**Web Appendix**

Web Appendix 1: Change in GDP and government health spending across country-specific recession and austerity period

Web Appendix 2: Summary statistics

Web Appendix 3: Logistic regression of healthcare austerity controlling for economic and political determinants, 27 EU countries, 1995-2011

Web Appendix 4: Fixed effects regression of healthcare austerity controlling for economic and political determinants, 27 EU countries, 1995-2011

Web Appendix 5: Coefficients of a Hausman test comparing the fixed- and random-effects models among 27 EU countries, 1995-2011

Web Appendix 6: Treatment selection model for IMF intervention among 27 EU countries, 1995-2011

Web Appendix 7: Regression of healthcare austerity controlling for economic and political determinants, 26 EU countries (excluding Greece), 1995-2011

Web Appendix 8: Economic and political determinants of annual change in health spending among 27 EU countries, 1995-2011, excluding outliers (residuals >2 standard deviations)

Web Appendix 9: Economic and political determinants of the change in health spending between 2010-2011 among 27 EU countries.

Web Appendix 9: Specification tests for the extended (1995-2011, cumulative decline across recession period

Web Appendix 10: Economic and political determinants of annual change in health spending among 27 EU countries, 1995-2011, adjusted for annual change in government spending

Web Appendix 11: Economic and political determinants of annual change in health spending on social health insurance among 21 EU countries, 1995-2011

Web Appendix 12: Economic and political determinants of annual change in health spending on change in the level of private healthcare spending among 21 EU countries, 1995-2011

Web Appendix 13: Fixed effects logistic regression of healthcare austerity controlling for economic and political determinants, 27 EU countries, 1995-2011

Web Appendix 1: Change in GDP and government health spending across country-specific recession and austerity period

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
|  | Recession | |  | Austerity | |  |
| Country | Peak | Trough | Change in GDP | Peak | Trough | Change in health spending |
| Iceland | 2008 | 2009 | -7069.37 | 2008 | 2011 | -568.18 |
| Greece | 2008 | 2011 | -4144.82 | 2009 | 2011 | -487.46 |
| Luxembourg | 2008 | 2010 | -5741.70 | 2009 | 2011 | -377.77 |
| Norway | 2007 | 2011 | -3382.24 | 2009 | 2011 | -141.78 |
| UK | 2007 | 2011 | -2849.22 | 2009 | 2011 | -133.77 |
| Spain | 2008 | 2010 | -1183.15 | 2009 | 2011 | -127.98 |
| Slovak Republic | 2008 | 2009 | -431.29 |  |  | -127.28 |
| Ireland | 2007 | 2009 | -904.61 | 2009 | 2011 | -122.66 |
| Austria | 2008 | 2009 | -1185.32 | 2010 | 2011 | -90.12 |
| Slovenia | 2008 | 2011 | -1854.77 |  |  | -72.64 |
| Italy | 2008 | 2010 | -1566.74 | 2009 | 2011 | -52.52 |
| Sweden | 2008 | 2009 | -2984.40 | 2008 | 2009 | -38.89 |
| Denmark | 2008 | 2009 | -1431.32 | 2010 | 2011 | -24.70 |
| Finland | 2008 | 2009 | -2629.09 | 2010 | 2011 | -20.47 |
| Poland | 2008 | 2009 | 104.39 | 2010 | 2011 | -13.54 |
| Romania | 2008 | 2011 | -436.38 | 2008 | 2011 | -12.98 |
| Estonia | 2007 | 2009 | -1273.18 | 2009 | 2011 | -3.76 |
| Portugal | 2008 | 2009 | -89.46 | 2010 | 2011 | -2.16 |
| Belgium | 2008 | 2009 | -768.14 | 2009 | 2010 | 4.99 |
| Lithuania | 2007 | 2009 | -2287.54 | 2010 | 2011 | 9.62 |
| Hungary | 2008 | 2010 | -633.56 | 2007 | 2010 | 10.43 |
| Latvia | 2007 | 2009 | -1795.51 | 2010 | 2011 | 10.71 |
| Cyprus | 2008 | 2011 | -454.41 | 2009 | 2011 | 11.79 |
| Malta | 2008 | 2009 | -146.40 | 2008 | 2009 | 13.79 |
| Bulgaria | 2008 | 2009 | -755.23 | 2007 | 2011 | 25.43 |
| Germany | 2008 | 2009 | -1693.82 | 2010 | 2011 | 57.34 |
| Czech Republic | 2008 | 2010 | -696.69 | 2009 | 2010 | 80.27 |
| Switzerland | 2008 | 2009 | -804.11 |  |  | 87.22 |
| France | 2008 | 2009 | -589.47 |  |  | 101.66 |
| Netherlands | 2008 | 2009 | -1816.88 | 2009 | 2011 | 125.48 |
| United States | 2007 | 2009 | -2447.93 |  |  | 174.00 |

*Notes:* Source: WHO Health expenditure database 2013 edition, EuroStat 2013 edition.

