later in the paper, there are other legislators that may matter as well. Krehbiel, for example, stresses the importance of the marginal member needed to end a filibuster. KREHBIEL, *supra* note 4, at 23.

<sup>6</sup> Uncertainty can result in misallocated resources, decreased investment, and reduced government revenue. Francisco Gomes, Laurence J. Kotlikoff & Luis M. Viceira, *The Excess Burden of Government Indecision*, in *TAX POLICY AND THE ECONOMY* 125, 125-163 (Jeffrey Brown ed., 2011); Ellen R. McGrattan, *Capital Taxation during the U.S. Great Depression*, 127 Q.J. ECON. 1515 (2012). Kevin A. Hassett & Gilbert E. Metcalf, *Investment with Uncertain Tax Policy: Does Random Tax Policy Discourage Investment?*, 109 ECON. J. 372 (1999). *Cf.* Scott R. Baker, Nicholas Bloom & Steven J. Davis, *Measuring Economic Policy Uncertainty* (Chi. Booth Research Paper No. 13-02, 2013).

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Numerous observers have called for Congress to stop changing the law in order to create a more certain environment.<sup>7</sup>

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 probability distribution over that range.

We find that both the current top marginal rate and the current capital gains rate are near the top of their respective distributions. In other words, the political 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 efficient allocation of capital? (The asymmetric political 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 political 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 political 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. 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 rates were considered separately. Our framework suggests that each constituent piece of any major reform should be separately evaluated for political stability.

This Article proceeds as follows. Part I estimates a mapping of legislator preferences with respect to tax rates. Part II demonstrates how these preferences are translated into law. Our framework strikingly explains the evolution of tax rates over the past 40 years. Part III explores the political uncertainty of tax rates. We investigate how the asymmetric uncertainty of these rates influences several important policy debates. Part

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<sup>7</sup> See, e.g., PRESIDENT'S ADVISORY PANEL ON FEDERAL TAX REFORM, SIMPLE, FAIR, AND PRO-GROWTH: PROPOSALS TO FIX AMERICA'S TAX SYSTEM xiii (2005), available at <http://www.taxpolicycenter.org/taxtopics/upload/tax-panel-2.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.").

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IV uses the lens of political uncertainty to analyze the political stability of major reform. Part V concludes by considering extensions of our methodology and reflecting on the role of political uncertainty in other areas of the law.

### I. Mapping the Political Space

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.

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.<sup>8</sup> 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 cutoff or “cut-line.” Legislators to the left of that cutoff vote together, and legislators to the right of that cutoff 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.<sup>9</sup>

So what? After all, this is entirely an *ex post* exercise. We are not predicting how legislators will vote in the future – we are merely characterizing how they voted in the past. Nonetheless, the fact that most of these votes can be characterized by a single set of scores, a single “dimension” if you will, means that there appears to be some common set of considerations that is determining these disparate votes. If each legislator had a unique and distinctive political ideology, then our exercise of characterizing votes would fail miserably, because coalitions would be different on every bill. If, say, there were three major sets of separate considerations on which legislators differed, each one unrelated to the others, then our exercise would not do too well either. We might wish to give each legislator scores on three different dimensions, and separate bills into three groups, one for each score. A remarkable finding from political science shows that in recent years, there is little advantage to such a strategy. One score accurately predicts most of the votes, with little to be gained from additional dimensions.<sup>10</sup>

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<sup>8</sup> The canonical citation for this result is: KEITH T. POOLE & HOWARD ROSENTHAL, *IDEOLOGY & CONGRESS* 32-57 (2007).

<sup>9</sup> *Id.* at 32-41.

<sup>10</sup> *Id.* at 34.

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What does it mean to choose scores and cut-lines wisely? One way is to use an algorithm that chooses these values to minimize errors. This method is called “optimal classification.” Another way is to assume some underlying calculus of choices with a stochastic component, and to minimize the probability that any given legislator makes an “unlikely” choice, such as a very conservative legislator voting for a very liberal bill. The most famous and frequently used method that operates along these lines is Poole and Rosenthal’s DW-NOMINATE.<sup>11</sup> 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.<sup>12</sup>

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. However, John Boehner 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 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

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<sup>11</sup> *Id.* at 12-30.

<sup>12</sup> 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. However, if 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.* at 26-27.

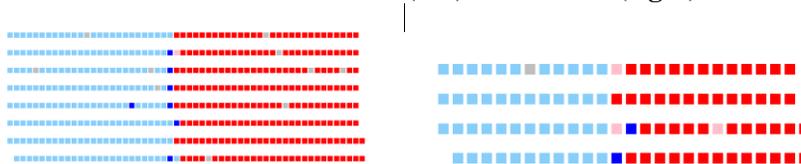
against putting too much stock in comparisons over very long periods of time.<sup>13</sup> After all, the congressional agenda can change dramatically over time, as could perhaps the very meaning of the single “dimension” underlying the votes. Indeed, we will show that a naïve comparison of positions 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 23 major tax policy bills of the last 40 years.<sup>14</sup> 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. 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. The following plot provides a visual representation of the votes. Each legislator in a particular Congress is represented by a square. Blue squares represent Democrats, and red squares represent Republicans. Dark and light shades 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 – House (left) and Senate (right)**



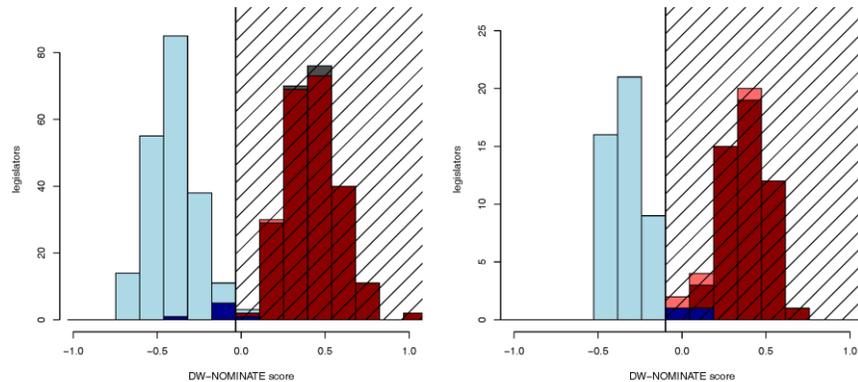
<sup>13</sup> *Id.* at 148-52.

<sup>14</sup> We use a list of major tax legislation recently published in 2011 by the Office of Tax Analysis in the Treasury Department. JERRY TEMPALSKI, U.S. DEPT. OF TREASURY, REVENUE EFFECTS OF MAJOR TAX BILLS (2011), *available at* <http://www.treasury.gov/resource-center/tax-policy/Documents/OTA-Rev-Effects-1940-present-6-6-2011.pdf>. To this list we added the Taxpayer Relief Act of 2012.

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. This is unsurprising given that this bill significantly reduced tax rates. However, parties do not explain all of the voting behavior. The dark blue squares in the middle of each plot represent Democrats who voted for the bill, in contrast to the overwhelming majority of their light blue colleagues. The one light red square on the left plot (the House) and the three light red squares on the right plot (the Senate) represent Republicans who voted against the bill, in contrast to the majority of their colleagues. 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 doesn’t 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 – House (left) and Senate (right)**



Focus for a moment on the left graph representing the House vote. Once again red represents Republicans and blue represents 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

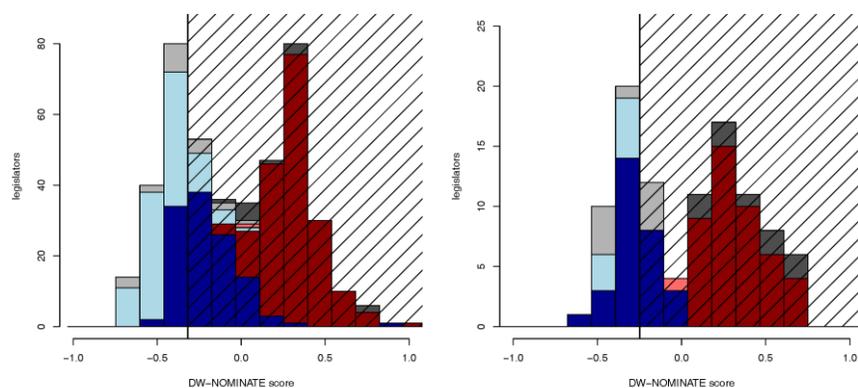
crosshatched portion of the graph indicates the legislators that are predicted to vote yes. The model predicts the voting behavior well. The light hues (legislators voting no) are generally on one side of the cut-line and the dark hues (legislators voting yes) are on the other side of the cut-line.

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 (i.e., dark hues to the left of the cut-line). There are also some legislators voting no that are predicted to vote yes (i.e., 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, 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.

**Figure 3. Vote Coalitions in the Economic Recovery Act of 1981 – House (left) and Senate (right)**



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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.<sup>15</sup> 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.

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 median 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 will be important in our discussion of the history of tax rates.

## **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 marginal tax rate from 31% to 39.6%. The cut-line for that vote was -0.15, a "score" that is just left of center.<sup>16</sup> Legislators with lower DW-NOMINATE scores are predicted to vote no. Legislators with higher DW-NOMINATE scores are predicted to vote yes. 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

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<sup>15</sup> Only one Republican in each chamber voted against the legislation.

