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## Government Ideology and Economic Policy-Making in the United States

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### Government Ideology and Economic Policy-Making in the United States

#### **Abstract**

This paper describes the role of government ideology on economic policy-making in the United States. I consider studies using data for the national, state and local level and elaborate on checks and balances, especially divided government, measurement of government ideology and empirical strategies to identify causal effects. Many studies conclude that parties do matter in the United States. Democratic presidents generate, for example, higher economic growth than Republican presidents, but these studies using data for the national level do not derive causal effects. Ideology-induced policies are prevalent at the state level: Democratic governors implement somewhat more expansionary and liberal policies than Republican governors. At the local level, government ideology hardly influences economic policymaking. How increasing political polarization and demographic change will influence the role of government ideology on economic policy-making will be an important issue for future research.

JEL-Codes: D720, E600, H000, N120, N420, P160.

Keywords: government ideology, economic policy-making, partisan politics, United States, Democrats, Republicans, political polarization, causal effects.

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#### 1. Introduction

The 2016 presidential election campaign in the United States has been described as one of the most polarizing campaigns. Before the elections, many believed that it would matter a great deal whether the new US president would be Hillary Clinton or Donald Trump: "The looming question of whether 2016 election will constitute a historic turning point, or merely a temporary disruption of long-term electoral trends, gives the election unusual interest-in addition, of course to the enormous implications it holds for the future of the country" (Jacobsen 2016a: 227). To be sure, the 2016 election was different than previous US presidential elections, Trump was different and the voters supporting Trump were different too (e.g., Jacobson 2016a). Unlike previous Republican presidents and candidates, for example, Trump proposed and immediately began to implement protectionist trade policies and populist immigration policies. It may seem obvious that a new president pursues different policies than his predecessor, but a lot of the time government ideology – meaning the party affiliation of the president or party composition of the government – does not matter. In many industrialized countries, leftwing and rightwing governments have pursued very similar policies.

Examining whether Democratic and Republican governments implement different policies is an important question. I propose three reasons (Potrafke 2017). Firstly, when parties do matter, economic agents anticipate policy changes when a new party takes office after an election. For example, firms postpone investments when they expect tax incentives, or make investments before an election when they expect tax increases under the new government (Falk and Shelton 2017). Economic experts forecasting macroeconomic variables may well consider government ideology (credit ratings have been shown to take into account government ideology – Bergh and Bjørnskov 2017). Secondly, to the extent that party policies

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<sup>&</sup>lt;sup>2</sup> By using Gallup survey data collected over the period July 2015 to August 2016 Rothwell (2016) shows that variables such as racial isolation help to predict views of Trump, but not of other Republican presidential candidates.

reflect the preferences of their constituents, disenchantment with the system is likely to be moderate. In the absence of disenchantment with politicians, political institutions are likely to remain stable. Thirdly, citizens are less likely to contest representative democracy and to lobby for direct democratic elements such as referenda when parties matter because citizens manage to translate their preferences via political representatives.

Scholars investigate how the party affiliation of politicians or government ideology influences economic policy-making. The partisan theories suggest that Democratic governments implement more expansionary policies than their Republican counterparts (Hibbs 1977, Chappell and Keech 1986, Alesina 1987). I discuss the empirical evidence for the United States and consider studies using data for the national, state and local level. I elaborate on checks and balances, especially divided government, measurement of government ideology and empirical strategies to identify causal effects. Many studies conclude that parties do matter in the United States. Democratic presidents generate, for example, higher economic growth than Republican presidents, but these studies using data for the national level do not derive causal effects. Ideology-induced policies are prevalent at the state level: Democratic governors implement more expansionary and liberal policies than Republicans. At the local level, however, government ideology hardly influences economic policy-making.<sup>3</sup> Table 1 features detailed information on the dependent variables, samples, government ideology measures and the results of the individual studies.

#### 2. National level

#### 2.1 Economic outcomes

Economic outcomes were different under Democratic and Republican presidents (and unified governments such as a Democratic president and Democratic dominated Congress) since the

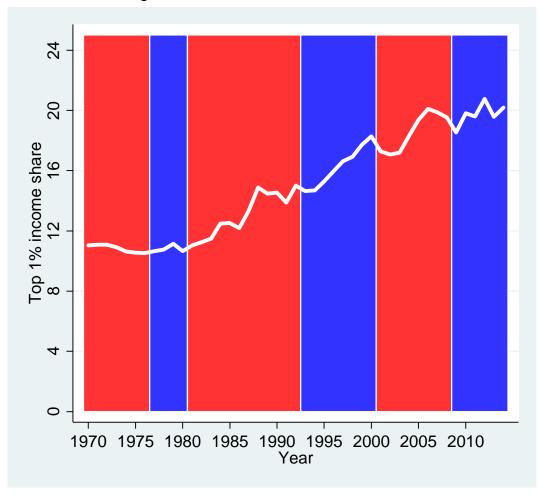
<sup>&</sup>lt;sup>3</sup> Other studies – which I do not discuss in more detail - elaborate on partisan politics and political alignment between ideology-induced politicians across the federal, state and local level (e. g. Krause and Bowman 2005, Ansolabehere and Snyder 2006, Albouy 2013).

end of the Second World War. Various early studies have shown that Gross National Product (GNP), Gross Domestic Product (GDP) or real GNP/GDP or personal income growth was higher under Democratic than Republican presidents, especially during the first two years of a presidential term (Hibbs 1987, Alesina and Sachs 1988, Haynes and Stone 1990, Alesina and Rosenthal 1995, Belke 1996, Alesina et al. 1997, Blomberg and Hess 2003, Verstyuk 2004, Krause 2005, Grier 2008, Bartels 2016, Pastor and Veronesi 2017). In a similar vein, the unemployment rate was lower under Democratic than Republican presidents (Hibbs 1986 and 1987, Alesina and Sachs 1988, Haynes and Stone 1990, Belke 1996, Alesina et al. 1997, Blomberg and Hess 2003, Verstyuk 2004). There is mixed evidence for when the inflation rate is used as dependent variable (Alesina and Sachs 1988, Haynes and Stone 1990, Belke 1996, Alesina et al. 1997, Blomberg and Hess 2003, Verstyuk 2004). A fascinating descriptive study showing that economic performance was better under Democratic than Republican presidents is Blinder and Watson (2016). The authors focus on the gap in GDP growth under Democratic and Republican presidents: over the period 1949-2012, annual GDP growth was on average 1.79 percentage points higher under Democratic than Republican presidents. Other measures for real outcome variables giving rise to the same conclusion are nonfarm business output and industrial production and employment, corporate profits. Stock market returns were higher under Democratic than Republican presidents (Santa-Clara and Valkanov 2003, Pastor and Veronesi 2017).

Income inequality also escalated under Republican governments: "on average, the real incomes of middle-class families have grown twice as fast under Democrats as they have under Republicans, while the real incomes of working poor families have grown ten times as fast under Democrats as they have under Republicans" (Bartels 2016: 4). The income of black Americans increased faster under Democratic than Republican presidents (Hajnal and Horowitz 2014). The share of the top 1% of the income distribution increased to a larger extent under Republican than Democratic presidents (Schinke 2014). Figure 1 shows the top

1% pre-tax income share as measured by the World Top Income Database over the period 1970-2014 (Atkinson et al. 2011, Saez and Zucman 2016): the top 1% pre-tax national income share was around 15% on average and started to increase when the Republican Ronald Reagan became president in 1981. However, it also increased considerably under the Democratic president Bill Clinton. Over the period 1970-2014 it increased by around 1.39% under Republican and by around 1.35% under Democratic presidents per year. In any event, the top income shares and income inequality did not decrease under Barack Obama's presidency (we still lack the data for 2015 and 2016) – which may have been one of the reasons for Donald Trump's electoral success in 2016.

Figure 1. Top 1% pre-tax national income share started to increase under Republican President Ronald Reagan in the 1980s



Notes: The figure shows the top 1% pre-tax national income share in the United States over the period 1970-2014. Periods with Democratic presidents in blue, periods with Republican presidents in red. Annual growth rate under Democratic presidents 1.35%, and 1.39% under Republican presidents. Sources: Atkinson et al. (2011) and Saez and Zucman (2016).

A major question is how to explain the gap in GDP growth and other economic outcomes. One might assume that these differences are due to economic policy. Democratic governments are expected to have more expansionary fiscal and monetary policies than Republican governments. The partisan approaches by Hibbs (1977), Chappell and Keech (1986) and Alesina (1987) predict different forms of cycles in the outcome variables. The models portray the economy to be described by a Phillips-Curve, and politicians choose a point on the Phillips-Curve. Leftwing governments will seek low unemployment and are

<sup>&</sup>lt;sup>4</sup> I do not elaborate on these differences in more detail here. There may also be ideology-induced policies within the legislative period and expansionary policies before elections, government ideology notwithstanding, see Frey and Schneider 1978a and 1978b.

willing to tolerate high inflation because leftwing governments have been assumed to gratify the needs of the working class or blue collar workers who certainly care about employment but less so about inflation. By contrast, rightwing governments will seek low inflation because they gratify the needs of high-income voters who do not wish to experience inflationinduced losses in wealth and are usually not concerned about being unemployed. Politicians choose points on the Phillips-Curve by implementing fiscal and monetary policies. Expansionary fiscal policies include, for example, rising government expenditure and public debt and decreasing taxes that are intended to give rise to higher short-term GDP growth and lower unemployment. In a similar vein, expansionary monetary policies include decreasing interest rates and extending the money supply to stimulate private investment. Scholars examine whether (a) government ideology influences fiscal and monetary policies and (b) whether fiscal and monetary policies explain the GDP-growth gap between Democratic and Republican presidents. A prominent proponent of parties implementing very different policies is, for example, Bartels (2016: 34): "I show that the dramatic differences in patterns of income growth under Democratic and Republican presidents are quite unlikely to have occurred by chance; nor can they be attributed to oil price shocks or changes in the structure of the labor force or other purely economic factors, or to cyclical corrections by each party of the other party's policy excesses. Rather, they seem to reflect consistent differences in policies and priorities between Democratic and Republican administrations". Other studies arrive at different conclusions.

#### 2.2 Fiscal policies

Previous studies have shown that government ideology was not associated with budget deficits and public spending (Hibbs 1987, Alesina et al. 1997). Alesina et al. (1997: 69) describe: "The large fiscal deficits during the Republican administrations in 1981-1992 explain the absence of significant differences in fiscal deficits". In a similar vein, in 1998, the

Democratic president Bill Clinton had a balanced budget for the first time in 30 years and spending on defense drastically decreased. Personal transfers as measured by "total federal transfers to U.S. citizens minus personal contributions to social insurance over seasonally adjusted GNP" (Alesina et al. 1997: 105) were not associated with government ideology either. The structural government surplus (as a share of GDP) over the period 1963-2012 was not significantly larger under Democratic than under Republican presidents (Blinder and Watson 2016). However, federal taxes (as a share of GDP) tended to rise under Democratic presidents and fall under Republican presidents (Pastor and Veronesi 2017). Future research needs to examine the correlation between the party affiliation of US presidents and budget composition in greater detail. It is conceivable, for example, that public health expenditure was higher under Democratic than Republican presidents.

#### 2.3 Divided government

One may well maintain that fiscal policies hardly differed under Democratic and Republican presidents because of divided government. For example, there were divided governments in 2015 and 2016 when the Democratic President Barack Obama faced Republican majorities in the House and Senate. Divided government often arises when voters disagree with the policies a unified government implements in the first part of a legislative period and vote for the opposition party in midterm elections. Voters favoring strong checks and balances are likely to consistently vote for different parties in the White House and Congress, the policies of incumbent governments notwithstanding. Ideology-induced policies are likely to be counteracted under divided government (Alesina and Rosenthal 1995, 1996). For example, when a Democratic president faced Republican dominated Congresses, implementing the pure Democratic ideology such as increasing expenditure and providing encompassing public health insurance, would certainly have been more difficult than under unified Democratic government. There is no evidence for mitigating effects of divided government. In fact, the

studies by Hibbs and Alesina and coauthors show that unified Democratic governments hardly implemented different fiscal policies than unified Republican governments. Stock markets, though, seem to prefer unified governments, a result Snowberg et al. (2011) arrived at based on the news of a Democratic victory in the Senate (and House) in 2006, which gave rise to declining stock markets.