Both GDP and government health spending are adjusted for inflation and purchasing power.

Recession: Peak is height of GDP (PPP, constant, per capita) and Trough is lowest point.

Austerity: If blank, no austerity and therefore measures change in spending in year after the recession (i.e., 2009-2011). Peak indicates the start of austerity (i.e., the highest point of government spending before the decline). Trough indicates the low point of government spending before it begins to increase or the last available data point.

Web Appendix 2: Summary statistics

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| Variables | Mean  (SD) | Min | Max | Country-years | Countries | Coding | Source |
| Annual change in government spending on health | 40.35  (86.67) | -418.87 | 598.97 | 409 | 27 | PPP, constant, per capita | EuroStat 2013 edition |
| Annual change in GDP | 351.12  (940.99) | -4794.69 | 4449.36 | 428 | 27 | PPP, constant, per capita | EuroStat 2013 edition |
| Annual change in tax revenue | -0.052  (23.59) | -391.83 | 24.08 | 402 | 27 | PPP, constant, per capita | EuroStat 2013 edition |
| Level of public debt | 51.48%  (29.47) | 3.7% | 170.6% | 457 | 27 | % of GDP | EuroStat 2013 edition |
| Austerity | 0.33  (0.48) | 0 | 1 | 471 | 27 | 1 = annual change in government spending < 0 | EuroStat 2013 edition |
| IMF: Stand-by Arrangements (SBA) or Extended Fund Facilities (EFF)ˆ | 0.12  (0.32) | 0 | 1 | 486 | 27 | 1 = SBA or EFF active. | IMF’s Monitoring of Fund Arrangements database (MONA) |
| Left governing partyˇ | 0.42  (0.49) | 0 | 1 | 424 | 22 | 1 = economic ideology of governing party is left-orientated | World Bank Political Institutions database |
| Right governing partyˇ | 0.43  (0.50) | 0 | 1 | 424 | 22 | 1 = economic ideology of governing party is right-orientated | World Bank Political Institutions database |

*Notes:*

ˆ IMF bailouts include Stand-by Arrangements, usually short-term lending to states to cover the effect of unanticipated shocks, and Extended Fund Facilities, which are usually medium- or long-term lending programmes aimed at overcoming weaknesses in the national economy which may have precipitated or exacerbated the shock.

IMF becomes 1 the year after the agreement has been made. This reflects the time lag between the loan and the implementation of any changes to government spending, i.e., if an agreement was made in 2008 the variable would measure 1 in 2009 and remain 1 while the bailout is active. When the agreement ends the indicator becomes 0.

ˇOrientation toward the economy is derived from party manifestos and other publicly available documentation. For coalition governments, the coding is defined by the leading party within the coalition. Missing countries-years for Political Institutions include the following: Bulgaria (1995-6, 2002-9), Czech Republic (2007-2011), Estonia (2002-2011), Lithuania (1998-2011), Poland (1995), Romania (1995-6, 2005-2011), Slovak Republic (1999-2006).

Web Appendix 3: Logistic regression of healthcare austerity controlling for economic and political determinants, 27 EU countries, 1995-2011

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
|  | Annual change in health spending <0 = 1† | | | | | |
| Covariates | (1) | (2) | (3) | (4) | (5) | (6) |
| $10 annual increase in GDP† | -0.0079\* | -0.0070\* | -0.0071\* | -0.0050 | -0.0048 | -0.0038 |
| (0.0034) | (0.0031) | (0.0032) | (0.0030) | (0.0031) | (0.0028) |
|  |  |  |  |  |  |
| $100 annual increase in tax revenue† |  | -0.099\*\* | -0.099\*\* | -0.081\*\* | -0.072\*\* | -0.062\*\* |
|  | (0.020) | (0.021) | (0.025) | (0.024) | (0.021) |
|  |  |  |  |  |  |  |
| Public debt as percentage of GDP in the previous year |  |  | -0.0025 | -0.0046 | -0.0030 | -0.0028 |
|  |  |  | (0.0043) | (0.0046) | (0.0047) | (0.0051) |
|  |  |  |  |  |  |  |
| Implemented austerity in current year |  |  |  | 1.90\*\* | 1.87\*\* | 1.96\*\* |
|  |  |  |  | (0.32) | (0.31) | (0.32) |
|  |  |  |  |  |  |  |
| IMF bailout active in current year |  |  |  |  | 0.81\*\* | 1.36\*\* |
|  |  |  |  |  | (0.26) | (0.35) |
|  |  |  |  |  |  |  |
| Left governing party˚ |  |  |  |  |  | -0.47 |
|  |  |  |  |  |  | (0.42) |
|  |  |  |  |  |  |  |
| Right governing party˚ |  |  |  |  |  | -0.19 |
|  |  |  |  |  |  | (0.48) |
|  |  |  |  |  |  |  |
| Countries | 27 | 27 | 27 | 27 | 27 | 27 |
| Country-years | 409 | 397 | 391 | 391 | 391 | 339 |

