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Supplementary Materials to the article "Democracy of "Taxation-Redistribution": long-anticipated consequences"

Data and Summary Statistics

General Description

Sample: the countries experienced taxpayers democracy (competitive elections with voters' qualification: Austria, Belgium, Canada, Denmark, France, Germany, Italy, Japan, Netherlands, Sweden, Switzerland, UK, USA); Observation period: 1791-2011 (unbalanced). Observation period provides opportunity to compare institutions of taxpayers' democracy with the universal suffrage democracy.

Missed values (data) Imputed Data – Dataset the Regression outcomes basically the same

Government finances variables: Budget Deficit; Inflation (CPI - consumer price Index); *Public debt* omitted because lack of comparable data; national statistics; Cardoso, Lains, 2013; Mitchell, 2007; GDP per capita Growth Rate: Barro, Ursua Macroeconomic Data 2010 http://rbarro.com/data-sets/ or http://scholar.harvard.edu/barro/publications/barro-ursua-macroeconomic-data

Universal Suffrage (ordered cathegorical variable): "-1" qualified voters only; "0" male suffrage; "1" universal suffrage: Bartolini, 2007; Utter, Strickland, 2008.

Wars: Great wars dummy (World Wars and Civil War for the USA; 1919, 1946 years included), local wars dummy (binary variable).

Religion: Protestant or Catholic (binary variable). We country as protestant or catholic based on predominant culture[1] (number of sources on National History).

Government railways built and run or other governmental permanent engagement in infrastructure project (binary variable); respective companies' web-sites ("history" pages); .

Electoral Statistics, Leftist electoral support measures electoral share for the parties, which promote ideology of "cradle to grave" care. Elections to Parliament Lower Chamber are considered. "Parties and Elections in Europe" http://www.parties-and-elections.de/ ;

- Mackie T.T., Rose R. "The International Almanac of Electoral History", CQ, 1991
- A. Tanin-Lvov, "Elections around the World: Encyclopedic Reference Book," (Moscow: "Rosspen," 2001; in Russian);
- Official vote counts for federal elections from the official sources compiled by the Office of the Clerk, US House of Representatives: http://clerk.house.gov (http://clerk.house.gov/member_info/electionInfo/index.aspx)
- Data from national electoral committees (since 1990-ties).

Political system variables: Federation dummy, Rule of Law Democracy measure defined in Yanovskiy and Shulgin (2013), Power Rotations number (Tanin-Lvov, 2001; "Parties and Elections in Europe" web-site); Public Radio and TV (binary variable, "1" if Public TV or Radio historically enjoys monopoly in political news and events TV/radio coverage). (*Hallin and Mancini, 2004*; National Public TV & Radio web-sites; http://www.journalism.org/http://www.journalism.org/)

The legal system origin

- University of Ottawa, World Legal Systems http://www.juriglobe.ca/eng/index.php ;
- LaPorta, Rafael, Florencio López-de-Silanes, Cristian Pop-Eleches, and Andrei Shleifer. 2004. Judicial Checks and Balances. Journal of Political Economy 112, http://scholar.harvard.edu/shleifer/publications

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[1] Austria, Belgium, marked as Catholic; Canada, Denmark - Protestant; France - catholic; Germany - Protestant; Italy - Catholic; Japan nor Catholic, not Protestant, Netherlands, Sweden, Switzerland, UK, USA – Protestant.

Labor Statistics:

Bureau of Labor Statistics, Division of International Labor Comparisons "International Comparison of Annual Labor Force Statistics 1970-2011" June, 7, 2012 http://www.bls.gov/fls/flscomparelf/lfcompendium.xls

Olivetti Claudia "The Female labor force and Long-Run Development: the American Experience in comparative perspective" NBER Working Paper 19131, June 2013 http://www.nber.org/papers/w19131

National Accounts, Government Spending, Deficit

GDP: Mitchell (Mitchell, 2007: *Mitchell R*. International Historical Statistics: Europe 1750—2005. L.: Palgrave Macmillan, 2007 6th Edition., etc), national statistics: indicators of economic development of the World Bank (WDI, WB); national statistical agencies (mainly for the US).