#### 2.4 Monetary policies

Monetary policies are implemented by the Federal Reserve (Fed), not by politicians. But politicians influence the Fed in pursuing monetary policies. There are manifold channels to do so: the government may (1) directly signal to the Fed its desired monetary policies, (2) appoint members to the Fed board who share the government's political views or (3) threaten to re-organize the Fed (e.g. Chappell et al. 1993, Havrilesky 1988 and 1991 and Havrilesky and Gildea 1992). The major policy instruments are the Federal funds rate and the money growth rate. Scholars use the Federal funds rate and the money growth rate as dependent variables and regress them, for example, on explanatory variables that are intended to measure political influence: dummy variables measuring the political party of the president, dummy variables for the individual presidents and Fed-chairmen or considering political alignment between the president and the Fed chairman (Caporale and Grier 2000 and 2005, Abrams and Iossifoy 2006).

Some studies show that the Federal funds rate was higher under Republican aligned Fed chairs and Republican presidents than under Democratic aligned Fed chairs and Democratic presidents (Faust and Irons 1999, Caporale and Grier 2000 and 2005, Abrams and Iossifov 2006). Other studies do however not support lower interest rates under Democratic governments (Alesina et al. 1997, Chen and Wang 2013). The growth rate in the money supply was somewhat higher under Democratic than Republican presidents (Havrilesky 1987, Hibbs 1986 and 1987, Alesina et al. 1997, Faust and Irons 1999).

Monetary policy was also influenced by Congress. More liberal members of Congress such as the members of the Senate and House Banking Committee tend to have lobbied for more expansionary monetary policies (Grier 1991, 1996 and Chopin et al. 1996a and 1996b, Hess and Shelton 2016).

#### 2.5 Policies to explain the GDP growth gap

Do the moderate differences (if there are any) in fiscal and monetary policies under Democratic and Republican governments help to explain the GDP growth and employment gap? No. In fact, the response of Blinder and Watson (2016) as to how to explain the GDP growth gap under Democratic and Republican presidents is sobering regarding ideology-induced policies: benign oil shocks, superior total factor productivity performance and a more favorable international environment. Democratic presidents had – at least partly – just good luck. Fiscal and monetary policies are hardly shown to predict the GDP growth gap, and if anything, fiscal and monetary policies induced GDP growth under Republican presidents. Scholars aim to explain the D-R growth gap. For example, Pastor and Veronesi (2017) propose that Democratic presidents came into power in recessions and experienced booms during their presidential terms. State politics may influence national GDP growth: pronounced national GDP growth was generated when more US states had Democratic governors and, especially, unified Democratic state governments (Cahan and Potrafke 2017). However, ideology-induced state politics do not explain the growth gap under Democratic and Republican presidents.

#### 2.6 Identification

The research design of the previous studies was to regress the macroeconomic variables on some government ideology variables measuring, for example, the party affiliation of the president and political majorities in Congress (other studies such as Blinder and Watson 2016).

report descriptive statistics of macroeconomic variables under Democratic and Republican presidents). The studies using data for the national level do not overcome the endogeneity problem of the government ideology variables. Endogeneity concerns arise because of potential omitted variable bias and reverse causality. Firstly, scholars cannot rule out that there are third variable(s) being correlated with both the explanatory government ideology variable(s) and the dependent variable that they did not or cannot include in their econometric models. Pastor and Veronesi (2017) suggest that risk aversion is such a third variable: risk aversion is high in economic crises and is also likely to predict success of the Democrats who promise more social insurance than Republicans. Secondly, economic conditions are very likely to influence individual voting decisions (on economic voting see, for example, Lewis-Beck and Stegmaier 2013). When the economic performance of an incumbent government is poor, citizens are likely to vote this incumbent government out of office. There is a serious reverse causality concern. One would need, for example, instrumental variables that predict government ideology, but are not directly related to the dependent macroeconomic variable to overcome the endogeneity problem. There is no such instrumental variable yet.<sup>5</sup>

Blinder and Watson (2016) show that the turnarounds in GDP growth were hardly expected; and that there is quite some serial correlation in annual GDP growth. Moreover, forecasts of GDP growth do not suggest that Democrats inherited more favorable economic conditions than Republicans. However these observations still do no help to identify causal effects.

The lack of causal evidence for ideology-induced macroeconomic policies at the national level notwithstanding, changes in election probabilities and changes in government ideology have been shown to influence stock markets. For example, exploiting flawed exit poll data on election day 2004, Snowberg et al. (2007a) show that equity and oil prices,

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<sup>&</sup>lt;sup>5</sup> Grier (2008) attempts to address the endogeneity concern of the Democratic president variable by creating a 12-observation sample to predict whether the Democratic candidate will win the election (the period 1961-2004 includes 12 presidential elections). The predicted probability is then used as an instrumental variable for the Democratic president variable in the GDP regressions.

interest rates were expected to be higher and the dollar to be stronger under a George W. Bush presidency than under John Kerry. The authors also show that equity valuations have been about 2 to 3 percentage points higher under Republican presidents since 1880. The method the authors use can work on any election where there is significant uncertainty.<sup>6</sup>

#### 2.7 Political ideology of Congressmen

The political ideology of Congressmen is also associated with policy outcomes. To measure the political ideology of Congressmen, the political scientists Keith Poole and Howard Rosenthal have developed a scaling measure based on legislative roll-call voting behavior (D-NOMINATE method, W-NOMINATE and DW-NOMINATE for dynamic-weighted NOMINATE; see, for example, Poole and Rosenthal 1985 and 2007). Congressmen are described as strong partisans the more often they vote with their own party in roll-call votes. The political ideology of Congressmen is used in many empirical studies. One example is international politics and support for international organizations (Broz 2008 and 2011). Democratic members of Congress were more likely to vote in favor of financial support for the International Monetary Fund (IMF) than Republican members of Congress: Broz (2011) uses roll call votes for IMF support as the dependent variable and the DW-NOMINATE scores as a key explanatory variable for measuring political ideology. Disentangling the votes of Republicans and Democrats, the results also show that both leftwing Democrats and Republicans were more likely to support the IMF than their rightwing counterparts. Rightwing politicians "think IMF programs distort economic incentives in the global economy. They view IMF-programs as "bailouts" that insulate investors and borrowers from the risks of their actions and thereby promote greater instability in international finance" (p. 351).

<sup>&</sup>lt;sup>6</sup> See also Snowberg et al. (2007b).

A new measure of political polarization of Congressmen is based on Congressional speech data (Gentzkow et al. 2016). The authors estimate political polarization by employing structural choice models and methods from machine learning.

Another important issue is to examine the increasing polarization of political ideologies (McCarty et al. 2006, Gentzkow et al. 2016). For example, income inequality has been positively correlated with the political polarization of Congressmen as measured by the DW-Nominate data (McCarty et al. 2006). It needs to be examined how political polarization as measured based on Congressional speeches correlates with economic policies.

#### 3. State level

#### 3.1 Studies reporting correlations

State governments have quite some room to maneuver in economic-policy making. For example, state governments design tax rates, public spending on manifold issues, minimum wages etc. State government ideology is therefore also very likely to influence economic policy-making. The research design of the early studies was to exploit panel data across the US states and to regress an outcome variable (e.g. tax rates, expenditure, income growth) on some political ideology variables (e.g. party affiliation of the governor, political majorities in the State Senate and the State House, unified government variables). Some early studies suggest that leftwing / Democratic governments had more expansionary fiscal policies than rightwing / Republican governments in the US states. The evidence, however, is mixed (see Table 1).

Compared to Republican governments, Democratic governments had higher spending – overall and on individual expenditure categories (Alt and Lowry 1994, Gilligan and Matsusaka 1995, Dilger 1998, Rogers and Rogers 2000, Caplan 2001, Kousser 2002, Besley and Case 2003, Primo 2006, Chang et al. 2009), higher tax revenues and tax rates on manifold individual taxes on, for example, income, corporations, sales (Alt and Lowry 1994, Caplan

2001, Besley and Case 2003, Reed 2006, Gu et al. 2017), higher real personal income growth (Chang et al. 2009) and public debt and deficits (Dilger 1998), more legislative activities on universal healthcare coverage (Gray et al. 2010), more encompassing Medicare policies (Grogan 1994), and more income redistribution (Winters 1976). The enactment of restrictive abortion and death penalty legislation was less likely when liberal state governments (and judges) were in power (Langer and Brace 2005). State policies as measured by an encompassing indicator have proven more liberal under Democratic governors and Democratic dominated legislatures, especially since the 1990s when political polarization started to increase (Caughey et al. 2017). The authors arrived at this conclusion by exploiting within state variation.

The correlation between government ideology and the size and scope of government has also been shown to depend on income and other institutions. Leftwing political ideology has been shown to be positively associated with the size of government when state income is pronounced (Pickering and Rockey 2013).<sup>7</sup> Republican governors facing spending limits seemed to have spent somewhat less than other governors (Primo 2006).

#### 3.2 Divided governments

Divided government is likely to counteract ideology-induced policies at the state level. There are three types of divided government: overall division (governor from party A, State House and State Senate dominated by party B), proposal division (governor from party A, State House dominated by party B, State Senate dominated by party A), and approval division (governor from party A, State House dominated by party A, State Senate dominated by party B). Ideology-induced policies on spending, taxation and labor market regulation were somewhat mitigated under divided governments (Alt and Lowry 1994 and 2000, Bjørnskov

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<sup>&</sup>lt;sup>7</sup> Some studies exploit cross-sectional variation across US states to examine ideology-induced effects: Monogan (2013), Soss et al. (2001) include government ideology as explanatory variable to explain welfare sanctions. Garand (1988) uses univariate time series analysis for the 50 states over the period 1945-1984 and concludes that government ideology overall did not influence the size of government in the US sates.

and Potrafke 2013). The chance of having late budgets was about 10 to 20 percent higher under divided than unified governments (Andersen et al. 2012, see also Klarner et al. 2012). Welfare reforms were, however, even more likely under divided government, political ideologies notwithstanding (Bernecker 2016). Of course, the divided government variables are also prone to reverse causality: when economic performance is poor or when voters disagree with the individual policies pursued by the incumbent government, they will vote for the opposition in midterm elections and divided government will occur (on predictors of divided government see Calcagno and Lopez 2012).

#### 3.3 Term limits

Governors' term limits are expected to influence ideology-induced policies. In 2016, 36 states had term limits for their governors. The term limits have various forms and are likely to be important for examining ideology-induced policies because, for example, governors in their last terms do not face re-election concerns and are therefore more likely to implement policies that gratify the needs of their constituencies, and not the median voter. Democratic governors with term limits have been shown to pursue more expansionary fiscal policies like deriving higher revenues from total state taxes, corporate taxes, income taxes, and sales taxes, state expenditure, and maximum worker compensation weekly benefits than other governors (Besley and Case 1995).

#### 3.4 Measuring political ideology

Measuring political ideology in the US states is a critical issue. The ideologies of the Democratic and Republican state parties are not homogenous across the US states. Southern Democrats are, for example, more conservative than Democrats on the East and West Coast and have always differed from the Democratic party mainstream. Studies published since the late 1990s therefore use more fine-grained data based on political positions in the US

Congress or the ideological mapping of state legislatures to measure these differences (e.g. Poole and Rosenthal 2007 and Shor and McCarty 2011). Using roll call data, an individual member of parliament is described to be more closely aligned with her/his party the more often s/he votes with her party. Political ideologies of parties or governments in the states are computed, for example, as averages of the political ideologies of the party's members of parliament.

An important measure for state citizens' ideology is also the data by Berry et al. (1998), which is based on the ideology ratings of the state's congressional delegation (the Americans for Democratic Action (ADA) rating and the AFL/CIO's Committee on Political Education (COPE) rating. The citizens' ideology of an individual congressional district is described by the weighted average of a congressional member's score and his election opponent's score. The scores assume values between 0 (most conservative) and 100 (most liberal). The statewide citizens' ideology is measured by the average of the congressional district scores in an individual state. To disentangle the effects between government ideology and voter preferences on economic policy-making, experts have included party vote shares (e.g. in presidential elections) as an explanatory variable.

A new measure for political ideology based on networks of political donations was introduced by Bonica (2014). This measure is not explicitly designed to measure political ideology across US states, but may well be used in future research examining ideology-induced policies.

