Online Appendix for *Taxing the Rich: A History of Fiscal Fairness in the United States and Europe*[1]

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Chapter 1: Why Might Governments Tax the Rich?

Information about the income and inheritance tax data presented in Figure 1.1. is provided in the appendix sections for Chapters 3 and 4 in this document.

Chapter 2: Treating Citizens as Equals

Chapter 2 reports evidence on the role of fairness norms in conditioning contemporary tax policy preferences. The survey discussed, which we designed and implemented with Xiaobo Lü, was conducted in the spring of 2014 by YouGov. Respondents from their internet panel were subsequently matched down to a sample of 500 based on gender, age, race, education, party identification, ideology, and political interest. Table A-1 shows the distribution of the sociodemographics in the population, the raw sample, and the weighted sample (weights calculated to remove remaining imbalances to the marginal distributions of sociodemographics in the population).

- Interview period: March 2014
- Sample size: 500
- Source of data on population socio-demographics: 2010 American Community Survey, the November 2010 Current Population survey, and the 2007 Pew Religious Life Survey
- Weights range from 0.175 to 5.090, with a mean of 1 and a standard deviation of 0.841.

Group	Population	Raw Sample	Weighted Sample
Age: 18-34	30.5	23.6	30.4
Age: 35-54	36.6	36.6	33.8
Age: 55+	32.9	39.8	35.8
Gender: Male	48.2	49.0	49.1
Gender: Female	51.8	51.0	50.9
Education: HS or less	45.0	37.8	42.0
Education: Some College	30.0	32.4	33.7
Education: College Graduate	16.3	18.4	16.1
Education: Postgraduate	8.8	11.4	8.2

Table A-1: *Distribution of Socio-demographics in Spring 2014 YouGov Survey Sample and the Population.* The table shows the distributions of socio-demographics in the population, the raw sample, and the weighted sample.

Chapter 3: The Income Tax over Two Centuries

Chapter 3 evaluates the determinants of top rates of income taxation over the last two hundred years. This appendix presents further details about the data discussed in the book and the additional empirical tests referred to in the main text and footnotes of Chapter 3.

Data

We have constructed, with Federica Genovese, a new dataset, the *Comparative Income Taxation Database*, that records yearly data on the top marginal income tax rate levied by the national government for an individual in 20 countries[1] from 1800 (or independence) to 2013.[2] The top marginal rate is the rate for a modern income tax system that applies on the highest income category. A country is considered to have adopted a modern income tax system if an independent national government levies taxes yearly on comprehensive and directly assessed forms of personal income.[3] The resultant variable, *Top Income Tax Rate*, is our primary dependent variable. We supplement our main measure of the national top rate of income taxation with a measure that combines local and national income taxes assuming an individual lives in the country's largest city, *Top Income Tax Rate–Local & National*. Although the descriptive analyses discussed in the book include all data starting from 1800 to 2013 unless otherwise indicated, the quantitative analyses reported in this appendix are from 1816 (or independence) to 2010 to match our systematic data for war mobilization. This also most closely approximates the period of analysis for our quantitative work on inheritance taxation which is reported in Scheve and Stasavage (2012). In the remainder of this section, we describe the independent variables used to evaluate the effect of war mobilization and other factors, including democratization, partisanship, and inequality, on the taxation of

[1]The countries included in the sample are Australia, Austria, Begium, Canada, Denmark, Finland, France, Germany, Ireland, Italy, Japan, the Netherlands, New Zealand, Norway, South Korea, Spain, Sweden, Switzerland, the United Kingdom, and the United States.

[2]For South Korea, independence in this study is treated as starting in 1945.

[3]In addition to the replication archive for this book, the dataset, *Comparative Income Taxation Database*, is available at http://data.stanford.edu/citd. This database includes a codebook with descriptions of the key features of each country's income taxation laws, documentation of our sources, and electronic copies of all relevant national legislation used to create the data employed in our study.

high incomes.

To indicate whether or not a country engaged in mass warfare between 1816 to 2010, we constructed the dummy variable *War Mobilization*, which is set equal to one if in a particular year the country was engaged in an interstate war and a pre-specified percent of the population was serving in the military. For our main estimates we set the cutoff at two percent of the total population, but we will also discuss results involving alternative cutoffs as well as other measures.[4] Our *War Mobilization* variable captures the key characteristics necessary for conflict to have its hypothesized effect on taxing high incomes. There must be a war fought in which the citizens who fight in the conflict sacrifice not only their time and livelihood but also risk their lives. It must also be a conflict that involves a significant proportion of the population. This operationalization captures high mobilization years during the Franco-Prussian War, First World War, Second World War, and Korean War.[5]

To measure democracy, we focus our discussion on two variables. The first measure, *Universal Male Suffrage,* is set equal to one for years in which all adult males are eligible to vote in national elections and zero otherwise.[6] This variable focuses on the feature of democracy of most direct interest theoretically, the eligibility of poor voters to participate in elections. While suffrage is clearly central to most arguments about why democracy might

[4]Our data for incidents of war comes from the Correlates of War Project, Militarized Interstate Dispute Data, Version 3.0 (Ghosn, Palmer, and Bremer 2004). Our data on mobilization are from the Correlates of War Project, National Material Capabilities Data, Version 3.0 (Singer 1987). To count as an interstate war, the dispute had to be coded as a war and involve 1,000 or more battle deaths. We supplemented these data where missing and, in one case, where incorrect with additional sources.

[5]More precisely, our war mobilization variable is coded one for Austria in 1915-18, 1939-1945; Belgium in 1915-1918; for Australia in 1915-1918, 1941-1945; for Canada in 1915-1918, 1941-1945; for Finland in 1940-1944; for France in 1871, 1914-1920, 1940-1941; for Germany in 1871, 1915-1918, 1939-1945; for Italy in 1915-1918, 1935, 1940-43; for Japan in 1941-1945; for New Zealand in 1915-1918,1941-1945; for South Korea in 1953, 1965, 1967-68, 1970; for the United Kingdom in 1915-1918, 1940-1945; and for the United States in 1918, 1942-1945, 1951-1953.

[6]As is the case with unitary states, for federal states, such as Germany, our variable takes account only of suffrage laws established at the national level and applying to the national legislature, provided that such laws exist. We also take account of available information involving restrictions on certain categories of men, such as male African Americans in the United States prior to 1965. In cases where a country established universal suffrage before becoming fully independent from another power, we use the date of the state's independence to code this variable. This is also the case with all other suffrage variables considered. Unless otherwise noted below we used either Caramani (2000, 53) or Mackie and Rose (1991) to code this variable. Dates of establishment of universal suffrage for the countries in our sample are as follows: Australia 1901, Austria 1897, Belgium 1894, Canada 1921, Denmark 1918, Finland 1917, France 1848, Germany 1871, Ireland 1922, Italy 1913, Japan 1925, South Korea 1948 (source: Croissant 2002), Netherlands 1918, New Zealand 1879, Norway 1905, Spain 1869 & 1888, Sweden 1911, Switzerland 1848, United Kingdom 1918, United States 1965.

affect the taxation of high incomes, other features of democratic government could also be influential. One possibility is that competitive elections with or without a full expansion of the franchise will lead to greater taxation of income. Our second measure, *Competitive Elections,* is set equal to one if the legislature is elected in free multi-party elections, if the executive is directly or indirectly elected in popular elections and is responsible either directly to voters or to a legislature elected according to the first condition, and finally if at least 50 percent of adult males have the right to vote.[7]

Although we think these measures capture well the main institutional features of democratic political institutions, we consider a number of other possibilities and also report the results of these analyses. For example, one potential limitation of the universal male suffrage measure is that it is insensitive to potentially important expansions of the franchise that fall short of universal suffrage. An alternative set of measures that we construct, *Electorate 25%*, *Electorate 50%*, and *Electorate 75%*, are set respectively equal to one if at least 25%, 50%, or 75% of adult males are eligible to vote and zero otherwise. This allows us to evaluate the impact of expansions of the franchise that lead to less than universal suffrage.[8] We also investigate whether it is the introduction of direct elections for the lower house that moves countries to tax income at higher rates by constructing the variable *Direct Elections*, which is set equal to one if a country has direct elections for the lower house and zero otherwise.[9] Finally, we also consider the effect of having an unelected upper house by constructing the variable *No Upper*, which is set equal to one for the absence of an upper house with veto power

[7]This definition and data are from Boix and Rosato (2001). The definition is a modification of the definition used by Przeworski et al. (2000) to a context where the suffrage may be restricted. *Competitive Elections* is coded one for the following years: Australia 1901-2010; Austria 1920-1932, 1946-2010; Belgium 1894-2010; Canada 1867-2010; Denmark 1901-2010; Finland 1917-2010; France 1848-1851, 1870-1939, 1945-2010; Germany 1919-1932, 1949-2010; Ireland 1922-2010; Italy 1946-2010; Japan 1952-2010; South Korea 1960, 1988-2010; Netherlands 1897-2010; New Zealand 1856-2010; Norway 1905-2010; Spain 1931-1936, 1977-2010; Sweden 1911-2010; Switzerland 1848-2010; United Kingdom 1885-2010; United States 1816-2010.

[8]The source for this data is Flora (1983) for the European cases, Rusk (2001) for the United States, Hall (1984) for New Zealand, Griffin (1965) for Japan, Croissant (2002) for South Korea, and Mackie and Rose (1991) for Australia. The dates for Canada are inferred from data on 1867 voter turnout.

[9]This variable was coded using Caramani (2000, 58) as the principal source and as otherwise noted below for the remaining countries. Australia 1901 (Mackie and Rose 1991, 1), Austria 1907, Belgium 1847, Canada 1867 (Mackie and Rose 1991, 65), Denmark 1849, Finland 1917, France 1831, Germany 1871, Ireland 1922 (Mackie and Rose 1991, 181), Italy 1861, Japan 1889 (Mackie and Rose 1991, 223), Netherlands 1848, New Zealand 1857 (Mackie and Rose 1991, 289), Norway 1906, South Korea 1948 (Croissant 2002), Spain 1837, Sweden 1911, Switzerland 1848, United Kingdom prior to 1800, United States prior to 1800.

for which representatives are either not directly elected, elected by a restricted constituency, appointed, or who sit by hereditary right and zero otherwise.[10]

It might be the case, however, that democratic governance alone fails to lead to increases in *Top Income Tax Rate*. Rather, representatives of poor voters must hold office in order to impact policy outcomes. In order to account for this possibility, we include a measure of executive partisanship. *Left Executive* is a binary variable that is set equal to one in years in which a country's head of government (President in a presidential system and Prime Minister/Chancellor in a parliamentary system) is a member of a socialist, social democratic, or labor party. Switzerland is the exception to this coding. Because of its collegial executive, the Swiss measure is the proportion of the seven members of the Federal Council that are members of a socialist, social democratic, or labor party.[11]

To measure inequality we use two variables, *Income Share of Top 1%* and *Income Share of Top 0.01%*. These variables measure the share of pre-tax income earned by individuals at the top 1% and the top 0.01% of the national income distribution, respectively. These

[10]More formally, this variable takes a value of one if any of the follow three conditions are satisfied and zero otherwise: (1) there is no upper house; (2) there is an upper house that cannot veto legislation; or (3) there is an upper house in which members are directly elected through universal male suffrage. Our coding for this variable is based primarily on Marriot ([1910] 1926) and on historical information contained on the websites of the respective upper chambers. Additional sources for specific countries are listed at the end of this footnote. The coding for this variable is as follows: Australia 1 for all years; Austria 1 beginning in 1920; Belgium 1 beginning in 1918; Canada 0 for all years; Denmark 1 from 1915; Finland 1 for all years; France 0 from 1815-1847, 1 from 1848-1851, 0 from 1852-1945, and 1 from 1946 onwards; Germany 0 for all years; Ireland 1 for all years; Italy 1 from 1948; Japan 1 from 1946; the Netherlands 0 for all years; New Zealand 1 for all years; Norway 1 for all years; South Korea 1 for all years; Spain 1 from 1931; Sweden 1 from 1918; Switzerland 1 from 1848; the United Kingdom 1 from 1911; the United States 1 from 1913. Additional sources consulted: Canada: Senate of Canada, Committees and Private Legislation Directorate (2001); Denmark: Danish Parliament (2011); New Zealand: Christie (1924); Italy: Pasquino (2009).

[11]Flora (1983) is the principle source for this variable. Canada, Ireland, South Korea, and the United States are not coded as having a chief executive that is a member of a socialist, social democratic, or labor party. *Left Executive* is coded as one (or, in the Swiss case, greater than zero) for the following observations: Australia 1904, 1908-1917, 1929-1932, 1941-1949, 1972-1975, 1983-1996, 2007-2013; Austria 1918-1920, 1945, 1970-2000, 2007-2013; Belgium 1938,1945-1949, 1954-1958, 1973-1974, 2010-2013; Denmark 1924-1926, 1929-1945, 1947-1950, 1953-1968, 1971-1973, 1975-1982, 1993-2001, 2011-2013; Finland 1926-1927, 1948-1949, 1956-1959, 1966-1970, 1972-1975, 1977-1987, 1995-2003; France 1936-1938, 1946-1947, 1955-1957, 1981-1986, 1988-1993, 1997-2002, 2012-2013; Germany 1918-1920, 1928-1930, 1969-1982, 1998-2005; Italy 1921-1922, 1944-1945, 1983-1987, 1992-1993, 1998-2001, 2006-2008, 2013; Japan 1947-1948, 1994-1996; Netherlands 1948-1958, 1973-1977, 1994-2002; New Zealand 1935-1949, 1957-1960, 1972-1975, 1984-1990, 1999-2008; Norway 1935-1940, 1945-1965, 1971-1981, 1986-1997, 2000-2001, 2005-2013; Spain 1931-1933, 1936-1939, 1982-1996, 2004-2011; Sweden 1920-1921, 1924-1926, 1932-1976, 1982-1991, 1994-2006; Switzerland 1944-1953, 1960-2013; United Kingdom 1924, 1929-1935, 1945-1951, 1964-1970, 1974-1979, 1997-2010.

data are based on income tax returns and are from *The World Top Incomes Database*.[12] As discussed at length in the text, there are several variants of the inequality hypothesis. Common to each of these variants, however, is the claim that higher levels of inequality will, all else equal, result in an increase in top tax rates.

We also examine whether the effect of *War Mobilization* on *Top Income Tax Rate* is robust to the inclusion of a number of additional variables. The first of these, *Majoritarian Electoral System*, is a dichotomous variable that is coded as one for country-years in which the national-level (lower house) legislative seats were distributed by majoritarian electoral institutions, and zero in years where seats were distributed by proportional, multi-tier, or mixed electoral systems.[13] In order to code this variable, we consulted Mackie and Rose (1991), Caramani (2000), Golder (2005), Bormann and Golder (2013), and Croissant (2002).

