

Progressive Tax Policy and Informal Labor in Developing Economies **Online Appendix**

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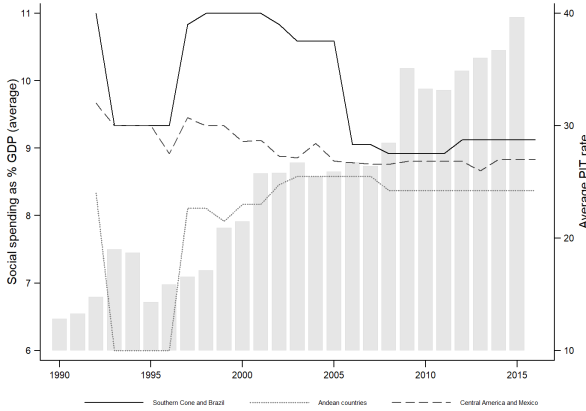
Abstract

Governments in many industrializing democracies face difficult policy trade-offs. Liberalization and informality have placed electoral pressure on them to expand non-contributory social spending. However, governments in developing democracies face constraints when attempting to finance this expansion. In some countries, the informal labor market is very large, thereby undermining the revenue that can be collected through income tax. We argue that this has given rise to a paradoxical situation. Left governments in developing democracies with large informal labor markets have a strong electoral incentive to expand welfare regimes to previously excluded outsiders but to fiscally underwrite this expansion, they have increasingly been forced to fund their redistributive strategies via a regressive policy instrument, indirect consumption taxation. We examine this argument for a sample of 17 Latin American countries between the years 1990 to 2016. Our results suggest that labor informality forces left governments to turn to indirect taxation.

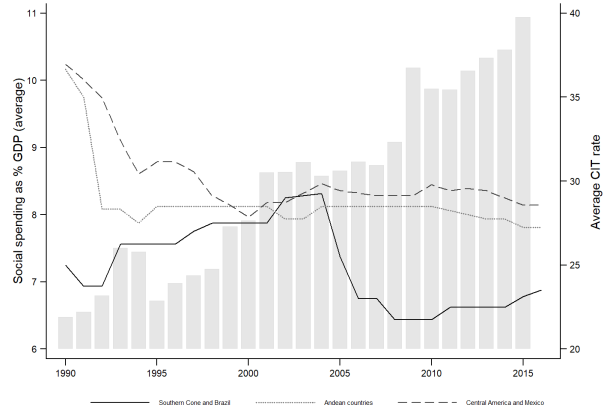
Keywords: Tax policy, redistribution, informal labor markets, taxation–developing economies

1 Appendix

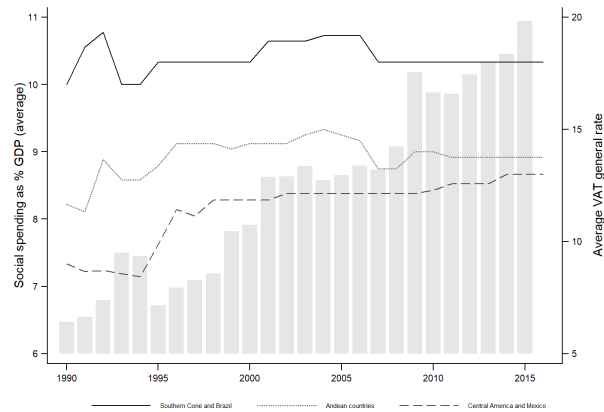
1.1 Figures



(a) PIT maximum rate (average)

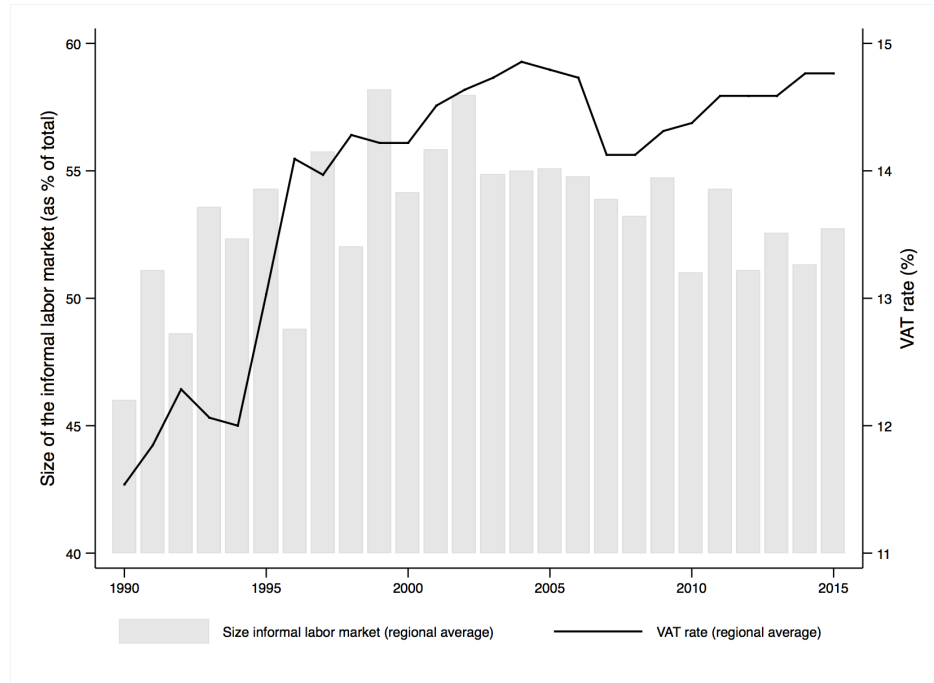


(b) CIT maximum rate (average)