<sup>16</sup> 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.

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%).<sup>17</sup>

This mapping is the foundation of our unpacking of the political 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). This is what will allow us to explore the political uncertainty of tax rates.

In this project, we focus on mapping the most salient<sup>18</sup> of preferences – the top marginal rate and the capital gains rate – onto the DW-NOMINATE space.<sup>19</sup> Since these rates are generally the most salient features of most tax bills, the roll call votes on these bills provide us the most information regarding legislative preferences on rates. Even if a bill contains one hundred different provisions, the voting on that bill will be predominantly explained by a handful of major provisions.<sup>20</sup> Smaller provisions may explain a vote or two, but only for those legislators who were indifferent on the package of major provisions.<sup>21</sup>

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<sup>17</sup> 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.

<sup>18</sup> The tax literature has distinguished two dimension of tax salience. Economic (or market) salience refers to how a tax (or a tax design feature) affects economic decision-making. Deborah H. Schenk, *Exploiting the Salience Bias in Designing Taxes*, 28 YALE J. ON REG. 253, 272-74 (2011); David Gamage & Darien Shanske, *Three Essays on Tax Salience: Market Salience and Political Salience*, 65 TAX L. REV. 19, 20 (2011). Political salience refers to how important a tax (or tax design feature) is for political purposes. Top marginal rates have high economic and political salience. *See, e.g.*, Schenk, at 275.

<sup>19</sup> In this project, we focus on top *statutory* marginal rates for capital gains and ordinary income. The top effective marginal rate can sometimes 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. 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.

<sup>20</sup> 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, *supra* note 18, 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.").

<sup>21</sup> 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*

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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 Act is an example of one-sided legislation, while the 1986 Act is an example of compromise legislation.<sup>22</sup> 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 top corporate tax rate from 46% to 34%. But it also increased the capital gains rate from 20% to 28%. The first two rate changes moved policy in a conservative direction. The latter change moved policy in a liberal direction.<sup>23</sup>

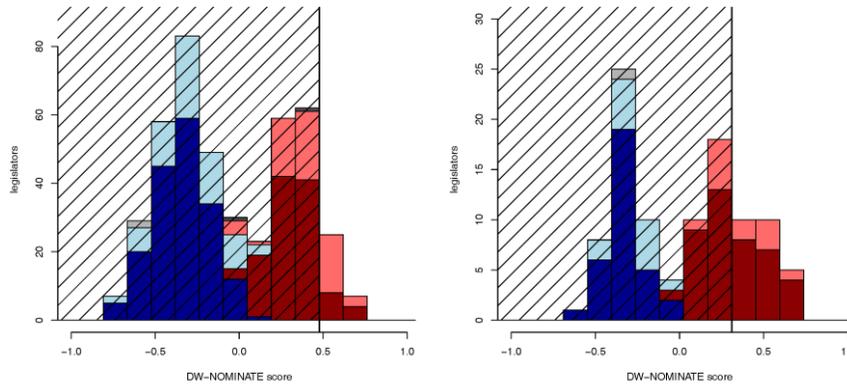
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Tim Groseclose & James M. Snyder Jr., *Buying Supermajorities*, 90 AM. POL. SCI. REV. 303 (1996).

<sup>22</sup> 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.

<sup>23</sup> 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 20<sup>th</sup> century. At the same time that corporate and individual rates were lowered, the tax base was broadened substantially by eliminating 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.

**Figure 4. Vote Coalitions in the 1986 Tax Reform Act – House (left) and Senate (right)**



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.<sup>24</sup>

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 will have much more difficulty making statements about the likelihood of compromise legislation than of one-sided legislation. However, our methodology will allow us to examine the political stability of any such rate compromise. We will return to this point in Part IV.

### C. Mapping Rate Preferences onto the Political Spectrum

What have we learned in the last Section? 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

<sup>24</sup> JEFFREY H. BIRNBAUM & ALAN S. MURRAY, *SHOWDOWN AT GUCCI GULCH: LAWMAKERS, LOBBYISTS, AND THE UNLIKELY TRIUMPH OF TAX REFORM* (1988).

the liberal-conservative spectrum.<sup>25</sup> 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. The next table summarizes a simple linear regression model of this relationship.

**Table 1. Mapping of Rate Preferences**

| Dependent Variable: DW-NOMINATE Score of Cut-line |                       |                        |                        |                           |                           |
|---|-----------------------|------------------------|------------------------|---------------------------|---------------------------|
|   | Model 1               | Model 2                | Model 3                | Model 4                   | Model 5                   |
| Constant  | 0.427<br>(0.133)*     | 0.414<br>(0.181)*      | 0.437<br>(0.146)*      | 0.642<br>(.118)***        | 0.722<br>(0.123)***       |
| cg * cg_d   | -0.0317<br>(0.006)*** | -0.0305<br>(0.0114)*   | -0.0345<br>(0.0093)**  | -0.0411<br>(0.0053)***    | -0.0489<br>(0.0072)***    |
| tr * tr_d   | -0.0146<br>(0.003)*** | -0.0143<br>(0.0044)**  | -0.0223<br>(0.0046)*** | -0.0274<br>(0.0045)***    | -0.0312<br>(0.0050)***    |
| cg * cg_d<br>* year                               |                       | 0.000027<br>(0.000217) | 0.000509<br>(0.000252) |                           |                           |
| tr * tr_d *<br>year                               |                       |                        |                        | -0.000365<br>(0.000111)** | -0.000339<br>(0.000106)** |
| year  |                       |                        | -0.0161<br>(0.0061)*   |                           | -0.00543<br>(0.00352)     |
| Adjusted<br>R <sup>2</sup>                        | .6399                 | .6078                  | .7464                  | .8027                     | .8246                     |

The dependent variable in the regression is the DW-NOMINATE cut-line for each bill (i.e., how liberal or conservative the indifferent legislator is). “cg” denotes the average of the top rate that applied to capital gains under prior law and the top rate that applies to capital gains under the bill. “tr” 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, “cg” and “tr” are our estimates of the tax rate and capital gains preferences of the indifferent legislator. “cg\_d” and “tr\_d” are dummy variables for whether these policies were changed by the bill in question. 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. “year” is the year that the legislation is enacted where the base year is 2010. So, for instance, 1968 is the year “-42” for our purposes.

<sup>25</sup> 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. 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* 251 (Alberto Alesina & Geoffrey Carliner eds., 1991).

Model 1 includes just two explanatory variables. The first ( $cg * cg\_d$ ) captures how a change in the capital gains rate affects the cut-line. The second ( $tr * tr\_d$ ) captures how the top marginal tax rate affects the cut-line. Our intuition is that higher rates should be associated with more liberal cut-lines. 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 .6399. 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 2-5 explore how the mapping of preferences has shifted over the past forty years. Models 2-3 explore whether legislator preferences with respect to the capital gains rate have shifted over time by including the year as a variable in the mapping. Models 4-5 similarly explore whether legislator preferences with respect to the top marginal rate have shifted over time.

Model 2 adds an additional explanatory variable that interacts the capital gain variable with the year ( $cg * cg\_d * year$ ). This variable 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 .05-level) and have the expected sign. Adding this variable actually worsens the fit – the adjusted R-squared goes down to .6078. The coefficient for this new explanatory variable is statistically insignificant 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.<sup>26</sup>

In other words, legislator preferences regarding the capital gains rate have been consistent and predictable based on DW-NOMINATE scores. If we put a moderate liberal from the 1970s 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) and Senator Claire McCaskill (2012 DW-NOMINATE score of -0.16) could talk about the capital gains rate over lunch and perhaps find that they more or less agreed with each other. The model predicts that they would both think that a capital gains rate of roughly 20% would be ideal.

As a robustness check, Model 3 includes the year as an additional explanatory variable. The two original explanatory variables remain statistically significant at the .01-level and have the expected sign. The “ $cg * cg\_d * year$ ” coefficient (measuring the shift over time in preferences regarding the capital gains rate) remains statistically insignificant at the .05 level. However, the “year” coefficient is significant at the .05-level and is

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<sup>26</sup> In our sample, the earliest piece of legislation involving a capital gains rate change is 1978. We can only speculate as to the mapping of capital gains rate preferences prior to this time.

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negative. This suggests that the cut-lines of tax bills have generally shifted to the right over time. Given that Model 2 and Model 3 show no shift in preferences with respect to the capital gains rate, our next two models test for a shift in preferences with respect to the top rate.

Model 4 adds “tr \* tr\_d \* year” as an explanatory variable 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 40 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 .8027.

Let’s 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’d wandered into an alternate universe. Model 4 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 4, there has been roughly a 20% reduction in the top marginal rate preferred by moderate liberals.

This was reflected in the votes on the 2001 Bush tax cuts. The 2001 tax act moved the top rate from 39.6% to 35%. Legislators with DW-NOMINATE scores close to Senator Javits’s score of -0.16 voted overwhelmingly in favor of the change.<sup>27</sup> 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.<sup>28</sup>

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<sup>27</sup> There were ten legislators with DW-NOMINATE scores within 0.03 of Senator Javits. Reps. Cramer (AL 5), Ross (AK 4), Roemer (IN 3), Matheson (UT 2), Peterson (MN 7), and John (LA 7) and Senator Lincoln (AK) voted for the tax cut. Only Reps. Skelton (MO 4) and Hill (IN 9) and Senator Bayh (IN) voted against it.