*Notes:*Source: EuroStat 2013 edition, IMF MONA 2013 edition, World Bank Political Institutions Database 2013 edition.

Standard errors in parentheses, adjusted for repeated observations: \* *p* < 0.05, \*\* *p* < 0.01

† - units in real per capita, in constant purchasing-power-parity USD

˚ Baseline category is Centre. Taken from the World Bank Political Institutions database, Left governing party and Right governing party are measures of the economic ideology of the governing party (or the party whose leader is head of a coalition) derived from party manifestos.

IMF bailouts include Stand-by Arrangements, usually short-term lending to states to cover the effect of unanticipated shocks, and Extended Fund Facilities, which are usually medium- or long-term lending programmes aimed at overcoming weaknesses in the national economy which may have precipitated or exacerbated the shock.

Web Appendix 4: Fixed effects regression of healthcare austerity controlling for economic and political determinants, 27 EU countries, 1995-2011

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
|  | Annual change in health spending† | | | | | |
| Covariates | (1) | (2) | (3) | (4) | (5) | (6) |
| $10 annual increase in GDP† | 0.21\* | 0.19\* | 0.18 | 0.11 | 0.11 | 0.089 |
| (0.100) | (0.090) | (0.093) | (0.082) | (0.082) | (0.084) |
|  |  |  |  |  |  |  |
| $100 annual increase in tax revenue† |  | 3.50\* | 3.34\* | 2.80\*\* | 2.81\*\* | 2.74\*\* |
|  | (1.28) | (1.29) | (0.93) | (0.94) | (0.92) |
|  |  |  |  |  |  |  |
| Public debt as percentage of GDP in the previous year |  |  | -1.95\*\* | -1.54\*\* | -1.55\*\* | -1.87\*\* |
|  |  | (0.68) | (0.51) | (0.46) | (0.39) |
|  |  |  |  |  |  |  |
| Implemented austerity in current year |  |  |  | -60.4\*\* | -60.3\*\* | -63.9\*\* |
|  |  |  | (11.8) | (11.8) | (13.0) |
|  |  |  |  |  |  |  |
| IMF bailout active in current year |  |  |  |  | 0.98 | -14.9 |
|  |  |  |  | (13.6) | (24.1) |
|  |  |  |  |  |  |  |
| Left governing party˚ |  |  |  |  |  | -23.1 |
|  |  |  |  |  |  | (12.0) |
|  |  |  |  |  |  |  |
| Right governing party˚ |  |  |  |  |  | -23.5 |
|  |  |  |  |  |  | (13.6) |
|  |  |  |  |  |  |  |
| Countries | 27 | 27 | 27 | 27 | 27 | 27 |
| Country-years | 431 | 416 | 391 | 391 | 391 | 339 |

*Notes:* Source: EuroStat 2013 edition, IMF MONA 2013 edition, World Bank Political Institutions Database 2013 edition.

Standard errors in parentheses, adjusted for repeated observations: \* *p* < 0.05, \*\* *p* < 0.01

† - units in real per capita, in constant purchasing-power-parity USD

˚ Baseline category is Centre. Taken from the World Bank Political Institutions database, Left governing party and Right governing party are measures of the economic ideology of the governing party (or the party whose leader is head of a coalition) derived from party manifestos.

IMF bailouts include Stand-by Arrangements, usually short-term lending to states to cover the effect of unanticipated shocks, and Extended Fund Facilities, which are usually medium- or long-term lending programmes aimed at overcoming weaknesses in the national economy which may have precipitated or exacerbated the shock.

All models control for country-specific fixed effects.