#### 3.5 Regression Discontinuity Designs

The government ideology variables in the early studies are likely to be endogenous. Scholars have dealt with the endogeneity concerns at the state level by employing Regression

Discontinuity Designs (RDD) primarily exploiting close elections of governors and congressmen (see Lee 2008 and Lee and Lemieux 2010).<sup>8</sup>

An important question is whether employing RDD gives rise to different conclusions than the early studies suggested. The previous results describing higher tax revenues under Democratic majorities in the State House were contested by De Magalhães and Ferrero (2011) who use a RDD and maintain that political majorities in the State House do not influence tax revenues (as a share of GDP). The authors propose that, because of balanced budget rules in many states, Republican and Democratic governments need to rely on taxes as the major revenue source (deficits are hardly possible). Political preferences of Republican and Democratic governments are therefore likely to rather translate into different types of taxes. Ideology-induced tax policies have been shown to depend on governors' term limits. Reelectable Democratic governors increased total state tax revenues and income tax revenues to a larger extent than re-electable Republican governors (Fredriksson et al. 2013). When focusing on incumbent governors with a binding term limit (lame duck), however, the growth rates in total state tax revenues and income tax revenues were higher under Republican governors. The growth rates in per capita revenues of sales taxes and corporate taxes did not differ under Democratic and Republican governors, re-electability notwithstanding.9 Democratic governments (governor and legislature) use revenue-increasing language for income taxes and revenue-decreasing language for sales taxes (based on legal phrases in tax law - Ash 2015).

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<sup>&</sup>lt;sup>8</sup> Scholars also exploit close vote margins of US House and Senate elections at the federal level to explain politicians' policy preferences (e.g., Lee et al. 2004, Albouy 2011, Fredriksson and Wang 2011). Downey (2017) uses close Congressional election outcomes to predict indictments of union officers.

<sup>&</sup>lt;sup>9</sup> The first paper to employ RDD at the state level is Leigh (2008). The threshold of narrow majorities for governor's elections is, however, quite all-encompassing: the author excludes elections in which one party won 80% or more of the vote and in which one of the two top candidates is an independent. The dummy variable for Democrat governors does not turn out to be statistically significant for 26 of the 32 dependent variables he uses. The results show that minimum wage, post-tax income, welfare caseloads were higher and incarceration rates, post-tax inequality, unemployment rates were lower under Democrat than under Republican governors.

Governors' ideology did not influence overall state expenditure, but influenced budget composition (Beland and Oloomi 2017, Hill and Jones 2016). Democratic governors spent more than Republican governors on education and public safety. Figure 2 shows that education expenditure (as a share of the state budget) amounted to around 30 %. The RDD results by Beland and Oloomi (2017) suggest that the share of education expenditure was by around 4.9 percentage points higher under Democratic than Republican governors with close vote margins. Education expenditure was especially directed to school districts with a high share of minority or poor students (Hill and Jones 2016). Republican governors spent more than Democratic governors on "other sectors" including expenditure for highways, natural resources, parks and recreation, interest on general debt, and government administration. There is mixed evidence regarding spending on health (Beland and Oloomi 2017, Joshi 2015). The effect of governors' ideology on health spending does not depend on governors' term limits (Joshi 2015). The growth rate in state environmental expenditure (categories: fish and game; forests and parks; other natural resources) was higher under Republican lame duck governors than under Democratic lame duck governors (Fredriksson et al. 2011).

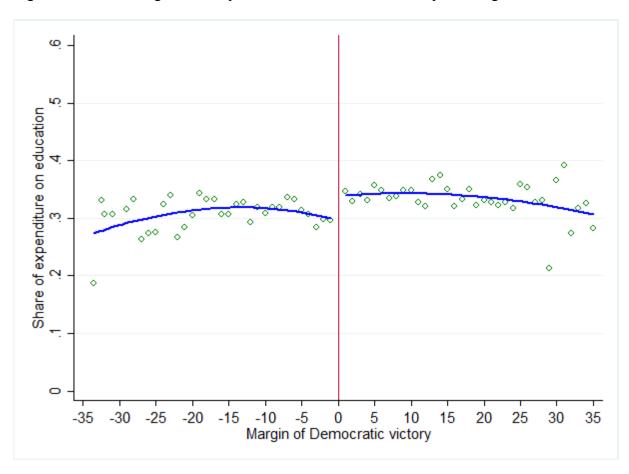


Figure 2. Democratic governors spent more on education than Republican governors

Notes: The figure shows the education expenditure (as a share of the state budget) under Republican and Democratic governors with close vote margins over the period 1960-2012. Education expenditure was by around 4.9 percentage points higher under Democratic than Republican governors with close vote margins. Source: Beland and Oloomi (2017).

The champion of employing RDD to estimate causal effects of governors' ideology on various policy outcomes is Louis-Philippe Beland. His studies (with the help of some coauthors) show, for example, that under Democratic compared to Republican governors: air pollution as measured by nitrogen dioxide, ozone and particulate matter was somewhat lower, the annual hours worked by blacks relative to whites were higher, blacks were more likely to work and to work more intensively, immigrants were more likely to work, worked more hours and weeks, and had higher hourly, weekly and annual income (Beland and Boucher 2015, Beland 2015, Beland and Unel 2015). Democratic governors – especially when they were reelectable – reduced the number of poor immigrants (Keith and Mandon 2017). Under Republican governors, there was a decrease in the number of small business destructed

(Beland et al. 2015. By contrast, governors' ideology did not influence union membership, entry to and exit from union, weekly and hourly earnings and hours worked per week for union workers (Beland and Unel 2017) – not even with unified government. The findings are interesting and plausible, I suppose, but the channels through which, for example, Democratic governors reduce air pollution or increase the hours worked by blacks relative to whites need to be examined in more detail. Innes and Mitra (2015) have shown, for example, that Republican Congressmen depressed inspection rates for local polluting facilities.

The new studies using RDD have mostly focused on the governor's party affiliation. An exception is Caughey et al. (2017) who also exploit narrow political majorities in the State House to show that Democratic dominated State Houses gave rise to liberal state policies. Future research should more frequently exploit narrow majorities between the Democrats and Republicans in the State House and State Senate.

#### 4. Local level

On the one hand, voter preferences may especially well be transmitted by political representatives in closely knit jurisdictions. On the other hand, it is conceivable that Tiebout sorting eliminates partisan politics because when sorting is perfect, every citizen lives in a jurisdiction that provides exactly the desired amount of public goods.

In U.S. cities, partisan politics was less pronounced than at the state and national level. Only very few studies have examined how government ideology influences economic policymaking at the local level. In fact, Ferreira and Gyourko (2009: 420) conclude that: "this is the first direct study of the impact of political parties at the local level in the United States". This conclusion is remarkable because the authors arrived at this conclusion in a paper published 2009 (and not much earlier). Ferreira and Gyourko (2009) use data for 413 cities with over

25,000 inhabitants as of the year 2000 over the period 1950-2005. There are twelve dependent variables: total revenues, taxes, expenditures and employment, percent of resources spent on salaries and wages, on the police department, the fire department and on parks and recreation, and murders, robberies, burglaries and larcenies (each per 1,000 residents). OLS results suggest that Democratic mayors had a larger size of government. RDD results, by contrast, do not suggest any ideology-induced effect. The authors propose Tiebout competition among localities within metropolitan areas to explain the absence of ideology-induced effects.

Gerber and Hopkins (2011) confirm hardly any ideology-induced effects by using data for 59 large U.S. cities over the period 1990-2006 (134 elections). The authors acknowledge that their sample is not representative for U.S. cities, but maintain that they can only identify a causal effect of Democratic mayors in this sample using a RDD approach. Ideology-induced effects are disentangled for policy areas in which local discretion is high (e.g. policing and public safety) from areas where cities share authority with federal and state government actors (e. g. housing and transportation). There are 19 dependent variables such as budget shares on individual spending categories and tax revenues. The party affiliation of the mayor only influences police spending (and to some extent fire spending). The results suggest that when a Democratic mayor with a slim majority was in office, the city's budget share on police spending was about 2 percentage points lower after three years as compared to when a Republican mayor with a slim majority was in office (fire spending was about 1 percentage point lower).<sup>11</sup>

An open question, however, is that if Tiebout competition gives rise to perfect sorting why citizens of a jurisdiction not vote with large majorities for the Republicans or Democrats.

RDD requires close vote margins. It is conceivable – and remains to be investigated – that

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<sup>&</sup>lt;sup>10</sup> Ferreira and Gyourko (2014) examine how the gender of the mayors influences policies.

<sup>&</sup>lt;sup>11</sup> The vote share for Barack Obama in the 2008 presidential elections was correlated with city spending (Einstein and Kogan 2016). For example, city spending on police, fire, transit and parks and recreation was higher in places in which the 2008 Democratic presidential vote share was high.

local politicians are quite pragmatic and the policies local politicians can design are less likely to give rise to polarization in closely-knit jurisdictions. For example, when natural disasters hit a municipality, citizens stand together and fix the issues, party affiliation notwithstanding. Moreover, controversial policy issues including social policies such as health policies are not decided at the local level. Party affiliation thus fades into the background. Furthermore, the RDD studies restrict the sample to close elections. The fact that the election is close to begin with suggests that attention is restricted to a sample of "moderate" societies (unless they are highly polarized, with a bimodal preference distribution). One may well expect less pronounced policy differences in moderate than polarized societies.

De Benedictis-Kessner and Warshaw (2016) arrive at different conclusions by using data for 204 cities over the period 1950-2004 and also exploiting close elections with RDD. In particular, the sample includes medium and large cities with more than 75,000 inhabitants. The results show that Democratic mayors spent about 96 USD per capita more than Republican mayors (the average per capita total expenditure was 1,896 USD). The authors make a clear case for ideology-induced policies. Disentangling expenditure by type does however not suggest that Democratic mayors spent more on issues such as health, education, welfare or housing. The only expenditure type that was significantly higher under Democratic mayors than their Republican counterparts was interest payment. This finding is in line with no evidence for partisan effects on tax revenues, but public debt (which was higher under Democratic than Republican mayors). Overall, the authors find ideology-induced effects for up to 6 out of 21 dependent variables.

In Michigan, Democratic local policy-makers were more inclined to pursue climate policies than their Republican counterparts. Gerber (2013) uses survey data on Michigan local government officials (The Michigan Public Policy Survey from Fall 2010), which includes many questions about local climate change mitigation policies and finally uses a sample of 1,000 responses from city or township elected officials. There are four binary dependent

variables measuring whether the city or township has at least one internal or external climate change policy (e.g., energy efficiency program in facilities) or participates in one of the two national programs: the United States Conference of Mayors' Climate Protection Agreement and the Sierra Club's Cool Cities Program. The author controls for citizens' political ideology by including the 2008 vote share for the Democrats and measures the effect of partisan politics by the party affiliation of the responding city's official. The results show that Democratic officials were more likely to pursue internal climate protection policies and to participate in the Climate Protection Agreement and the Cool Cities Program than Republican Officials. As compared to the studies by Gerber and Hopkins (2011) and Ferreira and Gyourko (2009), Gerber (2013: 121) maintains that the climate policies she considers: "often result from unilateral executive action, they are less constrained by other levels of government, and they vary in terms of whose behavior they target". The author shows, however, correlations based on survey data and does not derive the causal effects of government ideology on climate policies.

#### **5. Conclusions**

Democratic and Republican governments had different policies at the national and state level. Economic performance as measured, for example, by annual GDP growth was better under Democratic US presidents since the 1950s, a fact that was also true under divided government (when the president's party did not have the majority in Congress). The studies focusing on the national level report, however, only correlations and do not identify causal effects of government ideology on economic policies. Blinder and Watson (2016) show that a great deal of the favorable economic conditions under Democratic presidents was just good luck (e.g. favorable oil shocks).

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<sup>&</sup>lt;sup>12</sup> Einstein and Gick (2016) interviewed 72 American mayors asking for their preferences regarding income redistribution. The results suggest that Democratat mayors are more inclined towards income redistribution than Republican mayors. The sample includes, for example, 16 of the 46 mayors of cities over 400,000 inhabitants in the United States.

Disentangling correlations and causality notwithstanding, one may ask on how to explain the electoral success of the Republicans when economic performance has been so much better under Democratic presidents. Explanations for the electoral success of the Republicans include the myopic focus of voters on recent economic performance, high income growth giving rise to especially rich households supporting the Republicans, and the Republicans' advantage in fundraising (Bartels 2016, p. 4). Moreover, areas that were hardest hit by free trade and factory closures turned more Republican (Autor et al. 2016).