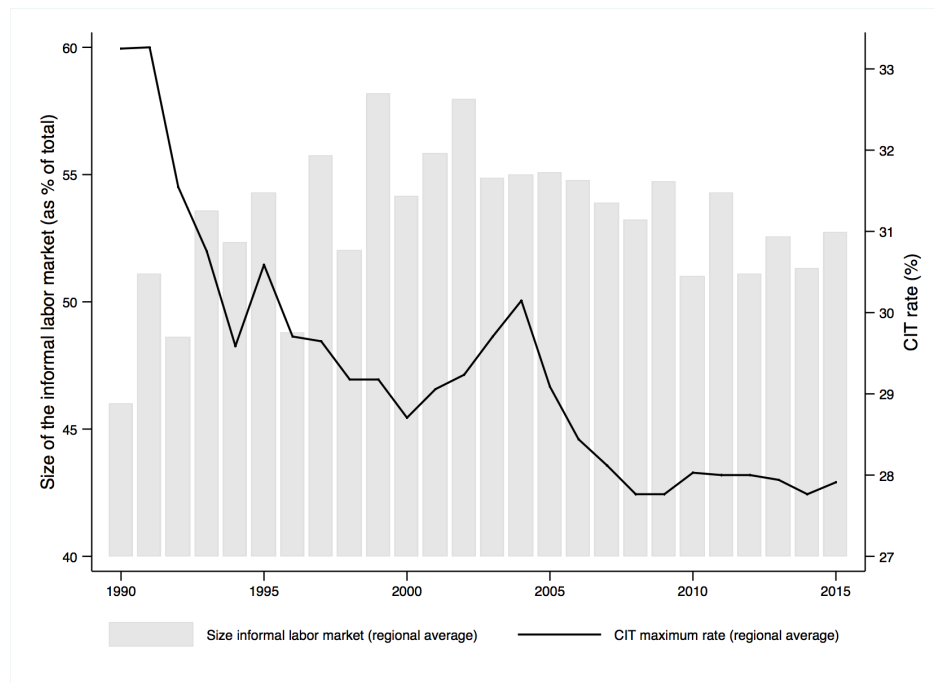


(c) VAT general rate (average)

Figure A1: Social Spending and Tax Rates, Latin America 1990-2016

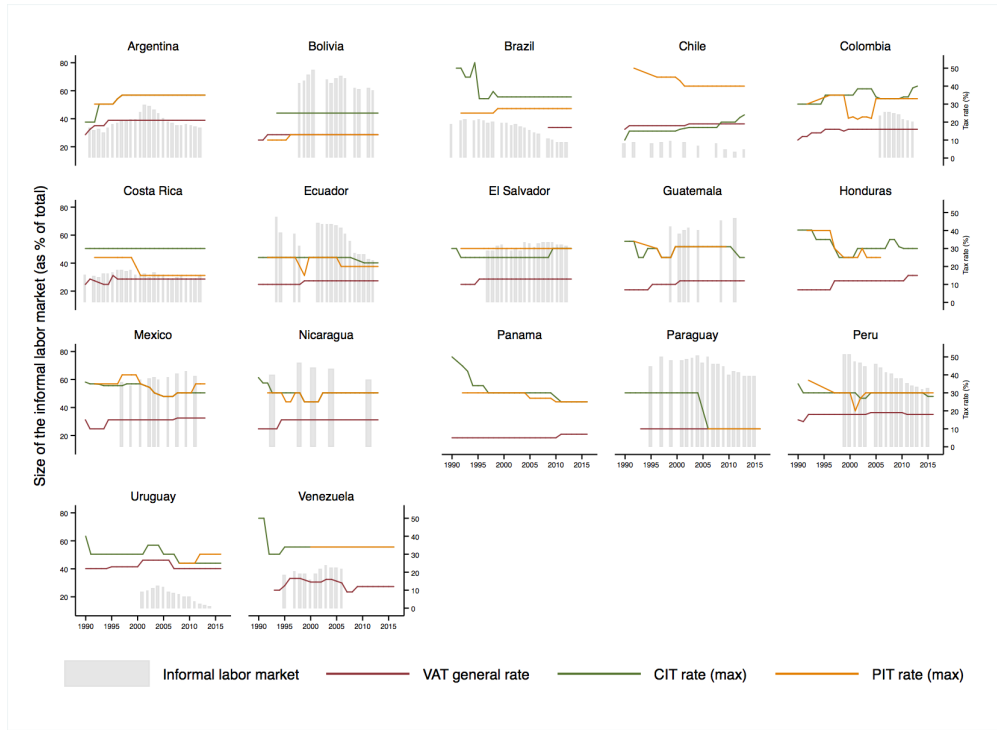


(a) VAT general rate

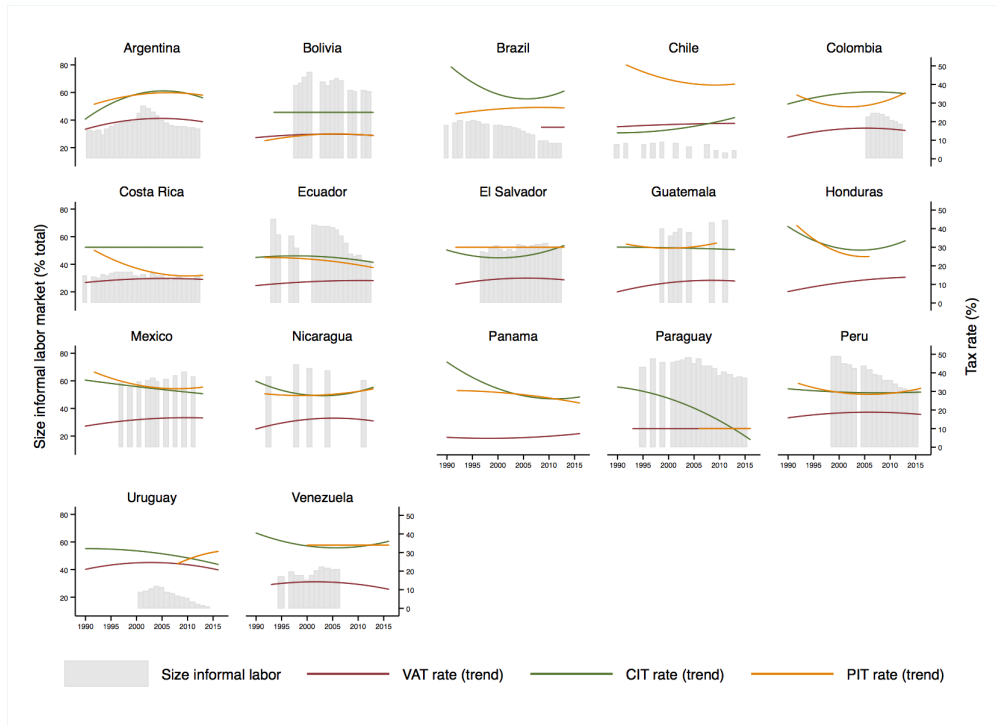


(b) CIT maximum rate

Figure A2: Tax rates and the expansion of the informal labor market in Latin America, 1990-2015.