- Mitchell (2007),
- US federal budget historical tables,
- US census historical data http://www.census.gov/compendia/statab/past_years.html
- German national statistics https://www.destatis.de/EN/FactsFigures/NationalEconomyEnvironment/NationalAccounts/NationalAccounts.html
- Sutch Richard, Carter Susan B., ed., *Historical Statistics of the United States*, Millennial Edition online http://hsus.cambridge.org/HSUSWeb/toc/hsusHome.do
- World Development Indicators of World Bank

Central Government Budget Deficit (see Table below)

Country	Central Government Budget Deficit (Balance)
USA	US Budget Historical Tables; US Cambridge Historical Statistics; counted on Mitchell B.R. International Historical Statistics The Americas, 1750-2005 Table Ea10-23 - Total government revenue and expenditure, by level: 1902–1995
UK	B.R. Mitchell (2007), British Historical Statistics; Clark Tom, Dilnot Andrew, IFS briefing notes# 26, WB, WDI PESA data: https://www.gov.uk/government/statistics/public-expenditure-statistical-analyses-2013
France	B.R. Mitchell (2007); INSEE (National Institute of Statistics and Economic Studies, France) http://www.bdm.insee.fr
Germany	Mitchell (2007), Statistisches Bundesamt, Wiesbaden 2013 Stand: 10.02.2013 - 22:33:03
Canada	calculations: Mitchell B.R. International Historical Statistics Europe 1750-2005 6th edition; WDI WB data; GNP (current prices) till 1925 missed values assessed by comparision acceptable data (of GNP current) and GNP fixed prices series
Japan	calculations: Mitchell B.R. (2007); WB - WDI
Austria	Cardoso J.L., Lains P. (ed.) Paying for the liberal state. The Rise of Public Finance in Nineteenth Century Europe, Cambridge University Press, 2010; Pammer M chapter "Public Finance in Austria-Hungary 1820-1913"), fig 5_4; Austria General Government Revenue and Expenditure, annual figures http://www.statistik.at/web_en/statistics/Public_finance_taxes/public_finance/expenditure_and_revenue_of_government/index.html
Belgium	calculations: Mitchell B.R. (2007); WB - WDI
Denmark	calculations: Mitchell B.R. (2007); WB - WDI
Italy	1862-1913: Paying for the Liberal State. The Rise of Public Finance in Nineteenth Century Europe; 1914-1923; 1945-1959 Mitchell; 1960-1994 - Mitchell & WDI WB; 1995 - WDI WB

Netherlands	calculations: Mitchell B.R. (2007); WB - WDI GDP 1845-99 values assessment made on basis of 1900 value and growth rate (1845-1899) calculated on basis of Angus Maddison's times series in 1990 historical dollars
Sweden	calculations: Mitchell B.R. (2007); WB - WDI Mitchell B.R. International Historical Statistics Europe 1750-2005 6th edition
Switzerland	calculations: Mitchell B.R. (2007); WB - WDI

Summary Statistics

Variable	N	Mean	Minimum	Maximum	Std. Dev.
Budget Deficit (Central Govt)	1730	1.84396	-47.1151	17.6596	5.63659
Inflation (CPI) $((CPI_{t+1} / CPI_t)*100 - 100)$	1866	4.14541	-88.7427	516.114	18.2839
Universal Suffrage	2008	0.230578	-1	1	0.851226
Leftists	2047	20.2092	0	73.5000	19.0159
USA dummy	2141	0.103286	0	1	0.304404
Civil Law	2135	0.725995	0	1	0.446116
Religion	2135	0.514286	0	1	0.499913
Japan dummy	2141	0.0594848	0	1	0.236585
Govt Railway	2136	0.640918	0	1	0.479844
Public Radio or TV	2137	0.465606	0	1	0.498932
Power Rotation	2141	0.053	0	1	0.224
Neutral	2135	0. 363466	0	1	0.4811101
Great Wars	2141	0.0527791	0	1	0.223644
Local Wars	2141	0.0583839	0	1	0.234523
GDP, mln 1990 Historical dollars	1945	359138	2638.00	9266360	898832
GDP per capita growth, %	2042	1.906	-66.06	67.18	5.651
Male Labor Force Participation	500	75.34	58.7	99.4	7.61

Robustness check. Addressing the missed values problem

Description of the procedure from the official R package website.