The second of these variables is *Economic Crises*. This measure takes the value of one in years in which the country experienced a stock market crash, a currency crisis, an inflation crisis, a domestic debt crisis, or an external debt crisis, and zero in years without any of these crises. In some specifications, we also include individual indicators of these different types of economic crises, which are identified as *Stock Market Crash*, *Currency Crises*, *Inflation Crises*, *Domestic Debt Crises*, *External Debt Crises*, and *Banking Crises*, respectively. These data are from Reinhart and Rogoff (2009).[14]

Neighbors' Top Income Tax Rate accounts for the effect of policy diffusion among neighboring states and is the average *Top Income Tax Rate* of the country's neighbors. We defined

[12] *The World Top Incomes Database* is the work of a wide number of scholars led by Tony Atkinson, Thomas Piketty, and Emmanuel Saez. The data were accessed from http://topincomes.g-mond.parisschoolofeconomics.eu/ and are discussed at length in Atkinson and Piketty (2007, 2010) and in other publications associated with the project.

[13] Electoral systems are classified as majoritarian if they use one of the following types of electoral rules: single member district plurality, single nontransferable vote, block vote, party block vote, borda count, modified borda count, limited vote, two-round system (majority-plurality and majority-runoff), and alternative vote. *Majoritarian Electoral System* is coded one for the following country years: Australia 1901-2013; Austria 1907-1919; Belgium 1830-1898; Canada 1867-2013; Denmark 1848-1919; France 1800-1918, 1928-1945, 1958-1985, 1988-2013; Germany 1871-1917; Italy 1861-1918; Japan 1889-1945, 1947-1995; Netherlands 1848-1917; New Zealand 1856-1995; Norway 1905-1918; South Korea 1948-1962; Spain 1812-1923; Sweden 1866-1908; Switzerland 1848-1918; United Kingdom 1800-2013; United States 1800-2013.

[14] Note that the number of observations for *Banking Crisis* and *Stock Crash* differ from those for the other indicators of economic crises. This is because of missing observations in the source data for Sweden 1897 in the former and Denmark 2009 and 2010 in the latter.

neighbors as dyads identified as being contiguous at level four or closer[15] by the Correlates of War Project (Stinnett et al 2002). We make an exception to this coding for Australia and New Zealand. While these states do not meet this threshold of contiguity, their relative proximity and otherwise close ties is consistent with our definition of neighboring states.

We measure *Trade Openness* as the sum of a state's exports and imports as a proportion of gross domestic product. The imports and exports data are from the Correlates of War Project, Trade Dataset, Version 3.0 (Barbieri, Keshk, and Pollins 2009) and the GDP data are from Maddison (2003)[16] as updated by Bolt and van Zanden (2014). We have converted the GDP data from real GDP in 1990 international dollars to nominal GDP in order to make these values comparable to the trade data. We include the variable real *GDP per capita* to control for the possibility that countries at different levels of development choose different levels of income taxation. The source for this variable is Maddison (2003) as updated by Bolt and van Zanden (2014).

Table A-2 reports the descriptive statistics for the data used in the quantitative analyses discussed in this appendix for Chapter 3.

[15]Level four contiguity is defined as dyads that are separated by 150 miles of water or less. Dyads in our sample that meet this definition are as follows: Austria-Germany, Austria-Italy, Austria-Switzerland, Belgium-France, Belgium-Germany, Belgium-Netherlands, Belgium-United Kingdom, Canada-United States, Denmark-Germany, Denmark-Netherlands, Denmark-Norway, Denmark-Sweden, Finland-Norway, Finland-Sweden, France-Germany, France-Italy, France-Spain, France-Switzerland, France-United Kingdom, Germany-Netherlands, Germany-Sweden, Germany-Switzerland, Ireland-United Kingdom, Italy-Switzerland, Japan-South Korea, Netherlands-United Kingdom, and Norway-Sweden.

[16]These data are available online at http://www.ggdc.net/maddison/maddison-project/home.htm

Variable	Observations	Mean	Standard Deviation
Top Income Tax Rate	3,165	28.740	28.472
Top Income Tax Rate–Local & National	2,975	35.255	30.214
War Mobilization	3,185	0.033	0.179
War Mobilization–5%	3,185	0.022	0.146
Universal Male Suffrage	3,185	0.665	0.472
Competitive Elections	3,181	0.661	0.473
No Upper	3,182	0.556	0.497
Direct Elections	3,182	0.871	0.335
Electorate 25%	3,185	0.788	0.409
Electorate 50%	3,185	0.754	0.431
Electorate 75%	3,185	0.738	0.440
Left Executive	3,185	0.175	0.375
Income Share of Top 1%	1,233	10.111	4.215
Income Share of Top 0.01%	814	1.273	1.046
Majoritarian Electoral System	3,185	0.516	0.500
Economic Crises	3,185	0.335	0.472
Inflation Crises	3,185	0.039	0.194
Banking Crises	3,184	0.086	0.280
Domestic Debt Crises	3,185	0.010	0.100
External Debt Crises	3,185	0.037	0.190
Stock Crash	3,183	0.189	0.392
Currency Crises	3,185	0.077	0.272
Neighbors' Top Income Tax Rate	3,051	30.101	27.443
Trade Openness	2,358	0.228	0.531
GDP per capita	2,953	7,570.906	6,744.756

Table A-2: *Descriptive Statistics, 1816-2010: Annual Data.* This includes all years between 1816-2010 for which our sample of 20 countries were independent countries.

Methods

In this section, we describe our econometric models for evaluating the effect of war mobilization and other factors, including democratization, partisanship, and inequality, on the taxation of high incomes. We focus our attention on two main empirical strategies but also briefly describe several alternative approaches that we adopt to evaluate the robustness of our results.

Although our dataset has annual observations from 1816 to 2010, we do not know *a priori* how long it may take for war mobilization (and other factors such as democratization) to influence policy choices. Given the data plots presented in the book as well as our case study descriptions of policymaking during World War I, it seems unlikely that the effect was immediate. It typically took time for countries to realize the extent of mobilization that these wars would require and for mobilization to in turn influence tax policy outcomes. This suggests that annual frequencies are not ideal for testing our argument. Consequently, we focus our analysis here on specifications with observations at five year intervals.[17] Given the infrequency of mass war mobilization, it is essential to measure the presence of war mobilization for the entire preceding period rather than simply the initial year of the preceding period. Moreover, for both democracy and war mobilization, we expect a more substantial effect the greater the number of years in the preceding period that were either democratic or mobilized for war. Except where otherwise noted, the value of the dependent variable is the *Top Income Tax Rate* in the first year of the five year period and the value of each independent variable is the mean value for a given country-five-year period observation.[18] Thus, our key independent variables such as *War Mobilization* and *Male Universal Suffrage* are binary when observations are annual but proportions in analyses examining five-year periods.

Our first model employs the following differences-in-differences framework:

[17] The results are qualitatively similar for ten year intervals though less precisely estimated in some specifications. Annual specifications do not consistently yield positive and significant estimates for war mobilization consistent with our knowledge of the actual dynamic of war financing politics documented in the book.

[18] As we discuss below, we lag each independent variable by one five-year period, which ensures that the independent variable averages precede the dependent variable initial values in the analysis.

$$T_{it} = \alpha + \beta_1 D_{it-1} + \beta_2 W_{it-1} + \gamma \mathbf{X}_{it-1} + \eta_i + \theta_t + \varepsilon_{it} \quad (1)$$

where i indexes each country and t indexes the time period. T is the top marginal income tax rate discussed in the previous section, D is one of the several measures of democracy described above, W is our measure of participation in mass warfare, and X is a vector of control variables and is excluded in some specifications. Specifically, we add controls for partisan control of the government and GDP per capita. In some specifications we also include measures of inequality using data from the World Top Incomes Database. We do not include these measures–*Income Share of Top 1%* and *Income Share of Top 0.01%*–in our baseline specifications because there is considerable missing data.[19] We consider further controls below. α, β, and γ are parameters to be estimated; η_i are country fixed effects parameters also to be estimated; θ_t are period fixed effects parameters; and ϵ_{it} is the error term.[20] In some specifications, we also add individual linear time trends for each country to this model. We present the ordinary least squares estimates of this model and report country clustered standard errors to account for within-country correlations including serial autocorrelation in our data.

Our estimates measure the causal effect of mass mobilization for warfare on top rates of income taxation (and the impact of democratization) under the usual assumptions of a differences-in-differences framework. In addition, in some specifications we control for the time-varying factors of government partisanship and levels of development and include country-specific time trends. With this said, it is, of course, possible for the assumptions of the model to be violated in a way that generates correlations between the error term and our key independent variables that would bias our results.

In the case of our estimates of the effect of war mobilization on the top rate of income taxation, β_2, it is possible that countries select into war participation in part because of their beliefs about their ability to finance the war by taxing the rich. This would bias our estimates

[19] Where we do include these measures, we fill in the missing data using linear interpolation on the annual dataset.

[20] We omit one country and time period due to the constant.

in a positive direction and lead us to overestimate the effect of war on income taxation. There are several reasons that we are skeptical about the importance of this potential selection issue with our sample. First, many of the decisions by countries that lead them to be differentially exposed to mass warfare are long-term choices that remain fixed during the period of our study. In particular, it is implausible that the timing of war exposure for the key conflicts in our data, such as World War I and World War II, was determined by expectations about the ease of taxing income. Skepticism about the importance of this potential source of bias is further bolstered by the fact that in critical cases, such as World War I, none of the initial participants correctly anticipated the length of the conflict or the extent of mobilization necessary to fight the war.[21]

Our second econometric model takes the following form:

$$T_{it} = \alpha + \rho T_{it-1} + \beta_1 D_{it-1} + \beta_2 W_{it-1} + \gamma \mathbf{X}_{it-1} + \theta_t + \varepsilon_{it} \tag{2}$$

There are two differences between this model and our initial approach. This specification adds the lagged dependent variable and deletes the country fixed effects. This model takes an alternative strategy to concerns about potential time-varying unobservables which might bias our estimates. It conditions on the lagged value of the top rate of income taxation. In this specification, we base our estimates on comparisons between democracies and non-democracies and mobilizers for war and non-mobilizers conditioning on a country's most recent tax policies, time period fixed effects to control for common shocks, and our other time-varying controls. As before, in some specifications we also add individual linear time trends for each country. The country fixed effects are omitted here because OLS estimates are biased in models with a lagged dependent variable and fixed effects. We present the OLS estimates of this model and report panel-corrected standard errors to account for country heterogeneity and cross-country correlations in our data.[22]

[21] The often cited quote from Kaiser Wilhelm to the departing troops in August 1914 is, "You will be home before the leaves have fallen from the trees."

[22] We also report results for specifications that include both a lagged dependent variable and country and time fixed effects. Although biased, the OLS estimator is consistent as the number of periods goes to infinity which, given our somewhat long time series, may justify consideration of the estimates for this specification.

Generally, the same issues discussed for the first model are potential sources of bias for this second specification. The exception to this is that the inclusion of the lagged dependent variable controls for a number of potential time-varying unobservables that we might be concerned about, but, of course, dropping the fixed effects opens up a new set of concerns. Angrist and Pischke (2009) note that the different identifying assumptions in our two models can, under some simple assumptions about the sources of selection, be considered to bound our estimates of the positive treatment effects.

We follow the empirical strategy outlined above for each of the remaining alternative explanations–electoral institutions, economic crises, policy diffusion, and trade openness. In each case, we add the variable of interest in equations (1) and (2).

The main substantive findings discussed in the text hold for these alternative specifications.

Main Results

	Ordinary Least Squares, 5-year Data					
	Country Fixed Effects			Lag DV		
	(1)	(2)	(3)	(4)	(5)	(6)
Top Income Tax Rate$_{t-1}$				0.787	0.783	0.658
				(0.026)	(0.026)	(0.041)
				0.000	0.000	0.000
War Mobilization$_{t-1}$	17.352	18.431	18.693	14.872	15.117	14.631
	(6.516)	(7.058)	(6.176)	(2.478)	(2.463)	(2.453)
	0.015	0.017	0.007	0.000	0.000	0.000
Universal Male Suffrage$_{t-1}$	0.362	1.604	-5.142	-2.173	-2.472	-0.842
	(6.172)	(6.577)	(4.455)	(0.947)	(0.895)	(1.083)
	0.954	0.810	0.263	0.022	0.006	0.437
Left Executive$_{t-1}$		1.657	4.322		1.603	3.238
		(3.275)	(2.518)		(0.921)	(1.103)
		0.619	0.102		0.082	0.003
GDP per capita$_{t-1}$		-0.002	-0.001		-0.000	-0.001
		(0.001)	(0.001)		(0.000)	(0.000)
		0.157	0.534		0.029	0.001
Period Fixed Effects	Yes	Yes	Yes	Yes	Yes	Yes
Country-Specific Time Trends	No	No	Yes	No	No	Yes
Country Fixed Effects	Yes	Yes	Yes	No	No	No
R-squared	0.849	0.851	0.885	0.924	0.921	0.927
Number of Observations	615	583	583	611	579	579

Table A-3: *War Mobilization, Democracy, and Income Taxation, 1816-2010: Universal Male Suffrage Measure of Democracy.* The table reports the results of pooled-cross-sectional OLS regressions of the variable *Top Income Tax Rate* on the variable *War Mobilization* lagged one period and the variable *Universal Male Suffrage* lagged one period. The specifications in columns 1-3 include country fixed effects and report robust standard errors clustered by country in parentheses and p-values. The specifications in columns 4-6 include a lagged dependent variable and report panel-corrected standard errors in parentheses and p-values. Specifications in columns 2, 3, 5, and 6 include control variables for lagged *Left Executive* and lagged real *GDP per capita*. All specifications include period fixed effects and the specifications in columns 3 and 6 include country-specific time trends.

	Ordinary Least Squares, 5-year Data					
	Country Fixed Effects			Lag DV		
	(1)	(2)	(3)	(4)	(5)	(6)
Top Income Tax Rate$_{t-1}$				0.792	0.785	0.653
				(0.026)	(0.025)	(0.040)
				0.000	0.000	0.000
War Mobilization$_{t-1}$	18.553	19.673	18.935	14.899	15.413	15.019
	(6.329)	(6.729)	(6.379)	(2.458)	(2.416)	(2.446)
	0.009	0.009	0.008	0.000	0.000	0.000
Competitive Elections$_{t-1}$	4.852	5.320	1.250	0.475	1.351	1.361
	(3.783)	(4.240)	(4.425)	(0.985)	(0.910)	(0.922)
	0.215	0.225	0.781	0.630	0.138	0.140
Left Executive$_{t-1}$		0.718	4.031		1.292	3.009
		(3.175)	(2.554)		(0.912)	(1.119)
		0.823	0.131		0.157	0.007
GDP per capita$_{t-1}$		-0.001	-0.001		-0.000	-0.001
		(0.001)	(0.001)		(0.000)	(0.000)
		0.175	0.485		0.011	0.000
Period Fixed Effects	Yes	Yes	Yes	Yes	Yes	Yes
Country-Specific Time Trends	No	No	Yes	No	No	Yes
Country Fixed Effects	Yes	Yes	Yes	No	No	No
R-squared	0.851	0.853	0.884	0.924	0.920	0.927
Number of Observations	615	583	583	611	579	579

Table A-4: *War Mobilization, Democracy, and Income Taxation, 1816-2010: Competitive Elections Measure of Democracy.* The table reports the results of pooled-cross-sectional OLS regressions of the variable *Top Income Tax Rate* on the variable *War Mobilization* lagged one period and the variable *Competitive Elections* lagged one period. The specifications in columns 1-3 include country fixed effects and report robust standard errors clustered by country in parentheses and p-values. The specifications in columns 4-6 include a lagged dependent variable and report panel-corrected standard errors in parentheses and p-values. Specifications in columns 2, 3, 5, and 6 include control variables for lagged *Left Executive* and lagged real *GDP per capita*. All specifications include period fixed effects and the specifications in columns 3 and 6 include country-specific time trends.