<sup>28</sup> 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. 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-percent. In contrast, the 2001 legislation reduced the top marginal tax rate from 39.6 to 35-percent. 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-percent. By 2001, a similarly liberal legislator was indifferent between top marginal rate of 39.6 and 35-percent.

Another way to see the change in rate preferences is to consider where 55% (Senator Javits's predicted top rate preference in 1978) would fall on the liberal-conservative spectrum today. The model predicts that in 2014, 55% maps onto a DW-NOMINATE score of -0.95. If Senator Javits tried to create a PAC 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.<sup>29</sup> 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.

As a robustness check, Model 5 adds the "year" explanatory variable. In contrast to Model 3, we see that the year variable is no longer statistically significant. This suggests that in Model 3, the year variable was (imperfectly) picking up changes in top rate preferences that are now better captured with the "tr \* tr\_d \* year" variable. All of the other variables remain statistically significant at the .01-level or the .001-level. The fit remains excellent – the adjusted R-squared for Model 5 is .8246.

While the mapping of capital gains rates onto the DW-NOMINATE space has been stable, our empirical results show a significant drift in legislator preferences regarding the top rate. 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 Vietnam War, and the Korean War. Scholars have shown that military conflicts are important explainers of increases in tax rates.<sup>30</sup> 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. As debt-levels came down, legislator preferences may have shifted towards lower rates.<sup>31</sup> Second, the economic rationale against very high tax rates (as discouraging economic growth, reducing labor supply, etc.) has become more widely accepted during this time.<sup>32</sup> 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.

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<sup>29</sup> The most liberal member of Congress is Dennis Kucinich, with a common-space DW-NOMINATE score of -0.78.

<sup>30</sup> See STEVEN A. BANK, KIRK J. STARK & JOSEPH J. THORNDIKE, *WAR AND TAXES* (2008), and Kenneth Scheve & David Stasavage, *The Conscripted of Wealth: Mass Warfare and the Demand for Progressive Taxation*, 64 INT'L ORG. 529 (2010).

<sup>31</sup> 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 I.D, *infra*, that the recent *increase* in debt-to-GDP ratios has not been accompanied (at least yet) by a leftward shift in rate preferences.

<sup>32</sup> See Adam Bonica et al., *Why Hasn't Democracy Slowed Rising Inequality?* 27 J. ECON. PERSP. 103 (2013).

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. However, we hypothesize that the rightward shift on the top rate occurred earlier in our sample, and that rate preferences have been more or less stable since the late 1980s.<sup>33</sup> Model 6 tests this by allowing the time trend to be different before and after 1986<sup>34</sup>. In other words, Model 4 assumed that top rate preferences with respect to the top rate changed at a linear rate throughout the sample period. Model 6 asks whether the shift in top rate preferences was different before and after 1986. Model 6 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 7 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 4. We see that 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 4.

**Table 2. The Shift in the Mapping of Top Rate Preferences**

| Dependent Variable: DW-NOMINATE Score of Cut-line |                           |                          |                         |                        |
|---|---------------------------|--------------------------|-------------------------|------------------------|
|   | Model 4                   | Model 6                  | Model 7                 | Model 8                |
| Constant  | 0.642<br>(.118)***        | 0.649<br>(0.142)***      | 1.292<br>(.090)***      | 1.322<br>(0.080)***    |
| cg * cg_d   | -0.0411<br>(0.0053)***    | -0.0414<br>(0.0064)***   | -0.0776<br>(.0047)***   | -0.0792<br>(0.0043)*** |
| tr * tr_d   | -0.0274<br>(0.0045)***    | -0.0273<br>(0.0049)***   | -0.0420<br>(.00238)***  | -0.0418<br>(0.0023)*** |
| tr * tr_d * year                                  | -0.000365<br>(0.000111)** |                          | -.0000770<br>(.0000913) |                        |
| tr * tr_d * year *<br>pre1986                     |                           | -0.000358<br>(0.000133)* |                         |                        |
| tr * tr_d * year *<br>post1986                    |                           | -0.000340<br>(0.000258)  |                         |                        |
| Adjusted R <sup>2</sup>                           | .8027                     | .7833                    | .9734                   | .9745                  |

<sup>33</sup> See BRADY & VOLDEN, *supra* note 4, at 60-63 (noting that the 1980s marked a transition to a more restrictive budgetary environment where political decisions regarding taxing and spending were more tightly linked); Don Fullerton, *Tax Policy*, in AMERICAN ECONOMIC POLICY IN THE 1980S 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.... The making of tax policy would never be the same”).

<sup>34</sup> 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.

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Models 6, 7 and 8 suggest that preferences with respect to the top rate have been relatively stable since the late 1980s. With this stable mapping, it is possible to discuss uncertainty with respect to the top rate.<sup>35</sup> However, first we should address one prominent alternative hypothesis about tax rates.

**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. Models 9-12 consider two other possible explanatory variables. One might think that the debt or the deficit might influence how legislators vote on tax rates. The general intuition is that if the deficit or the debt is high, then there may be greater tolerance for higher tax rates. Conversely, if the deficit and/or the debt are low, legislators may prefer relatively lower tax rates. If legislators' preferences regarding the top rate are influenced by the debt or deficit level, we would expect cut-lines generally to move to the right as the debt or deficit level (relative to GDP) gets higher. Changes in debt alter the policy implications of different rates, so it is reasonable to expect that debt should be an important factor. The next set of regressions explore whether there is any evidence of tax rate preferences being affected by the debt or deficit level.

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<sup>35</sup> We will generally use Model 8 for forward looking purposes. We will generally use Model 5 when discussing the historical evolution of rates.

**Table 3. Effects of Fiscal Context on Mapping of Rate Preferences**

| Dependent Variable: DW-NOMINATE Score of Cut-line |                               |                               |                              |                              |                              |
|---|-------------------------------|-------------------------------|------------------------------|------------------------------|------------------------------|
|   | Model 4                       | Model 9                       | Model 10                     | Model 11                     | Model 12                     |
| Constant  | 0.642<br>(.118)***            | 0.656<br>(0.140)***           | 0.656<br>(0.140)***          | 0.658<br>(0.139)***          | 0.666<br>(0.134)***          |
| cg * cg_d   | -0.0411<br>(0.0053)***        | -0.0417<br>(0.0063)***        | -0.0417<br>(0.0063)**<br>*   | -0.0418<br>(0.0063)**<br>*   | -0.0421<br>(0.0060)**<br>*   |
| tr * tr_d   | -0.0274<br>(0.0045)***        | -0.0270<br>(0.0051)***        | -0.0269<br>(0.0055)**<br>*   | -0.0280<br>(0.0053)**<br>*   | -0.0285<br>(0.0053)**<br>*   |
| tr * tr_d * year                                  | -0.000365<br>(0.000111)*<br>* | -0.000353<br>(0.000128)*<br>* | -0.000350<br>(0.000135)<br>* | -0.000384<br>(0.000138)<br>* | -0.000400<br>(0.000139)<br>* |
| debt_gdp_ratio *<br>tr_d                          |                               | -0.00066<br>(0.00303)         |                              |                              |                              |
| debt_gdp_ratio_l<br>ag * tr_d                     |                               |                               | -0.00073<br>(0.00340)        |                              |                              |
| def_gdp_ratio *<br>tr_d                           |                               |                               |                              | 0.0047<br>(0.0189)           |                              |
| def_gdp_ratio<br>_lag * tr_d                      |                               |                               |                              |                              | 0.0068<br>(0.0149)           |
| Adjusted R <sup>2</sup>                           | .8027                         | .7840                         | .7840                        | .7844                        | .7874                        |

Model 9 adds the current debt-to-gdp ratio to Model 4. Model 10 adds the one-year lagged debt-to-gdp ratio to Model 4.<sup>36</sup> The coefficients for the debt-to-gdp ratios are positive, which is the expected sign. As debt-levels get higher, we expect cut-lines to shift to the right – the indifferent legislator would be increasingly conservative the higher the debt-level. However, neither coefficient is statistically significant at the .10-level. Furthermore, neither the current debt-to-gdp ratio nor the lagged ratio improves the fit of the model. The adjusted R-squared of Models 9 and 10 are lower than the adjusted R-squared for Model 4.

Models 11 and 12 are similar to Models 9 and 10 except that Models 11 and 12 include the *deficit*-to-gdp ratio rather than the *debt*-to-gdp ratio. The coefficients for the deficit-to-gdp ratios are not statistically significant at the .10-level and have the wrong sign.<sup>37</sup> Neither the current deficit-to-gdp ratio nor the lagged ratio improves the fit of the model. Adding either of these variables reduces the adjusted R-squared of the model.

Models 9-12 are consistent with each other. 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

<sup>36</sup> The Congressional Budget Office reports historical debt-to-GDP ratios. CONG. BUDGET OFFICE, HISTORICAL BUDGET DATA (2014), available at <http://www.cbo.gov/publication/45249>

<sup>37</sup> A negative coefficient suggests that legislators become marginally more resistant to tax rate increases (and marginally more supportive of tax cuts) as deficits increase.

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liberal or conservative a legislator is – that provide a more accurate explanation of how legislators have voted on tax rate legislation over the past 40 years. In all four models, the *political* variables generally remain significant at the .01-level.<sup>38</sup> More importantly, the coefficients for these variables are not affected by the addition of the debt or deficit ratios.