(a) Rates



(b) Trends

Figure A3: Tax rates and the expansion of the informal labor market in Latin America, 1990-2015 (by country). Sources: *CEPALSTAT*, *CEDLAS*

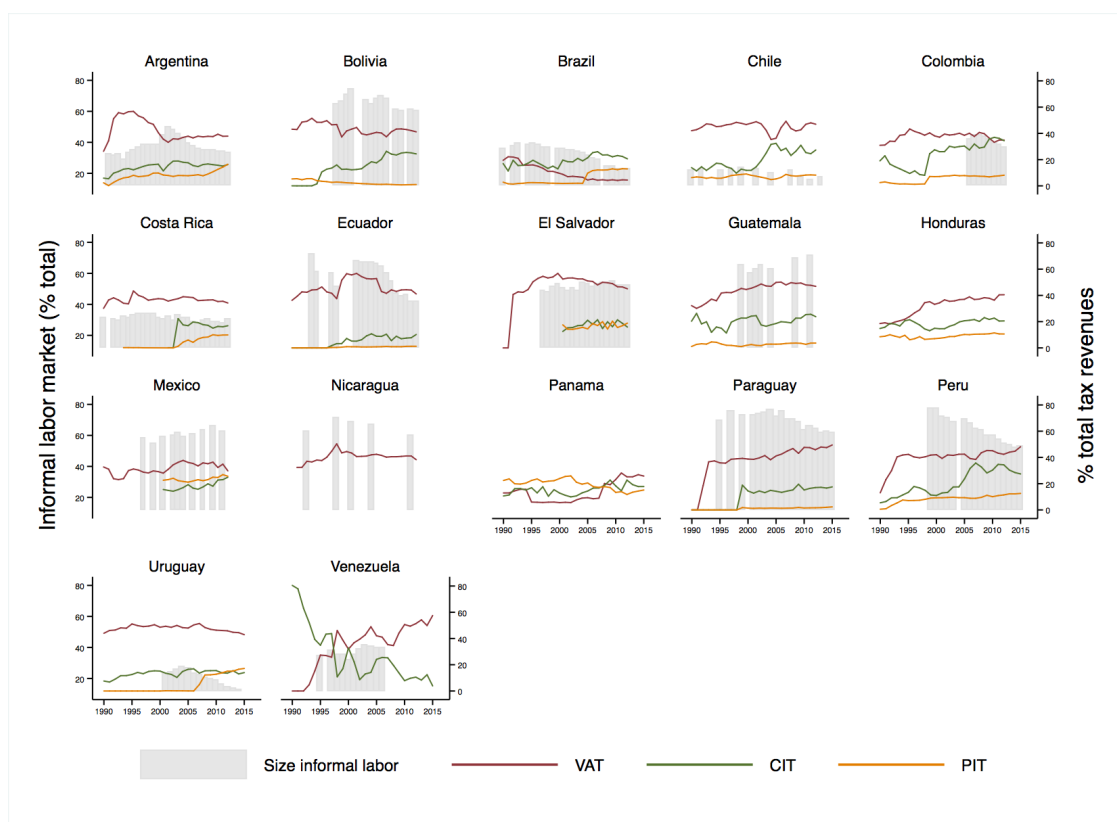


Figure A4: Tax revenue and the expansion of the informal labor market in Latin America, 1990-2015 (by country). Sources: *CEPALSTAT*, *CEDLAS*