	Ordinary Least Squares, 5-year Data					
	Country Fixed Effects			Lag DV		
	(1)	(2)	(3)	(4)	(5)	(6)
Top Income Tax Rate$_{t-1}$				0.793	0.790	0.657
				(0.026)	(0.025)	(0.041)
				0.000	0.000	0.000
War Mobilization$_{t-1}$	17.107	18.208	18.692	14.778	14.995	14.625
	(6.427)	(6.970)	(6.360)	(2.459)	(2.437)	(2.470)
	0.015	0.017	0.008	0.000	0.000	0.000
Direct Elections$_{t-1}$	-3.080	-3.178	-0.072	-0.144	0.023	-0.242
	(3.991)	(3.944)	(3.554)	(0.936)	(1.055)	(1.163)
	0.450	0.430	0.984	0.878	0.982	0.835
Left Executive$_{t-1}$		2.110	4.160		1.429	3.263
		(3.319)	(2.629)		(0.910)	(1.115)
		0.532	0.130		0.116	0.003
GDP per capita$_{t-1}$		-0.002	-0.001		-0.000	-0.001
		(0.001)	(0.001)		(0.000)	(0.000)
		0.159	0.500		0.040	0.001
Period Fixed Effects	Yes	Yes	Yes	Yes	Yes	Yes
Country-Specific Time Trends	No	No	Yes	No	No	Yes
Country Fixed Effects	Yes	Yes	Yes	No	No	No
R-squared	0.849	0.851	0.884	0.924	0.920	0.927
Number of Observations	615	583	583	611	579	579

Table A-5: *War Mobilization, Democracy, and Income Taxation, 1816-2010: Direct Elections Measure of Democracy.* The table reports the results of pooled-cross-sectional OLS regressions of the variable *Top Income Tax Rate* on the variable *War Mobilization* lagged one period and the variable *Direct Elections* lagged one period. The specifications in columns 1-3 include country fixed effects and report robust standard errors clustered by country in parentheses and p-values. The specifications in columns 4-6 include a lagged dependent variable and report panel-corrected standard errors in parentheses and p-values. Specifications in columns 2, 3, 5, and 6 include control variables for lagged *Left Executive* and lagged real *GDP per capita*. All specifications include period fixed effects and the specifications in columns 3 and 6 include country-specific time trends.

	Ordinary Least Squares, 5-year Data					
	Country Fixed Effects			Lag DV		
	(1)	(2)	(3)	(4)	(5)	(6)
Top Income Tax Rate$_{t-1}$				0.792	0.789	0.657
				(0.026)	(0.025)	(0.041)
				0.000	0.000	0.000
War Mobilization$_{t-1}$	17.122	18.421	18.652	14.778	14.972	14.643
	(6.374)	(6.961)	(6.174)	(2.478)	(2.456)	(2.466)
	0.015	0.016	0.007	0.000	0.000	0.000
Electorate 25%$_{t-1}$	-4.732	-5.284	-4.450	0.501	0.683	0.176
	(2.835)	(3.151)	(2.254)	(1.784)	(1.840)	(2.073)
	0.111	0.110	0.063	0.779	0.710	0.932
Electorate 50%$_{t-1}$	2.038	1.242	-2.370	-2.599	-2.629	-2.495
	(5.175)	(4.972)	(3.373)	(2.199)	(2.301)	(2.404)
	0.698	0.805	0.491	0.237	0.253	0.299
Electorate 75%$_{t-1}$	-2.403	-2.220	-1.019	1.577	1.636	1.782
	(4.939)	(5.106)	(3.171)	(1.753)	(1.846)	(1.823)
	0.632	0.669	0.751	0.368	0.376	0.328
Left Executive$_{t-1}$		1.940	4.077		1.423	3.225
		(3.302)	(2.705)		(0.910)	(1.115)
		0.564	0.148		0.118	0.004
GDP per capita$_{t-1}$		-0.002	-0.001		-0.000	-0.001
		(0.001)	(0.001)		(0.000)	(0.000)
		0.107	0.534		0.043	0.000
Period Fixed Effects	Yes	Yes	Yes	Yes	Yes	Yes
Country-Specific Time Trends	No	No	Yes	No	No	Yes
Country Fixed Effects	Yes	Yes	Yes	No	No	No
R-squared	0.850	0.853	0.886	0.924	0.920	0.927
Number of Observations	615	583	583	611	579	579
Wald Tests of Joint Significance						
Electorate 25% + Electorate 50%	1.41	1.18	1.65	2.08	1.75	2.03
+ Electorate 75%	0.271	0.344	0.212	0.555	0.626	0.566

Table A-6: *War Mobilization, Democracy, and Income Taxation, 1816-2010: Electorate Size Measure of Democracy.* The table reports the results of pooled-cross-sectional OLS regressions of the variable *Top Income Tax Rate* on the variable *War Mobilization* lagged one period and the variables *Electorate 25%*, *Electorate 50%*, and *Electorate 75%* lagged one period. The specifications in columns 1-3 include country fixed effects and report robust standard errors clustered by country in parentheses and p-values. The specifications in columns 4-6 include a lagged dependent variable and report panel-corrected standard errors in parentheses and p-values. Specifications in columns 2, 3, 5, and 6 include control variables for lagged *Left Executive* and lagged real *GDP per capita*. All specifications include period fixed effects and the specifications in columns 3 and 6 include country-specific time trends. In addition, the table reports the results of Wald tests of joint significance and p-values for the lagged values of *Electorate 25%*, *Electorate 50%*, and *Electorate 75%*. The tests statistics reported in columns 1-3 are F-statistics and those in columns 4-6 are χ^2-statistics.

	Ordinary Least Squares, 5-year Data					
	Country Fixed Effects			Lag DV		
	(1)	(2)	(3)	(4)	(5)	(6)
Top Income Tax Rate$_{t-1}$				0.793	0.790	0.643
				(0.026)	(0.025)	(0.042)
				0.000	0.000	0.000
War Mobilization$_{t-1}$	17.870	19.048	19.545	14.772	14.988	15.111
	(6.245)	(6.671)	(6.311)	(2.458)	(2.436)	(2.463)
	0.010	0.010	0.006	0.000	0.000	0.000
No Upper$_{t-1}$	7.084	8.877	8.216	-0.130	-0.178	3.580
	(5.113)	(6.054)	(6.939)	(0.844)	(0.831)	(1.097)
	0.182	0.159	0.251	0.878	0.830	0.001
Left Executive$_{t-1}$		1.027	3.746		1.460	3.126
		(3.299)	(2.692)		(0.902)	(1.100)
		0.759	0.180		0.106	0.004
GDP per capita$_{t-1}$		-0.001	-0.001		-0.000	-0.001
		(0.001)	(0.001)		(0.000)	(0.000)
		0.114	0.493		0.038	0.000
Period Fixed Effects	Yes	Yes	Yes	Yes	Yes	Yes
Country-Specific Time Trends	No	No	Yes	No	No	Yes
Country Fixed Effects	Yes	Yes	Yes	No	No	No
R-squared	0.852	0.857	0.886	0.924	0.920	0.928
Number of Observations	615	583	583	611	579	579

Table A-7: *War Mobilization, Democracy, and Income Taxation, 1816-2010: No Upper Measure of Democracy.* The table reports the results of pooled-cross-sectional OLS regressions of the variable *Top Income Tax Rate* on the variable *War Mobilization* lagged one period and the variable *No Upper* lagged one period. The specifications in columns 1-3 include country fixed effects and report robust standard errors clustered by country in parentheses and p-values. The specifications in columns 4-6 include a lagged dependent variable and report panel-corrected standard errors in parentheses and p-values. Specifications in columns 2, 3, 5, and 6 include control variables for lagged *Left Executive* and lagged real *GDP per capita*. All specifications include period fixed effects and the specifications in columns 3 and 6 include country-specific time trends.

	Ordinary Least Squares, 5-year Data					
	Lag DV and Country Fixed Effects					
	(1)	(2)	(3)	(4)	(5)	(6)
Top Income Tax Rate$_{t-1}$	0.716	0.692	0.604	0.712	0.688	0.607
	(0.033)	(0.033)	(0.041)	(0.031)	(0.032)	(0.041)
	0.000	0.000	0.000	0.000	0.000	(0.000)
War Mobilizaton$_{t-1}$	14.320	15.203	16.781	14.703	15.504	16.776
	(2.400)	(2.315)	(2.703)	(2.416)	(2.318)	(2.735)
	0.000	0.000	0.000	0.000	0.000	0.000
Universal Male Suffrage$_{t-1}$	-0.826	-0.433	-2.325			
	(1.198)	(1.115)	(1.430)			
	0.491	0.698	0.104			
Competitive Elections$_{t-1}$				1.470	1.231	-0.133
				(1.001)	(0.996)	(1.192)
				0.142	0.217	0.911
Left Executive$_{t-1}$		2.117	3.440		1.868	3.385
		(1.017)	(1.174)		(1.040)	(1.196)
		0.037	0.003		0.072	0.005
GDP per capita$_{t-1}$		-0.001	-0.001		-0.001	-0.001
		(0.000)	(0.000)		(0.000)	(0.000)
		0.001	0.002		0.001	0.002
Period Fixed Effects	Yes	Yes	Yes	Yes	Yes	Yes
Country-Specific Time Trends	No	No	Yes	No	No	Yes
Country Fixed Effects	Yes	Yes	Yes	Yes	Yes	Yes
R-squared	0.928	0.926	0.931	0.928	0.926	0.931
Number of Observations	611	579	579	611	579	579

Table A-8: *War Mobilization, Democracy, and Income Taxation, 1816-2010: Lagged Dependent Variable and Fixed Effects Specifications.* The table reports the results of pooled-cross-sectional OLS regressions of the variable *Top Income Tax Rate* on the variable *War Mobilization* lagged one period and selected democracy measures also lagged one period. All specifications include a lagged dependent variable and period and country fixed effects. Each column reports OLS estimate, panel-corrected standard errors in parentheses, and p-values. The specifications in columns 2, 3, 5, and 6 include control variables for lagged *Left Executive* and lagged real *GDP per capita* and the specifications in columns 3 and 6 include country-specific time trends.

	Ordinary Least Squares, 5-year Data			
	Democracy		Partisanship	
	(1)	(2)	(3)	(4)
Top Income Tax Rate$_{t-1}$		0.789		0.795
		(0.026)		(0.026)
		0.000		0.000
War Mobilization$_{t-1}$	1.375	10.577	14.148	10.655
	(9.908)	(3.921)	(8.096)	(2.654)
	0.891	0.007	0.097	0.000
Competitive Elections$_{t-1}$	3.687	0.167		
	(3.935)	(1.023)		
	0.361	0.871		
War Mobilization$_{t-1}$ *	22.551	5.828		
Competitive Elections$_{t-1}$	(9.623)	(4.033)		
	0.030	0.148		
Left Executive$_{t-1}$			1.413	0.498
			(3.489)	(0.938)
			0.690	0.596
War Mobilization$_{t-1}$ *			12.378	16.634
Left Executive$_{t-1}$			(12.737)	(4.936)
			0.343	0.001
Period Fixed Effects	Yes	Yes	Yes	Yes
Country Fixed Effects	Yes	No	Yes	No
R-squared	0.852	0.924	0.849	0.925
Observations	615	611	615	611

Table A-9: *War Mobilization, Democracy, and Income Taxation, 1816-2010: Interactions between War Mobilization and Democracy and Partisanship Measures.* Columns 1-2 report results of pooled-cross-sectional OLS regressions of the variable *Top Income Tax Rate* on the variable *War Mobilization* lagged one period, *Competitive Elections* lagged one period, and the interaction between the measures. Columns 3-4 report results of pooled-cross-sectional OLS regressions of the variable *Top Income Tax Rate* on the variable *War Mobilization* lagged one period, the variable *Left Executive* lagged one period, and the interaction between the measures. Specifications 1 and 3 include country and period fixed effects and report robust standard errors clustered by country in parentheses and p-values. Specifications 2 and 4 include a lagged dependent variable and period fixed effects and report panel-corrected standard errors in parentheses and p-values.

	Ordinary Least Squares, 5-year Data					
	Country Fixed Effects			Lag DV		
	(1)	(2)	(3)	(4)	(5)	(6)
Top Income Tax Rate–				0.749	0.750	0.676
Local & National$_{t-1}$				(0.026)	(0.026)	(0.041)
				0.000	0.000	0.000
War Mobilization$_{t-1}$	17.725	16.923	17.591	12.222	12.262	13.846
	(6.373)	(6.324)	(5.769)	(2.149)	(2.155)	(2.406)
	0.012	0.015	0.007	0.000	0.000	0.000
Universal Male Suffrage$_{t-1}$	0.125	1.308	-5.797	-2.941	-3.178	-1.226
	(4.855)	(5.223)	(4.472)	(1.040)	(1.023)	(1.218)
	0.980	0.805	0.210	0.005	0.002	0.314
Left Executive$_{t-1}$		1.309	2.172		1.955	2.220
		(3.173)	(2.638)		(0.807)	(1.012)
		0.684	0.421		0.015	0.028
GDP per capita$_{t-1}$		0.000	-0.001		-0.000	-0.001
		(0.001)	(0.001)		(0.000)	(0.000)
		0.957	0.514		0.550	0.010
Period Fixed Effects	Yes	Yes	Yes	Yes	Yes	Yes
Country-Specific Time Trends	No	No	Yes	No	No	Yes
Country Fixed Effects	Yes	Yes	Yes	No	No	No
R-squared	0.877	0.871	0.899	0.935	0.929	0.932
Number of Observations	579	547	547	572	540	540

Table A-10: *War Mobilization, Democracy, and Income Taxation–Local & National, 1816-2010: Universal Male Suffrage Measure of Democracy.* The table reports the results of pooled-cross-sectional OLS regressions of the variable *Top Income Tax Rate–Local & National* on the variable *War Mobilization* lagged one period and the variable *Universal Male Suffrage* lagged one period. The specifications in columns 1-3 include country fixed effects and report robust standard errors clustered by country in parentheses and p-values. The specifications in columns 4-6 include a lagged dependent variable and report panel-corrected standard errors in parentheses and p-values. Specifications in columns 2, 3, 5, and 6 include control variables for lagged *Left Executive* and lagged real *GDP per capita*. All specifications include period fixed effects and the specifications in columns 3 and 6 include country-specific time trends.