Political variables are more important than fiscal or economic variables in explaining how politicians have voted on tax rates over the past 40 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.<sup>39</sup> According to that *fiscal* narrative, Bush I raised taxes in 1990 as part of a grand compromise with respect to the budget deficit. Clinton raised rates further in response to continuing deficits. Bush II cut taxes because of budgetary surpluses in the late 90's and early 2000's. 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.<sup>40</sup> The next Part presents that 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 will aid us in Part III when we look to the future to consider rate uncertainty.

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<sup>38</sup> The exceptions are the coefficients measuring the time trend in preferences regarding the top rate, which are now statistically significant at the .05-level (in Models 7-9).

<sup>39</sup> 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, the Economic Stimulus Act of 2008, and the American Recovery and Reinvestment Act of 2009. 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 (i.e., the voting histograms show a clear cut-line). Where that cut-line forms depends largely on the depth of the economic slowdown and the 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.

<sup>40</sup> This is not to say that fiscal considerations are completely unimportant. Part II argues that fiscal pressures are useful in understanding Bush I's tax increase in 1990.

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## II. 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 chambers of Congress). And those are only the vetogates explicitly contained in the Constitution. The filibuster rule in the Senate<sup>41</sup> and the ability of the House majority to control what bills come to a vote<sup>42</sup> 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. A majority in the House, a majority in the Senate, and usually the President must agree to any shift in policy.<sup>43</sup> 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 – e.g., 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 whether legislation can be enacted.<sup>44</sup> These pivotal legislators include: the President, the median member of the House, and the median member of the Senate.<sup>45</sup> Borrowing the framework of Krehbiel’s landmark book, *Pivotal Politics*, we can characterize the feasible range of policies in terms of these “pivots.”<sup>46</sup>

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 60<sup>th</sup> 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

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<sup>41</sup> Senate Rule XXII.

<sup>42</sup> COX & MCCUBBINS, *supra* note 4, at 24.

<sup>43</sup> Depending on the type of bill, 60 senators and a majority of the majority party in the House may also have to agree with the shift in policy.

<sup>44</sup> KREHBIEL, *supra* note 4; BRADY & VOLDEN, *supra* note 4.

<sup>45</sup> 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 will also vote for that bill.

<sup>46</sup> KREHBIEL, *supra* note 4, at 23.

prerogatives given to them by legislative rules.<sup>47</sup> Whereas majorities of each chamber carry constitutional legitimacy, other pivotal actors are subject to public sentiment against “obstructionism” as well as the ability of majorities to change the rules of each chamber – a drastic step, but not an impossible one.<sup>48</sup> Since it is *difficult* (rather than impossible) to pass legislation without the consent of these pivots, we call them “soft” pivots.<sup>49</sup>

We can use DW-NOMINATE to estimate how liberal or conservative each of these pivots is. For example, Table 4 provides the DW-NOMINATE scores of the pivots in the 112<sup>th</sup> Congress.

**Table 4. Pivots in the 112<sup>th</sup> Congress**

| Hard Pivot         | DW-NOMINATE | Soft Pivot                             | DW-NOMINATE |
|--------------------|-------------|--|-------------|
| President (P)      | -0.33       | Left Filibuster (F) <sup>50</sup>      | -0.24       |
| Senate Median (SM) | -0.17       | Right Filibuster (F) <sup>50</sup>     | +0.29       |
| House Median (HM)  | +0.27       | Median of Majority Party in House (MM) | +0.49       |

**Figure 5(a). Plot of Pivots in the 112<sup>th</sup> Congress**

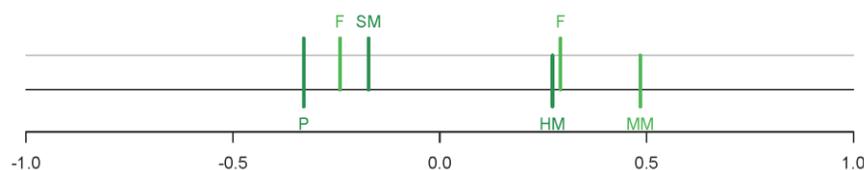


Figure 5(a) plots the pivots in the DW-NOMINATE space. To see how this plot helps us predict legislative action, consider the following two examples. In the first example, assume that the existing capital gains rate is 20%. According to our statistical models, a capital gains rate of 20% roughly maps onto a DW-NOMINATE score of -0.27.<sup>51</sup> The DW-

<sup>47</sup> COX & MCCUBBINS, *supra* note 4.

<sup>48</sup> Chamber majorities sometimes exercise their ability to change the rules and strip power from veto players. For instance, in November of 2013 the majority in the Senate limited the power of the filibuster to block executive appointments. 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.

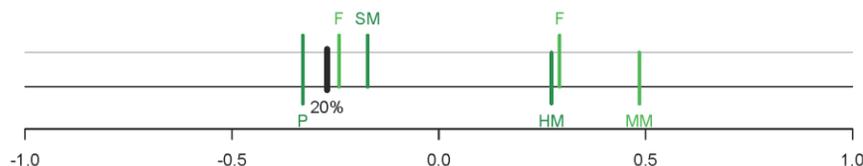
<sup>49</sup> For example, the 60<sup>th</sup> senator’s support is unnecessary if the tax bill is passed through the reconciliation procedure.

<sup>50</sup> Depending on which way a bill proposes to move policy, the 60<sup>th</sup> senator is a different legislator.

<sup>51</sup> Model 5 predicts that a 20% capital gains rate maps roughly onto a DW-NOMINATE score of -0.27. Model 7 and Model 8 both predict that a 20% capital gains rate maps onto -0.26.

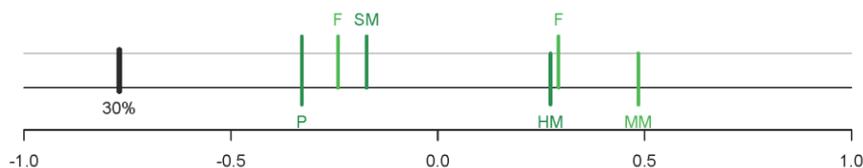
NOMINATE score of -0.27 tells us that this is a relatively liberal policy. Clearly, the Republicans in the House would like to lower this rate. Let's say that the House passes a bill to lower the capital gains rate to 15%.<sup>52</sup> However, that bill would not become law because the President would veto it.<sup>53</sup> Figure 5(b) 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.

**Figure 5(b). 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 5(c), 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%.<sup>54</sup> 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 5(c). Current Rate of 30%: All the pivots want to move the rate down**



<sup>52</sup> Since the median member of the House prefers the bill to current law, every legislator to the right of median member of the House will also prefer the bill to current law.

<sup>53</sup> Moreover, that bill would be filibustered in the Senate. The 60<sup>th</sup> 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.

<sup>54</sup> This can be seen spatially by comparing Figures 5(c) and 5(b). The 20% rate (DW-NOMINATE = -0.27) is closer than the 30% rate (DW-NOMINATE = -0.77) to all of the pivots.

The space between pivots is referred to as the “gridlock zone.”<sup>55</sup> When current law falls in the gridlock zone, successful legislative action is impossible. 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. In the second example, all of the pivots wanted to reduce the capital gains rate.

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 will invert this mapping. Instead of plotting bills in the space of DW-NOMINATE, we will place legislators in the position of their (estimated) most preferred tax rate, starting with top marginal income tax rates. Figure 6 plots (1) our mapping of the gridlock zone and (2) the evolution of the top marginal rate since 1968. The solid green area indicates the “hard” gridlock zone – the gridlock zone defined by the hard pivots. The hatched green 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. 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 status quo due to a sunset provision in the law.<sup>56</sup>

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<sup>55</sup> KREHBIEL, *supra* note 4.

<sup>56</sup> The American Taxpayer Relief Act of 2012 is not included in Figures 6 and 7 because it did not involve a rate change. Rather it was an example of rate inaction – it allowed a previously scheduled sunset to underlying permanent rates to go forward. This is exactly as we expect given that the underlying permanent rates were within the gridlock zone.