Parties did matter at the state level. Democratic governors implement somewhat more expansionary and liberal policies than Republican governors – a result that new studies also arrived at by employing RDD. Only very few studies examining ideology-induced effects at the local level have also used RDD to estimate causal effects. Parties hardly seem to matter. The proposed explanation is that Tiebout competition gives rise to perfect sorting. Scholars have focused on US cities, but did not yet examine ideology-induced effects across municipalities other than cities. One reason is the lack of data availability, especially for data on the party affiliation of mayors and party composition of councils in municipalities. One can only conjecture as to how government ideology translates into economic policy-making at the local level. Fiscal competition between municipalities is likely to interact with ideology-induced (see Agrawal et al. 2015 for a survey on fiscal competition). For example, Democrats who prefer a large size of government may hesitate to increase local tax rates because they fear that citizens and firms will move to locations with low tax rates.

In many industrialized countries electoral cohesion has declined and party systems and alignments between parties and constituencies have changed. It is getting more difficult to portray what leftwing and rightwing means. Donald Trump won the 2016 US presidential election by offering platforms that were not in line with traditional Republican platforms – protectionist policies being the prime example. The extent to which (a) Donald Trump will influence the Republican party (will they really proceed implementing protectionist policies?)

and, in turn, (b) the US party platforms and labels for leftwing and rightwing political ideologies will amend; remains an open question.

Demographic change and political polarization are likely to influence partisan politics in the United States. One the one hand, for example, younger Republicans hold less conservative views than older Republicans (Jacobson 2016b). Election-motivated Republican candidates will therefore offer less conservative platforms, and as a consequence, the entire American electorate might become less polarized over time. If this is true, demographic change would counteract the political polarization that has been rising since the 1990s and is thought to lead to more ideology-induced policies (Adams and Merrill 2008, Jacobson 2012). On the other hand, political polarization seems to drastically escalate since the 2016 elections. Future research needs to examine the influence of demographic change on political polarization and, in turn, on ideology-induced policies.

The Republicans have had a structural advantage in competing for House districts. The Democrats win urban districts with wide margins and "waste" votes, while the Republicans win electoral districts with tighter margins. This explains why the Republicans win elections such as the 2016 Presidential elections without having more absolute votes than the Democrats. Over the course of demographic change and with young Republicans becoming less conservative, the Republicans' structural advantage in competing for House districts may become smaller. It is conceivable that the Republicans will therefore be more active in partisan gerrymandering (see Jacobson and Carson 2016, chapter 2, on partisan gerrymandering).

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Table 1: Effects of government ideology.

"+" positive effect; "-" negative effect; "0" no significant effect; "+/0" positive effect in some specifications, no significant effect in other specifications; "-/0" negative effect in some specifications, no significant effect in other specifications; "P" authors describe to have included government ideology but do not describe the effect. "D" Democtatic, "R" Republican

Study	Influence on	Effect (D)	Time period (# jurisdict.)	Ideology measure	Identification	Ideology main expl var
Federal level						
Pastor and Veronesi (2017)	Excess stock market returns (based on three month T-bill rate)	+	1927.01- 2015.12	Dummy for D and R Presidents	no causal effect	yes
Pastor and Veronesi (2017)	federal tax/GDP ratio (changes)	+	1929.01- 2015.12	Dummy for D and R Presidents	no causal effect	yes
Pastor and Veronesi (2017)	GDP (growth)	+	1930.01- 2015.12	Dummy for D and R Presidents	no causal effect	yes
Blinder and Watson (2016)	GDP per capita (growth)	+	1949-2012	Dummy for D Presidents and unified governments	no causal effect	yes
Blinder and Watson (2016)	Nonfarm business output (growth)	+	1949-2012	Dummy for D Presidents and unified governments	no causal effect	yes
Blinder and Watson (2016)	Industrial production (growth)	+	1949-2012	Dummy for D Presidents and unified governments	no causal effect	yes
Blinder and Watson (2016)	Employment (payroll) (growth)	+	1949-2012	Dummy for D Presidents and unified governments	no causal effect	yes
Blinder and Watson (2016)	Employee hours, non-farm business sector (growth)	+	1949-2012	Dummy for D Presidents and unified governments	no causal effect	yes
Blinder and Watson (2016)	Employment (Household survey) (growth)	0	1949-2012	Dummy for D Presidents and unified governments	no causal effect	yes
Blinder and Watson (2016)	Unemployment rate (level)	0	1949-2012	Dummy for D Presidents and unified governments	no causal effect	yes
Blinder and Watson (2016)	Unemployment rate (change)	-	1949-2012	Dummy for D Presidents and unified governments	no causal effect	yes
Blinder and Watson (2016)	Returns S&P500 Index	0	1949-2012	Dummy for D Presidents and unified governments	no causal effect	yes
Blinder and Watson (2016)	Corporate profits (share of gross domestic investment)	+	1949-2012	Dummy for D Presidents and unified governments	no causal effect	yes
Blinder and Watson (2016)	Compensation/hour (growth)	0	1949-2012	Dummy for D Presidents and unified governments	no causal effect	yes
Blinder and Watson (2016)	Output/hour, non-farm business sector (growth)	0	1949-2012	Dummy for D Presidents and unified governments	no causal effect	yes

Study	Influence on	Effect (D)	Time period (# jurisdict.)	Ideology measure	Identification	Ideology main expl var
Blinder and Watson (2016)	TFP (growth)	+	1949-2012	Dummy for D Presidents and unified governments	no causal effect	yes
Blinder and Watson (2016)	Structural government surplus (% of GDP)	0	1963-2012	Dummy for D Presidents and unified governments	no causal effect	yes
Blinder and Watson (2016)	Inflation (price deflator for personal consumption expenditure, level)	0	1949-2012	Dummy for D Presidents and unified governments	no causal effect	yes
Blinder and Watson (2016)	Inflation (price deflator for GPD, level)	0	1949-2012	Dummy for D Presidents and unified governments	no causal effect	yes
Blinder and Watson (2016)	Inflation (price deflator for personal consumption expenditure, change)	0	1949-2012	Dummy for D Presidents and unified governments	no causal effect	yes
Blinder and Watson (2016)	Inflation (price deflator for GPD, change)	0	1949-2012	Dummy for D Presidents and unified governments	no causal effect	yes
Blinder and Watson (2016)	Three month T-bill rate (level)	0	1949-2012	Dummy for D Presidents and unified governments	no causal effect	yes
Blinder and Watson (2016)	Federal funds rate (level)	0	1957-2012	Dummy for D Presidents and unified governments	no causal effect	yes
Blinder and Watson (2016)	Three month T-bill rate (change)	+	1949-2012	Dummy for D Presidents and unified governments	no causal effect	yes
Blinder and Watson (2016)	Federal funds rate (change)	+	1949-2012	Dummy for D Presidents and unified governments	no causal effect	yes
Blinder and Watson (2016)	Ten-year / three-month term spread (level)	0	1954-2012	Dummy for D Presidents and unified governments	no causal effect	yes
Blinder and Watson (2016)	Baa-Aaa spred (level)	-	1949-2012	Dummy for D Presidents and unified governments	no causal effect	yes
Hess and Shelton (2016)	Congressional legislation extending Fed power	+ (Senate)	1973.1- 2010.12	DW-Nominate of individual Congressmen	no causal effect	no
Hess and Shelton (2016)	Congressional legislation threatening Fed	- (Senate)	1973.1- 2010.12	DW-Nominate of individual Congressmen	no causal effect	no
Hess and Shelton (2016)	Congressional legislation threatening Fed	+ (when unemployment was high in the 1970s)	1973.1- 2010.12	Subsamples for D and R Congressmen	no causal effect	no
Hess and Shelton (2016)	Base money growth rate	0/+ (- for 1948.1-1984.4)	1948.1- 2010.4	DW-Nominate of median Senate banking committee	no causal effect	no

Study	Influence on	Effect (D)	Time period (# jurisdict.)	Ideology measure	Identification	Ideology main expl var
Hess and Shelton (2016)	unanticipated component of changes in the Federal Funds rate	0	1969.1- 2005.12	DW-Nominate of median Senate banking committee	no causal effect	no
Hajnal and Horowitz (2014)	Median family income for Blacks (changes)	+	1948-2010	Dummy for D Presidents and unified governments	no causal effect	yes
Hajnal and Horowitz (2014)	Poverty rate for Blacks (changes)	-	1948-2010	Dummy for D Presidents and unified governments	no causal effect	yes
Hajnal and Horowitz (2014)	Unemployment rate for Blacks (changes)	-	1948-2010	Dummy for D Presidents and unified governments	no causal effect	yes
Hajnal and Horowitz (2014)	Median family income for Latinos (changes)	+	1970-2010	Dummy for D Presidents and unified governments	no causal effect	yes
Hajnal and Horowitz (2014)	Poverty rate for Latinos (changes)	0	1970-2010	Dummy for D Presidents and unified governments	no causal effect	yes
Hajnal and Horowitz (2014)	Unemployment rate for Latinos (changes)	0	1970-2010	Dummy for D Presidents and unified governments	no causal effect	yes
Hajnal and Horowitz (2014)	Median family income for Asians (changes)	0	1988-2010	Dummy for D Presidents and unified governments	no causal effect	yes
Hajnal and Horowitz (2014)	Poverty rate for Asians (changes)	0	1988-2010	Dummy for D Presidents and unified governments	no causal effect	yes
Hajnal and Horowitz (2014)	Unemployment rate for Asians (changes)	0	1988-2010	Dummy for D Presidents and unified governments	no causal effect	yes
Hajnal and Horowitz (2014)	Median family income for Whites (changes)	0	1948-2010	Dummy for D Presidents and unified governments	no causal effect	yes
Hajnal and Horowitz (2014)	Poverty rate for Whites (changes)	0	1948-2010	Dummy for D Presidents and unified governments	no causal effect	yes
Hajnal and Horowitz (2014)	Unemployment rate for Whites (changes)	0	1948-2010	Dummy for D Presidents and unified governments	no causal effect	yes
Chen and Wang (2013)	Nominal Fed Funds Rate	mixed evidence regarding R and D Presidents; 0	1961.1- 2008.12	Dummy variables for individual US Presidents and Fed chairs (no R/D distinction	no causal effect	yes
Flores-Marcías and Krebs (2013)	Adoption of war taxes	+ ^	1789-2010	Dummy for pro-tax inclination Presidents (the Federalist, Whig, and Republican parties before 1913 and the Democratic party from 1913 to the present)	no causal effect	yes

Study	Influence on	Effect (D)	Time period (# jurisdict.)	Ideology measure	Identification	Ideology main expl var
Flores-Marcías and Krebs (2013)	Individual legislator's vote in Congress on war taxes	+	1789-2010	Dummy for pro-tax inclination Presidents (the Federalist, Whig, and Republican parties before 1913 and the Democratic party from 1913 to the present)	no causal effect	yes
Broz (2011)	Congressional roll call votes on IMF support	+	1945-2009	DW-Nominate	no causal effect	yes
Broz (2008)	Congressional roll call votes on IMF support	+ (DW- Nominate) - (D dummy if also controlled for DW- Nominate)	1977-1998	DW-Nominate Dummy for congress member being R or D	no causal effect	yes
Grier (2008)	Real per capita GDP (growth)		1960:1- 2004:4	Dummy variable assuming the value 1 for D Presidents in the first half of a legislative period	no causal effect	no
Abrams and Iossifov (2006)	Quarterly average for the Federal Funds Rate	/	1957:1- 2004:4	Dummy variable assuming the value 1 in the seven quarters prior to Presidential elections (R and D incumbency	no causal effect	yes
Caporale and Grier (2005)	Real tax adjusted Fed Funds Rate	mixed evidence regarding R and D Presidents	1961.1- 2000.4	Dummy variables for individual US Presidents and Fed chairs (no R/D distinction	no causal effect	yes
Krause (2005)	Real personal income growth rate	+ (permanent) - (before elections)	1948.1- 2000.4	Dummy variables assuming the value 1 for D and -1 for R Presidents; and interactions with election variables	no causal effect	yes
Verstyuk (2004)	Real per capita GDP (growth)	+ (first quarters of the legislative period)	1947:1- 2001:4	Dummy variables assuming the value 1 for D Presidents and dummy variable assuming the value 1 for D majority in the House (permanent influence and in individual quarters of the leg period)	no causal effect	yes