Multiple imputation involves imputing m values for each missing cell in your data matrix and creating m "completed" data sets. (Across these completed data sets, the observed values are the same, but the missing values are filled in with different imputations that reflect our uncertainty about the missing data.) After imputation, Amelia will then save the m data sets. You then apply whatever statistical method you would have used if there had been no missing values to each of the m data sets, and use a simple procedure to combine the results. Under normal circumstances, you only need to impute once and can then analyze the m imputed data sets as many times and for as many purposes as you wish. The advantage of Amelia is that it combines the comparative speed and ease-of-use of our algorithm with the power of multiple imputation, to let you focus on your substantive research questions rather than spending time developing complex application-specific models for nonresponse in each new data set. Unless the rate of missingness is exceptionally high, $m=5$ (the program default) will usually be adequate. Other methods of dealing with missing data, such as listwise deletion, mean substitution, or single imputation, are in common circumstances biased, inefficient, or both. When multiple imputation works properly, it fills in data in such a way as to not change any relationships in the data but which enables the inclusion of all the observed data in the partially missing rows.

http://gking.harvard.edu/amelia

A1 Wars and Universal Suffrage are bad for budget. Data set contains imputed data

```
==================================================================

                            Dependent variable:
----------------------------------------------------------------
                            Budget Deficit to GDP
                       OLS        OLS        FE         FE
                       (1)        (2)        (3)        (4)
----------------------------------------------------------------
GDPpc percentage change          -0.048*               -0.052**
                                 (0.026)               (0.026)

Great War              17.385*** 17.180*** 17.087*** 16.866***
                       (1.280)   (1.238)   (1.255)   (1.213)

Local War              1.103**   1.173***  1.188***  1.266***
                       (0.444)   (0.450)   (0.448)   (0.455)

Japan                  -6.721*** -6.670***
                       (0.489)   (0.494)

Religion               0.015     0.004
                       (0.284)   (0.284)

Civil Law              1.557***  1.549***
```

```
                              (0.288)    (0.286)

GDP                          0.388**    0.399**   0.531***  0.544***
                             (0.155)    (0.158)   (0.164)   (0.168)


Universal Suffrage           0.837***   0.872***  0.826***  0.862***
                             (0.134)    (0.137)   (0.134)   (0.136)


Constant                      0.309      0.404
                             (0.366)    (0.364)


----------------------------------------------------------------
Observations                  2141       2141      2141      2141
Adjusted R2                   0.392      0.401     0.363     0.365
================================================================
Note:                                    *p<0.1; **p<0.05; ***p<0.01
                             Robust standard errors in parentheses
```

A5 Left Parties increase Deficit more than Depression. Data set contains imputed data

```
================================================================
                                   Dependent variable:
                        ----------------------------------------
                               Budget Deficit to GDP
                           OLS        OLS        FE        FE
                           (1)        (2)        (3)       (4)
----------------------------------------------------------------
GDPpc percentage change               -0.051*              -0.051*
                                      (0.026)              (0.026)


Leftists                   0.059***   0.061***  0.050***  0.051***
                           (0.007)    (0.007)   (0.007)   (0.007)


GDP                        0.426***   0.438***  0.503***  0.515***
                           (0.141)    (0.145)   (0.160)   (0.165)


Great Wars                17.185***  16.974*** 17.048*** 16.830***
                           (1.243)    (1.202)   (1.231)   (1.190)


Local Wars                 1.236***   1.317***  1.345***  1.428***
                           (0.445)    (0.452)   (0.447)   (0.454)


Japan                     -6.264***  -6.202***
                           (0.450)    (0.457)


USA                       -0.435     -0.411
                           (0.361)    (0.361)


Constant                   0.429**    0.492**
                           (0.196)    (0.197)


----------------------------------------------------------------
Observations                2141       2141      2141      2141
Adjusted R2                 0.382      0.392     0.377     0.380
```

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================================================================

A7 Left parties lasting support negatively correlates with male Labor Force
participation. Data set contains imputed data

==========================================================
                         Dependent variable:
               ----------------------------------------------
                     Male Labor Force Participation
                   OLS        OLS        OLS        OLS
                   (1)        (2)        (3)        (4)
----------------------------------------------------------
Leftists         -0.345***
                  (0.048)

Leftists (-20)               -0.032
                             (0.071)

Leftists (-30)                          -0.400***
                                         (0.043)

Leftists (-40)                                     -0.425***
                                                    (0.043)