Web Appendix 5: Coefficients of a Hausman test comparing the fixed- and random-effects models among 27 EU countries, 1995-2011

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | Coefficients | |  |  |
|  | Fixed  (b) | Random (B) | Difference (b-B) | S.E |
| $10 increase in GDP† | 0.089 | 0.089 | -0.00020 | 0.0061 |
| $100 annual increase in tax revenue† | 2.74 | 2.72 | 0.023 | . |
| Public debt (% GDP) in the previous year | -1.87 | -0.17 | -1.70 | 0.41 |
| Implemented austerity budget in current year | -63.91 | -64.48 | 0.57 | 2.17 |
| IMF bailout active in current year | -14.86 | -44.84 | 29.98 | 18.03 |
| Left governing party | -23.06 | -14.00 | -9.06 | 15.72 |
| Right governing party | -23.47 | -10.82 | -12.65 | 15.53 |

*Notes:* Test statistic for the Hausman test: χ2 = 52.15, p < 0.001.

† - units in real per capita, in constant purchasing-power-parity USD

Web Appendix 6: Treatment selection model for IMF intervention among 27 EU countries, 1995-2011

|  |  |  |
| --- | --- | --- |
| Models and covariates |  | |
| **Second Stage Random Effects Regression model:**  ***Dependent Variable:* Annual change in government spending on health†** | |  |
| $10 annual increase in GDP† | 0.090 | |
|  | (0.048) | |
|  |  | |
| $100 annual increase in tax revenue† | 2.66\*\* | |
|  | (0.87) | |
|  |  | |
| Public debt as a percentage of GDP in previous year | -0.18 | |
|  | (0.17) | |
|  |  | |
| Implemented austerity budget in current year | -64.0\*\* | |
|  | (9.62) | |
|  |  | |
| Left governing party˚ | -13.1 | |
|  | (12.9) | |
|  |  | |
| Right governing party˚ | -10.2 | |
|  | (13.4) | |
|  |  | |
| **IMF bailout active in current year** | **-49.5\*** | |
|  | **(24.0)** | |
|  |  | |
| Hazard of borrowing from the IMF (λ) | 4.96 | |
|  | (18.7) | |
|  |  | |
| **First Stage: Determinants of IMF Bailout in Current Year** | | |
| $10 increase in GDP in previous year† | -0.0049\* | |
|  | (0.0021) | |
|  |  | |
| Deficit as a percentage of GDP in previous year | -0.19\*\* | |
|  | (0.059) | |
|  |  | |
| Foreign reserves as a percentage of GDP | 0.014\* | |
|  | -0.19\*\* | |
|  |  | |
| Level of GDP per capita† | -0.00022\*\* | |
|  | (0.000054) | |
|  |  | |
| Country-years | 338 | |
| Countries | 27 | |

*Notes:*Source: EuroStat 2013 edition, IMF MONA 2013 edition, World Bank Political Institutions Database 2013 edition.

† - units in real per capita, in constant purchasing-power-parity USD

˚ Baseline category is Centre. Taken from the World Bank Political Institutions database, Left governing party and Right governing party are measures of the economic ideology of the governing party (or the party whose leader is head of a coalition) derived from party manifestos.

IMF bailouts include Stand-by Arrangements, usually short-term lending to states to cover the effect of unanticipated shocks, and Extended Fund Facilities, which are usually medium- or long-term lending programmes aimed at overcoming weaknesses in the national economy which may have precipitated or exacerbated the shock.

Web Appendix 7: Regression of healthcare austerity controlling for economic and political determinants, 26 EU countries (excluding Greece), 1995-2011

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
|  | Annual change in health spending† | | | | | | |
| Covariates | (1) | (2) | (3) | (4) | (5) | (6) | |
| $10 annual increase in GDP† | 0.24\* | 0.19\* | 0.18\* | 0.098 | 0.092 | 0.059 | |
| (0.093) | (0.086) | (0.085) | (0.070) | (0.071) | (0.075) | |
|  |  |  |  |  |  | |
| $100 annual increase in tax revenue† |  | 3.96\*\* | 4.02\*\* | 3.25\*\* | 3.01\*\* | 2.76\*\* | |
|  | (1.10) | (1.08) | (0.80) | (0.84) | (0.83) | |
|  |  |  |  |  |  |  | |
| Public debt as percentage of GDP in the previous year |  |  | 0.044 | 0.074 | 0.030 | -0.013 | |
|  |  | (0.13) | (0.11) | (0.11) | (0.14) | |
|  |  |  |  |  |  |  | |
| Implemented austerity in current year |  |  |  | -62.4\*\* | -61.2\*\* | -64.9\*\* | |
|  |  |  | (11.4) | (11.5) | (13.1) | |
|  |  |  |  |  |  |  | |
| IMF bailout active in current year |  |  |  |  | -21.0\* | -31.9\* | |
|  |  |  |  | (9.68) | (14.5) | |
|  |  |  |  |  |  |  | |
| Left governing party˚ |  |  |  |  |  | -15.3 | |
|  |  |  |  |  |  | (12.9) | |
|  |  |  |  |  |  |  | |
| Right governing party˚ |  |  |  |  |  | -18.7 | |
|  |  |  |  |  |  | (15.5) | |
|  |  |  |  |  |  |  | |
| Country-years | 398 | 387 | 381 | 381 | 381 | 329 | |
| Countries | 27 | 27 | 27 | 27 | 27 | 27 | |
| *R2* | 0.074 | 0.11 | 0.11 | 0.22 | 0.23 | 0.24 |

*Notes:* Source: EuroStat 2013 edition, IMF MONA 2013 edition, World Bank Political Institutions Database 2013 edition.