	Ordinary Least Squares, 5-year Data					
	Country Fixed Effects			Lag DV		
	(1)	(2)	(3)	(4)	(5)	(6)
Top Income Tax Rate–				0.757	0.758	0.672
Local & National$_{t-1}$				(0.027)	(0.026)	(0.041)
				0.000	0.000	0.000
War Mobilization$_{t-1}$	18.623	17.928	18.160	12.379	12.501	14.167
	(6.148)	(6.041)	(5.811)	(2.180)	(2.174)	(2.429)
	0.007	0.008	0.006	0.000	0.000	0.000
Competitive Elections$_{t-1}$	4.610	5.516	5.319	0.939	1.167	1.216
	(3.618)	(3.524)	(5.066)	(0.866)	(0.827)	(0.867)
	0.218	0.134	0.307	0.278	0.158	0.161
Left Executive$_{t-1}$		0.483	1.531		1.614	2.046
		(3.059)	(2.741)		(0.804)	(1.029)
		0.876	0.583		0.045	0.047
GDP per capita$_{t-1}$		0.000	-0.001		-0.000	-0.001
		(0.001)	(0.001)		(0.000)	(0.000)
		0.812	0.412		0.339	0.004
Period Fixed Effects	Yes	Yes	Yes	Yes	Yes	Yes
Country-Specific Time Trends	No	No	Yes	No	No	Yes
Country Fixed Effects	Yes	Yes	Yes	No	No	No
R-squared	0.878	0.873	0.899	0.934	0.928	0.932
Number of Observations	579	547	547	572	540	540

Table A-11: *War Mobilization, Democracy, and Income Taxation–Local & National, 1816-2010: Competitive Elections Measure of Democracy.* The table reports the results of pooled-cross-sectional OLS regressions of the variable *Top Income Tax Rate–Local & National* on the variable *War Mobilization* lagged one period and the variable *Competitive Elections* lagged one period. The specifications in columns 1-3 include country fixed effects and report robust standard errors clustered by country in parentheses and p-values. The specifications in columns 4-6 include a lagged dependent variable and report panel-corrected standard errors in parentheses and p-values. Specifications in columns 2, 3, 5, and 6 include control variables for lagged *Left Executive* and lagged real *GDP per capita*. All specifications include period fixed effects and the specifications in columns 3 and 6 include country-specific time trends.

	Ordinary Least Squares, 5-year Data					
	Country Fixed Effects			Lag DV		
	(1)	(2)	(3)	(4)	(5)	(6)
Top Income Tax Rate$_{t-1}$				0.790	0.785	0.663
				(0.026)	(0.025)	(0.040)
				0.000	0.000	0.000
War Mobilization–5%$_{t-1}$	21.498	22.363	21.851	21.706	21.957	20.939
	(7.502)	(8.452)	(7.888)	(3.041)	(3.036)	(2.902)
	0.010	0.016	0.012	0.000	0.000	0.000
Universal Male Suffrage$_{t-1}$	0.454	1.725	-4.966	-2.135	-2.407	-0.721
	(6.327)	(6.754)	(4.776)	(0.946)	(0.902)	(1.093)
	0.944	0.801	0.312	0.024	0.008	0.510
Left Executive$_{t-1}$		1.213	3.873		1.060	2.731
		(3.291)	(2.537)		(0.921)	(1.110)
		0.717	0.143		0.250	0.014
GDP per capita$_{t-1}$		-0.001	-0.001		-0.000	-0.001
		(0.001)	(0.001)		(0.000)	(0.000)
		0.173	0.534		0.028	0.001
Period Fixed Effects	Yes	Yes	Yes	Yes	Yes	Yes
Country-Specific Time Trends	No	No	Yes	No	No	Yes
Country Fixed Effects	Yes	Yes	Yes	No	No	No
R-squared	0.849	0.851	0.885	0.926	0.922	0.929
Number of Observations	615	583	583	611	579	579

Table A-12: *War Mobilization, Democracy, and Income Taxation, 1816-2010: 5% Threshold for War Mobilization and Universal Male Suffrage Measure of Democracy.* The table reports the results of pooled-cross-sectional OLS regressions of the variable *Top Income Tax Rate* on the variable *War Mobilization–5%* lagged one period and the variable *Universal Male Suffrage* lagged one period. The specifications in columns 1-3 include country fixed effects and report robust standard errors clustered by country in parentheses and p-values. The specifications in columns 4-6 include a lagged dependent variable and report panel-corrected standard errors in parentheses and p-values. Specifications in columns 2, 3, 5, and 6 include control variables for lagged *Left Executive* and lagged real *GDP per capita*. All specifications include period fixed effects and the specifications in columns 3 and 6 include country-specific time trends.

	Ordinary Least Squares, 5-year Data					
	Country Fixed Effects			Lag DV		
	(1)	(2)	(3)	(4)	(5)	(6)
Top Income Tax Rate$_{t-1}$				0.795	0.787	0.658
				(0.025)	(0.024)	(0.040)
				0.000	0.000	0.000
War Mobilization–5%$_{t-1}$	22.115	23.076	22.222	21.682	22.188	21.212
	(7.432)	(8.314)	(8.065)	(3.008)	(2.969)	(2.880)
	0.008	0.012	0.013	0.000	0.000	0.000
Competitive Elections$_{t-1}$	4.503	4.998	0.992	0.277	1.220	1.211
	(3.787)	(4.232)	(4.335)	(0.991)	(0.904)	(0.926)
	0.249	0.252	0.821	0.780	0.177	0.191
Left Executive$_{t-1}$		0.335	3.604		0.761	2.523
		(3.189)	(2.564)		(0.916)	(1.124)
		0.918	0.176		0.406	0.025
GDP per capita$_{t-1}$		-0.001	-0.001		-0.000	-0.001
		(0.001)	(0.001)		(0.000)	(0.000)
		0.193	0.488		0.013	0.000
Period Fixed Effects	Yes	Yes	Yes	Yes	Yes	Yes
Country-Specific Time Trends	No	No	Yes	No	No	Yes
Country Fixed Effects	Yes	Yes	Yes	No	No	No
R-squared	0.851	0.853	0.884	0.926	0.922	0.929
Number of Observations	615	583	583	611	579	579

Table A-13: *War Mobilization, Democracy, and Income Taxation, 1816-2010: 5% Threshold for War Mobilization and Competitive Elections Measure of Democracy.* The table reports the results of pooled-cross-sectional OLS regressions of the variable *Top Income Tax Rate* on the variable *War Mobilization–5%* lagged one period and the variable *Competitive Elections* lagged one period. The specifications in columns 1-3 include country fixed effects and report robust standard errors clustered by country in parentheses and p-values. The specifications in columns 4-6 include a lagged dependent variable and report panel-corrected standard errors in parentheses and p-values. Specifications in columns 2, 3, 5, and 6 include control variables for lagged *Left Executive* and lagged real *GDP per capita*. All specifications include period fixed effects and the specifications in columns 3 and 6 include country-specific time trends.

	Ordinary Least Squares, 5-year Data					
	Country Fixed Effects			Lag DV		
	(1)	(2)	(3)	(4)	(5)	(6)
Top Income Tax Rate$_{t-1}$				0.800	0.796	0.678
				(0.026)	(0.026)	(0.040)
				0.000	0.000	0.000
War Mobilization$_{t-1}$	20.444	22.131	22.273	17.704	17.999	17.779
	(6.581)	(6.954)	(6.182)	(2.684)	(2.678)	(2.795)
	0.006	0.005	0.002	0.000	0.000	0.000
Universal Male Suffrage$_{t-1}$	0.504	1.826	-4.855	-2.056	-2.395	-0.886
	(6.106)	(6.498)	(4.269)	(0.947)	(0.892)	(1.033)
	0.935	0.782	0.270	0.030	0.007	0.391
Left Executive$_{t-1}$		1.556	4.446		2.083	3.427
		(3.296)	(2.521)		(0.966)	(1.159)
		0.642	0.094		0.031	0.003
GDP per capita$_{t-1}$		-0.002	-0.001		-0.000	-0.001
		(0.001)	(0.001)		(0.000)	(0.000)
		0.105	0.337		0.017	0.000
Period Fixed Effects	Yes	Yes	Yes	Yes	Yes	Yes
Country-Specific Time Trends	No	No	Yes	No	No	Yes
Country Fixed Effects	Yes	Yes	Yes	No	No	No
R-squared	0.852	0.856	0.890	0.930	0.927	0.932
Number of Observations	605	573	573	602	570	570

Table A-14: *War Mobilization, Democracy, and Income Taxation, 1816-2010: Universal Male Suffrage Measure of Democracy and Sample Restricted to Country-Periods without Foreign Occupation.* The table reports the results of pooled-cross-sectional OLS regressions of the variable *Top Income Tax Rate* on the variable *War Mobilization* lagged one period and the variable *Universal Male Suffrage* lagged one period. The specifications in columns 1-3 include country fixed effects and report robust standard errors clustered by country in parentheses and p-values. The specifications in columns 4-6 include a lagged dependent variable and report panel-corrected standard errors in parentheses and p-values. Specifications in columns 2, 3, 5, and 6 include control variables for lagged *Left Executive* and lagged real *GDP per capita*. All specifications include period fixed effects and the specifications in columns 3 and 6 include country-specific time trends.

	Ordinary Least Squares, 5-year Data					
	Country Fixed Effects			Lag DV		
	(1)	(2)	(3)	(4)	(5)	(6)
Top Income Tax Rate$_{t-1}$				0.805	0.799	0.673
				(0.026)	(0.025)	(0.040)
				0.000	0.000	0.000
War Mobilization$_{t-1}$	21.272	22.921	22.390	17.634	18.104	17.988
	(6.402)	(6.651)	(6.300)	(2.665)	(2.636)	(2.779)
	0.004	0.003	0.002	0.000	0.000	0.000
Competitive Elections$_{t-1}$	4.728	5.007	0.634	0.076	0.928	0.935
	(3.893)	(4.410)	(4.800)	(0.990)	(0.924)	(0.928)
	0.239	0.270	0.896	0.939	0.315	0.314
Left Executive$_{t-1}$		0.705	4.203		1.824	3.274
		(3.204)	(2.551)		(0.959)	(1.178)
		0.828	0.116		0.057	0.005
GDP per capita$_{t-1}$		-0.002	-0.001		-0.000	-0.001
		(0.001)	(0.001)		(0.000)	(0.000)
		0.116	0.304		0.010	0.000
Period Fixed Effects	Yes	Yes	Yes	Yes	Yes	Yes
Country-Specific Time Trends	No	No	Yes	No	No	Yes
Country Fixed Effects	Yes	Yes	Yes	No	No	No
R-squared	0.854	0.858	0.889	0.929	0.926	0.932
Number of Observations	605	573	573	602	570	570

Table A-15: *War Mobilization, Democracy, and Income Taxation, 1816-2010: Competitive Elections Measure of Democracy and Sample Restricted to Country-Periods without Foreign Occupation.* The table reports the results of pooled-cross-sectional OLS regressions of the variable *Top Income Tax Rate* on the variable *War Mobilization* lagged one period and the variable *Competitive Elections* lagged one period. The specifications in columns 1-3 include country fixed effects and report robust standard errors clustered by country in parentheses and p-values. The specifications in columns 4-6 include a lagged dependent variable and report panel-corrected standard errors in parentheses and p-values. Specifications in columns 2, 3, 5, and 6 include control variables for lagged *Left Executive* and lagged real *GDP per capita*. All specifications include period fixed effects and the specifications in columns 3 and 6 include country-specific time trends.

	Ordinary Least Squares, 5-year Data					
	Country Fixed Effects			Lagged Dependent Variable		
	(1)	(2)	(3)	(4)	(5)	(6)
Top Income Tax Rate$_{t-1}$				0.786	0.767	0.656
				(0.028)	(0.027)	(0.041)
				0.000	0.000	0.000
War Mobilization$_{t-1}$	17.021	18.192	18.800	14.533	14.671	14.633
	(6.432)	(7.081)	(6.273)	(2.417)	(2.342)	(2.460)
	0.016	0.019	0.007	0.000	0.000	0.000
Majoritarian Electoral System$_{t-1}$	6.100	7.716	6.105	0.770	1.612	0.478
	(2.801)	(3.725)	(3.156)	(0.566)	(0.642)	(0.907)
	0.042	0.052	0.068	0.174	0.012	0.598
Universal Male Suffrage$_{t-1}$		1.668	-3.958		-2.410	-0.850
		(5.913)	(4.561)		(0.900)	(1.081)
		0.781	0.396		0.007	0.432
Left Executive$_{t-1}$		2.447	4.700		1.943	3.262
		(3.006)	(2.467)		(0.956)	(1.106)
		0.426	0.072		0.042	0.003
GDP per capita$_{t-1}$		-0.002	-0.001		-0.000	-0.001
		(0.001)	(0.001)		(0.000)	(0.000)
		0.106	0.497		0.008	0.001
Period Fixed Effects	Yes	Yes	Yes	Yes	Yes	Yes
Country-Specific Time Trends	No	No	Yes	No	No	Yes
Country Fixed Effects	Yes	Yes	Yes	No	No	No
R-squared	0.852	0.856	0.888	0.924	0.921	0.927
Number of Observations	615	583	583	611	579	579

Table A-16: *War Mobilization, Electoral Institutions, and Income Taxation, 1816-2010.* The table reports the results of pooled-cross-sectional OLS regressions of the variable *Top Income Tax Rate* on the variable *War Mobilization* lagged one period and the variable *Majoritarian Electoral System* lagged one period. The specifications in columns 1-3 include country fixed effects and report robust standard errors clustered by country in parentheses and p-values. The specifications in columns 4-6 include a lagged dependent variable and report panel-corrected standard errors in parentheses and p-values. Specifications in columns 2, 3, 5, and 6 include control variables for lagged *Universal Male Suffrage*, lagged *Left Executive*, and lagged real *GDP per capita*. All specifications include period fixed effects and the specifications in columns 3 and 6 include country-specific time trends.

	Ordinary Least Squares, 5-year Data					
	Country Fixed Effects			Lagged Dependent Variable		
	(1)	(2)	(3)	(4)	(5)	(6)
Top Income Tax Rate$_{t-1}$				0.772	0.727	0.594
				(0.022)	(0.029)	(0.040)
				0.000	0.000	0.000
War Mobilization$_{t-1}$	19.464	21.109	20.962	16.570	17.470	17.239
	(5.698)	(6.794)	(5.685)	(2.094)	(2.056)	(2.338)
	0.003	0.006	0.002	0.000	0.000	0.000
Majoritarian Electoral System$_{t-1}$	18.584	19.115	18.826	1.798	3.843	6.914
	(8.886)	(8.371)	(9.572)	(0.836)	(1.214)	(2.463)
	0.050	0.034	0.064	0.032	0.002	0.005
Left Executive$_{t-1}$		5.238	4.815		1.161	3.081
		(3.311)	(2.923)		(1.076)	(1.118)
		0.130	0.116		0.281	0.006
GDP per capita$_{t-1}$		-0.002	-0.002		-0.001	-0.001
		(0.001)	(0.001)		(0.000)	(0.000)
		0.104	0.281		0.000	0.000
Period Fixed Effects	Yes	Yes	Yes	Yes	Yes	Yes
Country-Specific Time Trends	No	No	Yes	No	No	Yes
Country Fixed Effects	Yes	Yes	Yes	No	No	No
R-squared	0.834	0.840	0.884	0.895	0.898	0.908
Number of Observations	405	403	403	403	401	401

Table A-17: *War Mobilization, Electoral Institutions, and Income Taxation, 1816-2010: Sample Restricted to Democratic Country-Periods.* The table reports the results of pooled-cross-sectional OLS regressions of the variable *Top Income Tax Rate* on the variable *War Mobilization* lagged one period and the variable *Majoritarian Electoral System* lagged one period. The sample of states in this table is limited to those with *Competitive Elections*. The specifications in columns 1-3 include country fixed effects and report robust standard errors clustered by country in parentheses and p-values. The specifications in columns 4-6 include a lagged dependent variable and report panel-corrected standard errors in parentheses and p-values. Specifications in columns 2, 3, 5, and 6 include control variables for lagged *Left Executive* and lagged real *GDP per capita*. All specifications include period fixed effects and the specifications in columns 3 and 6 include country-specific time trends.