**Figure 6. The Pivotal Politics of Top Marginal Tax Rates**

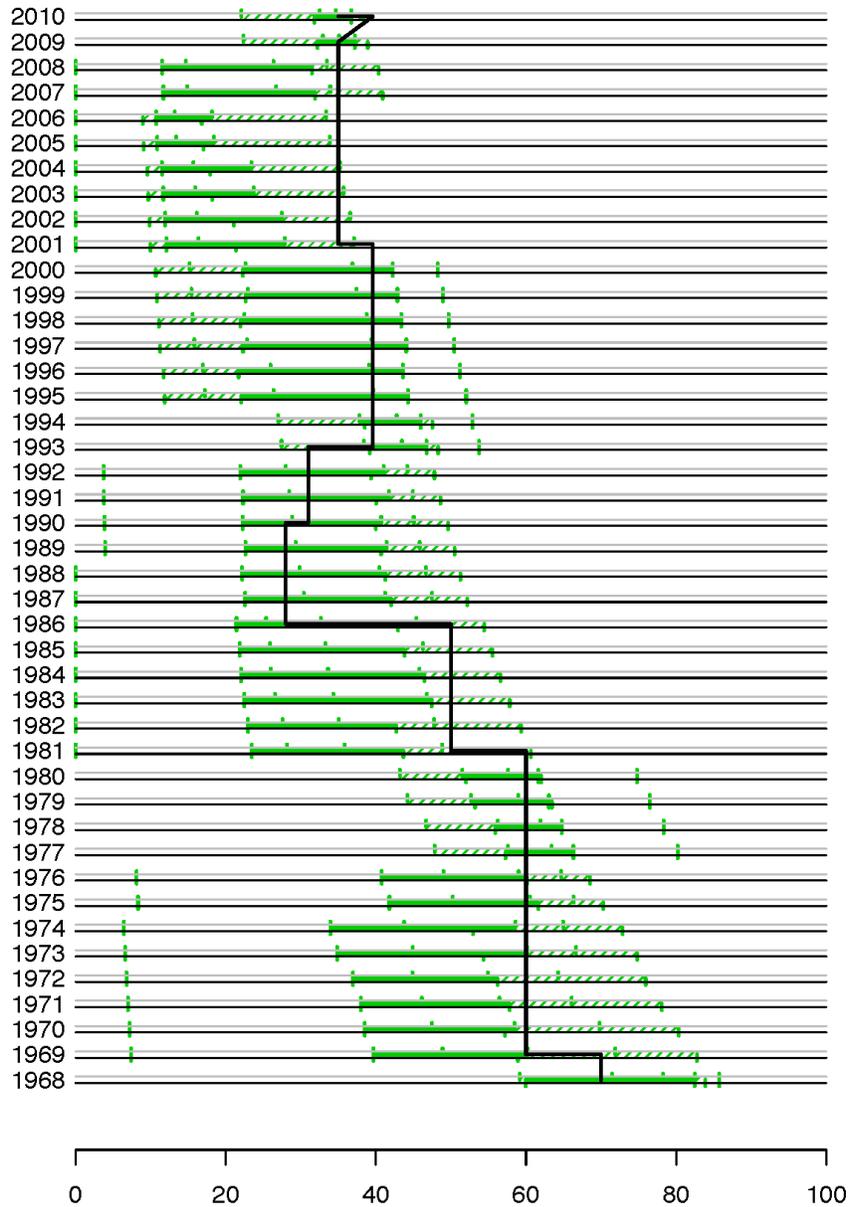
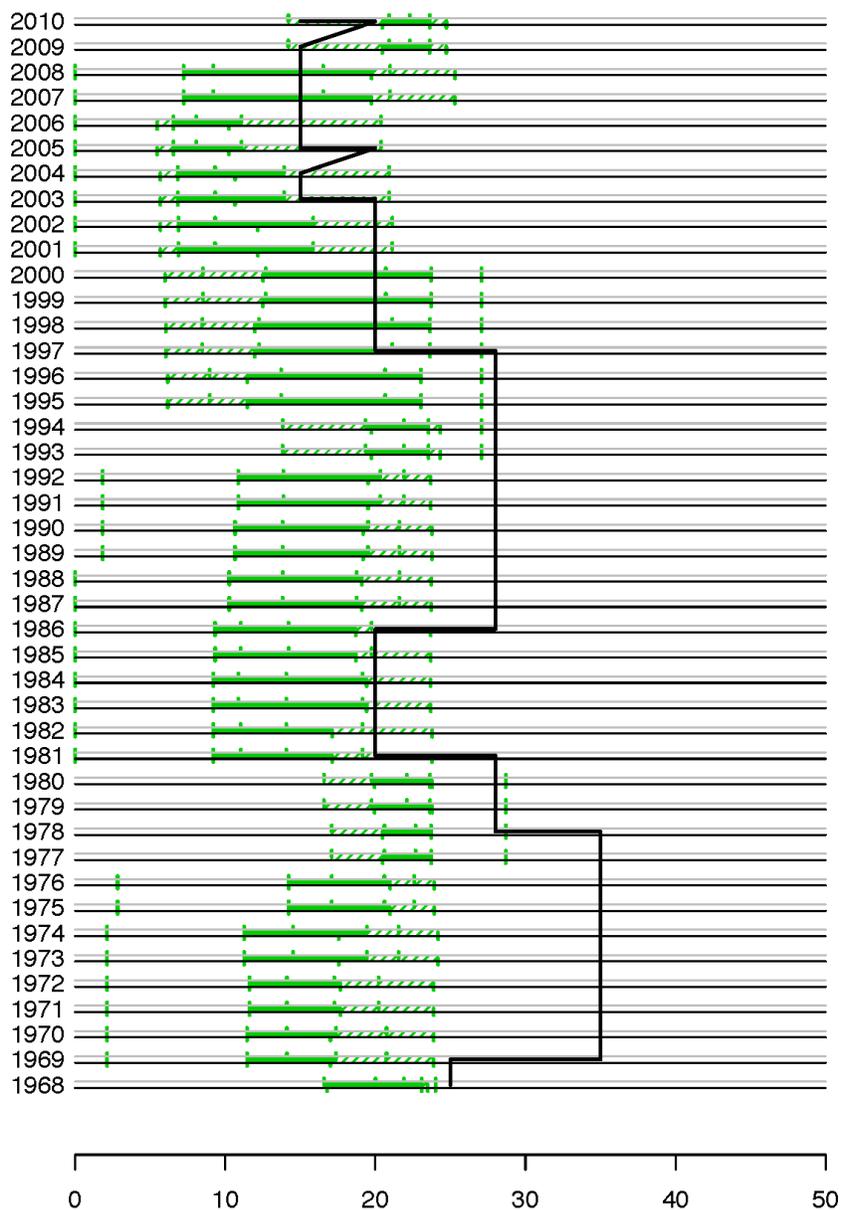


Figure 6 provides a political roadmap of how and why top income tax rates have changed over the past four decades. Figure 7 provides a similar roadmap for capital gains rates. It is important to look at both of these graphs together, particularly in cases where both rates have changed.

**Figure 7. The Pivotal Politics of Top Capital Gains Tax Rates**

Let's pick up the story in 1978, and focus first on the capital gain rate.<sup>57</sup> As seen in Figure 7, 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 Vietnam War and the Korean War, but in 1978 they were no longer thought

<sup>57</sup> Section IV.B, *infra*, discusses the Tax Reform Act of 1969 (an example of rate compromise legislation).

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to be necessary. Legislation was passed moving the capital gains rate to 28% 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.<sup>58</sup>

But why wasn't the top rate also changed (Figure 6)? At that time, the top rate on unearned income was 70% and the top rate on earned income was 50%. To simplify our analysis let's use the average top rate of 60% (the result is similar whether we use 50% or 70%). Figure 6 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.<sup>59</sup> 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 wasn't 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.

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 96<sup>th</sup> Congress (1979-1980). The 96<sup>th</sup> 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 12 net seats in the Senate and took control of a chamber of Congress for the first time since 1954. These electoral changes are reflected in a significant shift in the gridlock zone (in both Figures 6 and 7). 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

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<sup>58</sup> 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 IV.B, *infra*, discusses rate compromise legislation and discusses reasons why it may have taken several years for the capital gains rate to be brought back down to a more moderate level.

<sup>59</sup> 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.

the top rate down to 50% and the capital gains rate to 20%. 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 6 shows that the gridlock zone remained stable from 1981 through 1992.<sup>60</sup> Contrary to our expectations, there were two rate changes during this time. The first was the 1986 Tax Reform Act, which we will discuss in depth later in Section IV.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 6 and 7). 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.<sup>61</sup>

The other piece of legislation during this period was the rate increase in 1990. Given our theory of legislative action, this bill is surprising. The existing top rate of 28% was squarely within the gridlock zone (see Figure 6). 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.<sup>62</sup>

Why didn't Bush veto the rate change? Our prior caveat, that the idiosyncrasies of the President matter, is important here. 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 to pass a budget would trigger a government shutdown. 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 reelection on the fact that he broke his "no new taxes" pledge by voting for the 1990 budget. 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

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<sup>60</sup> 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. The relative stability of the gridlock zone tells us that this change didn't 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.

<sup>61</sup> See further discussion of the rate compromise in the 1986 Tax Reform Act Section IV.B, *infra*.

<sup>62</sup> The model also predicts that the rate reduction did not have the support of the necessary supermajorities in the House and Senate to override a presidential veto.

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.<sup>63</sup> Table 5 lists those provisions in order of their absolute value effect on revenue (only those provisions that were projected to raise or cost at least 10 billion dollars over the five-year period from 1991-1995 are included – costs are listed in millions).

**Table 5. Revenue Raised by Provisions of the Omnibus Budget Reconciliation Act of 1990**

| Provision                                 | 1991  | 1992   | 1993   | 1994   | 1995   | 1991-1995 |
|---|-------|--------|--------|--------|--------|-----------|
| Increase Income Cap on Medicare Tax       | 1,848 | 5,709  | 6,058  | 6,439  | 6,827  | 26,881    |
| Extend and Increase Gas Tax (Temp.)       | 4,406 | 5,203  | 5,111  | 5,119  | 5,200  | 25,039    |
| Increase EITC and Child Healthcare Credit | -183  | -2,810 | -3,496 | -4,471 | -7,338 | -18,298   |
| Limit on Itemized Deductions (Temp.)      | 548   | 3,714  | 4,101  | 4,531  | 5,010  | 17,904    |
| Make Permanent Telephone Tax              | 1,643 | 2,578  | 2,757  | 2,946  | 3,145  | 13,069    |
| Extend and Increase Aviation Tax (Temp.)  | 1,351 | 2,335  | 2,520  | 2,727  | 2,975  | 11,908    |
| Changes to Individual Tax Rates           | 767   | 2,313  | 2,476  | 2,723  | 2,955  | 11,234    |
| Phased Out Personal Exemption (Temp.)     | 1,046 | 2,028  | 2,275  | 2,552  | 2,863  | 10,764    |

So even though the 1990 Act changed the top statutory rate,<sup>64</sup> that change was arguably not the most important characteristic of this bill.<sup>65</sup> The rate change was just one of many revenue raising provisions necessary to avert a potential government shutdown and avoid the automatic cuts (i.e., sequestration) required under the Gramm-Rudman-Hollings Balanced Budget Act. The temporary limitation on itemized deductions was

<sup>63</sup> Joint Comm. on Taxation, Budget Reconciliation (H.R. 5835) – Revenue Provisions as Reported by the Conferees (1990).