Standard errors in parentheses, adjusted for repeated observations: \* *p* < 0.05, \*\* *p* < 0.01

† - units in real per capita, in constant purchasing-power-parity USD

˚ Baseline category is Centre. Taken from the World Bank Political Institutions database, Left governing party and Right governing party are measures of the economic ideology of the governing party (or the party whose leader is head of a coalition) derived from party manifestos.

IMF bailouts include Stand-by Arrangements, usually short-term lending to states to cover the effect of unanticipated shocks, and Extended Fund Facilities, which are usually medium- or long-term lending programmes aimed at overcoming weaknesses in the national economy which may have precipitated or exacerbated the shock.

Web Appendix 8: Economic and political determinants of the change in health spending between 2010-2011 among 27 EU countries, 1995-2011, excluding outliers (residuals >2 standard deviations)

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
|  | Annual change in health spending† | | | | | |
| Covariates | (1) | (2) | (3) | (4) | (5) | (6) |
| $10 annual increase in GDP† | 0.20 | 0.17 | 0.17 | 0.074 | 0.056 | 0.054 |
| (0.12) | (0.11) | (0.11) | (0.086) | (0.082) | (0.076) |
|  |  |  |  |  |  |
| $100 annual increase in tax revenue† |  | 3.82\*\* | 3.82\*\* | 2.85\*\* | 2.38\*\* | 2.35\*\* |
|  | (0.95) | (0.93) | (0.64) | (0.66) | (0.73) |
|  |  |  |  |  |  |  |
| Public debt as percentage of GDP in the previous year |  |  | -0.036 | -0.036 | -0.12 | -0.11 |
|  |  | (0.21) | (0.20) | (0.21) | (0.23) |
|  |  |  |  |  |  |  |
| Implemented austerity in current year |  |  |  | -66.6\*\* | -64.0\*\* | -64.2\*\* |
|  |  |  | (12.1) | (12.2) | (12.0) |
|  |  |  |  |  |  |  |
| IMF bailout active in current year |  |  |  |  | -41.9\* | -41.7\* |
|  |  |  |  | (17.0) | (18.3) |
|  |  |  |  |  |  |  |
| Left governing party˚ |  |  |  |  |  | -3.03 |
|  |  |  |  |  |  | (16.4) |
|  |  |  |  |  |  |  |
| Right governing party˚ |  |  |  |  |  | -2.97 |
|  |  |  |  |  |  | (17.5) |
|  |  |  |  |  |  |  |
| Country-years | 331 | 331 | 331 | 331 | 331 | 331 |
| Countries | 27 | 27 | 27 | 27 | 27 | 27 |
| *R*2 | 0.059 | 0.12 | 0.12 | 0.26 | 0.28 | 0.28 |

*Notes:* Source: EuroStat 2013 edition, IMF MONA 2013 edition, World Bank Political Institutions Database 2013 edition.

Standard errors in parentheses, adjusted for repeated observations: \* *p* < 0.05, \*\* *p* < 0.01

† - units in real per capita, in constant purchasing-power-parity USD

˚ Baseline category is Centre. Taken from the World Bank Political Institutions database, Left governing party and Right governing party are measures of the economic ideology of the governing party (or the party whose leader is head of a coalition) derived from party manifestos.

IMF bailouts include Stand-by Arrangements, usually short-term lending to states to cover the effect of unanticipated shocks, and Extended Fund Facilities, which are usually medium- or long-term lending programmes aimed at overcoming weaknesses in the national economy which may have precipitated or exacerbated the shock.