	Ordinary Least Squares, 5-year Data					
	Country Fixed Effects			Lagged Dependent Variable		
	(1)	(2)	(3)	(4)	(5)	(6)
Top Income Tax Rate$_{t-1}$				0.794	0.784	0.656
				(0.026)	(0.026)	(0.041)
				0.000	0.000	0.000
War Mobilization$_{t-1}$	17.534	18.591	18.813	14.692	15.090	14.656
	(6.397)	(6.887)	(6.123)	(2.477)	(2.472)	(2.447)
	0.013	0.014	0.006	0.000	0.000	0.000
Economic Crises$_{t-1}$	-4.399	-4.733	-3.107	0.506	0.150	-0.442
	(1.972)	(2.000)	(1.891)	(0.911)	(0.898)	(0.985)
	0.038	0.029	0.117	0.578	0.867	0.654
Universal Male Suffrage$_{t-1}$		1.486	-5.165		-2.463	-0.853
		(6.503)	(4.382)		(0.893)	(1.082)
		0.822	0.253		0.006	0.431
Left Executive$_{t-1}$		1.712	4.292		1.605	3.236
		(3.192)	(2.507)		(0.923)	(1.099)
		0.598	0.103		0.082	0.003
GDP per capita$_{t-1}$		-0.002	-0.001		-0.000	-0.001
		(0.001)	(0.001)		(0.000)	(0.000)
		0.142	0.507		0.029	0.001
Period Fixed Effects	Yes	Yes	Yes	Yes	Yes	Yes
Country-Specific Time Trends	No	No	Yes	No	No	Yes
Country Fixed Effects	Yes	Yes	Yes	No	No	No
R-squared	0.850	0.853	0.886	0.924	0.921	0.927
Number of Observations	615	583	583	611	579	579

Table A-18: *War Mobilization, Economic Crises, and Income Taxation, 1816-2010: Composite Measure of Crises.* The table reports the results of pooled-cross-sectional OLS regressions of the variable *Top Income Tax Rate* on the variable *War Mobilization* lagged one period and the variable *Economic Crises* lagged one period. The specifications in columns 1-3 include country fixed effects and report robust standard errors clustered by country in parentheses and p-values. The specifications in columns 4-6 include a lagged dependent variable and report panel-corrected standard errors in parentheses and p-values. Specifications in columns 2, 3, 5, and 6 include control variables for lagged *Universal Male Suffrage*, lagged *Left Executive*, and lagged real *GDP per capita*. All specifications include period fixed effects and the specifications in columns 3 and 6 include country-specific time trends.

	Ordinary Least Squares, 5-year Data					
	Country Fixed Effects			Lagged Dependent Variable		
	(1)	(2)	(3)	(4)	(5)	(6)
Top Income Tax Rate$_{t-1}$				0.796	0.786	0.659
				(0.026)	(0.026)	(0.040)
				0.000	0.000	0.000
War Mobilization$_{t-1}$	16.287	17.804	18.641	14.254	14.678	14.308
	(6.399)	(6.755)	(6.064)	(2.496)	(2.507)	(2.556)
	0.020	0.016	0.006	0.000	0.000	0.000
Domestic Debt Crises$_{t-1}$	-8.145	-13.297	-7.182	2.981	2.298	0.293
	(2.325)	(4.912)	(4.933)	(4.096)	(4.219)	(4.188)
	0.002	0.014	0.162	0.467	0.586	0.944
External Debt Crises$_{t-1}$	3.043	3.128	0.377	0.517	0.421	0.830
	(4.875)	(7.193)	(7.695)	(1.798)	(1.893)	(2.063)
	0.540	0.669	0.961	0.774	0.824	0.687
Banking Crises$_{t-1}$	-5.646	-5.470	-5.587	-1.387	-1.730	-1.990
	(2.359)	(2.472)	(2.868)	(1.505)	(1.522)	(1.565)
	0.027	0.039	0.066	0.357	0.256	0.203
Inflation Crises$_{t-1}$	-4.587	-3.572	0.633	-1.854	-2.709	-2.257
	(6.392)	(6.859)	(7.109)	(2.526)	(2.668)	(2.768)
	0.482	0.609	0.930	0.463	0.310	0.415
Currency Crises$_{t-1}$	-0.181	-2.732	-1.470	2.160	1.452	-0.162
	(4.539)	(4.519)	(5.059)	(2.045)	(2.104)	(2.177)
	0.969	0.553	0.774	0.291	0.490	0.941
Stock Market Crash$_{t-1}$	-2.804	-2.961	-2.220	1.945	2.010	1.733
	(3.413)	(3.292)	(3.427)	(1.259)	(1.260)	(1.397)
	0.422	0.380	0.525	0.122	0.111	0.215
Universal Male Suffrage$_{t-1}$		1.962	-4.895		-2.375	-0.800
		(6.626)	(4.601)		(0.881)	(1.058)
		0.770	0.301		0.007	0.450
Left Executive$_{t-1}$		2.005	4.498		1.509	3.179
		(3.449)	(2.658)		(0.924)	(1.104)
		0.568	0.107		0.102	0.004
GDP per capita$_{t-1}$		-0.002	-0.001		-0.000	-0.001
		(0.001)	(0.001)		(0.000)	(0.000)
		0.106	0.524		0.023	0.001
Period Fixed Effects	Yes	Yes	Yes	Yes	Yes	Yes
Country-Specific Time Trends	No	No	Yes	No	No	Yes
Country Fixed Effects	Yes	Yes	Yes	No	No	No
R-squared	0.851	0.855	0.887	0.924	0.921	0.927
Number of Observations	615	583	583	611	579	579

Table A-19: *War Mobilization, Economic Crises, and Income Taxation, 1816-2010: Separate Measures of Crises.* The table reports the results of pooled-cross-sectional OLS regressions of the variable *Top Income Tax Rate* on the variable *War Mobilization* lagged one period and lagged values of the variables *Domestic Debt Crises*, *External Debt Crises*, *Bank Crises*, *Inflation Crises*, *Currency Crises*, and *Stock Crash*. The specifications in columns 1-3 include country fixed effects and report robust standard errors clustered by country in parentheses and p-values. The specifications in columns 4-6 include a lagged dependent variable and report panel-corrected standard errors in parentheses and p-values. Specifications in columns 2, 3, 5, and 6 include control variables for lagged *Universal Male Suffrage*, lagged *Left Executive*, and lagged real *GDP per capita*. All specifications include period fixed effects and the specifications in columns 3 and 6 include country-specific time trends.

	Ordinary Least Squares, 5-year Data					
	Country Fixed Effects			Lagged Dependent Variable		
	(1)	(2)	(3)	(4)	(5)	(6)
Top Income Tax Rate$_{t-1}$				0.795	0.785	0.655
				(0.026)	(0.026)	(0.040)
				0.000	0.000	0.000
War Mobilization$_{t-1}$	17.758	18.983	18.896	14.642	15.038	14.710
	(6.303)	(6.733)	(6.127)	(2.454)	(2.455)	(2.463)
	0.011	0.011	0.006	0.000	0.000	0.000
Economic Crises$_{t-1}$	-5.726	-6.505	-3.515	0.805	0.440	-0.610
	(2.594)	(2.659)	(2.578)	(1.046)	(1.033)	(1.111)
	0.040	0.024	0.189	0.442	0.670	0.583
Post-1970$_{t-1}$ * *Economic Crises*$_{t-1}$	5.774	7.330	1.575	-1.350	-1.201	0.736
	(5.556)	(5.353)	(5.211)	(2.090)	(2.104)	(2.210)
	0.312	0.187	0.766	0.518	0.568	0.739
Universal Male Suffrage$_{t-1}$		1.426	-5.194		-2.446	-0.857
		(6.488)	(4.376)		(0.899)	(1.078)
		0.828	0.250		0.007	0.427
Left Executive$_{t-1}$		1.534	4.247		1.632	3.215
		(3.170)	(2.527)		(0.918)	(1.100)
		0.634	0.109		0.075	0.003
GDP per capita$_{t-1}$		-0.002	-0.001		-0.000	-0.001
		(0.001)	(0.001)		(0.000)	(0.000)
		0.118	0.496		0.029	0.001
Period Fixed Effects	Yes	Yes	Yes	Yes	Yes	Yes
Country-Specific Time Trends	No	No	Yes	No	No	Yes
Country Fixed Effects	Yes	Yes	Yes	No	No	No
R-squared	0.851	0.854	0.886	0.924	0.921	0.927
Number of Observations	615	583	583	611	579	579

Table A-20: *War Mobilization, Economic Crises, and Income Taxation, 1816-2010: Estimating a Structural Break in Effect of Crises at 1970.* The table reports the results of pooled-cross-sectional OLS regressions of the variable *Top Income Tax Rate* on the variable *War Mobilization* lagged one period, the variable *Economic Crises* lagged one period, and the interaction between *Economic Crises* and *Post-1970* lagged one period. The specifications in columns 1-3 include country fixed effects and report robust standard errors clustered by country in parentheses and p-values. The specifications in columns 4-6 include a lagged dependent variable and report panel-corrected standard errors in parentheses and p-values. Specifications in columns 2, 3, 5, and 6 include control variables for lagged *Universal Male Suffrage*, lagged *Left Executive*, and lagged real *GDP per capita*. All specifications include period fixed effects and the specifications in columns 3 and 6 include country-specific time trends. We exclude the main effect for *Post-1970* from these models because the period fixed effects already account for the independent effect of time in these models.

	Ordinary Least Squares, 5-year Data					
	Country Fixed Effects			Lag DV		
	(1)	(2)	(3)	(4)	(5)	(6)
Top Income Tax Rate$_{t-1}$				0.795	0.787	0.662
				(0.027)	(0.027)	(0.041)
				0.000	0.000	0.000
War Mobilization$_{t-1}$	16.279	17.208	17.893	14.484	14.637	14.043
	(6.155)	(6.630)	(5.940)	(2.495)	(2.506)	(2.485)
	0.016	0.018	0.007	0.000	0.000	0.000
Neighbors' Top Income Tax Rate$_{t-1}$	0.196	0.210	0.200	-0.009	-0.008	-0.002
	(0.116)	(0.119)	(0.152)	(0.029)	(0.030)	(0.040)
	0.109	0.094	0.205	0.756	0.783	0.969
Universal Male Suffrage$_{t-1}$		2.220	-4.085		-2.454	-1.022
		(6.395)	(4.016)		(0.921)	(1.116)
		0.732	0.322		0.008	0.360
Left Executive$_{t-1}$		2.076	4.268		1.601	3.286
		(3.210)	(2.390)		(0.948)	(1.112)
		0.526	0.090		0.091	0.003
GDP per capita$_{t-1}$		-0.002	-0.001		-0.000	-0.001
		(0.001)	(0.001)		(0.000)	(0.000)
		0.154	0.557		0.040	0.002
Period Fixed Effects	Yes	Yes	Yes	Yes	Yes	Yes
Country-Specific Time Trends	No	No	Yes	No	No	Yes
Country Fixed Effects	Yes	Yes	Yes	No	No	No
R-squared	0.849	0.854	0.889	0.923	0.921	0.927
Number of Observations	588	565	565	586	563	563

Table A-21: *War Mobilization, Policy Diffusion, and Income Taxation, 1816-2010.* The table reports the results of pooled-cross-sectional OLS regressions of the variable *Top Income Tax Rate* on the variable *War Mobilization* lagged one period and the variable *Neighbors' Top Income Tax Rate* lagged one period. The specifications in columns 1-3 include country fixed effects and report robust standard errors clustered by country in parentheses and p-values. The specifications in columns 4-6 include a lagged dependent variable and report panel-corrected standard errors in parentheses and p-values. Specifications in columns 2, 3, 5, and 6 include control variables for lagged *Universal Male Suffrage*, lagged *Left Executive*, and lagged real *GDP per capita*. All specifications include period fixed effects and the specifications in columns 3 and 6 include country-specific time trends.

	Ordinary Least Squares, 5-year Data					
	Country Fixed Effects			Lag DV		
	(1)	(2)	(3)	(4)	(5)	(6)
Top Income Tax Rate$_{t-1}$				0.791	0.776	0.647
				(0.026)	(0.027)	(0.041)
				0.000	0.000	0.000
War Mobilization$_{t-1}$	16.506	18.728	18.014	15.903	16.429	15.925
	(6.209)	(6.644)	(6.276)	(2.769)	(2.811)	(2.677)
	0.016	0.011	0.010	0.000	0.000	0.000
Trade Openness$_{t-1}$	4.663	4.904	14.687	1.066	1.330	2.788
	(5.460)	(4.980)	(7.233)	(1.482)	(1.406)	(1.778)
	0.404	0.337	0.057	0.472	0.344	0.117
Universal Male Suffrage$_{t-1}$		1.354	-6.874		-3.768	-1.908
		(7.008)	(6.103)		(1.135)	(1.250)
		0.849	0.274		0.001	0.127
Left Executive$_{t-1}$		3.251	5.419		1.341	3.124
		(3.394)	(2.542)		(0.934)	(1.135)
		0.350	0.046		0.151	0.006
GDP per capita$_{t-1}$		-0.002	-0.001		-0.000	-0.001
		(0.001)	(0.001)		(0.000)	(0.000)
		0.064	0.271		0.008	0.000
Period Fixed Effects	Yes	Yes	Yes	Yes	Yes	Yes
Country-Specific Time Trends	No	No	Yes	No	No	Yes
Country Fixed Effects	Yes	Yes	Yes	No	No	No
R-squared	0.819	0.828	0.881	0.900	0.903	0.912
Number of Observations	477	477	477	474	474	474

Table A-22: *War Mobilization, Trade Openness, and Income Taxation, 1871-2010.* The table reports the results of pooled-cross-sectional OLS regressions of the variable *Top Income Tax Rate* on the variable *War Mobilization* lagged one period and the variable *Trade Openness* lagged one period. The specifications in columns 1-3 include country fixed effects and report robust standard errors clustered by country in parentheses and p-values. The specifications in columns 4-6 include a lagged dependent variable and report panel-corrected standard errors in parentheses and p-values. Specifications in columns 2, 3, 5, and 6 include control variables for lagged *Universal Male Suffrage*, lagged *Left Executive*, and lagged real *GDP per capita*. All specifications include period fixed effects and the specifications in columns 3 and 6 include country-specific time trends.