Study	Influence on	Effect (D)	Time period (# jurisdict.)	Ideology measure	Identification	Ideology main expl var
Verstyuk (2004)	Unemployment rate	- (first quarters of the legislative period and permanent)	1948:1- 2001:4	Dummy variables assuming the value 1 for D Presidents and dummy variable assuming the value 1 for D majority in the House (permanent influence and in individual quarters of the leg period)	no causal effect	yes
Verstyuk (2004)	Inflation rate (CPI growth rate)	+ (first quarters of the legislative period and permanent)	1947:1- 2001:4	Dummy variables assuming the value 1 for D Presidents and dummy variable assuming the value 1 for D majority in the House (permanent influence and in individual quarters of the leg period)	no causal effect	yes
Blomberg and Hess (2003)	Real per capita GDP (growth)	+	1949-1996	Dummy variables assuming the value 1 for D and -1 for R Presidents in the second and second and third year of the legislative period	no causal effect	yes
Blomberg and Hess (2003)	Manufactoring productivity (growth)	+	1949-1994	Dummy variables assuming the value 1 for D and -1 for R Presidents in the second and second and third year of the legislative period	no causal effect	yes
Blomberg and Hess (2003)	Inflation rate (growth rate of the GDP deflator)	+	1949-1996	Dummy variables assuming the value 1 for D and -1 for R Presidents in the second and second and third year of the legislative period	no causal effect	yes
Blomberg and Hess (2003)	Average marginal tax rate (growth)	+	1949-1990	Dummy variables assuming the value 1 for D and -1 for R Presidents in the second and second and third year of the legislative period	no causal effect	yes

Study	Influence on	Effect (D)	Time period (# jurisdict.)	Ideology measure	Identification	Ideology main expl var
Blomberg and Hess (2003)	Average tax rate (growth)	+	1949-1996	Dummy variables assuming the value 1 for D and -1 for R Presidents in the second and second and third year of the legislative period	no causal effect	yes
Blomberg and Hess (2003)	"productive" government spending (growth): exclude transfer payments from federal spending	+	1949-1996	Dummy variables assuming the value 1 for D and -1 for R Presidents in the second and second and third year of the legislative period	no causal effect	yes
Santa-Clara and Valkanov (2003)	stock market returns (about ten variants of dependent variables)	+	1927.01- 1998.12	Dummy for D and R Presidents	no causal effect	yes
Caporale and Grier (2000)	Ex post real interest rate	- (R dominated Senate); mixed evidence regarding R and D Presidents	1961.1- 1986.3 1961.1- 1992.4	Dummy variables for individual US Presidents and Fed chairs (no R/D distinction Dummy for R dominating Senate	no causal effect	yes
Faust and Irons (1999)	3 month treasury bill rate	-/0 (impulse response of a 10 pp pro-D election shock)	1953.2- 1995.2	21 dummy variables measuring D and R administrations over the legislative period	no causal effect	yes
Faust and Irons (1999)	GNP growth	+/0 (impulse response of a 10 pp pro-D election shock)	1953.2- 1995.2	21 dummy variables measuring D and R administrations over the legislative period	no causal effect	yes
Faust and Irons (1999)	M2 growth	+/0 (impulse response of a 10 pp pro-D election shock)	1953.2- 1995.2	21 dummy variables measuring D and R administrations over the legislative period	no causal effect	yes
Faust and Irons (1999)	CPI inflation	-/0 (impulse response of a 10 pp pro-D election shock)	1953.2- 1995.2	21 dummy variables measuring D and R administrations over the legislative period	no causal effect	yes

Study	Influence on	Effect (D)	Time period (# jurisdict.)	Ideology measure	Identification	Ideology main expl var
Alesina et al. (1997)	Seasonally adjusted real GNP (growth)	+ (first part of legislative period)	1947.1- 1994.4	Dummy variables assuming the value 1 for R and -1 for D unified governments in the first parts legislative period and permanent R and D effects	no causal effect	yes
Alesina et al. (1997)	Unemployment rate	- (first part of legislative period)	1947.1- 1994.4	Dummy variables assuming the value 1 for R and -1 for D unified governments in the first parts legislative period and permanent R and D effects	no causal effect	yes
Alesina et al. (1997)	CPI inflation	+	1947.1- 1994.4	Dummy variables assuming the value 1 for R and -1 for D unified governments in the first parts legislative period and permanent R and D effects	no causal effect	yes
Alesina et al. (1997)	Monetary base (M0, growth)	+ (till the 1980s)	1947.1- 1994.3	Dummy variables assuming the value 1 for R and -1 for D unified governments in the first parts legislative period and permanent R and D effects	no causal effect	yes
Alesina et al. (1997)	Monetary supply (M1, growth)	+ (till the 1980s)	1947.1- 1994.3	Dummy variables assuming the value 1 for R and -1 for D unified governments in the first parts legislative period and permanent R and D effects	no causal effect	yes
Alesina et al. (1997)	Federal Funds rate	+ (first part of legislative period)	1960.1- 1994.3	Dummy variables assuming the value 1 for R and -1 for D unified governments in the first parts legislative period and permanent R and D effects	no causal effect	yes
Alesina et al. (1997)	Discount rate	+ (first part of legislative period)	1960.1- 1994.3	Dummy variables assuming the value 1 for R and -1 for D unified governments in the first parts legislative period and permanent R and D effects	no causal effect	yes

Study	Influence on	Effect (D)	Time period (# jurisdict.)	Ideology measure	Identification	Ideology main expl var
Alesina et al. (1997)	Three-month treasury bill rate	+ (first part of legislative period)	1960.1- 1994.3	Dummy variables assuming the value 1 for R and -1 for D unified governments in the first parts legislative period and permanent R and D effects	no causal effect	yes
Alesina et al. (1997)	Ten-year treasury note rate	+ (first part of legislative period)	1960.1- 1994.3	Dummy variables assuming the value 1 for R and -1 for D unified governments in the first parts legislative period and permanent R and D effects	no causal effect	yes
Alesina et al. (1997)	Personal transfers (in % of GDP)	0	1947.1- 1994.3	Dummy variables assuming the value 1 for R and -1 for D unified governments in the first parts legislative period and permanent R and D effects	no causal effect	yes
Alesina et al. (1997)	Budget deficit (% of GDP)	-/0	1946-1994	Dummy variables assuming the value 1 for R and -1 for D unified governments in the first parts legislative period and permanent R and D effects	no causal effect	yes
Chopin et al. (1996a)	Monetary base growth	0 ADA Senate chairman score - ADA House chairman score 0/- (R President dummy)	1958.1- 1992.2	R President dummy Average ADA score of the chairman of the Senate Banking Committee in t-2 Average ADA score of the chairman of the House Banking Committee in t-2	no causal effect	yes
Chopin et al. <mark>(</mark> 1996b)	Monetary base growth	0 ADA Senate chairman score 0/- ADA House chairman score 0 Patman dummy 0/- (R President dummy)	1958.1- 1984.4	R President dummy Average ADA score of the chairman of the Senate Banking Committee in t-2 Average ADA score of the chairman of the House Banking Committee in t-2 and Patman dummy	no causal effect	yes

Study	Influence on	Effect (D)	Time period (# jurisdict.)	Ideology measure	Identification	Ideology main expl var
Grier (1996)	Monetary base growth	+ ADA Senate score +/- ADA House chairman score + Patman dummy 0/- (R President dummy)	1957.1- 1992.4	R President dummy Average ADA score of the chairman of the Senate Banking Committee and the chairman of the two subcommittees that over see the Fed Average ADA score of the chairman of the House Banking Committee and Patman dummy	no causal effect	yes
Alesina and Rosenthal (1995)	Real GNP (growth)	+	1949.1- 1991.4	Dummy variables assuming the value 1 for D and -1 for R unified governments in the second year of a legislative period	no causal effect	yes
Alesina and Rosenthal (1995)	Inflation	-	1949.1- 1991.4	Dummy variables assuming the value 1 for R unified	no causal effect	yes
Chappell et al. (1993)	Votes on the Federal Funds Rate in the FOMC	-	1960-1987	governments Dummy variables for D and R appointed FOMC members	no causal effect	yes
Grier (1991)	Monetary base growth	+ ADA score 0/- (R President dummy)	1958.1- 1984.4	R President dummy Average ADA score of the chairman of the Senate Banking Committee and the chairman of the two subcommittees that over see the Fed	no causal effect	yes
Havrilesky (1991)	Index on easy monetary policy: signals from the administration to the Federal Reserve (SAFER)	+	1974.1- 1989.12	Percentage of Fed Board members unreliable vis-à-vis the President in office	no causal effect	yes
Haynes and Stone (1990)	Real gross GNP (in logs)	+ (entire legislative period)	1951.1- 1986.2	Dummy variables assuming the value 1 for D and R Presidents in the first and second half of the legislative period	no causal effect	yes
Haynes and Stone (1990)	Civilian unemployment rate (in logs)	- (entire legislative period)	1951.1- 1986.2	Dummy variables assuming the value 1 for D and R Presidents in the first and second half of the legislative period	no causal effect	yes

Study	Influence on	Effect (D)	Time period (# jurisdict.)	Ideology measure	Identification	Ideology main expl var
Haynes and Stone (1990)	Inflation (growth rate of the consumer price index)	+ (first half of the legislative period)	1951.1- 1986.2	Dummy variables assuming the value 1 for D and R Presidents in the first and second half of the legislative period	no causal effect	yes
Alesina and Sachs (1988)	Real per capita GDP (growth)	+ (first half of the legislative period)	1949.1- 1984.4	Dummy variables assuming the value 1 for D and R Presidents in the first and second half of the legislative period	no causal effect	yes
Alesina and Sachs (1988)	Average growth rate of M1 per year (biannual averages)	- (entire legislative period)	1949.1- 1984.4	Dummy variables assuming the value 1 for D and R Presidents, and for D and R Presidents in the first and second half of the legislative period	no causal effect	yes
Alesina and Sachs (1988)	Residual of a regression of the growth rate of M1 (biannual averages)	0/ö (entire legislative period)	1949.1- 1984.4	Dummy variables assuming the value 1 for D and R Presidents	no causal effect	yes
Havrilesky (1988)	Money supply (levels and first differences)	+	1974.1- 1984.12	Index on easy monetary policy: signals from the administration to the Federal Reserve (SAFER)	no causal effect	yes
Havrilesky (1988)	Federal Funds Rate	-	1974.1- 1984.12	Index on easy monetary policy: signals from the administration to the Federal Reserve (SAFER)	no causal effect	yes
Havrilesky (1987)	Money supply (M1, growth rate)	+ (D followed R) - (R followed D)	1948-1948	Dummy for the year when D followed R President and vice versa	no causal effect	yes
Hibbs (1987)	Real output (log levels)	+	1953.1- 1984.3	Dummy for D administrations	no causal effect	yes
Hibbs (1987)	Real personal disposable income per capita (growth)	+	1953.1- 1984.3	Dummy for D administrations	no causal effect	yes
Hibbs (1987)	Unemployment rate	-	1953.1- 1984.3	Dummy for D administrations	no causal effect	yes
Hibbs (1987)	Money supply (M1, growth rate)	+	1953.1- 1984.3	Dummy for D administrations	no causal effect	yes
Hibbs (1987)	Percentage gap between cyclically adjusted federal revenues and expenditures	0	1953.1- 1984.3	Dummy for D administrations	no causal effect	yes

Study	Influence on	Effect (D)	Time period (# jurisdict.)	Ideology measure	Identification	Ideology main expl var
Hibbs (1986)	Unemployment rate	-	1953.1- 1983.2	Dummy for D administrations	no causal effect	yes
Hibbs (1986)	Money supply (M1, growth rate)	+	1953.1- 1983.2	Dummy for D administrations	no causal effect	yes
Frey and Schneider (1978a)	Nondefense exhaustive government expenditure	- (Johnson and Nixon)	1953.1- 1975.2	Dummy variables for individual Presidents	no causal effect	yes
Frey and Schneider (1978a)	Government transfers to private households	- (Nixon)	1953.1- 1975.2	Dummy variables for individual Presidents	no causal effect	yes
Frey and Schneider (1978a)	Number of civilian government jobs	+ (Johnson)	1953.1- 1975.2	Dummy variables for individual Presidents	no causal effect	yes
State level						
Beland and Oloomi (2017)	Total expenditure (logs, levels)	0	1960-2012 (50)	Dummy variable for D governor	RDD	yes
Beland and Oloomi (2017)	Education expenditure (share of state budget)	+	1960-2012 (50)	Dummy variable for D governor	RDD	yes
Beland and Oloomi (2017)	Health/hospital expenditure (share of state budget)	+	1960-2012 (50)	Dummy variable for D governor	RDD	yes
Beland and Oloomi (2017)	Public safety expenditure (share of state budget)	0/+	1960-2012 (50)	Dummy variable for D governor	RDD	yes
Beland and Oloomi (2017)	Social welfare expenditure (share of state budget)	0	1960-2012 (50)	Dummy variable for D governor	RDD	yes
Beland and Oloomi (2017)	Other expenditure (share of state budget)	-	1960-2012 (50)	Dummy variable for D governor	RDD	yes
Beland and Unel (2017)	Union membership	0	1983-2013 (?)	Dummy variable for D governor	RDD	yes
Beland and Unel (2017)	Entry to union	0	1983-2013 (50)	Dummy variable for D governor	RDD	yes
Beland and Unel (2017)	Entry from union	0	1983-2013 (50)	Dummy variable for D governor	RDD	yes
Beland and Unel (2017)	Weakly earning	0	1983-2013 (50)	Dummy variable for D governor	RDD	yes
Beland and Unel (2017)	Hourly earning	0	1983-2013 (50)	Dummy variable for D governor	RDD	yes
Beland and Unel (2017)	Hours peer week	0	1983-2013 (50)	Dummy variable for D governor	RDD	yes