<sup>64</sup> The increase in the Medicare income tax cap from \$51,300 to \$125,000 created a significant bubble rate of 2.9%. 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.

<sup>65</sup> 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. 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. *Id.*

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.<sup>66</sup>

In many ways, the 1990 Act is the exception that proves the rule. Over the past 40 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.<sup>67</sup> More specifically, they seem to matter more than deficits.<sup>68</sup>

Returning to Figure 6, 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.<sup>69</sup> Congress can change rates when the existing rate falls outside of the gridlock zone, or at least the “hard” gridlock zone.<sup>70</sup> Figure 6 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 gridlock zone was followed by changes in tax rates.

Figure 7 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 renewed. In that case, the capital gains rate moved in the opposite direction that we would expect. There are a number of mitigating factors in this case. First of all, top rates follow the expected pattern: the sunset rates were too high for Congress at the time, and were 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, at which time an agreement was reached that reverted capital gains rates to 20%. In other words, the eventual agreement reached fits well into our predictions.

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<sup>66</sup> *Id.*

<sup>67</sup> 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.

<sup>68</sup> See discussion in Section I.D, *supra*.

<sup>69</sup> 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. Jason S. Oh, *The Pivotal Politics of Temporary Legislation*, 100 IOWA LAW REVIEW (forthcoming 2015).

<sup>70</sup> There are some examples of status quos that fall within or near the soft gridlock zone (see 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.

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### III. 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 will 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.

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 19<sup>th</sup> century, people did not realize that politics over the first half of the 20<sup>th</sup> century would be dominated by two world wars.

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. 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 pays dividends? Should Bill Gates sell his Microsoft stock 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. Piketty and others have argued that investment taxation is extremely important for mitigating long-run inequality in the accumulation of wealth.<sup>71</sup> 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.

Consider how our mapping could inform a simple hypothetical question that involves capital gains rate uncertainty. Bill Gates wants to sell some of his Microsoft stock. Should he sell his Microsoft stock today, in the winter of 2015, or wait until next year. He knows that the current capital gains rate is 20%, but he wonders whether he'd be better off waiting. If there is even a reasonable chance that the capital gains rate will go down, he will wait until 2016, but otherwise he would rather sell now. On the other hand, if there is even a small chance that the capital gains rate will go up, he will sell immediately.

We can make a preliminary attempt to quantify these uncertainties. The current capital gains rate of 20% maps onto a DW-NOMINATE score of -0.27. In order for that rate to be lowered, all of the pivots must have more conservative DW-NOMINATE scores. In order for the rate to be raised, all of the pivots must have more liberal DW-NOMINATE scores. Let's focus first on the probability of a higher rate.

$$P(\text{higher rate}) = P(\text{Sen\_Med} < -0.27) * P(\text{Hou\_Med} < -0.27) \\ * P(\text{Pres} < -0.27)$$

Since Obama's DW-NOMINATE score is -0.33,  $P(\text{Pres} < -0.27) = 1$ . The other two probabilities are effectively 0. In this session of Congress, the median legislators in the House and the Senate are Republicans. Although we have to wait to see how the newly elected legislators vote before DW-NOMINATE can assign them a score, it is safe to assume that the median legislator in each chamber will have a score of +0.2 or higher.

Bill Gates can rest assured that the probability of a higher capital gains rate through 2016 is nearly 0%. But what about the possibility of a lower rate?

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<sup>71</sup> THOMAS PIKETTY, CAPITAL IN THE TWENTY-FIRST CENTURY (2014).

$$P(\text{lower rate}) = P(\text{Sen\_Med} > -0.27) * P(\text{Hou\_Med} > -0.27) \\ * P(\text{Pres} > -0.27)$$

Our discussion above informs these probabilities as well because each of these probabilities is the complement of the corresponding probability above.<sup>72</sup> Thus,  $P(\text{Sen\_Med} > -0.27) = P(\text{Hou\_Med} > -0.27) = 1$ , and  $P(\text{Pres} > -0.27) = 0$ . The probability of a lower capital gains rate before 2016 is also virtually 0%.<sup>73</sup> What does this mean for Bill Gates? There is almost no chance that the capital gains rate will be higher or lower over the next two years. He should go ahead and sell his Microsoft shares when he prefers to do so, safe from the threat of uncertainty.

The posed hypothetical asked a relatively easy question because it required us to only calculate probabilities regarding how liberal or conservative pivots would be one session of Congress into the future. We predict low probability of changing capital gains rates in the short term, but what about the medium-term. Since 1997, the capital gains rate has oscillated between 15% and 20%. Can we expect that trend to continue?

To answer this question, consider how the political landscape must change in order for the capital gains rate to be moved from 20% to 25%. Our analysis has 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 Senator Dick Durbin, Barbara Mikulski, or Senator (now Secretary of State) John Kerry. 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.

How about a change in the opposite direction? What would the political landscape have to look like to move 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. We predict that if a Republican wins the presidency and Republicans control both chambers of Congress, a capital gains tax reduction could occur.<sup>74</sup> Such a rate reduction is also possible if Democrats have only a slim majority in either house – there is a possibility that moderate Democrats

<sup>72</sup> The complement of an event is the event not occurring. For example, the complement of a coin landing heads is the coin landing tails.

<sup>73</sup> We should stress that we are talking about the probability of legislation that moves rates in one direction. Rate compromise legislation, discussed in Section IV.B, *infra*, is rare and difficult to predict.

<sup>74</sup> Unless the Republicans have a filibuster-proof supermajority in the Senate, such a rate reduction probably be temporary because of restrictions placed on bills passed through reconciliation.

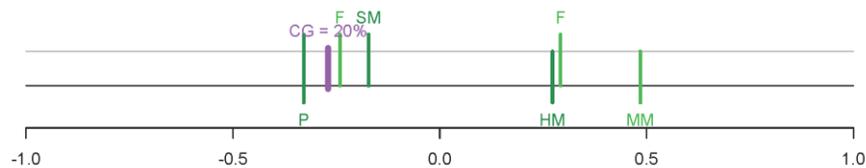
would join with Republicans to make that change. It should be noted that there are many fewer moderates of either party than there were in the past. For example, in the 112<sup>th</sup> Congress, there were only two Democrats who are predicted to vote for a 15% rate, Senators Ben Nelson and Joe Manchin. Senator Ben Nelson has since retired.

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 every current Republican Senator has a DW-NOMINATE score more conservative than +0.10. The closest one to that score is Senator Susan Collins. DW-NOMINATE tells us that Senator Collins would be roughly indifferent between a 15% and 10% capital gains rate. However, Susan Collins 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 projections regarding the outcome of elections, we can approximate the probabilities of various changes in 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.

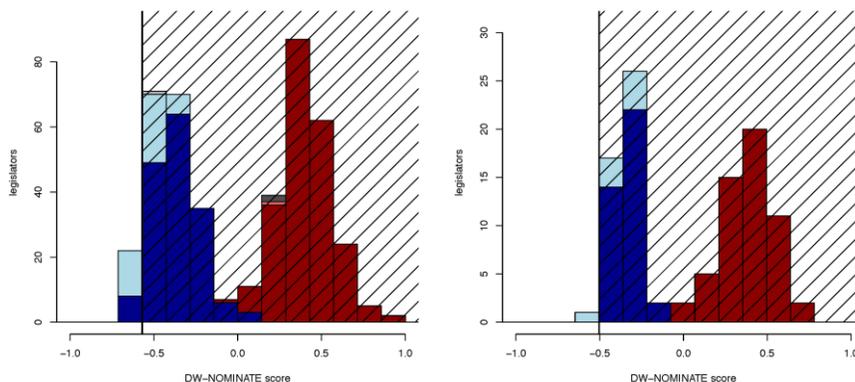
**Figure 8: Current Capital Gains Rate Relative to Pivots in the 112<sup>th</sup> Congress**



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 1997

Tax Relief Act (which reduced capital gains rates from 28% to 20%) reinforces this conclusion. Supermajorities voted in favor of the rate reduction, while only the most liberal Democrats voted against it.

**Figure 9: Vote Histograms for Tax Relief Act of 1997**



Understanding the political uncertainty of the capital gains rate has important policy ramifications. A few examples will 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.<sup>75</sup> This phenomenon is called “capital lock-in”, and it is generally undesirable because it results in inefficient allocations of capital.<sup>76</sup> The higher the tax rate, the higher the efficiency cost of capital lock-in.<sup>77</sup> 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.<sup>78</sup>

<sup>75</sup> 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.