Web Appendix 9: Economic and political determinants of annual change in health spending among 27 EU countries, 1995-2011 (cumulative decline across recession period)

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
|  | Annual change in health spending† | | | | | |
| Covariates | (1) | (2) | (3) | (4) | (5) | (6) |
| $10 annual increase in GDP† | 0.24\*\* | 0.18\* | 0.19\* | 0.14\* | 0.15\* | 0.18\*\* |
| (0.072) | (0.071) | (0.070) | (0.063) | (0.059) | (0.063) |
|  |  |  |  |  |  |
| $100 annual increase in tax revenue† |  | 4.04\*\* | 4.07\*\* | 3.09\*\* | 2.64\*\* | 2.10\*\* |
|  | (0.90) | (0.88) | (0.66) | (0.71) | (0.75) |
|  |  |  |  |  |  |  |
| Public debt as percentage of GDP in the previous year |  |  | -0.076 | -0.040 | -0.10 | -0.15 |
|  |  | (0.15) | (0.14) | (0.13) | (0.15) |
|  |  |  |  |  |  |  |
| Implemented austerity in current year |  |  |  | -67.2\*\* | -64.3\*\* | -65.7\*\* |
|  |  |  | (9.06) | (8.96) | (9.70) |
|  |  |  |  |  |  |  |
| IMF bailout active in current year |  |  |  |  | -35.3\*\* | -51.3\*\* |
|  |  |  |  | (12.3) | (17.8) |
|  |  |  |  |  |  |  |
| Left governing party˚ |  |  |  |  |  | -24.8 |
|  |  |  |  |  |  | (12.8) |
|  |  |  |  |  |  |  |
| Right governing party˚ |  |  |  |  |  | -20.0 |
|  |  |  |  |  |  | (16.1) |
|  |  |  |  |  |  |  |
| Country-years | 409 | 397 | 391 | 391 | 391 | 339 |
| Countries | 27 | 27 | 27 | 27 | 27 | 27 |
| *R*2 | 0.046 | 0.099 | 0.10 | 0.23 | 0.25 | 0.28 |

*Notes:* Source: EuroStat 2013 edition, IMF MONA 2013 edition, World Bank Political Institutions Database 2013 edition.

Standard errors in parentheses: \* *p* < 0.05, \*\* *p* < 0.01

† - units in real per capita, in constant purchasing-power-parity USD

˚ Baseline category is Centre. Taken from the World Bank Political Institutions database, Left governing party and Right governing party are measures of the economic ideology of the governing party (or the party whose leader is head of a coalition) derived from party manifestos.

IMF bailouts include Stand-by Arrangements, usually short-term lending to states to cover the effect of unanticipated shocks, and Extended Fund Facilities, which are usually medium- or long-term lending programmes aimed at overcoming weaknesses in the national economy which may have precipitated or exacerbated the shock.

Web Appendix 10: Economic and political determinants of annual change in health spending among 27 EU countries, 1995-2011, adjusted for annual change in government spending

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
|  | Annual change in health spending † | | | | | |
| Covariates | (1) | (2) | (3) | (4) | (5) | (6) |
| $10 annual increase in GDP† | 0.28\*\* | 0.23\* | 0.21\* | 0.15 | 0.14 | 0.13 |
| (0.099) | (0.095) | (0.096) | (0.088) | (0.087) | (0.085) |
|  |  |  |  |  |  |
| $100 annual increase in tax revenue† |  | 4.05\*\* | 4.11\*\* | 3.57\*\* | 3.35\*\* | 3.27\*\* |
|  | (1.08) | (1.07) | (0.77) | (0.80) | (0.83) |
|  |  |  |  |  |  |  |
| Public debt as percentage of GDP in the previous year |  |  | -0.041 | 0.074 | 0.036 | -0.053 |
|  |  | (0.14) | (0.14) | (0.15) | (0.18) |
|  |  |  |  |  |  |  |
| $10 annual increase in Government spending† |  |  |  | 0.51\* | 0.49\* | 0.48\* |
|  |  |  | (0.19) | (0.20) | (0.21) |
|  |  |  |  |  |  |  |
| IMF bailout active in current year |  |  |  |  | -19.1 | -33.1 |
|  |  |  |  |  | (11.5) | (16.7) |
|  |  |  |  |  |  |  |
| Left governing party˚ |  |  |  |  |  | -3.74 |
|  |  |  |  |  |  | (16.4) |
|  |  |  |  |  |  |  |
| Right governing party˚ |  |  |  |  |  | 1.10 |
|  |  |  |  |  |  | (17.9) |
|  |  |  |  |  |  |  |
| Country-years | 409 | 397 | 391 | 391 | 391 | 339 |
| Countries | 27 | 27 | 27 | 27 | 27 | 27 |
| *R*2 | 0.092 | 0.13 | 0.12 | 0.27 | 0.27 | 0.28 |

*Notes:* Source: EuroStat 2013 edition, IMF MONA 2013 edition, World Bank Political Institutions Database 2013 edition.

Standard errors in parentheses, adjusted for repeated observations: \* *p* < 0.05, \*\* *p* < 0.01

˚ Baseline category is Centre. Taken from the World Bank Political Institutions database, Left governing party and Right governing party are measures of the economic ideology of the governing party (or the party whose leader is head of a coalition) derived from party manifestos.