Inequality Analysis

In the next set of tables we evaluate the relationship between income inequality and *Top Income Tax Rate* and the robustness of the relationship between *War Mobilization* and *Top Income Tax Rate* when controlling for income inequality. Because there is considerable missing data in *Income Share of Top 1%* and *Income Share of Top 0.01%*, we interpolate these missing values before using these variables in our analysis. We do not, however, extrapolate beyond the bounds of our existing data. Tables A-23 and A-24 present model specifications adding income inequality measures as control variables.

	Ordinary Least Squares, 5-year Data					
	Country Fixed Effects			Lag DV		
	(1)	(2)	(3)	(4)	(5)	(6)
Top Income Tax Rate$_{t-1}$				0.816	0.777	0.598
				(0.022)	(0.025)	(0.060)
				0.000	0.000	0.000
War Mobilization$_{t-1}$	15.336	16.233	10.948	18.496	20.306	18.971
	(4.460)	(5.105)	(5.945)	(2.867)	(2.625)	(3.130)
	0.003	0.006	0.084	0.000	0.000	0.000
Income Share of Top 1%$_{t-1}$	-0.973	-0.903	-0.377	0.019	0.060	-0.329
	(0.642)	(0.586)	(0.760)	(0.191)	(0.181)	(0.264)
	0.149	0.143	0.627	0.921	0.739	0.213
Universal Male Suffrage$_{t-1}$		-9.476	-10.436		-5.265	-5.283
		(3.392)	(4.701)		(1.852)	(2.010)
		0.013	0.041		0.004	0.009
Left Executive$_{t-1}$		1.703	0.107		-0.286	1.404
		(3.355)	(2.476)		(1.081)	(1.402)
		0.619	0.966		0.791	0.317
GDP per capita$_{t-1}$		-0.001	-0.000		-0.001	-0.001
		(0.001)	(0.001)		(0.000)	(0.000)
		0.297	0.999		0.000	0.003
Period Fixed Effects	Yes	Yes	Yes	Yes	Yes	Yes
Country-Specific Time Trends	No	No	Yes	No	No	Yes
Country Fixed Effects	Yes	Yes	Yes	No	No	No
R-squared	0.797	0.807	0.883	0.849	0.854	0.871
Number of Observations	289	289	289	287	287	287

Table A-23: *War Mobilization, Inequality, and Income Taxation, 1900-2010: Income Share of Top 1% Measure of Inequality.* The table reports the results of pooled-cross-sectional OLS regressions of the variable *Top Income Tax Rate* on the variable *War Mobilization* lagged one period and the variable *Income Share of Top 1%* lagged one period. The specifications in columns 1-3 include country fixed effects and report robust standard errors clustered by country in parentheses and p-values. The specifications in columns 4-6 include a lagged dependent variable and report panel-corrected standard errors in parentheses and p-values. Specifications in columns 2, 3, 5, and 6 include control variables for lagged *Universal Male Suffrage*, lagged *Left Executive*, and lagged real *GDP per capita*. All specifications include period fixed effects and the specifications in columns 3 and 6 include country-specific time trends.

	Ordinary Least Squares, 5-year Data					
	Country Fixed Effects			Lag DV		
	(1)	(2)	(3)	(4)	(5)	(6)
Top Income Tax Rate$_{t-1}$				0.690	0.668	0.526
				(0.034)	(0.038)	(0.068)
				0.000	0.000	0.000
War Mobilization$_{t-1}$	17.058	21.389	14.465	18.728	20.464	20.560
	(6.189)	(6.750)	(6.486)	(2.849)	(2.783)	(5.657)
	0.019	0.009	0.048	0.000	0.000	0.000
Income Share of Top 0.01%$_{t-1}$	-3.823	-2.004	-0.496	1.209	1.575	-0.317
	(3.362)	(2.428)	(3.208)	(1.087)	(1.126)	(1.041)
	0.280	0.427	0.880	0.266	0.162	0.761
Universal Male Suffrage$_{t-1}$		-8.187	-5.143		-6.572	-6.351
		(3.180)	(5.074)		(2.000)	(2.349)
		0.026	0.333		0.001	0.007
Left Executive$_{t-1}$		3.551	0.903		0.187	2.531
		(3.515)	(3.401)		(1.261)	(0.991)
		0.334	0.795		0.882	0.011
GDP per capita$_{t-1}$		-0.002	-0.000		-0.000	-0.002
		(0.002)	(0.002)		(0.000)	(0.000)
		0.176	0.938		0.002	0.000
Period Fixed Effects	Yes	Yes	Yes	Yes	Yes	Yes
Country-Specific Time Trends	No	No	Yes	No	No	Yes
Country Fixed Effects	Yes	Yes	Yes	No	No	No
R-squared	0.787	0.806	0.864	0.842	0.848	0.865
Number of Observations	200	200	200	198	198	198

Table A-24: *War Mobilization, Inequality, and Income Taxation, 1900-2010: Income Share of Top 0.01% Measure of Inequality.* The table reports the results of pooled-cross-sectional OLS regressions of the variable *Top Income Tax Rate* on the variable *War Mobilization* lagged one period and the variable *Income Share of Top 0.01%* lagged one period. The specifications in columns 1-3 include country fixed effects and report robust standard errors clustered by country in parentheses and p-values. The specifications in columns 4-6 include a lagged dependent variable and report panel-corrected standard errors in parentheses and p-values. Specifications in columns 2, 3, 5, and 6 include control variables for lagged *Universal Male Suffrage*, lagged *Left Executive*, and lagged real *GDP per capita*. All specifications include period fixed effects and the specifications in columns 3 and 6 include country-specific time trends.

	Ordinary Least Squares, 5-year Data					
	Universal Male Suffrage		**Competitive Elections**		**Majoritarian Electoral System**	
	(1)	(2)	(3)	(4)	(5)	(6)
Top Income Tax Rate$_{t-1}$		0.805		0.816		0.792
		(0.022)		(0.022)		(0.027)
		0.000		0.000		0.000
War Mobilization$_{t-1}$	13.556	17.710	13.325	18.618	13.662	17.559
	(4.819)	(3.011)	(5.034)	(2.859)	(4.773)	(2.869)
	0.012	0.000	0.018	0.000	0.011	0.000
Income Share of Top 1%$_{t-1}$	-1.615	-0.321	1.032	-0.329	-1.720	-0.163
	(0.649)	(0.496)	(0.423)	(0.669)	(1.053)	(0.229)
	0.024	0.518	0.027	0.623	0.122	0.476
Universal Male Suffrage$_{t-1}$	-23.921	-9.083				
	(6.263)	(8.169)				
	0.002	0.266				
Income Share of Top 1%$_{t-1}$ *	0.785	0.325				
Universal Male Suffrage$_{t-1}$	(0.423)	(0.500)				
	0.082	0.516				
Competitive Elections$_{t-1}$			42.945	-8.028		
			(11.363)	(11.946)		
			0.002	0.502		
Income Share of Top 1%$_{t-1}$ *			-2.371	0.346		
Competitive Elections$_{t-1}$			(0.680)	(0.697)		
			0.003	0.620		
Majoritarian Electoral System$_{t-1}$					-4.690	-0.178
					(12.739)	(2.155)
					0.718	0.934
Income Share of Top 1%$_{t-1}$ *					0.822	0.246
Majoritarian Electoral System$_{t-1}$					(1.070)	(0.241)
					0.453	0.306
Period Fixed Effects	Yes	Yes	Yes	Yes	Yes	Yes
Country Fixed Effects	Yes	No	Yes	No	Yes	No
R-squared	0.805	0.850	0.805	0.849	0.799	0.845
Number of Observations	289	287	289	287	269	268

Table A-25: *War Mobilization, Inequality, Institutions, and Income Taxation, 1900-2010.* The table reports the results of pooled-cross-sectional OLS regressions of the variable *Top Income Tax Rate* on the variable *War Mobilization* lagged one period, the variable *Income Share of Top 1%* lagged one period, one of three institutional variables – *Universal Male Suffrage* in the specifications in columns 1-2, *Competitive Elections* in the specifications in columns 3-4, and *Majoritarian Electoral Instititions* in the specifications in columns 5-6 – lagged one period, and the lagged interaction between the variable *Income Share of Top 1%* and the relevant institutional variable. The sample of states in the specifications in columns 5 and 6 this table is limited to those with *Competitive Elections*. The specifications in columns 1, 3, and 5 include country fixed effects and report robust standard errors clustered by country in parentheses and p-values. The specifications in columns 2, 4, and 6 include a lagged dependent variable and report panel-corrected standard errors in parentheses and p-values. All specifications include period fixed effects.

Interpreting the partial correlation between income inequality and top rates of income taxation requires some caution because variations in the taxes levied on top earners might also affect levels of income inequality. In order to better understand the dynamic relationship between income inequality and top rates of income taxation, we perform a panel Granger causality test. Inferences about causality in this framework are limited to determining if one factor precedes another. This is useful for our purposes here but does not eliminate the possibility that unobserved factors account for what would otherwise appear to be a causal relationship. We estimate the following models:

$$T_{it} = \alpha + \beta_1 T_{it-1} + \beta_2 I_{it-1} + \eta_i + \theta_t + \varepsilon_{it} \tag{3}$$

$$I_{it} = \alpha + \beta_1 I_{it-1} + \beta_2 T_{it-1} + \eta_i + \theta_t + \varepsilon_{it} \tag{4}$$

As in our previous models, i indexes each country and t indexes the time period. T is the top marginal income tax rate and I is income inequality. α and β are parameters to be estimated, η_i are country fixed effect parameters also to be estimated, θ_t are period fixed effect parameters to be estimated, and ε_{it} is the error term. We estimate these models using data at five-year intervals. We use the five-year mean value for the dependent and independent variables throughout this analysis.[23] While Granger causality tests are sensitive to the exclusion of additional causal variables, the country and period fixed effects mitigate this concern by controlling for time-invariant variables within the panel and for common shocks across our sample of 20 countries.

We use equation 3 in order to estimate whether income inequality Granger causes *Top Income Tax Rate* and equation 4 to estimate whether *Top Income Tax Rate* Granger causes income inequality. The results in columns 1 and 2 in Tables A-26 and A-27 demonstrate that we cannot reject the null hypothesis that the lagged effect of *Income Share of Top 1%* and

[23]The results of these tests are qualitatively similar when we use the first value of the five-year period for the dependent and independent variables, when we use the first value of the dependent variable and its lag and the mean value of the independent variable, and when we estimate the models using annual data with two-period lags.

of *Income Share of Top 0.01%* is equal to zero. As a result, we fail to find evidence that income inequality Granger causes variation in the top marginal income tax rate. By contrast, the estimated effect of the lagged values of *Top Income Tax Rate* on income share–presented in columns 3 and 4 are–statistically significant, suggesting that the *Top Income Tax Rate* Granger causes income inequality.

	Ordinary Least Squares, Five-Year Data			
	Top Income Tax Rate		**Income Share of Top 1%**	
	(1)	(2)	(3)	(4)
Top Income Tax Rate$_{t-1}$	0.863	0.691	-0.047	-0.023
	(0.043)	(0.061)	(0.007)	(0.007)
	0.000	0.000	0.000	0.003
Income Share of Top 1%$_{t-1}$	0.294	-0.196	0.672	0.674
	(0.311)	(0.365)	(0.050)	(0.041)
	0.359	0.598	0.000	0.000
Common Time Trends	Yes	No	Yes	No
Period Fixed Effects	No	Yes	No	Yes
Country Fixed Effects	Yes	Yes	Yes	Yes
R-squared	0.820	0.886	0.895	0.921
Number of Observations	290	290	289	289

Table A-26: *Granger Causality Analysis of Income Inequality and Income Taxation, 1900-2010: Income Share of Top 1% Measure of Inequality.* The table reports the results of pooled-cross-sectional OLS regressions. Specifications in columns 1-2 regress the variable *Top Income Tax Rate* on the variable *Top Income Tax Rate* lagged one period the variable *Income Share of Top 1%* lagged one period. Specifications in columns 3-4 regress the variable *Income Share of Top 1%* on the variable *Top Income Tax Rate* lagged one period and the variable *Income Share of Top 1%* lagged one period. Table reports robust standard errors clustered by country in parentheses and p-values. Specifications in columns 1 and 3 include common time trends and specifications in columns 2 and 4 include period fixed effects.

	Ordinary Least Squares, Five-Year Data			
	Top Income Tax Rate		**Income Share of Top 0.01%**	
	(1)	(2)	(3)	(4)
Top Income Tax Rate$_{t-1}$	0.845	0.677	-0.011	-0.003
	(0.050)	(0.068)	(0.003)	(0.001)
	0.000	0.000	0.001	0.030
Income Share of Top 0.01%$_{t-1}$	1.631	0.289	0.655	0.740
	(1.652)	(1.699)	(0.087)	(0.077)
	0.345	0.868	0.000	0.000
Common Time Trends	Yes	No	Yes	No
Period Fixed Effects	No	Yes	No	Yes
Country Fixed Effects	Yes	Yes	Yes	Yes
R-squared	0.775	0.877	0.872	0.927
Number of Observations	201	201	197	197

Table A-27: *Granger Causality Analysis of Income Inequality and Income Taxation, 1900-2010: Income Share of Top 0.01% Measure of Inequality.* The table reports the results of pooled-cross-sectional OLS regressions. Specifications in columns 1-2 regress the variable *Top Income Tax Rate* on the variable *Top Income Tax Rate* lagged one period the variable *Income Share of Top 0.01%* lagged one period. Specifications in columns 3-4 regress the variable *Income Share of Top 0.01%* on the variable *Top Income Tax Rate* lagged one period and the variable *Income Share of Top 0.01%* lagged one period. Table reports robust standard errors clustered by country in parentheses and p-values. Specifications in columns 1 and 3 include common time trends and specifications in columns 2 and 4 include period fixed effects.

Chapter 4: Taxing Inheritance

Most of data and statistical analyses discussed in this chapter can be found in Scheve and Stasavage (2012) and the online appendix and data archive for that article. Further analyses are discussed in this appendix.

Data

As discussed in Plagge, Scheve, and Stasavage (2011) and Scheve and Stasavage (2012), we have constructed a new dataset recording key features of inheritance taxation for 19 countries[24] from 1800 (or independence) to 2013.[25] The top marginal inheritance tax rate is the total tax rate applied to a single direct desendant who receives an inheritance in cash.[26] The resultant variable, *Top Inheritance Tax Rate*, is our dependent variable in the following analysis.

We measure wealth inequality with the variable *Wealth Share of Top 1%*, which is defined as the percentage of national wealth held by those in the top 1% of the national wealth distribution. These data are based on Ohlsson, Roine, and Waldström (2007) and Roine and Waldström (2014).[27] Because there is considerable missing data in the *Wealth Share of Top 1%* series, we interpolate these missing values before using this variable in our analysis. We do not, however, extrapolate beyond the bounds of the existing data and interpolate only for country-years in which data are available both before and after the missing observation. Table A-28 reports the descriptive statistics for these two variables.