<sup>76</sup> See Alan J. Auerbach, *Retrospective Capital Gains Taxation*, 81 AM. ECON. REV. 167, 167 (1991).

<sup>77</sup> JOINT COMM. ON TAXATION & CONG. BUDGET OFFICE, NEW EVIDENCE ON THE TAX ELASTICITY OF CAPITAL GAINS (2012), available at <https://www.jct.gov/publications.html?func=startdown&id=4472>.

<sup>78</sup> Noel B. Cunningham & Deborah H. Schenk, *The Case for a Capital Gains Preference*, 48 TAX L. REV. 318, 350-59 (1993), LEONARD BURMAN, *THE LABYRINTH OF CAPITAL GAINS TAX POLICY: A GUIDE FOR THE PERPLEXED* (1999). But see Daniel Halperin, *A Capital Gains Preference is not EVEN a Second-Best Solution*, 48 TAX L. REV. 381 (1993).

Prior scholarship has noted that capital lock-in may be responsive to whether the tax rate change is viewed as permanent or transitory.<sup>79</sup> There is also evidence that investors sell capital assets immediately before an anticipated rate increase in order to take advantage of the lower rate.<sup>80</sup> 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.<sup>81</sup> 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% 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. Increasing the capital gains rate from 15% to 20% may therefore have two effects on capital lock-in. The first is the elastic response well documented in the literature. The second is the political uncertainty effect. While we can presume that most taxpayers are aware of the current capital gains 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 99<sup>th</sup> percentile of the income distribution.<sup>82</sup> Thus, the political 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.<sup>83</sup>

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<sup>79</sup> Leonard E. Burman & William C. Randolph, *Measuring Permanent Responses to Capital Gains Taxes in Panel Data*, 84 AM. ECON. REV. 794 (1994).

<sup>80</sup> JCT & CBO, *supra* note 77.

<sup>81</sup> 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.

<sup>82</sup> TAX POLICY CTR., URBAN INSTITUTE & BROOKINGS INSTITUTE, *Distribution of Individual Income Tax on Long-Term Capital Gains and Qualified Dividends by Expanded Cash Income Percentile, 2013* (Oct. 3, 2013), <http://www.taxpolicycenter.org/numbers/displayatab.cfm?DocID=4005>.

<sup>83</sup> 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 King, PUBLIC POLICY AND THE CORPORATION (1977), Alan 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

## 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 U.S. He argues that this trend is driven by after-tax rates of return to capital that exceed the growth rate.<sup>84</sup> His general solution is an increase in taxation of the return to capital.<sup>85</sup> 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.<sup>86</sup> Warren Buffet has famously stated that he has the lowest effective tax rate in his office.<sup>87</sup> 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.<sup>88</sup> 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.<sup>89</sup> 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.<sup>90</sup> An

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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.

<sup>84</sup> PIKETTY, *supra* note 71, at 372-75.

<sup>85</sup> His specific proposal is a global tax on capital. *Id.* at 515-39.

<sup>86</sup> 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. 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. *Id.* at 508-12.

<sup>87</sup> 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/>.

<sup>88</sup> Victor Fleischer, *Two and Twenty: Taxing Partnership Profits in Private Equity Funds*, 83 NYU L. REV. 1 (2008).

<sup>89</sup> *Id.*

<sup>90</sup> 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->

often suggested policy intervention is an increase in the capital gains rate.<sup>91</sup> 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 lock-in. Increasing the capital gains rate somewhat counter-intuitively is also 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.<sup>92</sup>

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 would also 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. 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.<sup>93</sup>

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-percent rate.<sup>94</sup> 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-

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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).

<sup>91</sup> See, e.g., Ezra Klein, *The Case for Raising Taxes on Capital Gains*, WONKBLOG - WASH. POST (Sep. 25, 2012), <http://www.washingtonpost.com/blogs/wonkblog/wp/2012/09/25/the-case-for-raising-taxes-on-capital-gains/>. See also OFFICE OF MGMT. & BUDGET, THE FISCAL YEAR 2013 BUDGET OF THE U.S. GOVERNMENT (2012).

<sup>92</sup> See JCT & CBO, *supra* note 77.

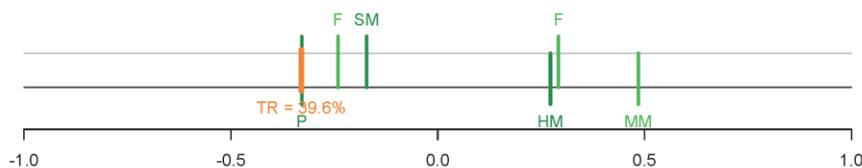
<sup>93</sup> See Section IV.B, *infra*.

<sup>94</sup> ORG. FOR ECON. COOPERATION & DEV. (OECD), TAX REFORM TRENDS IN OECD COUNTRIES (2011).

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 IRA to save for retirement?<sup>95</sup> 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 will 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 such rate during President Obama's remaining time in office. The current top rate of 39.6% 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 (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 10: Current Top Income Tax Rate Relative to Pivots in the 112<sup>th</sup> Congress**



An intuitive way to think about medium-run uncertainty is to consider how the composition of Congress would have to change for a rate increase or decrease. Republicans will be glad to hear that returning to a top rate of

<sup>95</sup> If marginal tax rates stay the same (and various other assumptions hold), then the taxpayer will generally be indifferent between the two vehicles. But if future tax rates are expected to be higher or lower than current rates, a taxpayer will generally have a tax preference for one or the other. See William Klein, *Investment Alternatives and Tax Vehicles: Accumulations and Payouts Compared*, 78 TAX NOTES 1707 (1998).

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35% is achievable. 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.<sup>96</sup> 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 could also 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 aren't very confident regarding how rates will map onto more liberal DW-NOMINATE scores, we can fairly confidently state that moving this rate higher will 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 don't 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 vote in favor. 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 -0.13 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

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<sup>96</sup> Since the discussion here focuses on future uncertainty, these scores are calculated using Model 8.

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52-48 in the Senate,<sup>97</sup> 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 5-10 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).<sup>98</sup> 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.

This elasticity 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.<sup>99</sup> Empirical studies of this elasticity have come to a variety of different conclusions.<sup>100</sup> Understanding tax rate uncertainty is important for interpreting these empirical results. Take for example, a recent study by the Dept. of Treasury that used data from the 1993 increase in top marginal rates. This study estimated that the elasticity of taxable income had a value between 0.78 and 1.25. However, that study emphasizes the importance of understanding political uncertainty. Adjustments had to be made 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,

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<sup>97</sup> The 2001 legislation was passed through reconciliation, and therefore did not require the support of 60 senators.

<sup>98</sup> These are referred to the “substitution effect” and “income effect” respectively.

<sup>99</sup> The elasticity of taxable income is a key input of the optimal tax literature.

<sup>100</sup> See GERALD AUTEN & LAURA KAWANO, U.S. DEPT. OF TREASURY, HOW THE RICH RESPOND TO TAX RATE INCREASES: EVIDENCE FROM HIGH-INCOME TAXPAYER RESPONSES TO THE 1993 TAX ACT, *available at* <http://www.aeaweb.org/aea/2013conference/program/retrieve.php?pdfid=418>.

was elected president.”<sup>101</sup> Taking into account this political 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. This is further proof of the importance of taking political uncertainty into account explicitly.

Our analysis provides a more robust understanding of political uncertainty. In 1993, it wasn’t enough that Bill Clinton was elected and it wasn’t 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 6). 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.<sup>102</sup> However, our analysis shows that top rate uncertainty is asymmetric – current rates are close to the 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.<sup>103</sup> This is in contrast to the acceleration of income observed in 1992-1993 when the short-run uncertainty was asymmetric in the opposite direction.<sup>104</sup>

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 (e.g., medium-run stickiness in labor decisions could relate to education or relocation). 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.

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<sup>101</sup> *Id.* at 5.

<sup>102</sup> Risk-averse taxpayers may respond to tax-rate uncertainty even if that uncertainty is symmetric. 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).

<sup>103</sup> Note that this reinforces the always-present incentive to defer income in order to take advantage of the time-value of money.

<sup>104</sup> AUTEN & KAWANO, *supra* note 100.

## 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 JCT estimated that the two-year extension of the top marginal rate would reduce federal revenue by roughly 60 billion.<sup>105</sup> Other scholars have suggested that it is important to incorporate estimates of uncertainty into budgetary projections.<sup>106</sup> These calls mainly relate to accounting for macroeconomic uncertainty such as growth rates and employment. We agree that accounting for macroeconomic uncertainty is important. It is also important to consider political uncertainty in revenue discussions. Congress cannot pre-commit itself to continue along a particular revenue path. Future governments will always make that decision.

Once again, it is relevant that the current uncertainty with respect to the top marginal rate is asymmetric. If the uncertainty were symmetric, then projections using the current rate would not be biased.<sup>107</sup> However, existing budgetary projections underestimate the deficit because the uncertainty with respect to the top marginal rate is asymmetric. 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. If incorporated, this would increase the estimated deficit.

This highlights a tension between our analysis and that of some budgetary observers. There are some policy analysts who claim that projections of long-run deficits are overstated because policies (including tax policies) will adapt in the future.<sup>108</sup> At its core, this is an argument about political uncertainty. This view holds that rate uncertainty is asymmetric in the opposite direction – higher rates are more likely than lower rates.