Study	Influence on	Effect (D)	Time period (# jurisdict.)	Ideology measure	Identification	Ideology main expl var
Cahan (2017)	Government employment (growth rate)	0	1990.1- 2015.3 (49)	Dummy variable for D governor	no causal effect	no
Caughey et al. (2017)	Policy liberalism measure (change)	+	1936-2014 (49)	Dummy variable for D governor	RDD	yes
Caughey et al. (2017)	Policy liberalism measure (change)	+ (especially since the 1990s)	1936-2014 (49)	Dummy variable for D governor	no causal effect (dynamic panel)	yes
Gu et al. (2017)	Overall economic freedom index (level)	0	1984-2005 (49)	Dummy variable for governor being D; Dummy variables for D and R dominating the legislature; and D and R unified government	no causal effect	yes
Gu et al. (2017)	Economic freedom index: size of government (level)	0	1984-2005 (49)	Dummy variable for governor being D; Dummy variables for D and R dominating the legislature; and D and R unified government	no causal effect	yes
Gu et al. (2017)	Economic freedom index: Taxation (level)	0/- (R legislature)	1984-2005 (49)	Dummy variable for governor being D; Dummy variables for D and R dominating the legislature; and D and R unified government	no causal effect	yes
Gu et al. (2017)	Economic freedom index: labor market regulation (level)	0/ - (D legislature) / + (R unified gov)	1984-2005 (49)	Dummy variable for governor being D; Dummy variables for D and R dominating the legislature; and D and R unified government	no causal effect	yes
Keith and Mandon (2017)	Number of poor immigrants (logs)	- (especially re- electable governors)	1994-2014 (50)	Dummy variable for D governor	RDD	yes
Keith and Mandon (2017)	Headcount ratio for immigrants	- (especially re- electable governors)	1994-2014 (50)	Dummy variable for D governor	RDD	yes
Bernecker (2016)	Welfare reform	-/0	1978-2010	dummy variables for governors' party affiliation and D and R majorities in the legislature, Berry et al. (1998)	no causal effect	no
Hill and Jones (2016)	Education spending (per capita)	0/+	1990-2013 (50)	Dummy variable for D governor	RDD	yes

Study	Influence on	Effect (D)	Time period (# jurisdict.)	Ideology measure	Identification	Ideology main expl var
Hill and Jones (2016)	K-12 education spending (per capita)	0/+	1990-2013 (50)	Dummy variable for D governor	RDD	yes
Hill and Jones (2016)	Higher education spending (per capita)	0/+	1990-2013 (50)	Dummy variable for D governor	RDD	yes
Ash (2015)	Marginal income tax rate	0	1963-2010 (48)	D government ideology index	RDD	yes
Ash (2015)	Marginal sales tax rate	0	1963-2010 (48)	D government ideology index	RDD	yes
Ash (2015)	Income tax revenues	0	1963-2010 (48)	D government ideology index	RDD	yes
Ash (2015)	Sales tax revenues	0	1963-2010 (48)	D government ideology index	RDD	yes
Ash (2015)	Revenue increasing language for income taxes	+/0	1963-2010 (48)	Dummy variable for D governor, D majorities in legislature and D government ideology index	RDD	yes
Ash (2015)	Revenue increasing language for sales taxes	-/0	1963-2010 (48)	Dummy variable for D governor, D majorities in legislature and D government ideology index	RDD	yes
Beland (2015)	Weeks worked (black)	+	1977-2008 (50)	Dummy variable for D governor	RDD	yes
Beland (2015)	Usual hours (black)	0/+	1977-2008 (50)	Dummy variable for D governor	RDD	yes
Beland (2015)	In labor force (black)	0/+	1977-2008 (50)	Dummy variable for D governor	RDD	yes
Beland (2015)	Employed (black)	0/+	1977-2008 (50)	Dummy variable for D governor	RDD	yes
Beland and Boucher (2015)	Carbon monoxide	0	1975-2013	Dummy variable for D governor	RDD	yes
Beland and Boucher (2015)	Nitrogen dioxide	-	1975-2013	Dummy variable for D governor	RDD	yes
Beland and Boucher (2015)	Ozone	-	1975-2013	Dummy variable for D governor	RDD	yes
Beland and Boucher (2015)	Particulate matter	-	1975-2013	Dummy variable for D governor	RDD	yes
Beland and Boucher (2015)	Sulfur dioxide	0	1975-2013 (?)	Dummy variable for D governor	RDD	yes

Study	Influence on	Effect (D)	Time period (# jurisdict.)	Ideology measure	Identification	Ideology main expl var
Beland and Unel (2015)	Employed (immigrants)	+	1993-2013 (50)	Dummy variable for D governor	RDD	yes
Beland and Unel (2015)	Hours per week (immigrants)	0	1993-2013 (50)	Dummy variable for D governor	RDD	yes
Beland and Unel (2015)	Total weeks (immigrants)	+	1993-2013 (50)	Dummy variable for D governor	RDD	yes
Beland and Unel (2015)	Total hours (immigrants)	+	1993-2013 (50)	Dummy variable for D governor	RDD	yes
Beland and Unel (2015)	Hourly income (immigrants)	+	1993-2013 (50)	Dummy variable for D governor	RDD	yes
Beland and Unel (2015)	Weakly income (immigrants)	+	1993-2013 (50)	Dummy variable for D governor	RDD	yes
Beland and Unel (2015)	Annual income (immigrants)	+	1993-2013 (50)	Dummy variable for D governor	RDD	yes
Beland et al. (2015)	Entry self-employment	0	1979-2012 (50)	Dummy variable for D governor	RDD	yes
Beland et al. (2015)	Entry self-employment (Agriculture & Mining)	0	1979-2012 (50)	Dummy variable for D governor	RDD	yes
Beland et al. (2015)	Entry self-employment (Construction)	0	1979-2012 (50)	Dummy variable for D governor	RDD	yes
Beland et al. (2015)	Entry self-employment (Manufacturing)	0	1979-2012 (50)	Dummy variable for D governor	RDD	yes
Beland et al. (2015)	Entry self-employment (Service)	0	1979-2012 (50)	Dummy variable for D governor	RDD	yes
Beland et al. (2015)	Exit self-employment	+	1979-2012 (50)	Dummy variable for D governor	RDD	yes
Beland et al. (2015)	Exit self-employment (Agriculture & Mining)	0	1979-2012 (50)	Dummy variable for D governor	RDD	yes
Beland et al. (2015)	Exit self-employment (Construction)	+	1979-2012 (50)	Dummy variable for D governor	RDD	yes
Beland et al. (2015)	Exit self-employment (Manufacturing)	0	1979-2012 (50)	Dummy variable for D governor	RDD	yes
Beland et al. (2015)	Exit self-employment (Service)	+	1979-2012 (50)	Dummy variable for D governor	RDD	yes
Joshi (2015)	Total personal health care expenditure (HCE) (per capita, growth)	0	1991-2009 (50)	Dummy variable for D governor	RDD	yes

Study	Influence on	Effect (D)	Time period (# jurisdict.)	Ideology measure	Identification	Ideology main expl var
Joshi (2015)	HCE component: hospital care	0	1991-2009 (50)	Dummy variable for D governor	RDD	yes
Joshi (2015)	HCE component: physician and clinical service	0	1991-2009 (50)	Dummy variable for D governor	RDD	yes
Joshi (2015)	HCE component: other professional service	0	1991-2009 (50)	Dummy variable for D governor	RDD	yes
Joshi (2015)	HCE component: dental services	0	1991-2009 (50)	Dummy variable for D governor	RDD	yes
Joshi (2015)	HCE component: home healthcare	0	1991-2009 (50)	Dummy variable for D governor	RDD	yes
Joshi (2015)	HCE component: prescription drugs	+	1991-2009 (50)	Dummy variable for D governor	RDD	yes
Joshi (2015)	HCE component: durable medical products	0	1991-2009 (50)	Dummy variable for D governor	RDD	yes
Joshi (2015)	HCE component: nursing home care	0	1991-2009 (50)	Dummy variable for D governor	RDD	yes
Joshi (2015)	HCE component: other health, residential, and personal care	0	1991-2009 (50)	Dummy variable for D governor	RDD	yes
Neumeier (2015)	Real personal income (growth rate, per capita)	0 (R versus D CEO governors)	1960-2009 (48)	Dummy variable for R governor	Matching on CEO governors	yes
Neumeier (2015)	Unemployment rate	+ under D than R CEO governors	1960-2009 (48)	Dummy variable for R governor	Matching on CEO governors	yes
Neumeier (2015)	Capital stock (growth rate, per capita)	0 (R versus D CEO governors)	1960-2009 (48)	Dummy variable for R governor	Matching on CEO governors	yes
Neumeier (2015)	Income inequality	0 (R versus D CEO governors)	1960-2009 (48)	Dummy variable for R governor	Matching on CEO governors	yes
De Magalhães and Ferrero (2014)	Tax revenues (% of GDP)	?	1960-2006 (48)	dummy variable for D governor	no causal effect	no
De Magalhães and Ferrero (2014)	Tax revenues (per capita)	?	1960-2006 (48)	dummy variable for D governor	no causal effect	no

Study	Influence on	Effect (D)	Time period (# jurisdict.)	Ideology measure	Identification	Ideology main expl var
Bjørnskov and Potrafke (2013)	Inversed overall economic freedom index (changes)	0	1980-2005	Dummy variables for governor being D and R and for D and R dominating the legislature; Shor and McCarty (2011) for the governor, House and Senate	no causal effect	yes
Bjørnskov and Potrafke (2013)	Inversed economic freedom index: size of government (changes)	0	1980-2005	Dummy variables for governor being D and R and for D and R dominating the legislature; Shor and McCarty (2011) for the governor, House and Senate	no causal effect	yes
Bjørnskov and Potrafke (2013)	Inversed economic freedom index: Taxation (changes)	0	1980-2005	Dummy variables for governor being D and R and for D and R dominating the legislature; Shor and McCarty (2011) for the governor, House and Senate	no causal effect	yes
Bjørnskov and Potrafke (2013)	Inversed economic freedom index: labor market regulation (changes)	- (unified government) 0/+ (divided government)	1980-2005	Dummy variables for governor being D and R and for D and R dominating the legislature; Shor and McCarty (2011) for the governor, House and Senate	no causal effect	yes
Fredriksson et al. (2013)	Total state tax revenues (annual changes)	+ (re-electable) - (lame duck)	1970-2007 (47)	Party vote shares	RDD	yes
Fredriksson et al. (2013)	income tax revenues (annual changes)	+ (re-electable) - (lame duck)	1970-2007 (47)	Party vote shares	RDD	yes
Fredriksson et al. (2013)	corporate tax revenues (annual changes)	0 (re-electable) 0 (lame duck)	1970-2007 (47)	Party vote shares	RDD	yes
Fredriksson et al. (2013)	sales tax revenues (annual changes)	0 (re-electable) 0 (lame duck)	1970-2007 (47)	Party vote shares	RDD	yes
Pickering and Rockey (2013)	Tax revenue (% of state income)	+ (when state income is high)	1960-1997 (48)	Berry et al. (1998)	no causal effect	yes
Pickering and Rockey (2013)	State expenditure (% of state income)	+ (when state income is high)	1960-1997 (48)	Berry et al. (1998)	no causal effect	yes
Andersen et al. (2012)	Late budget	?	1988-2007 (50)	Dummy variable for D governor	no causal effect	no
Andersen et al. (2012)	Number of days from end of fiscal year to final budget enactment	?	1988-2007 (50)	Dummy variable for D governor	no causal effect	no