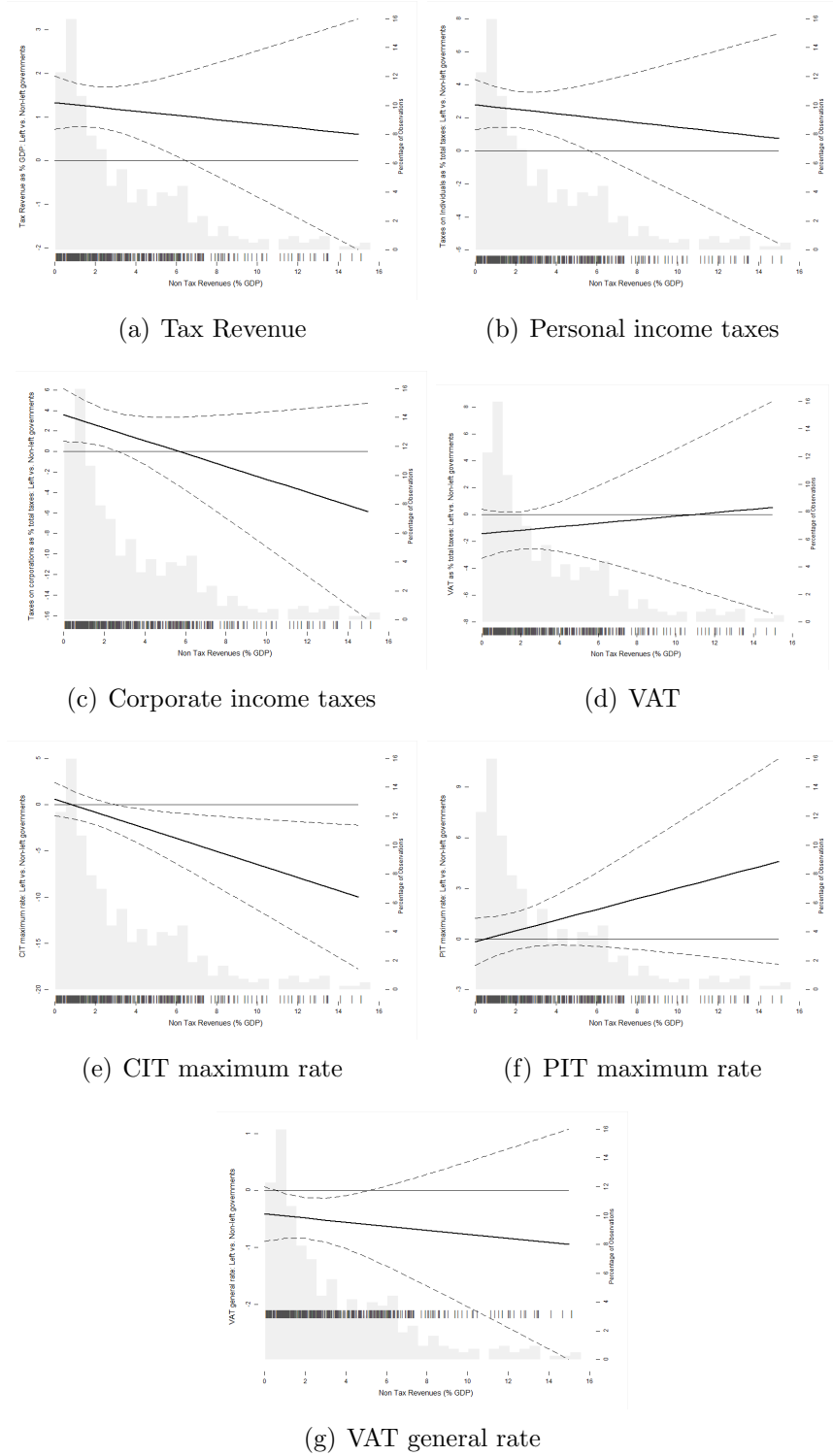
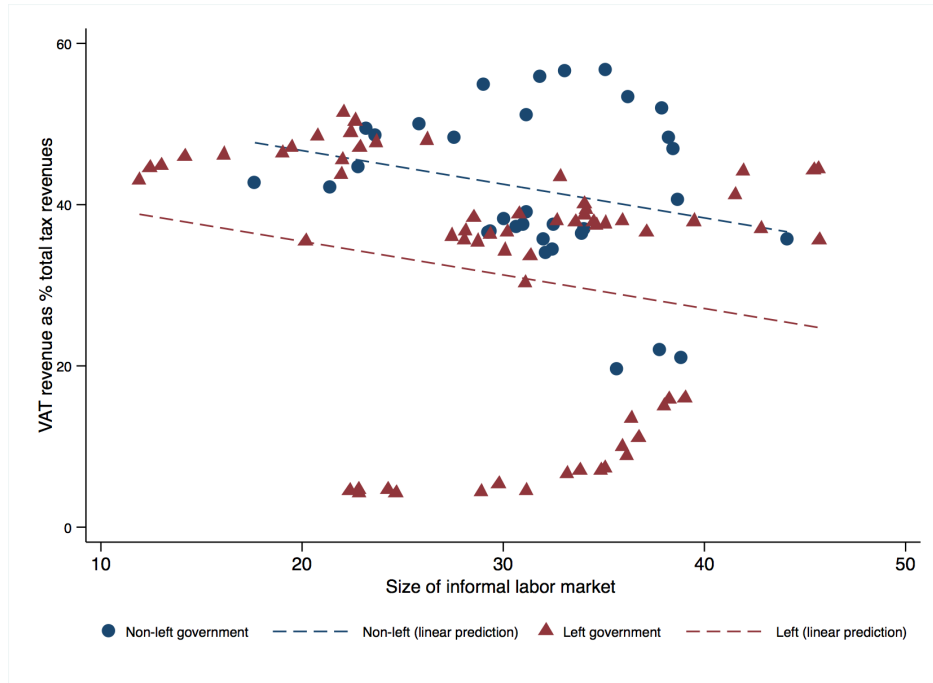
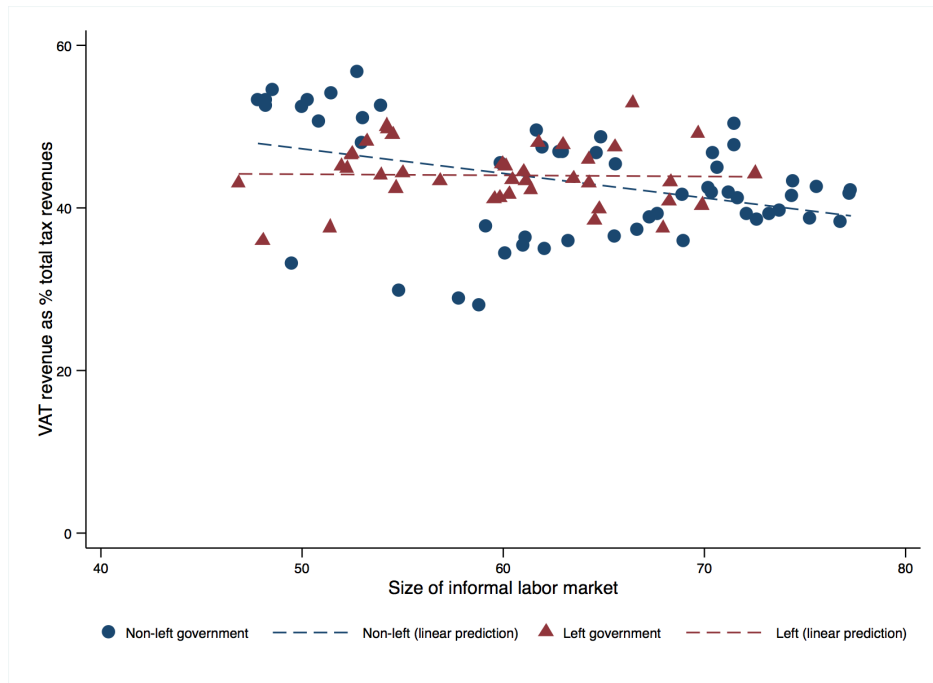


Figure A5: *Contrast of linear predictions of the effect of left governments on tax rates, conditional to the size of the informal labor market (legal definition) and the availability of non tax revenues, Latin America 1990-2016. Analysis based on models estimated in Table A9*



(a) Informality below the mean



(b) Informality above the mean

Figure A6: VAT revenues (% total), informal labor market (legal definition) and government ideology, Latin America 1990-2016

| | Low Informality | High Informality |
|-------------------|---|---|
| Other Governments | Argentina 1991 (3) Argentina 1992 (2) Argentina 1995 (3) Costa Rica 1992 (-1) Costa Rica 1993 (-1) Costa Rica 1994 (-1) Uruguay 2001 (3.69) | Chile 1991 (2) Colombia 1991 (2) Colombia 1993 (2) Colombia 1996 (2) Colombia 2000 (-1) Colombia 2001 (1) Costa Rica 1991 (3) El Salvador 1996 (3) Guatemala 1996 (3) Guatemala 2002 (2) Honduras 1998 (5) Honduras 2014 (3) Mexico 1991 (-5) Mexico 1995 (5) Mexico 2010 (1) Peru 1991 (-1) Peru 1992 (4) Peru 2004 (1) Uruguay 1995 (1) |
| | Costa Rica 1996 (5) Costa Rica 1997 (-2) Uruguay 2007 (-4.69) | Bolivia 1992 (3) Chile 2004 (1) Ecuador 2000 (2) Peru 2011 (-1) |