[24]The countries included in the sample are Australia, Austria, Begium, Canada, Denmark, Finland, France, Germany, Ireland, Italy, Japan, the Netherlands, New Zealand, Norway, South Korea, Sweden, Switzerland, the United Kingdom, and the United States. Note that in contrast to the income tax data used throughout this book, we do not have inheritance tax data for Spain.

[25]Throughout the following analysis, however, we rely on data from 1816 to 2010 to match the availability of our mobilization data and to match our analysis in Scheve and Stasavage (2012).

[26]In addition to the replication archive for this book and the replication archive to Scheve and Stasavage (2012), the dataset. *Comparative Inheritance Taxation Database* is available at http://isps.yale.edu/research/data/d025#.ViUbJxCrQfN. This database includes a codebook with descriptions of the key features of each country's income taxation laws, documentation of our sources, and electronic copies of all relevant national legislation used to create the data employed in our study.

[27]The data for Ireland are from Turner (2010).

Variable	Observations	Mean	Standard Deviation
Top Inheritance Tax Rate	2,019	25.422	22.869
Wealth Share of Top 1%	321	27.032	12.704

Table A-28: *Descriptive Statistics, 1900-2010: Annual Data.* This includes all years between 1900-2010 for which our sample of 19 countries were independent countries. Descriptive statistics for *Wealth Share of Top 1%* are for the raw data and do not include interpolated values.

Methods

The majority of the econometric analyses associated with this chapter can be found in Scheve and Stasavage (2012). Here we present the results of Granger causality tests designed to provide some evidence on the direction of causality between *Top Inheritance Tax Rate* and *Wealth Share of Top 1%*. In order to perform Granger causality tests on the relationship between wealth inequality and top rates of inheritance taxation, we estimate the following models:

$$T_{it} = \alpha + \beta_1 T_{it-1} + \beta_2 I_{it-1} + \eta_i + \theta_t + \varepsilon_{it} \tag{5}$$

$$I_{it} = \alpha + \beta_1 I_{it-1} + \beta_2 T_{it-1} + \eta_i + \theta_t + \varepsilon_{it} \tag{6}$$

As in our previous models, i indexes each country and t indexes the time period. T is the top inheritance tax rate and I is wealth inequality. α and β are parameters to be estimated, η_i are country fixed effect parameters also to be estimated, θ_t are period fixed effect parameters to be estimated, and ε_{it} is the error term. We estimate these models using data at five-year intervals. We use the five-year mean value for the dependent and independent variables throughout this analysis.[28] While Granger causality tests are sensitive to the exclusion of additional causal variables, the country and period fixed effects mitigate this concern by controlling for time-invariant variables within the panel and for common shocks across our

[28]The results of these tests are qualitatively similar when we use the first value of the five-year period for the dependent and independent variables, when we use the first value of the dependent variable and its lag and the mean value of the independent variable, and when we estimate the models using annual data with two-period lags.

sample of 19 countries.

We used equation 5 in order to estimate whether *Wealth Share of Top 1%* Granger causes *Top Inheritance Tax Rate* and equation 6 to estimate whether *Top Inheritance Tax Rate* Granger causes *Wealth Share of Top 1%*.

Estimation Results

	Ordinary Least Squares, Five-Year Data			
	Top Inheritance Tax Rate		Wealth Share of Top 1%	
	(1)	(2)	(3)	(4)
Top Inheritance Tax Rate$_{t-1}$	0.927	0.834	-0.042	-0.008
	(0.038)	(0.033)	(0.019)	(0.017)
	0.000	0.000	0.044	0.658
Wealth Share of Top 1%$_{t-1}$	0.060	0.071	0.927	0.926
	(0.101)	(0.096)	(0.021)	(0.019)
	0.567	0.478	0.000	0.000
Common Time Trends	Yes	No	Yes	No
Period Fixed Effects	No	Yes	No	Yes
Country Fixed Effects	Yes	Yes	Yes	Yes
R-squared	0.919	0.931	0.978	0.983
Number of Observations	208	208	205	205

Table A-29: *Granger Causality Analysis of Wealth Inequality and Inheritance Taxation, 1900-2010.* The table reports the results of pooled-cross-sectional OLS regressions. Specifications in columns 1-2 regress the variable *Top Inheritance Tax Rate* on the variable *Top Inheritance Tax Rate* lagged one period the variable *Wealth Share of Top 1%* lagged one period. Specifications in columns 3-4 regress the variable *Wealth Share of Top 1%* on the variable *Top Inheritance Tax Rate* lagged one period and the variable *Wealth Share of Top 1%* lagged one period. Table reports robust standard errors clustered by country in parentheses and p-values. Specifications in columns 1 and 3 include common time trends and specifications in columns 2 and 4 include period fixed effects.

Chapter 5: Taxes on the Rich in Context

Throughout this appendix to Chapter 5 we examine the effect of mass mobilization for war and democracy on public spending.

Data

We measure *Public Spending* as the percent of GDP spent by the government on four categories of social programs: health, housing, pensions, and welfare. The data come from Lindert (2004) and are recorded every ten years from 1880 to 1930. The countries included in the sample also differ somewhat from those included in our original analysis, by excluding Germany, Ireland, South Korea, and Switzerland due to data availability. Consistent with the analysis throughout the book, we include only country-years for which the country in question was independent.

There are three independent variables used in this analysis: *War Mobilization*, *Universal Male Suffrage*, and *Competitive Elections* are defined as in the text and in the appendix to Chapter 3. Table A-30 reports the descriptive statistics for the data used in the quantitative analysis for this Chapter 5 appendix.

Variable	Observations	Mean	Standard Deviation
Public Spending	86	0.736	0.797
War Mobilization	86	0.043	0.126
Universal Male Suffrage	86	0.457	0.475
Competitive Elections	86	0.572	0.487

Table A-30: *Descriptive Statistics, 1880-1930.* This includes data reported every ten years from 1880 to 1930 for the 16 countries in our sample. We include only years in which a country is independent.

Methods

In this section we describe our econometric model for evaluating the effect of war mobilization and democracy on levels of public spending. Our empirical strategy is consistent with the main differences-in-differences analysis employed in the appendix for Chapter 3. However, because the data for the dependent variable are only available at ten-year intervals, we

estimate specifications with observations at ten-year intervals. The value of the dependent variable is *Public Spending* in the first year of the ten-year period and the value of each independent variable is the mean value for a given country-ten-year observation. Thus, each of our binary independent variables should be interpreted as the proportion of the ten-year period for which the value of the variable was a one.

Our estimating equation is:

$$S_{it} = \alpha + \beta_1 D_{it-1} + \beta_2 W_{it-1} + \eta_i + \theta_t + \varepsilon_{it} \tag{7}$$

Estimation Results

	Ordinary Least Squares, 5-year Data	
	(1)	(2)
War Mobilizaton$_{t-1}$	0.003	0.309
	(0.644)	(0.546)
	0.997	0.580
Universal Male Suffrage$_{t-1}$	0.107	
	(0.187)	
	0.574	
Competitive Elections$_{t-1}$		0.573
		(0.268)
		0.050
Period Fixed Effects	Yes	Yes
Country Fixed Effects	Yes	Yes
R-squared	0.823	0.849
Number of Observations	86	86

Table A-31: *War Mobilization, Democracy, and Public Spending, 1880-1930.* The table reports the results of pooled-cross-sectional OLS regressions of the variable *Public Spending* on the variable *War Mobilization* lagged one period and variables measuring democracy lagged one period. The specification in column 1 includes the *Universal Male Suffrage* measure of democracy and the specification in column 2 includes the *Competitive Elections* measure of democracy. Both specifications include country and period fixed effects and report robust standard errors clustered by country in parentheses and p-values.

Chapter 6: The Conscription of Wealth

This section describes the construction of Figure 6.1. We examine all parliamentary debates about the income tax for the years 1909, 1914, 1915, 1916, 1917, and 1918. 1909 was selected as a pre-war year because it is at that time that the People's Budget, which made the U.K.'s income tax progressive, was adopted. For each year, we searched digitized editions of the House of Commons and Lords Hansard, which is the Official Report of debates in Parliament.[29] We searched on the key words "income tax" and read all debates in which the phrase appeared for each year. We then included any speech that makes an argument for or against an income tax, for or against a higher or lower rate of income tax, or which considers another significant structural change in the tax, such as how it is collected. This process identified 428 unique parliamentary speeches about income tax policy over the six years. For each speech, we measured whether the main orientation of the argument was for or against the income tax or higher rates on the income tax and whether the speaker made an equal treatment, ability to pay, or compensatory fairness argument.

The coding definitions were:

1. Equal Treatment—Responses specify a preference for the government treating citizens the same. The orientation of the speech has to be against the income tax or higher rates.

2. Ability to Pay—Responses specify that the rich are better able to afford or will be less harmed by a tax increase than the poor. This could include "equal sacrifice" arguments if the interpretation of equal sacrifice is that taxing the rich more is justified because the utility loss will be equal across the rich and the poor. The orientation of the speech had to be for the income tax or higher rates.

3. Compensatory—Responses that suggest a tax policy is justified because of other inequalities, advantages, or sacrifices due to state policy. This could include reference to the burden caused by other taxes levied by the state. It could include statements about

[29] http://hansard.millbanksystems.com/

the conscription of labor in the war effort. It could also simply include general ways in which the state facilitates the incomes of the wealthy. The orientation of the speech had to be for the income tax or higher rates.

All other arguments such as economic efficiency, bureaucratic efficiency, prudence, or other fairness arguments were coded in a residual category. If more than one of the three fairness arguments was made, we coded it according to which argument was predominant. The coding was done independently by three undergraduate research assistants. The overall inter-coder reliability was low. However, the results that we discuss in the text for the changes in fairness arguments before and after World War I are evident for each of the three individual codings. For presentation purposes, we combined the codings by assigning each speech to a category if two or three coders agreed on the coding. For the few speeches for which there was no agreement, we used multiple imputation.

The imputation model included an indicator variable for whether or not the speech was made before or after the United Kingdom entered World War I, three variables that identified the codings by each undergraduate for whether the orientation of the speech was for or against higher rates of income taxation, and three variables that coded for each undergraduate whether the speech made an Equal Treatment, Ability to Pay, Compensatory, or other argument. Additionally, the imputation model included combined orientation and type of argument variables, which were assigned values if two or more coders agreed on the codings. There were 29 of 428 values missing for the orientation variable and 25 of 428 missing for the type of argument variable. We imputed missing values using the expectation-maximization with bootstrapping algorithm described in Honaker, King, and Blackwell (2011) and implemented it with the Amelia II R package. Ten imputations were generated and then used to estimate the means reported in Figure 6.1.[30]

[30]See King, Honaker, Joseph, and Scheve (2001) for a description of multiple imputation estimates.

Chapter 7: The Role of War Technology

All data and statistical analyses discussed in this chapter can be found in Onorato, Scheve, and Stasavage (2014) and the online appendix and data archive for that article.

Chapter 8: Why Taxes on the Rich Declined

In this appendix to Chapter 8, we present evidence that supplements the discussion in the text evaluating a number of hypotheses for changes in top tax rates in the second half of the 20th century.

Data

We continue to use the variables *Top Income Tax Rate* and *Top Inheritance Tax Rate* as described in the text and in the appendix sections for Chapters 3 and 4. We also use two dependent variables derived from *Top Income Tax Rate*. The first, Δ *Top Income Tax Rate*, is the change in value of *Top Income Tax Rate* from the previous period to the observation period. The second, *Top Income Tax Rate–Cut*, is a binary variable that is set equal to one if Δ *Top Income Tax Rate* is negative and zero otherwise.

We supplement these measures of statutory tax rates with *Top Effective Income Tax Rate*, which is the income tax rate after credits and deductions for individuals in the top 0.01% of the national income distribution.[31] We have constructed this variable for six countries: Canada, France, Netherlands, Sweden, United Kingom, and the United States. The principal source for each country comes from contributions to Atkinson and Piketty (2007, 2010).[32] Because there are missing data in the *Top Effective Income Tax Rate* series, we interpolate these missing values before using this variable in our analysis. We do not, however, extrapolate beyond the bounds of the existing data and interpolate only for country-years in which data are available both before and after missing observations.

In order to examine the effect of economic growth on top tax rates, we use two measures derived from *Growth Rate*. *Growth Rate* is measured as the year-over-year change in the value of real *GDP*[33] as a proportion of the previous year's real *GDP*. Δ *Growth Rate* is the

[31] Top 0.05% for the Netherlands and the United Kingdom.

[32] Canada (Saez and Veall 2007, 301-302), France (Piketty 2001, 636-637), the Netherlands (Salverda and Atkinson 2007, 455-456), Sweden (Roine and Waldström 2010, 323; Söderberg 1996), the United Kingdom (Atkinson 2007, 83-114), and the United States (Piketty and Saez 2007, 171-173).

[33] As in previous chapters, GDP data are from the Maddison Project (Maddison 2003; Bolt and van Zanden 2014).

change in *Growth Rate* from the previous period to the observation period. *Recession* is a binary variable that is set equal to one if *Growth Rate* is negative and zero otherwise.

We measure financial globalization using *Capital Openness*, which measures legal restrictions on the movement of capital in or out of the country. The underlying data comes from the International Monetary Fund's annual report on exchange restrictions (Quinn 1997). This index ranges from minimum of 0 to a maximum of 100. We measure country size by real *GDP* and by *Population*, the data for which are from the Maddison Project (Maddison 2003; Bolt and van Zanden 2014).

Finally, the variables *Left Executive* and real *GDP per capita* are defined as in the text and in the appendix to Chapter 3. The summary statistics for the variables used in this chapter are reported in Table A-32.

Variable	**Observations**	**Mean**	**Standard Deviation**
Top Income Tax Rate	1,212	52.450	18.288
Top Income Tax Rate–Cut	1,211	0.183	0.386
Δ *Top Income Tax Rate*	1,211	-0.451	3.481
Top Inheritance Tax Rate	1,159	32.759	23.264
Top Effective Income Tax Rate	203	51.759	14.878
Growth Rate	1,219	0.035	0.031
Δ *Growth Rate*	1,218	-0.001	0.033
Recession	1,219	0.095	0.294
Capital Openness	1,216	73.684	25.771
GDP in billions	1,220	598.639	1,215.532
Population in thousands	1,220	38,111.82	53,751.28
GDP per capita	1,220	13,784.89	6352.295
Left Executive	1,220	0.333	0.462

Table A-32: *Descriptive Statistics, 1950-2010: Annual Data.* This includes all years between 1950 and 2010 for which our sample of 20 countries were independent countries.

Growth Analysis

In this section, we provide results for various analyses of the potential impact of low growth on changes in top tax rates discussed in the Chapter 8 text.