Our analysis is decidedly less rosy in this regard. 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

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<sup>105</sup> JOINT COMM. ON TAXATION, ESTIMATED BUDGET EFFECTS OF THE “TAX RELIEF, UNEMPLOYMENT INSURANCE REAUTHORIZATION, AND JOB CREATION ACT OF 2010 1 (2010). 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 dollars. *Id.*

<sup>106</sup> See 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).

<sup>107</sup> Even if that uncertainty were symmetrical, political uncertainty is important in studying the variance of possible revenue outcomes.

<sup>108</sup> Michael Linden & Sasha Post, *The United States’ Long Term Debt Problem Isn’t as Bad as You Thought*, CTR. FOR AM. PROGRESS (Mar. 11, 2013), <http://americanprogress.org/issues/budget/news/2013/03/11/56048/the-united-states-long-term-debt-problem-isnt-as-bad-as-you-thought/>.

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.

#### IV. 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. In both cases, an increase in the capital gains rate was offset by a decrease in the top marginal rate.<sup>109</sup> Despite its rarity, rate-compromise legislation remains popular in the tax policy community. Many policy experts and advocates promote bringing the capital gain and top marginal rates closer together.<sup>110</sup>

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.<sup>111</sup> An extant literature discusses the many nuanced factors necessary for significant legislative compromises.<sup>112</sup> 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 tradeoff 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.

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<sup>109</sup> The 1986 Tax Reform Act also decreased the corporate tax rate from 46% to 34%. Unfortunately, we do not have enough data to estimate legislator preferences on the corporate tax rate.

<sup>110</sup> See Ulla, *supra* note 106; Penner, *supra* note 106.

<sup>111</sup> Perhaps, it is this feature that makes tax reform so tantalizing, and its absence so frustrating.

<sup>112</sup> See generally RICHARD FENNO, CONGRESSMEN IN COMMITTEES (1973), FRANK R. BAUMGARTNER & BRYAN D. JONE, AGENDAS AND INSTABILITY IN AMERICAN POLITICS (1993). See also 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. PENN. L. REV. 1 (1990).

### A. Trading Rates

Our empirical results allow us to roughly estimate the tradeoff 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 tradeoff by comparing the coefficients for the capital gains rate variable and the top rate variable in our statistical models. In 2014, the tradeoff is roughly 2-percentage point change of the top rate for every 1-percentage point change of the capital gains rate.<sup>113</sup> For example, an increase of 5 points in the capital gains rate and a decrease in the top rate of roughly 10 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 corporate tax rate. 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 Tax Reform 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.<sup>114</sup> 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, tax reform induces *greater* instability, the opposite of what many of its proponents desire.

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 – i.e., there were legislative coalitions that had the desire and the ability to move those rates back down (see Figure 7). The

<sup>113</sup> The coefficient for the capital gains rate in model 12 is -0.079. The coefficient for the top rate is -.042. The ratio of those coefficients is roughly 2.

<sup>114</sup> 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); Eric A. Posner & Adrian Vermeule, *Legislative Entrenchment: A Reappraisal*, 111 YALE L.J. 1665 (2002); John O. McGinnis & Michael B. Rappaport, *Symmetric Entrenchment: A Constitutional and Normative Theory*, 89 VA. L. REV. 385 (2003).

35% capital gains rate established by the 1969 Act maps onto a DW-NOMINATE score of roughly -1.00.<sup>115</sup> The 28% capital gain 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. In 1997, the capital gains rate was reduced to 20%. Both compromise bills involved an increase in 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 agreed-upon compromise. 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).

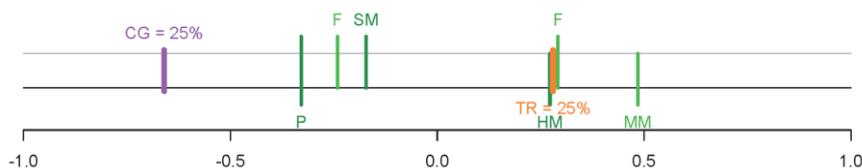
This is a serious challenge to the popular focus on compromise legislation generally. Legislators and citizens are constantly clamoring for compromise on taxation, whether rates or tax expenditures. It is important to keep in mind that when legislation involves a change that *on its own* is unstable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

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<sup>115</sup> The DW-NOMINATE scores of these historical rates are estimated using Model 5.

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,<sup>116</sup> while the 25% capital gains rate would not be.<sup>117</sup> Figure 11 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.

**Figure 11: 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.<sup>118</sup>

<sup>116</sup> Model 8 estimates that a top rate of 25% today maps onto a DW-NOMINATE score of +0.28.

<sup>117</sup> Model 8 estimates that a capital gains rate of 25% maps onto a DW-NOMINATE score of -0.66.

<sup>118</sup> This does not rule out the possibility of relatively stable reform involving the corporate tax rate.

This is illustrative of a larger point regarding the political 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 rate is desirable in the current environment of very high international capital mobility. 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.<sup>119</sup>

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.<sup>120</sup>

It is interesting to consider Representative David Camp's recent tax reform proposal from that perspective. Camp, the outgoing 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%. 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%.<sup>121</sup> 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

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<sup>119</sup> Jason S. Oh, *The Social Cost of Tax Expenditure Reform*, 66 TAX L. REV. 63 (2012).

<sup>120</sup> 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).

<sup>121</sup> Brian Faler, *Why Republicans Abandoned Tax Revamp Pledge*, POLITICO (Mar 3. 2014, 5:04 AM), <http://www.politico.com/story/2014/03/republicans-tax-reform-pledge-104149.html>.

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relative political stability (at least with respect to rates). A lower rate in the short term could lead to a political opportunity to raise rates, and it is possible that the resulting rate could be as high as the current status quo.

### V. Conclusion: Political Uncertainty and the Law

Political 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 paper, 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 political 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.<sup>122</sup> While the tax implications of this research are significant, our more important contribution is to provide an example of a new approach to law and policy. Explicitly studying political uncertainty is valuable in any arena where *future* policy can influence *current* behavior. Political 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.

Our particular methodology requires a large number of roll call votes that are well-characterized by DW-NOMINATE and a salient policy dimension. We should stress, however, that our data sources are not the only ones that may be useful for studying political uncertainty. We are lucky in studying taxation to have enough roll call votes to roughly map legislator preferences with respect to tax rates, and that tax rates are very salient to legislative voting. Other methods could employ legislator's 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

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<sup>122</sup> Schenk, *supra* note 18, at 276-80 (describing various legislative techniques for raising taxes without changing the nominal top marginal rate).

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

| Bill   | Effect on Top Marginal Rate                        | Effect on Top Corporate Rate | Effect on Capital Gains Rate |
|--|--|------------------------------|------------------------------|
| Revenue & Expenditure Control Act of 1968          | 10% temporary surcharge                            | 10% temporary surcharge      | 10% temporary surcharge      |
| Tax Reform Act of 1969                             | Decreased from 70% to 50% for <u>earned income</u> | None                         | Raised from 25% to 35%       |
| Revenue Act of 1971                                | None   | None                         | None                         |
| Tax Reduction Act of 1975                          | None   | None                         | None                         |
| Tax Reform Act of 1976                             | None   | None                         | None                         |
| Tax Reduction and Simplification Act of 1977       | None   | None                         | None                         |
| Revenue Act of 1978                                | None   | Reduced from 48% to 46%      | Reduced from 35% to 28%      |
| Crude Oil Windfall Profit Tax Act of 1980          | None   | None                         | None                         |
| Economic Recovery Tax Act of 1981                  | Reduced from 70% to 50%                            | None                         | Reduced from 28% to 20%      |
| Tax Equity and Fiscal Responsibility Act of 1982   | None   | None                         | None                         |
| Social Security Amendments of 1983                 | None   | None                         | None                         |
| Deficit Reduction Act of 1984                      | None   | None                         | None                         |
| Tax Reform Act of 1986                             | Decreased from 50% to 28%                          | Decreased from 46% to 34%    | Increased from 20% to 28%    |
| Omnibus Budget Reconciliation Act of 1987          | None   | None                         | None                         |
| Omnibus Budget Reconciliation Act of 1990          | Increased from 28% to 31%                          | none                         | None                         |
| Omnibus Budget Reconciliation Act of 1993          | Increased from 31% to 39.6%                        | Increased from 34% to 35%    | None                         |
| Tax Relief Act of 1997                             | None   | None                         | Reduced from 28% to 20%      |
| Economic Growth and Tax Reconciliation Act of 2001 | Gradually reduced from 39.6% to 35% (temporary)    | None                         | None                         |
| Job Creation and Worker Assistance Act of 2002     | None   | None                         | None                         |

|  |  |      |                                     |
|--|--|------|-------------------------------------|
| Jobs and Growth Tax Relief Reconciliation Act of 2003  | Reduced from 38.6-35% <sup>123</sup> (temporary) | None | Reduced from 20% to 15% (temporary) |
| Working Families Tax Relief Act of 2004                | None   | None | None                                |
| Tax Increase Prevention and Reconciliation Act of 2005 | None   | None | Extended 15% rate (temporary)       |
| Economic Stimulus Act of 2008                          | None   | None | None                                |

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<sup>123</sup> This legislation accelerated a rate reduction that was already scheduled to take effect in 2006 under the EGTRRA.