(a) Change in VAT Rates

| | Low Informality | High Informality |
|-------------------|---|---|
| Other Governments | Argentina 1993 (10) Argentina 1997 (3) Argentina 1998 (2) Brazil 1993 (-5) Uruguay 2002 (5) | Chile 1991 (5) Chile 2011 (3) Colombia 1996 (5) El Salvador 1992 (-5) Guatemala 1998 (-5) Guatemala 2001 (6) Guatemala 2014 (-3) Guatemala 2015 (-3) Honduras 1994 (-5.25) Honduras 1998 (-5) Honduras 1999 (-5) Honduras 2003 (5) Honduras 2010 (5) Honduras 2012 (-4) Honduras 2013 (-1) Mexico 1991 (-1) Mexico 1993 (-20) Mexico 1994 (-.79) Mexico 1999 (1) Mexico 2003 (-1) Mexico 2004 (-1) Mexico 2005 (-3) Mexico 2006 (-1) Mexico 2007 (-1) Mexico 2010 (2) Nicaragua 2000 (-5) Panama 1991 (-2.5) Panama 1992 (-2.5) Panama 1993 (-3) Panama 1994 (-8) Paraguay 2005 (-10) Paraguay 2006 (-10) Peru 1991 (-5) Peru 2002 (-3) Peru 2004 (3) Uruguay 1991 (-10) Venezuela 1992 (-20) |
| | Brazil 1996 (-20) Brazil 1999 (4) Chile 2003 (.5) Uruguay 2005 (-5) Uruguay 2008 (-5) | Brazil 2000 (-3) Chile 2002 (1) Chile 2004 (.5) Ecuador 2011 (-1) Ecuador 2012 (-1) Ecuador 2013 (-1) El Salvador 2012 (5) Peru 2015 (-2) |

(b) Change in CIT Rates

Figure A7: Tax rate changes by country year, according to high and low informality (split at the median level of informality according to the legal definition) and by left governments and all other types of administrations. The top pane represents changes in average general VAT rates; the bottom pane represents changes in the maximum average corporate tax rate.

| | Low Informality | High Informality |
|--------------------------|---|---|
| Other Governments | 30 cases of change in VAT revenue (15 increases and 15 decreases) | 178 cases of change in VAT revenue (109 increases and 69 decreases) |
| Left Governments | 60 cases of change in VAT revenue (21 increases and 39 decreases) | 80 cases of change in VAT revenue (42 increases and 38 decreases) |

Figure A8: Summary of changes in VAT revenue, as a proportion of total tax revenue, according to high and low informality (split at the median level of informality according to the legal definition) and by left governments and all other types of administrations.

1.2 Tables

Table A1: Summary statistics

| Variable | Mean | Std. Dev. | Min. | Max. | N |
|--|--------|-----------|---------|---------|-----|
| Informal labor (productive) | 53.55 | 11.073 | 30.741 | 77.122 | 277 |
| Informal labor (legalistic) | 45.767 | 17.258 | 11.917 | 77.283 | 221 |
| Social expenditure (%GDP) | 8.903 | 2.844 | 2.529 | 16.033 | 305 |
| Growth rate | 3.634 | 3.449 | -11.032 | 18.287 | 457 |
| Trade openness | 63.519 | 32.331 | 14.136 | 167.683 | 456 |
| Tax revenue (%GDP) | 12.906 | 3.192 | 4.814 | 22.123 | 441 |
| Personal income tax (%total tax rev.) | 7.186 | 6.724 | 0 | 26.892 | 358 |
| Corporate income tax (%total tax rev.) | 16.996 | 9.604 | 0 | 80.446 | 379 |
| Value added tax(%total tax rev.) | 36.947 | 12.994 | 0 | 57.513 | 441 |
| CIT maximum rate | 29.241 | 6.495 | 10 | 53 | 454 |
| PIT maximum rate | 27.608 | 8.063 | 10 | 50 | 332 |
| VAT general rate | 14.005 | 4.529 | 5 | 26.69 | 430 |
| Current expenditure (%GDP) | 15.05 | 4.006 | 6.344 | 29.763 | 433 |
| Primary fiscal balance (%GDP) | 0.377 | 2.102 | -6.857 | 8.384 | 433 |
| Total public debt (%GDP) | 40.954 | 27.974 | 3.922 | 222.139 | 439 |
| Size government coalition | 0.526 | 0.162 | 0.09 | 1 | 439 |
| Electoral fragmentation | 0.684 | 0.12 | 0.35 | 0.93 | 436 |
| Non-tax revenue (%GDP) | 3.416 | 3.205 | 0.081 | 15.115 | 433 |
| Left government (yes = 1) | 0.393 | 0.489 | 0 | 1 | 369 |
| Size of the country (log population) | 9.527 | 1.165 | 7.812 | 12.252 | 459 |
| Growth social spending | 0.219 | 0.763 | -2.72 | 2.731 | 288 |
| Business coordination index | 1.134 | 0.778 | 0 | 2 | 357 |
| Ethnic fractionalization | 0.408 | 0.196 | 0.169 | 0.74 | 405 |
| Social protection spending (%GDP) | 3.211 | 2.673 | 0.103 | 10.845 | 305 |
| Growth social protection | 0.067 | 0.474 | -1.996 | 2.439 | 288 |

Table A6: Tax policy, government ideology, labor market and business coordination in Latin America 1990-2016. Interaction random-effects models