		Proportion of Years with Cut to Top Income Tax Rate		**Mean Change in Top Income Tax Rate**	
Three-Year Recession History	Observations	Mean	Standard Deviation	Mean	Standard Deviation
No recession in years t, t-1, or t-2	527	0.218	0.413	-0.633	2.956
Recession in year t	96	0.188	0.392	-0.637	3.497
Recession in years t & t-1	27	0.111	0.320	-0.446	2.533
Recession in years t, t-1, & t-2	5	0	0	0	0

Table A-33: *Recession History and Top Income Tax Rates, 1974-2010.* The table reports the proportion of years in which states cut *Top Income Tax Rate* and the mean change in *Top Income Tax Rate* for various three-year recession histories.

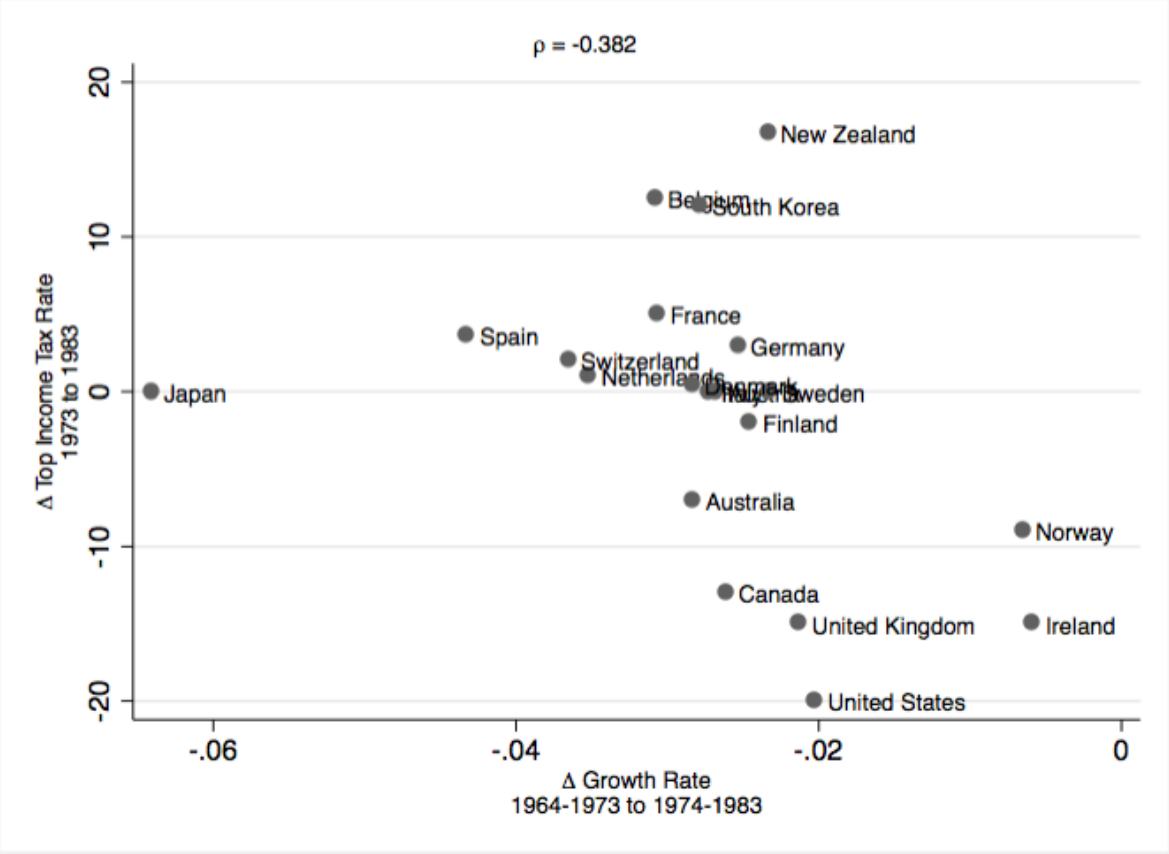

Figure A-1: *Growth and Income Taxation.* The figure displays the relationship between the difference in *Top Income Tax Rate* in 1973 and 1983 and the difference in the average *Growth Rate* in the period 1964-1973 and the period 1974-1983. Dropping Japan as a possible outlier results in a correlation of -0.508.

Globalization Analysis

In this section we further evaluate the relationship between economic interdependence and top tax rates. Chapter 3 includes an analysis using an international trade openness measure of interdependence. The results indicated if anything a positive relationship between trade openness and taxes. Consequently, trade is unlikely to explain the decline in top rates of income and inheritance taxation in the late 20th century. Here we focus on capital openness.

Mean Top Income Tax Rate						
	Low Capital Mobility			**High Capital Mobility**		
Year	Mean	Standard Deviation	Observations	Mean	Standard Deviation	Observations
1950	56.844	11.147	8	69.205	24.218	11
1960	58.478	17.120	9	62.759	21.743	11
1970	64.745	13.424	11	59.144	23.235	9
1980	60.357	8.985	7	57.254	16.436	13
1990	51.400	3.130	5	40.601	13.737	15
2000	40.500	11.150	4	40.178	11.852	16
2010	38.638	11.274	4	36.534	10.794	16

Table A-34: *Mean Top Income Tax Rate by Year and Relative Capital Openness, 1950-2010: Mean Level of Captal Openess Threshold.* The table reports the average *Top Income Tax Rate* for countries with *Capital Openness* below the annual mean and for countries with *Capital Openness* above the annual mean in various years.

The following tables use the same differences-in-differences approach that we have adopted elsewhere in this book. Our estimating equations are:

$$T_{it} = \alpha + \beta_1 K_{it-1} + \gamma \mathbf{X}_{it-1} + \eta_i + \theta_t + \varepsilon_{it} \tag{8}$$

$$T_{it} = \alpha + \rho T_{it-1} + \beta_1 K_{it-1} + \gamma \mathbf{X}_{it-1} + \theta_t + \varepsilon_{it} \tag{9}$$

As in our previous models, i indexes each country and t indexes the time period. T is the top marginal income tax rate, K is capital openness, and X is a vector of control variables and is excluded in some specifications. α, β, and γ are parameters to be estimated, η_i are country fixed effect parameters also to be estimated, θ_t are period fixed effect parameters to be estimated, and ε_{it} is the error term. We estimate these models for country-five-year data.

	Ordinary Least Squares, 5-year Data					
	Country Fixed Effects			Lagged Dependent Variable		
	(1)	(2)	(3)	(4)	(5)	(6)
Top Income Tax Rate$_{t-1}$				0.854	0.846	0.696
				(0.030)	(0.031)	(0.065)
				0.000	0.000	0.000
Capital Openness$_{t-1}$	0.046	0.047	0.005	-0.016	0.005	-0.010
	(0.141)	(0.132)	(0.070)	(0.025)	(0.029)	(0.036)
	0.748	0.728	0.942	0.520	0.862	0.770
Left Executive$_{t-1}$		4.692	1.134		-0.115	1.201
		(2.797)	(1.967)		(1.070)	(1.305)
		0.110	0.571		0.914	0.357
GDP per capita$_{t-1}$		-0.001	-0.001		-0.000	-0.001
		(0.001)	(0.001)		(0.000)	(0.000)
		0.413	0.541		0.267	0.137
Period Fixed Effects	Yes	Yes	Yes	Yes	Yes	Yes
Country-Specific Time Trends	No	No	Yes	No	No	Yes
Country Fixed Effects	Yes	Yes	Yes	No	No	No
R-squared	0.749	0.758	0.898	0.861	0.862	0.880
Number of Observations	237	237	237	235	235	235

Table A-35: *Capital Openness and Income Taxation, 1950-2010.* The table reports the results of pooled-cross-sectional OLS regressions of the variable *Top Income Tax Rate* on the variable *Capital Openness* lagged one period. The specifications in columns 1-3 include country fixed effects and report robust standard errors clustered by country in parentheses and p-values. The specifications in columns 4-6 include a lagged dependent variable and report panel-corrected standard errors in parentheses and p-values. Specifications in columns 2, 3, 5, and 6 include control variables for lagged *Left Executive* and lagged real *GDP per capita*. All specifications include period fixed effects and the specifications in columns 3 and 6 include country-specific time trends. We exclude *War Mobilization* and *Universal Male Suffrage* from these models as there is little variation in these variables over this time period.

	Ordinary Least Squares, 5-year Data					
	Country Fixed Effects			Lagged Dependent Variable		
	(1)	(2)	(3)	(4)	(5)	(6)
Top Inheritance Tax Rate$_{t-1}$				0.893	0.903	0.740
				(0.031)	(0.032)	(0.080)
				0.000	0.000	0.000
Capital Openness$_{t-1}$	0.034	0.025	0.014	-0.005	0.008	-0.003
	(0.143)	(0.149)	(0.125)	(0.027)	(0.030)	(0.035)
	0.812	0.867	0.912	0.853	0.792	0.936
Left Executive$_{t-1}$		2.021	2.439		3.036	5.185
		(3.852)	(2.967)		(1.424)	(1.616)
		0.606	0.422		0.033	0.001
GDP per capita$_{t-1}$		0.001	-0.001		-0.000	0.000
		(0.001)	(0.001)		(0.000)	(0.001)
		0.591	0.307		0.881	0.461
Period Fixed Effects	Yes	Yes	Yes	Yes	Yes	Yes
Country-Specific Time Trends	No	No	Yes	No	No	Yes
Country Fixed Effects	Yes	Yes	Yes	No	No	No
R-squared	0.758	0.760	0.895	0.851	0.853	0.869
Number of Observations	227	227	227	227	227	227

Table A-36: *Capital Openness and Inheritance Taxation, 1950-2010.* The table reports the results of pooled-cross-sectional OLS regressions of the variable *Top Inheritance Tax Rate* on the variable *Capital Openness* lagged one period. The specifications in columns 1-3 include country fixed effects and report robust standard errors clustered by country in parentheses and p-values. The specifications in columns 4-6 include a lagged dependent variable and report panel-corrected standard errors in parentheses and p-values. Specifications in columns 2, 3, 5, and 6 include control variables for lagged *Left Executive* and lagged real *GDP per capita*. All specifications include period fixed effects and the specifications in columns 3 and 6 include country-specific time trends. We exclude *War Mobilization* and *Universal Male Suffrage* from these models as there is little variation in these variables over this time period.

	Ordinary Least Squares, 5-year Data					
	Country Fixed Effects			Lagged Dependent Variable		
	(1)	(2)	(3)	(4)	(5)	(6)
Top Effective Income Tax Rate$_{t-1}$				0.890	0.910	0.695
				(0.081)	(0.098)	(0.118)
				0.000	0.000	0.000
Capital Openness$_{t-1}$	-0.036	0.057	-0.078	-0.092	-0.107	-0.039
	(0.195)	(0.163)	(0.049)	(0.052)	(0.056)	(0.044)
	0.859	0.739	0.175	0.078	0.057	0.381
Left Executive$_{t-1}$		-0.874	-2.819		-0.836	-3.205
		(2.284)	(1.456)		(2.880)	(2.092)
		0.718	0.111		0.772	0.126
GDP per capita$_{t-1}$		0.007	-0.001		0.000	0.003
		(0.003)	(0.002)		(0.001)	(0.001)
		0.086	0.734		0.477	0.020
Period Fixed Effects	Yes	Yes	Yes	Yes	Yes	Yes
Country-Specific Time Trends	No	No	Yes	No	No	Yes
Country Fixed Effects	Yes	Yes	Yes	No	No	No
R-squared	0.777	0.834	0.963	0.896	0.897	0.924
Number of Observations	55	55	55	54	54	54

Table A-37: *Capital Openness and Effective Income Taxation, 1950-2010.* The table reports the results of pooled-cross-sectional OLS regressions of the variable *Top Effective Income Tax Rate* on the variable *Capital Openness* lagged one period. The specifications in columns 1-3 include country fixed effects and report robust standard errors clustered by country in parentheses and p-values. The specifications in columns 4-6 include a lagged dependent variable and report panel-corrected standard errors in parentheses and p-values. Specifications in columns 2, 3, 5, and 6 include control variables for lagged *Left Executive* and lagged real *GDP per capita*. All specifications include period fixed effects and the specifications in columns 3 and 6 include country-specific time trends. We exclude *War Mobilization* and *Universal Male Suffrage* from these models as there is little variation in these variables over this time period.

	Correlation between Country Size and Top Income Tax Rate	
Year	*GDP*	*Population*
1950	0.424	0.406
1960	0.442	0.419
1970	0.256	0.300
1980	0.319	0.377
1990	-0.132	-0.053
2000	0.054	0.086
2010	0.057	0.090

Table A-38: *Correlation Between Relative Size and Income Taxation, 1950-2010.* The table reports the partial correlation by year between relative country size as measured by *GDP* and *Population* and *Top Income Tax Rate*.

The following table presents the results of Pesaran (2004) tests for cross-sectional dependence. In order to perform these tests for cross-sectional dependence in *Top Income Tax Rate* and whether such dependence has changed over time, we estimate equation 8—without additional controls or country-specific time-trends—on temporally-restricted subsets of the data. After estimating each model we examine the residuals for cross-sectional dependence using the test proposed by Pesaran (2004), the results of which are presented in the tables below.

Time Period	**Pesaran's CD**	**P-Value**	**Absolute Correlation**
1951-2010	-1.976	0.048	0.518
1951-1979	-1.444	0.149	0.475
1980-2010	-0.546	0.585	0.521

Table A-39: *Pesaran Test of Cross-Sectional Dependence, 1950-2010.* The table reports the results of Pesaran (2004) tests of cross-sectional dependence on various subsets of data. These tests were performed following the estimation of equation 8.

Chapter 9: What Future for Taxing the Rich?

Chapter 9 and Figure 9.1 reports evidence on contemporary tax policy preferences in the United States. The survey discussed was conducted in the summer of 2014 by YouGov. Respondents from their internet panel were subsequently matched down to a sample of 2,250 based on gender, age, race, education, party identification, ideology, and political interest. The matched set of respondents was then weighted to the marginal distributions of sociodemographics in the country's total population. Weights were applied to remove remaining imbalances after the matching procedure. Table A-40 shows the distributions of the sociodemographics in the population, the weighted sample, and the raw sample. See Ballard-Rosa, Martin, and Scheve (2015) for further information about the survey.

- Interview period: June 2014
- Sample size: 2,250
- Source of data on population socio-demographics: 2010 American Community Survey, the 2010 Current Population survey and the 2007 Pew Religious Life Survey
- Weights range from 0.143 to 7.039, with a mean of 1 and a standard deviation of 1.028.

Group	Population	Raw Sample	Weighted Sample
Age: 18-34	30.5	24.7	27.5
Age: 35-54	36.6	33.8	32.3
Age: 55+	32.9	41.6	40.3
Gender: Male	48.2	43.1	48.3
Gender: Female	51.8	56.9	51.7
Education: HS or less	45.0	37.5	42.8
Education: Some College	30.0	32.3	31.7
Education: College Graduate	16.3	19.0	16.7
Education: Postgraduate	8.8	11.2	8.9

Table A-40: *Distribution of Socio-demographics in Summer 2014 YouGov Survey Sample and the Population.* The table shows the distributions of socio-demographics in the population, the weighted sample, and the raw sample.

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