IMF bailouts include Stand-by Arrangements, which is usually short-term non-concessional lending, and Extended Fund Facilities, which are usually medium- or long-term lending programmes which are aimed at overcoming structural weakness.

Web Appendix 11: Economic and political determinants of annual change in health spending on social health insurance among 21 EU countries, 1995-2011

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
|  | Annual change in social health insurance spending† | | | | | |
| Covariates | (1) | (2) | (3) | (4) | (5) | (6) |
| $10 annual increase in GDP† | 0.13\*\* | 0.12\*\* | 0.12\*\* | 0.11\*\* | 0.11\*\* | 0.11\*\* |
| (0.028) | (0.029) | (0.027) | (0.031) | (0.031) | (0.035) |
|  |  |  |  |  |  |
| $100 annual increase in tax revenue† |  | 0.51 | 0.53 | 0.47 | 0.50 | 0.35 |
|  | (0.42) | (0.40) | (0.42) | (0.42) | (0.44) |
|  |  |  |  |  |  |  |
| Public debt as percentage of GDP in the previous year |  |  | -0.083 | -0.090 | -0.088 | -0.079 |
|  |  | (0.087) | (0.090) | (0.090) | (0.090) |
|  |  |  |  |  |  |  |
| Implemented austerity in current year |  |  |  | -5.70 | -6.17 | -7.52 |
|  |  |  | (5.51) | (5.53) | (5.86) |
|  |  |  |  |  |  |  |
| IMF bailout active in current year |  |  |  |  | 6.69 | 7.69 |
|  |  |  |  | (12.4) | (12.1) |
|  |  |  |  |  |  |  |
| Left governing party˚ |  |  |  |  |  | -9.17 |
|  |  |  |  |  |  | (6.95) |
|  |  |  |  |  |  |  |
| Right governing party˚ |  |  |  |  |  | -9.28 |
|  |  |  |  |  |  | (7.19) |
|  |  |  |  |  |  |  |
| Country-years | 302 | 293 | 284 | 275 | 275 | 254 |
| Countries | 21 | 21 | 21 | 21 | 21 | 21 |
| *R*2 | 0.11 | 0.11 | 0.12 | 0.12 | 0.12 | 0.14 |

*Notes:* Source: EuroStat 2013 edition, IMF MONA 2013 edition, World Bank Political Institutions Database 2013 edition.

Standard errors in parentheses, adjusted for repeated observations: \* *p* < 0.05, \*\* *p* < 0.01

† - units in real per capita, in constant purchasing-power-parity USD

˚ Baseline category is Centre. Taken from the World Bank Political Institutions database, Left governing party and Right governing party are measures of the economic ideology of the governing party (or the party whose leader is head of a coalition) derived from party manifestos.

IMF bailouts include Stand-by Arrangements, usually short-term lending to states to cover the effect of unanticipated shocks, and Extended Fund Facilities, which are usually medium- or long-term lending programmes aimed at overcoming weaknesses in the national economy which may have precipitated or exacerbated the shock.

Web Appendix 12: Economic and political determinants of annual change in health spending on change in the level of private healthcare spending among 21 EU countries, 1995-2011

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
|  | Annual change in health spending† | | | | | | |
| Covariates | (1) | (2) | (3) | (4) | (5) | (6) | (7) |
| Annual change in level of private healthcare spending as a proportion of current healthcare expenditure† | -15.7\*\* | -16.0\*\* | -14.9\*\* | -15.1\*\* | -11.8\*\* | -11.3\*\* | -12.2\*\* |
| (3.13) | (3.27) | (2.92) | (2.87) | (2.56) | (2.61) | (4.13) |
|  |  |  |  |  |  |  |  |
| $10 annual increase in GDP† |  | 0.23 | 0.19 | 0.17 | 0.095 | 0.090 | 0.055 |
|  | (0.12) | (0.11) | (0.11) | (0.093) | (0.091) | (0.098) |
|  |  |  |  |  |  |  |
| $100 annual increase in tax revenue† |  |  | 3.02\*\* | 2.89\*\* | 2.52\*\* | 2.37\*\* | 2.02\*\* |
|  |  | (1.01) | (0.92) | (0.68) | (0.69) | (0.62) |
|  |  |  |  |  |  |  |  |
| Public debt as percentage of GDP in the previous year |  |  |  | -0.32 | -0.23 | -0.23 | -0.22 |
|  |  |  |  | (0.21) | (0.19) | (0.17) | (0.18) |
|  |  |  |  |  |  |  |  |
| Implemented austerity in current year |  |  |  |  | -65.6\*\* | -63.1\*\* | -66.3\*\* |
|  |  |  |  |  | (12.4) | (12.5) | (13.4) |
|  |  |  |  |  |  |  |  |
| IMF bailout active in current year |  |  |  |  |  | -36.1 | -36.7 |
|  |  |  |  |  |  | (45.2) | (47.2) |
|  |  |  |  |  |  |  |  |
| Left governing party˚ |  |  |  |  |  |  | -28.2\* |
|  |  |  |  |  |  |  | (11.6) |
|  |  |  |  |  |  |  |  |
| Right governing party˚ |  |  |  |  |  |  | -28.8 |
|  |  |  |  |  |  |  | (14.4) |
|  |  |  |  |  |  |  |  |
| Country-years | 306 | 306 | 299 | 294 | 294 | 294 | 271 |
| Countries | 21 | 21 | 21 | 21 | 21 | 21 | 21 |
| *R*2 | 0.089 | 0.15 | 0.17 | 0.18 | 0.29 | 0.29 | 0.31 |