| | (1) Tax revenue b/se | (2) PIT b/se | (3) CIT b/se | (4) VAT b/se | (5) CIT rate b/se | (6) PIT rate b/se | (7) VAT rate b/se |
|-----------------------------|----------------------------|----------------------|--------------------|----------------------|-------------------------|-------------------------|-------------------------|
| Left government | 5.176*** (1.63) | 13.506*** (4.44) | -3.392 (5.26) | -8.900** (4.01) | 17.577** (7.64) | -1.887 (4.24) | -2.038 (1.73) |
| Informal labor | 0.026 (0.02) | -0.060 (0.06) | -0.014 (0.08) | -0.356*** (0.06) | -0.001 (0.11) | -0.152** (0.06) | -0.114*** (0.03) |
| Business coordination | 0.018 (0.98) | -1.509 (2.92) | -9.169** (3.59) | -16.211*** (2.40) | 6.381 (4.42) | -3.775 (2.54) | -5.732*** (1.08) |
| Left*informal labor | -0.082** (0.03) | -0.336*** (0.09) | 0.028 (0.10) | 0.105 (0.08) | -0.279* (0.15) | -0.027 (0.08) | 0.016 (0.03) |
| Left*business coordination | -1.758 (1.30) | -7.536** (3.72) | 6.389 (4.55) | 7.958** (3.18) | -3.891 (5.62) | -5.276 (3.36) | 2.878** (1.38) |
| Informal labor*coordination | 0.008 (0.02) | 0.093* (0.05) | 0.200*** (0.06) | 0.310*** (0.04) | -0.010 (0.08) | 0.059 (0.05) | 0.085*** (0.02) |
| Left*informal*coordination | 0.043 (0.03) | 0.194** (0.08) | -0.010 (0.10) | -0.140* (0.07) | 0.031 (0.13) | 0.191** (0.08) | -0.041 (0.03) |
| Size of govt. coalition | 2.121 (1.42) | -12.494*** (3.95) | -3.038 (4.72) | -4.401 (3.49) | -0.943 (4.54) | -1.846 (3.68) | -0.987 (1.64) |
| Growth rate | 0.151*** (0.06) | -0.080 (0.16) | 0.053 (0.19) | 0.059 (0.14) | 0.301 (0.20) | -0.143 (0.15) | 0.049 (0.06) |
| L.growth rate | -0.008 (0.05) | -0.259* (0.14) | 0.216 (0.17) | -0.063 (0.13) | -0.292 (0.18) | 0.074 (0.13) | -0.036 (0.05) |
| Primary fiscal balance | 0.468*** (0.13) | -0.497 (0.38) | 0.928** (0.46) | -0.411 (0.33) | 1.209** (0.48) | -0.449 (0.35) | 0.496*** (0.15) |
| L.primary balance | 0.190 (0.14) | 0.797** (0.38) | 0.269 (0.47) | 0.209 (0.34) | 0.169 (0.50) | -0.156 (0.36) | 0.261* (0.15) |
| Total public debt | 0.004 (0.02) | -0.048 (0.05) | -0.036 (0.05) | -0.094** (0.04) | 0.065 (0.06) | 0.014 (0.04) | -0.005 (0.02) |
| L.total public debt | -0.003 (0.02) | 0.017 (0.05) | -0.003 (0.05) | 0.007 (0.04) | -0.076 (0.05) | 0.072* (0.04) | -0.001 (0.02) |
| Current expenditure | 0.525*** (0.18) | -1.053** (0.50) | 0.279 (0.62) | -1.112** (0.44) | -0.761 (0.63) | -0.460 (0.47) | 0.246 (0.22) |
| L.current expenditure | -0.034 (0.18) | 0.470 (0.51) | 0.222 (0.62) | 0.515 (0.45) | -0.619 (0.63) | 0.083 (0.48) | 0.355 (0.22) |
| Non-tax revenue | -0.089 (0.09) | 0.436* (0.24) | -0.676** (0.28) | 0.394* (0.21) | 0.641** (0.29) | -0.280 (0.22) | -0.506*** (0.10) |
| Trade openness | -0.023** (0.01) | -0.102*** (0.03) | 0.004 (0.04) | -0.079*** (0.03) | -0.407*** (0.04) | -0.024 (0.03) | -0.065*** (0.01) |
| Country size | -0.000*** (0.00) | 0.000 (0.00) | 0.000 (0.00) | -0.000*** (0.00) | -0.000*** (0.00) | 0.000*** (0.00) | 0.000*** (0.00) |
| Constant | 3.942** (1.81) | 28.515*** (5.05) | 10.545* (6.03) | 85.069*** (4.45) | 61.975*** (5.83) | 41.951*** (4.71) | 19.366*** (2.34) |
| N | 131 | 118 | 113 | 131 | 107 | 131 | 121 |

NOTE: *** p<0.01, ** p<0.05, * p<0.1; Models estimated using a “legalistic” definition of the informal labor market. Tax revenue is measured as percentage of GDP. Personal income taxes, corporate income taxes, and VAT are measured as percentage of total tax revenues. CIT rate = maximum rates; PIT rate = maximum rates; VAT rate = general rates. Primary fiscal balance is not defined as surplus only, therefore, it could have positive and negative values.

Table A7: Tax policy, government ideology, and informal labor market in Latin America 1990-2016. Dynamic panel data, Arellano-Bond models

| | (1) | (2) | (3) | (4) |
|------------------------|---------------------|--------------------|---------------------|---------------------|
| | Tax revenue | tPIT | CIT | VAT |
| | b/se | b/se | b/se | b/se |
| Left government | 0.546** (0.26) | 3.615* (1.93) | -1.397 (0.96) | -2.573** (1.30) |
| Informal labor | -0.004 (0.01) | 0.013 (0.02) | -0.015 (0.04) | -0.025 (0.05) |
| Left*informal labor | -0.005 (0.00) | -0.063** (0.03) | 0.042** (0.02) | 0.047* (0.02) |
| Size govt. coalition | 0.219 (0.39) | -0.413 (1.13) | 0.808 (1.00) | 1.357 (1.22) |
| Growth rate | 0.057** (0.03) | -0.016 (0.03) | 0.120** (0.06) | 0.056 (0.05) |
| L.growth rate | 0.016 (0.02) | -0.033 (0.03) | 0.169** (0.07) | -0.036 (0.05) |
| Primary fiscal balance | 0.200*** (0.06) | -0.108 (0.10) | 0.329 (0.21) | -0.301 (0.19) |
| L.primary balance | -0.105 (0.08) | 0.282*** (0.08) | 0.181 (0.27) | 0.020 (0.13) |
| Total public debt | 0.003 (0.01) | -0.018 (0.01) | 0.013 (0.02) | -0.039*** (0.02) |
| L.total public debt | 0.008 (0.01) | -0.004 (0.02) | 0.008 (0.02) | -0.009 (0.02) |
| Current expenditure | 0.388*** (0.07) | -0.324** (0.16) | 0.403* (0.24) | -0.360* (0.21) |
| L.current expenditure | -0.180*** (0.07) | 0.429*** (0.14) | -0.350* (0.18) | 0.289** (0.12) |
| Non-tax revenue | -0.172** (0.07) | -0.050 (0.13) | 0.155 (0.28) | -0.422** (0.21) |
| Trade openness | 0.026*** (0.01) | -0.032 (0.04) | -0.098*** (0.04) | 0.049*** (0.02) |
| Country size | -0.000 (0.00) | 0.000* (0.00) | 0.000*** (0.00) | -0.000 (0.00) |
| L.tax revenue | 0.734*** (0.06) | | | |
| L.PIT | | 0.752*** (0.13) | | |
| L.CIT | | | 0.231*** (0.06) | |
| L.VAT | | | | 0.668*** (0.05) |
| Constant | 1.135 (2.28) | -2.527 (4.53) | 2.944 (6.92) | 18.695*** (5.94) |
| N | 138 | 124 | 121 | 138 |

NOTE: *** p<0.01, ** p<0.05, * p<0.1; Models estimated using a “legal-istic” definition of the informal labor market. Tax revenues are measured as percentage of GDP. PIT, CIT and VAT revenues are measured as percentage of total tax revenues. Primary fiscal balance is not defined as surplus only, therefore, it could have positive and negative values.