Study	Influence on	Effect (D)	Time period (# jurisdict.)	Ideology measure	Identification	Ideology main expl var
De Magalhães and Ferrero (2011)	Tax revenues (% of GDP)	?	1960-2006 (43)	D majority in the House	RDD	yes
Fredriksson et al. (2011)	State environmental expenditure (growth rates)	0 (re-electable) - (lame duck)	1970-2000	Dummy variable for D governor	RDD	yes
Besley et al. (2010)	Tax revenue (% of state income)	0 (governor) + (legislature)	1950-2001 (48)	dummy variables for governors' party affiliation and D and R majorities in the legislature	no causal effect	no
Besley et al. (2010)	Infrastructure spending (% of state government expenditure)	0 (governor) - (legislature)	1950-2001 (48)	dummy variables for governors' party affiliation and D and R majorities in the legislature	no causal effect	no
Besley et al. (2010)	Right-to-work-laws	0/+ (governor) + (legislature)	1929-2001 (48)	dummy variables for governors' party affiliation and D and R majorities in the legislature	no causal effect	no
Besley et al. (2010)	Growth of personal income	0/+ (governor) +/- (legislature)	1929-2001 (48)	dummy variables for governors' party affiliation and D and R majorities in the legislature	no causal effect	no
Besley et al. (2010)	Share of non-farm income	0 (governor) - (legislature)	1929-2001 (48)	dummy variables for governors' party affiliation and D and R majorities in the legislature	no causal effect	no
Gray et al. (2010)	Legislative activity on universal healthcare	+ (governor) + (legislature)	1988-2002 (50)	Dummy variable for governor being D  Dummy variables for D  dominating the legislature	no causal effect	yes
Gray et al. (2010)	Legislative activity on universal healthcare*policy scope	+ (governor) + (legislature)	1988-2002 (50)	Dummy variable for governor being R  Average of dummy variables for R dominating the House and Senate	no causal effect	yes
Alt and Rose (2009)	State spending (per capita, first differences)	?	1974-1999 (45)	Dummy variables for unified D and R governments	no causal effect	no
Chang et al. (2009)	Real personal income (growth)	+	1951-2004 (48)	Dummy variables assuming the value 1 for D and -1 for R governors and Presidents (permanent influence and first part of the legislative period)	no causal effect	yes

Study	Influence on	Effect (D)	Time period (# jurisdict.)	Ideology measure	Identification	Ideology main expl var
Chang et al. (2009)	Real government spending (growth)	+	1951-2004 (48)	Dummy variables assuming the value 1 for D and -1 for R governors and Presidents (permanent influence and first part of the legislative period)	no causal effect	yes
Leigh (2008)	32 dependent variables	0 (for 26 dependent variables) + (minimum wage, post-tax income, welfare caseloads) - (incarceration rates, post-tax inequality, unemployment rates)	1941-2002 (50)	Dummy variable for D governor	RDD (exclude elections in which one party won 80% or more of the vote and in which one of the two top candidates is an independent)	yes
Calcagno and Escaleras (2007)	Difference in real general revenue and expenditure (in % of income)	0/+ (governor) - (D) + (R)	1971-2000 (37)	Dummy variable for governor being D  Dummy variables for D and R holding 66% of seats in the legislature	no causal effect	no
Primo (2006)	State and local spending (per capita, in 2000 dollars)	0 0/+ (interaction with spending limits)	1969-2000 (47)	Dummy variables for R governor and for D and R unified governments, % of D seats in the House and Senate	no causal effect	yes
Reed (2006)	Tax Burden (total state and local tax revenues in % of state Personal income, five year average)	0 (governor) + (D unified legislature) 0 (R unified legislature)	1960-2000 (45)	Percentage of years (five year intervals) in which D and R controlled both chambers of legislature (in t-1)	no causal effect	yes
Rose (2006)	General expenditure (per capita)	0 (interaction with electoral cycle variables)	1974-1999 (43)	Dummy variables for D and R unified governments	no causal effect	no
Shipan and Volden (2006)	Adoption of antismoking policies	+ (Berry et al. 1998)	1975-2000 (50)	Berry et al. (1998); Dummies for unified D and R governments	no causal effect	no

Study	Influence on	Effect (D)	Time period (# jurisdict.)	Ideology measure	Identification	Ideology main expl var
hipan and Volden (2006)	Adoption of antismoking policies (government buildings)	+ (Berry et al. 1998)	1975-2000 (50)	Berry et al. (1998); Dummies for unified D and R governments	no causal effect	no
hipan and Volden (2006)	Adoption of antismoking policies (restaurants)	+ (Berry et al. 1998)	1975-2000 (50)	Berry et al. (1998); Dummies for unified D and R governments	no causal effect	no
hipan and Volden (2006)	Adoption of antismoking policies (out-of-pack sales)	0 0/- (unified R governments)	1975-2000 (50)	Berry et al. (1998); Dummies for unified D and R governments	no causal effect	no
anger and Brace (2005)	Enactment of abortion legislation	<u>-</u>	1974-1993 (?)	Berry et al. (1998) to measure citizens' and government ideology (and another measure for State Supreme Court ideology)	no causal effect	yes
anger and Brace (2005)	Enactment of death penalty legislation	-	1974-1996 (?)	Berry et al. (1998) to measure citizens' and government ideology (and another measure for State Supreme Court ideology)	no causal effect	yes
esley and Case (2003)	Total tax revenues (per capita)	+ (House)	1950-1958, 1960-1997 (48)	Dummy variables for D governors and dummy variables for D majorities in the legislature	no causal effect	yes
esley and Case (2003)	Total spending (per capita)	+ (House)	1950-1958, 1960-1996 (48)	Dummy variables for D governors and dummy variables for D majorities in the legislature	no causal effect	yes
esley and Case (2003)	Family assistance (per capita)	+ (House, Senate and joint majority)	1958, 1960-1998 (48)	Dummy variables for D governors and dummy variables for D majorities in the legislature	no causal effect	yes
sesley and Case (2003)	Workers compensation (per capita)	+ (Senate and governor)	1950-1958, 1960-1998 (48)	Dummy variables for D governors and dummy variables for D majorities in the legislature	no causal effect	yes
Alt et al. (2002)	Nominal total revenue (per capita)	+	Cross- section (48), averaged 1986-1995	Berry et al. (1998)	no causal effect	no

Study	Influence on	Effect (D)	Time period (# jurisdict.)	Ideology measure	Identification	Ideology main expl var
Alt et al. (2002)	Real total spending (per capita)	+	Cross- section (48), averaged 1986-1995	Berry et al. (1998)	no causal effect	no
Kousser (2002)	Total Medicaid spending (per capita)	0	1980-1993 (46)	Dummy variables for R governors and dummy variables for R majorities in the legislature	no causal effect	yes
Kousser (2002)	Discretionary Medicaid spending (per capita)	- (legislature)	1980-1993 (46)	Dummy variables for R governors and dummy variables for R majorities in the legislature	no causal effect	yes
Caplan (2001)	Spending overall and on education, health and hospitals, highways, public welfare and other; tax revenue overall and of sales, income, corporate (per capita and in % of personal income)	+ (D majorities in the legislature)	1950-1989 (48)	Share of D seats in the House and Senate; distance of D seats in the House and Senate to absolute majority; Dummy variable for D majority in the House and Senate and for governor	no causal effect	yes
Knight (2000)	State tax revenue (% of income)	0/+ (governor) 0/+ (D dominating leg) 0 (R dominating leg)	1963-1995 (48)	Dummy variable for governor being D  Dummy variables for D and R dominating the legislature	no causal effect	no
Rogers and Rogers (2000)	State government general expenditure (share of state personal income)	+/0 (D in the House) 0 in 1980s	1950-1990 (50)	Dummy for D governor, D seat share in the House and the interaction of the two	no causal effect	yes
Rogers and Rogers (2000)	State government general expenditure (per capita)	+/0 (D in the House) 0 in 1980s	1950-1990 (50)	Dummy for D governor, D seat share in the House and the interaction of the two	no causal effect	yes
Rogers and Rogers (2000)	State government general revenue (share of state personal income)	+/0 (D in the House) 0 in 1980s	1950-1990 (50)	Dummy for D governor, D seat share in the House and the interaction of the two	no causal effect	yes
Rogers and Rogers (2000)	State government general revenue (per capita)	+/0 (D in the House) 0 in 1980s	1950-1990 (50)	Dummy for D governor, D seat share in the House and the interaction of the two	no causal effect	yes

Study	Influence on	Effect (D)	Time period (# jurisdict.)	Ideology measure	Identification	Ideology main expl var
Dilger (1998)	Overall spending (first difference)	0	1945-1978 (38)	Dummy variable for governor being D  Dummy variables for D dominating the legislature and interaction of the two	no causal effect	yes
Dilger (1998)	Overall state tax revenues (first difference)	0	1945-1978 (38)	Dummy variable for governor being D  Dummy variables for D dominating the legislature and interaction of the two	no causal effect	yes
Dilger (1998)	Spending on health (first difference)	0	1945-1978 (38)	Dummy variable for governor being D  Dummy variables for D dominating the legislature and interaction of the two	no causal effect	yes
Dilger (1998)	Spending on education (first difference)	+ (governor)	1945-1978 (38)	Dummy variable for governor being D  Dummy variables for D dominating the legislature and interaction of the two	no causal effect	yes
Dilger (1998)	Spending on welfare (first difference)	0	1945-1978 (38)	Dummy variable for governor being D  Dummy variables for D dominating the legislature and interaction of the two	no causal effect	yes
Dilger (1998)	Spending on corrections (first difference)	0	1945-1978 (38)	Dummy variable for governor being D  Dummy variables for D dominating the legislature and interaction of the two	no causal effect	yes
Dilger (1998)	Spending on highways (first difference)	0	1945-1978 (38)	Dummy variable for governor being D  Dummy variables for D dominating the legislature and interaction of the two	no causal effect	yes

Study	Influence on	Effect (D)	Time period (# jurisdict.)	Ideology measure	Identification	Ideology main expl var
Dilger (1998)	State debt (first difference)	+ (legislature)	1945-1978 (38)	Dummy variable for governor being D  Dummy variables for D dominating the legislature and interaction of the two	no causal effect	yes
Dilger (1998)	State employment (first difference)	0	1945-1978 (38)	Dummy variable for governor being D  Dummy variables for D dominating the legislature and interaction of the two	no causal effect	yes
Besley and Case (1995)	Sales tax revenues (per capita, in 1982 dollars)	+ (D with term limit)	1950-1986 (48)	Dummy variables for D and R governors and dummy variables for D and R governors with term limits	no causal effect	yes
Besley and Case (1995)	income tax revenues (per capita, in 1982 dollars)	+ (D with term limit)	1950-1986	Dummy variables for D and R governors and dummy variables for D and R governors with term limits	no causal effect	yes
Besley and Case (1995)	corporate tax revenues (per capita, in 1982 dollars)	+ (D with term limit)	1950-1986	Dummy variables for D and R governors and dummy variables for D and R governors with term limits	no causal effect	yes
Besley and Case (1995)	total tax revenues (per capita, in 1982 dollars)	+ (D with term limit)	1950-1986 (48)	Dummy variables for D and R governors and dummy variables for D and R governors with term limits	no causal effect	yes
Besley and Case (1995)	state expenditure (per capita, in 1982 dollars)	+ (D with term limit)	1950-1986 (48)	Dummy variables for D and R governors and dummy variables for D and R governors with term limits	no causal effect	yes
Besley and Case (1995)	state minimum wage (in 1982 dollars)	-	1950-1986 (48)	Dummy variables for D and R governors and dummy variables for D and R governors with term limits	no causal effect	yes