GDP               0.930**    0.891*     0.646      0.320
                  (0.423)    (0.472)    (0.433)    (0.436)

Local Wars        0.404      2.311**    -0.712     -0.193
                  (0.783)    (1.047)    (0.656)    (0.651)

Japan             5.126***   6.101***   4.904***   4.142***
                  (0.865)    (1.018)    (0.766)    (0.732)

USA              -6.793***   0.783     -6.265***  -5.852***
                  (1.831)    (1.207)    (1.589)    (1.557)

Constant         91.521***  83.478***  91.124***  90.655***
                  (1.984)    (0.907)    (1.685)    (1.633)

----------------------------------------------------------
Observations      2141       2141       2141       2141
Adjusted R2       0.128      0.038      0.264      0.276
==========================================================
Note:                        *p<0.1; **p<0.05; ***p<0.01

                   Robust standard errors in parentheses
```

Table B1. Wars and Universal Suffrage are bad for budget. USA Universal Suffrage = "0" by 1964 (1921-1963 marked "0" instead of "1" because of censuses in the Dixie states)

	OLS	OLS	FE	FE
	(1)	(2)	(4)	(5)
Dependent variable: Budget deficit to GDP				
GDP per cap. Growth rate, %	0.031 (0.056)	-0.029 (0.056)	0.020 (0.020)	-0.036* (0.022)
GDP		0.408* (0.221)		0.695*** (0.145)
Great Wars	17.470*** (1.908)	16.71*** (2.158)	17.436*** (0.571)	16.727*** (0.599)
Local Wars	1.098** (0.394)	1.118** (0.392)	1.351** (0.434)	1.288** (0.416)
Japan dummy	-6.294*** (0.627)	-6.395*** (0.740)		
Civil Law	1.292*** (0.204)	1.247*** (0.213)		
Neutral	0.520** (0.188)		0.825** (0.320)	
Religion		-0.102 (0.246)		
Universal Suffrage	0.790*** (0.121)	0.661*** (0.120)	0.865*** (0.127)	0.563*** (0.121)
Const	0.198 (0.173)	0.364** (0.172)	0.557** (0.176)	0.708*** (0.121)
Number of obs.	1669	1518	1669	1518
Adjusted R-squared	0.421	0.404	0.342	0.318

All standard errors are robust.   *** $p<0.01$, ** $p<0.05$, * $p<0.1$

Comparison of Table 1 (the Article) and Tables A1, B1; Tables 5 (The Article) and A5; Tables 7 (The Article) and A7 shows: the different datasets for the same regressions not caused any considerable change in outcomes.

Universal Conscription as probable precondition for Universal (Male) Suffrage

Female Suffrage	Universal Male Suffrage	Universal Conscription	Country
1918 (1929)	1918	1916-20; 1939-	United Kingdom
1919 (1964)	1870—1890 (1964)	1862; 1917; 1940-	USA
1945	(1793) 1870	1793 Decree Establishing the "Levée en Masse"	France
1920 (1940, Quebec)	1919	1917	Canada
1945-46	1882	1861 (Modern Italy, apart Napoleonic Decree)	Italy
1919	1917	1811	Netherlands
1921 (1948)	1919 (plural vote system benefited the taxpayers repealed[2])	1913	Belgium
1921	1907	1901	Sweden
1971	1848	1871 (1874)	Switzerland
1919	1871 - 25 years old male (1919 – 20 years old male)	1814	Germany (Prussia)

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[2] See for ex. http://www.ibzdgip.fgov.be/result/fr/doc.php (in French)

1793 – The French Constitution of 1793 was approved by a referendum in the summer of 1793 which held via universal male suffrage[3]

Switzerland adopted universal conscription by 1874, but never applied it actually, AND delays of the Universal Suffrage till 1971 not caused any detectable political troubles.

In most cases Universal conscription was introduced by national Governments (with few exemptions – Netherlands and Italy by Napoleon Bonaparte).

So, universal conscription could fuel demands for universal (male) suffrage (with Switzerland exemption; as it pretty hard to deny franchise for person contributing so much in public affair). Causal relation is especially clear for Sweden, where Social Democrats promoted their claim for universal suffrage through campaign "one man – one vote – one rifle" ("En man, en röst, ett gevär!").

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[3]   http://www.assemblee-nationale.fr/histoire/suffrage_universel/suffrage-1789.asp#1793