Table A8: Non-tax revenue as %GDP, Central Government, Latin America 1990-2015

| | 1990 | 1995 | 2000 | 2005 | 2010 | 2015 |
|-------------|-------|------|------|-------|-------|-------|
| Argentina | 1.03 | 1.00 | 1.94 | 0.62 | 2.38 | 3.13 |
| Bolivia | 9.52 | 8.83 | 6.10 | 9.72 | 11.71 | 13.41 |
| Brazil | | | 1.64 | 1.85 | 4.19 | 1.96 |
| Chile | 6.55 | 4.63 | 3.09 | 5.21 | 4.33 | 2.30 |
| Colombia | 0.31 | 0.28 | 0.28 | 0.10 | 0.12 | 0.09 |
| Costa Rica | 0.41 | 0.22 | 0.10 | 0.25 | 0.96 | 0.83 |
| Ecuador | 7.14 | 6.94 | 8.88 | 5.57 | 9.03 | 4.75 |
| El Salvador | 0.65 | 1.03 | 1.10 | 0.74 | 0.88 | 0.67 |
| Guatemala | 1.20 | 0.98 | 1.09 | 0.76 | 0.79 | 0.64 |
| Honduras | 1.40 | 1.52 | 1.16 | 1.84 | 1.08 | 0.94 |
| Mexico | 4.77 | 5.35 | 4.67 | 6.39 | 6.18 | 4.50 |
| Nicaragua | | 0.44 | 0.42 | 1.00 | 1.07 | 1.14 |
| Panama | 10.48 | 5.02 | 8.04 | 6.08 | 6.08 | 4.08 |
| Paraguay | 2.66 | 3.12 | 4.36 | 4.37 | 3.54 | 4.35 |
| Peru | 0.78 | 1.66 | 2.73 | 2.18 | 2.46 | 1.89 |
| Uruguay | 1.45 | 2.75 | 3.31 | 2.95 | 2.67 | 2.01 |
| Venezuela | 5.55 | 3.46 | 7.30 | 12.28 | 8.19 | |

NOTE: Elaborated by the authors based on data made available by UN-CEPALSTAT

Table A9: Tax revenues rates, government ideology, and non-tax revenues in Latin America 1990-2016. Interaction fixed-effects models

| | (1) | (2) | (3) | (4) | (5) | (6) | (7) |
|---------------------------|---------------------|---------------------|---------------------|---------------------|--------------------|---------------------|--------------------|
| | Tax revenue | PIT | CIT | VAT | CIT rate | PIT rate | VAT rate |
| | b/se | b/se | b/se | b/se | b/se | b/se | b/se |
| Left government | 1.331*** (0.31) | 2.797*** (0.77) | 3.573*** (1.31) | -1.420 (0.92) | 0.611 (0.91) | -0.148 (0.71) | -0.412* (0.24) |
| Non-tax revenue | 0.163 (0.14) | 0.261 (0.34) | 1.508*** (0.57) | -0.193 (0.43) | 1.120*** (0.42) | -0.921*** (0.34) | 0.078 (0.11) |
| Left*non-tax revenue | -0.049 (0.10) | -0.137 (0.25) | -0.628 (0.42) | 0.131 (0.30) | -0.708** (0.30) | 0.317 (0.23) | -0.036 (0.08) |
| Informal labor | -0.107*** (0.02) | -0.110** (0.05) | -0.269*** (0.09) | 0.081 (0.07) | 0.090 (0.07) | -0.027 (0.05) | 0.029 (0.02) |
| Size government coalition | 1.319 (0.92) | -1.486 (2.16) | -0.759 (3.57) | -0.442 (2.74) | 5.171* (2.70) | 1.780 (2.05) | 0.807 (0.71) |
| Growth rate | 0.060 (0.04) | 0.042 (0.08) | 0.015 (0.14) | 0.197* (0.11) | -0.247** (0.11) | 0.134 (0.09) | -0.041 (0.03) |
| L.growth rate | 0.088*** (0.03) | 0.007 (0.07) | 0.124 (0.11) | -0.023 (0.09) | -0.153* (0.09) | -0.028 (0.07) | -0.009 (0.02) |
| Primary balance | 0.003 (0.09) | -0.356* (0.20) | 0.196 (0.34) | -0.273 (0.26) | -0.168 (0.26) | 0.225 (0.22) | 0.004 (0.07) |
| L.primary balance | 0.124 (0.09) | 0.130 (0.20) | 0.274 (0.34) | -0.278 (0.26) | 0.457* (0.26) | 0.286 (0.21) | 0.057 (0.07) |
| Total public debt | -0.007 (0.01) | 0.002 (0.03) | -0.004 (0.04) | -0.045 (0.03) | -0.032 (0.03) | 0.049* (0.03) | -0.008 (0.01) |
| L.total public debt | 0.028** (0.01) | -0.010 (0.03) | 0.014 (0.04) | -0.079** (0.03) | 0.056* (0.03) | -0.024 (0.03) | 0.009 (0.01) |
| Current expenditure | 0.509*** (0.11) | -0.569** (0.27) | 0.158 (0.45) | -0.619* (0.34) | -0.505 (0.33) | 0.385 (0.27) | -0.003 (0.09) |
| L.current expenditure | 0.174 (0.12) | 0.268 (0.27) | -0.092 (0.46) | -0.222 (0.36) | 0.814** (0.35) | -0.288 (0.29) | 0.255** (0.10) |
| Trade openness | 0.095*** (0.01) | -0.149*** (0.03) | 0.038 (0.06) | -0.062 (0.04) | 0.041 (0.04) | -0.003 (0.04) | 0.026** (0.01) |
| Country size | -0.000*** (0.00) | 0.000*** (0.00) | 0.000 (0.00) | 0.000 (0.00) | -0.000 (0.00) | 0.000 (0.00) | 0.000 (0.00) |
| Constant | 4.478** (2.00) | 10.182** (4.96) | 13.112 (8.26) | 56.938*** (5.95) | 15.266** (5.86) | 25.507*** (4.68) | 7.934*** (1.55) |
| <i>N</i> | 181 | 167 | 162 | 181 | 181 | 156 | 171 |
| <i>R</i> ² | 0.725 | 0.486 | 0.388 | 0.338 | 0.238 | 0.166 | 0.250 |

NOTE: *** p<0.01, ** p<0.05, * p<0.1; Models estimated using a “legalistic” definition of the informal labor market. Tax revenue is measured as percentage of GDP. Personal income taxes, corporate income taxes, and VAT are measured as percentage of total tax revenues. CIT rate = maximum rates; PIT rate = maximum rates; VAT rate = general rates. Primary fiscal balance is not defined as surplus only, therefore, it could have positive and negative values.