*Notes:* Source: EuroStat 2013 edition, IMF MONA 2013 edition, World Bank Political Institutions Database 2013 edition. OECD Health data 2013 edition.

Standard errors in parentheses, adjusted for repeated observations: \* *p* < 0.05, \*\* *p* < 0.01

† - units in real per capita, in constant purchasing-power-parity USD

˚ Baseline category is Centre. Taken from the World Bank Political Institutions database, Left governing party and Right governing party are measures of the economic ideology of the governing party (or the party whose leader is head of a coalition) derived from party manifestos.

IMF bailouts include Stand-by Arrangements, usually short-term lending to states to cover the effect of unanticipated shocks, and Extended Fund Facilities, which are usually medium- or long-term lending programmes aimed at overcoming weaknesses in the national economy which may have precipitated or exacerbated the shock.

Web Appendix 13: Fixed effects logistic regression of healthcare austerity controlling for economic and political determinants, 27 EU countries, 1995-2011

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
|  | Annual change in health spending <0 = 1† | | | | | |
| Covariates | (1) | (2) | (3) | (4) | (5) | (6) |
| $10 annual increase in GDP† | -0.0068\*\* | -0.0064\*\* | -0.0068\*\* | -0.0052\*\* | -0.0052\*\* | -0.0036\* |
| (0.0015) | (0.0015) | (0.0016) | (0.0017) | (0.0017) | (0.0018) |
|  |  |  |  |  |  |
| $100 annual increase in tax revenue† |  | -0.087\*\* | -0.085\*\* | -0.084\* | -0.085\* | -0.070\* |
|  | (0.028) | (0.030) | (0.033) | (0.033) | (0.034) |
|  |  |  |  |  |  |  |
| Public debt as percentage of GDP in the previous year |  |  | 0.041\*\* | 0.035\*\* | 0.036\* | 0.052\*\* |
|  |  | (0.012) | (0.013) | (0.014) | (0.017) |
|  |  |  |  |  |  |  |
| Implemented austerity in current year |  |  |  | 1.77\*\* | 1.76\*\* | 1.87\*\* |
|  |  |  |  | (0.29) | (0.29) | (0.33) |
|  |  |  |  |  |  |  |
| IMF bailout active in current year |  |  |  |  | -0.11 | -0.33 |
|  |  |  |  |  | (0.56) | (0.82) |
|  |  |  |  |  |  |  |
| Left governing party˚ |  |  |  |  |  | 0.65 |
|  |  |  |  |  |  | (0.79) |
|  |  |  |  |  |  |  |
| Right governing party˚ |  |  |  |  |  | 1.38 |
|  |  |  |  |  |  | (0.75) |
|  |  |  |  |  |  |  |
| Country-years | 431 | 416 | 391 | 391 | 391 | 334 |
| Countries | 27 | 27 | 27 | 27 | 27 | 27 |

*Notes:* Source: EuroStat 2013 edition, IMF MONA 2013 edition, World Bank Political Institutions Database 2013 edition. Standard errors in parentheses, adjusted for repeated observations: \* p < 0.05, \*\* p < 0.01

† - units in real per capita, in constant purchasing-power-parity USD

˚ Baseline category is Centre. Taken from the World Bank Political Institutions database, Left governing party and Right governing party are measures of the economic ideology of the governing party (or the party whose leader is head of a coalition) derived from party manifestos.

IMF bailouts include Stand-by Arrangements, usually short-term lending to states to cover the effect of unanticipated shocks, and Extended Fund Facilities, which are usually medium- or long-term lending programmes aimed at overcoming weaknesses in the national economy which may have precipitated or exacerbated the shock.