Study	Influence on	Effect (D)	Time period (# jurisdict.)	Ideology measure	Identification	Ideology main expl var
Besley and Case (1995)	state maximum worker compensation weekly benefits (in 1982 dollars)	+ (D with term limit)	1950-1986 (48)	Dummy variables for D and R governors and dummy variables for D and R governors with term limits	no causal effect	yes
Besley and Case (1995)	state income (per capita, logs)	- (D with term limit)	1950-1986 (48)	Dummy variables for D and R governors and dummy variables for D and R governors with term limits	no causal effect	yes
Gilligan and Matsusaka (1995)	Total expenditure (state and local, levels, per capita)	0 (the only exception: - D dominating House dummy)	1960-1990 (five year averages) (48)	Dummies for governor, House and Senate majority being D; seat shares of D in House and Senate, Dummies for D and R unified government	no causal effect	yes
Gilligan and Matsusaka (1995)	Non-capital expenditure (state and local, levels, per capita)	0 (the only exception: + D dominating Senate dummy)	1960-1990 (five year averages) (48)	Dummies for governor, House and Senate majority being D; seat shares of D in House and Senate, Dummies for D and R unified government	no causal effect	yes
Gilligan and Matsusaka (1995)	capital expenditure (state and local, levels, per capita)	0 (the only exception: - D unified government)	1960-1990 (five year averages) (48)	Dummies for governor, House and Senate majority being D; seat shares of D in House and Senate, Dummies for D and R unified government	no causal effect	yes
Gilligan and Matsusaka (1995)	Welfare expenditure (state and local, levels, per capita)	0 (the only exception: - R unified government)	1960-1990 (five year averages) (48)	Dummies for governor, House and Senate majority being D; seat shares of D in House and Senate, Dummies for D and R unified government	no causal effect	yes
Gilligan and Matsusaka (1995)	Education expenditure (state and local, levels, per capita)	0	1960-1990 (five year averages) (48)	Dummies for governor, House and Senate majority being D; seat shares of D in House and Senate, Dummies for D and R unified government	no causal effect	yes

Study	Influence on	Effect (D)	Time period (# jurisdict.)	Ideology measure	Identification	Ideology main expl var
Gilligan and Matsusaka (1995)	Highway expenditure (state and local, levels, per capita)	0 (the only exception: - D unified government)	1960-1990 (five year averages) (48)	Dummies for governor, House and Senate majority being D; seat shares of D in House and Senate, Dummies for D and R unified government	no causal effect	yes
Grogan (1994)	Medicare financial eligibility policy (self-compiled index)	+	1979-1989 (biennially) (49)	Variable 1 for unified D government, 2 for divided government, 3 for unified R government	no causal effect	yes
Grogan (1994)	Medicare categorical eligibility policy (self-compiled index)	+	1979-1989 (biennially) (49)	Variable 1 for unified D government, 2 for divided government, 3 for unified R government	no causal effect	yes
Grogan (1994)	Medicare benefit coverage	+	1979-1989 (biennially) (49)	Variable 1 for unified D government, 2 for divided government, 3 for unified R government	no causal effect	yes
Poterba (1994)	Change in next fiscal year's taxes and spending	0	1988-1992 (49)	Dummies for unified D and R government	no causal effect	yes
Winters (1976)	Redistribution index (levels)	0	1951-1967 (biennially) (45)	Dummy for D governor, D seat share in the House, Party control index for D unified government	no causal effect	yes
Winters (1976)	Redistribution index (first differences)	0 + (D unified government)	1951-1967 (biennially) (45)	Dummy for D governor, D seat share in the House, Party control index for D unified government	no causal effect	yes
Winters (1976)	Redistribution index (modulus first differences)	0	1951-1967 (biennially) (45)	Dummy for D governor, D seat share in the House, Party control index for D unified government	no causal effect	yes
Local level  De Benedictis-Kessner and	Total amonditum (non conita	1	1950-2014	Demonstration of the Company	DDD	
Warshaw (2016)	Total expenditure (per capita in levels and logs)	+	(204)	Dummy variable for D mayor	RDD	yes
De Benedictis-Kessner and Warshaw (2016)	General expenditure (per capita in levels and logs)	+	1950-2014 (204)	Dummy variable for D mayor	RDD	yes
De Benedictis-Kessner and Warshaw (2016)	Expenditure on roads (per capita in levels and logs)	0	1950-2014 (204)	Dummy variable for D mayor	RDD	yes
De Benedictis-Kessner and Warshaw (2016)	Expenditure on parks (per capita in levels and logs)	0	1950-2014 (204)	Dummy variable for D mayor	RDD	yes

Study	Influence on	Effect (D)	Time period (# jurisdict.)	Ideology measure	Identification	Ideology main expl var
De Benedictis-Kessner and Warshaw (2016)	Expenditure on housing (per capita in levels and logs)	0	1950-2014 (204)	Dummy variable for D mayor	RDD	yes
De Benedictis-Kessner and Warshaw (2016)	Expenditure on libraries (per capita in levels and logs)	+/0	1950-2014 (204)	Dummy variable for D mayor	RDD	yes
De Benedictis-Kessner and Warshaw (2016)	Expenditure on education (per capita in levels and logs)	0	1950-2014 (204)	Dummy variable for D mayor	RDD	yes
De Benedictis-Kessner and Warshaw (2016)	Expenditure on fire (per capita in levels and logs)	0	1950-2014 (204)	Dummy variable for D mayor	RDD	yes
De Benedictis-Kessner and Warshaw (2016)	Expenditure on police (per capita in levels and logs)	0	1950-2014 (204)	Dummy variable for D mayor	RDD	yes
De Benedictis-Kessner and Warshaw (2016)	Expenditure on health (per capita in levels and logs)	0	1950-2014 (204)	Dummy variable for D mayor	RDD	yes
De Benedictis-Kessner and Warshaw (2016)	Expenditure on sanitation (per capita in levels and logs)	0	1950-2014 (204)	Dummy variable for D mayor	RDD	yes
De Benedictis-Kessner and Warshaw (2016)	Expenditure on utilities (per capita in levels and logs)	0	1950-2014 (204)	Dummy variable for D mayor	RDD	yes
De Benedictis-Kessner and Warshaw (2016)	Expenditure on welfare (per capita in levels and logs)	0	1950-2014 (204)	Dummy variable for D mayor	RDD	yes
De Benedictis-Kessner and Warshaw (2016)	Expenditure on interest (per capita in levels and logs)	+	1950-2014 (204)	Dummy variable for D mayor	RDD	yes
De Benedictis-Kessner and Warshaw (2016)	Revenues (per capita in levels and logs)	0	1950-2014 (204)	Dummy variable for D mayor	RDD	yes
De Benedictis-Kessner and Warshaw (2016)	Revenues – own sources (per capita in levels and logs)	0	1950-2014 (204)	Dummy variable for D mayor	RDD	yes
De Benedictis-Kessner and Warshaw (2016)	Taxes (per capita in levels and logs)	+/0	1950-2014 (204)	Dummy variable for D mayor	RDD	yes
De Benedictis-Kessner and Warshaw (2016)	Property tax (per capita in levels and logs)	0	1950-2014 (204)	Dummy variable for D mayor	RDD	yes
De Benedictis-Kessner and Warshaw (2016)	Sales tax (per capita in levels and logs)	0	1950-2014 (204)	Dummy variable for D mayor	RDD	yes
De Benedictis-Kessner and Warshaw (2016)	Intergovernment revenue (per capita in levels and logs)	0	1950-2014 (204)	Dummy variable for D mayor	RDD	yes
De Benedictis-Kessner and Warshaw (2016)	Debt (per capita in levels and logs)	+	1950-2014 (204)	Dummy variable for D mayor	RDD	yes

Study	Influence on	Effect (D)	Time period (# jurisdict.)	Ideology measure	Identification	Ideology main expl var
Einstein and Glick (2016)	Publicly endorsed policies redressing income inequality/poverty	+	72 mayors interviewed in June 2014-June 2015	Responding mayor D or R	no causal effect (logit model)	yes
Einstein and Glick (2016)	Mayor helped to implement policies redressing income inequality/poverty	+	72 mayors interviewed in June 2014-June 2015	Responding mayor D or R	no causal effect (logit model)	yes
Gerber (2013)	Pursuing external climate protection programs	0	2010 (Michigan survey data)	Responding official a Democrat	no causal effect (logit model)	yes
Gerber (2013)	Pursuing internal climate protection programs	+	2010 (Michigan survey data)	Responding official a Democrat	no causal effect (logit model)	yes
Gerber (2013)	Participating in Climate Protection Agreement	+	2010 (Michigan survey data)	Responding official a Democrat	no causal effect (logit model)	yes
Gerber (2013)	Participating in Cool Cities Program	+	2010 (Michigan survey data)	Responding official a Democrat	no causal effect (logit model)	yes
Gerber and Hopkins (2011)	Expenditure on roads (budget share)	0	1990-2006 (59)	Dummy variable for D mayor	RDD	yes
Gerber and Hopkins (2011)	Expenditure on housing (budget share)	0	1990-2006 (59)	Dummy variable for D mayor	RDD	yes
Gerber and Hopkins (2011)	Expenditure on administration (budget share)	0	1990-2006 (59)	Dummy variable for D mayor	RDD	yes
Gerber and Hopkins (2011)	Expenditure on health (budget share)	0	1990-2006 (59)	Dummy variable for D mayor	RDD	yes
Gerber and Hopkins (2011)	Expenditure on parks (budget share)	0	1990-2006 (59)	Dummy variable for D mayor	RDD	yes
Gerber and Hopkins (2011)	Expenditure on libraries (budget share)	0	1990-2006 (59)	Dummy variable for D mayor	RDD	yes
Gerber and Hopkins (2011)	Property tax revenue (share of total tax revenue)	0	1990-2006 (59)	Dummy variable for D mayor	RDD	yes

Study	Influence on	Effect (D)	Time period (# jurisdict.)	Ideology measure	Identification	Ideology main expl var
Gerber and Hopkins (2011)	Police employees (share)	0	1990-2006 (59)	Dummy variable for D mayor	RDD	yes
Gerber and Hopkins (2011)	Inspection	0	1990-2006 (59)	Dummy variable for D mayor	RDD	yes
Gerber and Hopkins (2011)	Logged total tax revenue	0	1990-2006 (59)	Dummy variable for D mayor	RDD	yes
Gerber and Hopkins (2011)	Sanitation	0	1990-2006 (59)	Dummy variable for D mayor	RDD	yes
Gerber and Hopkins (2011)	Taxes (as a share of revenue)	0	1990-2006 (59)	Dummy variable for D mayor	RDD	yes
Gerber and Hopkins (2011)	Sales tax revenue (share of total tax revenue)	0	1990-2006 (59)	Dummy variable for D mayor	RDD	yes
Gerber and Hopkins (2011)	Natural resources	0	1990-2006 (59)	Dummy variable for D mayor	RDD	yes
Gerber and Hopkins (2011)	Tax revenue (per capita)	0	1990-2006 (59)	Dummy variable for D mayor	RDD	yes
Gerber and Hopkins (2011)	Police employees	0	1990-2006 (59)	Dummy variable for D mayor	RDD	yes
Gerber and Hopkins (2011)	Expenditure on firefighters	0/-	1990-2006 (59)	Dummy variable for D mayor	RDD	yes
Gerber and Hopkins (2011)	Police pay	0	1990-2006 (59)	Dummy variable for D mayor	RDD	yes
Gerber and Hopkins (2011)	Expenditure on police	-	1990-2006 (59)	Dummy variable for D mayor	RDD	yes
Ferreira and Gyourko (2009)	Total revenues (per capita)	0	1950-2005 (413)	Dummy variable for D mayor	RDD	yes
Ferreira and Gyourko (2009)	Total taxes (per capita)	0	1950-2005 (413)	Dummy variable for D mayor	RDD	yes
Ferreira and Gyourko (2009)	Total expenditures (per capita)	0	1950-2005 (413)	Dummy variable for D mayor	RDD	yes
Ferreira and Gyourko (2009)	Total employment (per 1,000 residents)	0	1950-2005 (413)	Dummy variable for D mayor	RDD	yes
Ferreira and Gyourko (2009)	% of resources spent on salaries and wages	0	1950-2005 (413)	Dummy variable for D mayor	RDD	yes
Ferreira and Gyourko (2009)	% of resources spent on police department	0	1950-2005 (413)	Dummy variable for D mayor	RDD	yes

Study	Influence on	Effect (D)	Time period (# jurisdict.)	Ideology measure	Identification	Ideology main expl var
Ferreira and Gyourko (2009)	% of resources spent on fire department	0	1950-2005 (413)	Dummy variable for D mayor	RDD	yes
Ferreira and Gyourko (2009)	% of resources spent on parks and recreation	0	1950-2005 (413)	Dummy variable for D mayor	RDD	yes
Ferreira and Gyourko (2009)	murders per 1,000 residents	0	1960-2004 (413)	Dummy variable for D mayor	RDD	yes
Ferreira and Gyourko (2009)	robberies per 1,000 residents	0	1960-2004 (413)	Dummy variable for D mayor	RDD	yes
Ferreira and Gyourko (2009)	burglaries per 1,000 residents	0	1960-2004 (413)	Dummy variable for D mayor	RDD	yes
Ferreira and Gyourko (2009)	larcenies per 1,000 residents	0	1960-2004 (413)	Dummy variable for D mayor	RDD	yes