Table A10: Tax revenue, government ideology, and informal labor market in Latin America 1990-2016. Baseline fixed-effects models (controlling for growth in non-contributory social protection spending)

| | Informal labor market (productive) | | | | Informal labor market (legalistic) | | | |
|--------------------------|------------------------------------|---------------------|----------------------|---------------------|------------------------------------|---------------------|------------------|---------------------|
| | (1) | (2) | (3) | (4) | (5) | (6) | (7) | (8) |
| | Tax rev. b/se | PIT b/se | CIT b/se | VAT b/se | Tax rev. b/se | PIT b/se | CIT b/se | VAT b/se |
| Left government | 0.925*** (0.33) | 0.999** (0.41) | 0.214 (0.91) | -1.868** (0.86) | 0.969*** (0.28) | 1.281*** (0.41) | 0.788 (0.93) | -1.994*** (0.66) |
| Informal labor(L) | | | | | -0.113*** (0.03) | 0.005 (0.04) | 0.031 (0.10) | 0.151** (0.07) |
| Informal labor (P) | -0.092** (0.05) | -0.125** (0.06) | 0.280** (0.12) | 0.225* (0.12) | | | | |
| Size govt. coalition | 4.142*** (1.17) | 1.767 (1.42) | 8.260*** (3.09) | -3.641 (3.08) | 1.443 (1.08) | 1.621 (1.55) | 5.435 (3.48) | 0.139 (2.59) |
| Growth rate | 0.055 (0.05) | -0.043 (0.06) | 0.097 (0.12) | 0.049 (0.12) | 0.079* (0.04) | -0.012 (0.06) | 0.013 (0.13) | 0.069 (0.10) |
| L.growth rate | 0.106*** (0.04) | -0.053 (0.05) | 0.176* (0.10) | -0.165 (0.10) | 0.114*** (0.03) | -0.012 (0.05) | 0.143 (0.11) | -0.042 (0.08) |
| Primary fiscal balance | 0.088 (0.11) | -0.016 (0.13) | 0.106 (0.29) | -0.236 (0.28) | -0.013 (0.10) | -0.073 (0.14) | 0.070 (0.32) | -0.770*** (0.24) |
| L.primary balance | 0.242** (0.11) | 0.207 (0.13) | 0.255 (0.29) | -0.518* (0.28) | 0.205** (0.10) | 0.202 (0.14) | 0.036 (0.31) | -0.463** (0.23) |
| Total public debt | -0.006 (0.01) | -0.001 (0.02) | -0.013 (0.04) | -0.098*** (0.04) | -0.001 (0.01) | 0.010 (0.02) | -0.019 (0.04) | -0.088*** (0.03) |
| L.total public debt | 0.030** (0.01) | -0.005 (0.02) | 0.007 (0.04) | -0.088** (0.04) | 0.032** (0.01) | -0.003 (0.02) | 0.003 (0.04) | -0.061** (0.03) |
| Current expenditure | 0.457*** (0.15) | 0.037 (0.18) | 0.417 (0.41) | -0.366 (0.39) | 0.491*** (0.14) | -0.055 (0.20) | 0.411 (0.45) | -1.227*** (0.33) |
| L.current expenditure | 0.452*** (0.16) | 0.429** (0.19) | 0.192 (0.43) | -0.584 (0.42) | 0.361** (0.14) | 0.391* (0.20) | -0.197 (0.46) | -0.398 (0.34) |
| Growth social protection | 0.051 (0.25) | -0.081 (0.30) | -0.261 (0.66) | -0.176 (0.65) | 0.192 (0.23) | -0.439 (0.33) | -0.467 (0.74) | -0.171 (0.54) |
| Non-tax revenue | 0.141 (0.12) | -0.114 (0.14) | 0.955*** (0.31) | -0.581* (0.31) | 0.090 (0.11) | 0.324** (0.16) | 0.654* (0.36) | 0.275 (0.25) |
| Trade openness | 0.069*** (0.02) | -0.093*** (0.02) | 0.060 (0.04) | 0.075* (0.04) | 0.109*** (0.02) | -0.165*** (0.03) | 0.089 (0.06) | -0.066* (0.04) |
| Country size | -0.000*** (0.00) | 0.000*** (0.00) | 0.000** (0.00) | 0.000 (0.00) | -0.000*** (0.00) | 0.000*** (0.00) | 0.000 (0.00) | 0.000 (0.00) |
| Constant | 0.266 (3.29) | 2.625 (4.05) | -28.441*** (9.03) | 47.265*** (8.65) | 2.701 (2.70) | -7.359* (3.99) | -4.930 (9.03) | 63.679*** (6.46) |
| N | 175 | 169 | 165 | 175 | 143 | 136 | 132 | 143 |
| R ² | 0.601 | 0.606 | 0.377 | 0.463 | 0.731 | 0.680 | 0.303 | 0.588 |

NOTE: *** p<0.01, ** p<0.05, * p<0.1; Models estimated using a “legalistic” definition of the informal labor market. Tax revenue is measured as percentage of GDP. Personal income taxes, corporate income taxes, and VAT are measured as percentage of total tax revenues. CIT rate = maximum rates; PIT rate = maximum rates; VAT rate = general rates. Primary fiscal balance is not defined as surplus only, therefore, it could have positive and negative values.

Table A11: Tax rates, government ideology, and informal labor market in Latin America 1990-2016. Baseline fixed-effects models (controlling for growth in non-contributory social protection spending)

| | (1) CIT rate b/se | (2) PIT rate b/se | (3) VAt rate b/se |
|--------------------------|-------------------------|-------------------------|-------------------------|
| Left government | -0.331 (0.95) | -0.551 (1.61) | 0.168 (0.39) |
| Informal labor | 0.015 (0.04) | 0.044 (0.06) | 0.030* (0.02) |
| Left*informal labor | 0.025 (0.02) | 0.021 (0.03) | -0.010 (0.01) |
| Size govt. coalition | 0.260 (1.24) | 3.494 (2.12) | 0.713 (0.54) |
| Growth rate | -0.033 (0.05) | 0.073 (0.08) | -0.022 (0.02) |
| L.growth rate | -0.016 (0.04) | -0.044 (0.07) | -0.001 (0.02) |
| Primary balance | 0.240* (0.11) | 0.228 (0.21) | -0.099* (0.05) |
| L.primary balance | 0.148 (0.11) | 0.374* (0.20) | 0.074 (0.05) |
| Total public debt | 0.010 (0.01) | 0.032 (0.02) | -0.009 (0.01) |
| L.total public debt | 0.005 (0.01) | -0.013 (0.02) | 0.006 (0.01) |
| Current expenditure | 0.293* (0.16) | 0.342 (0.27) | -0.074 (0.07) |
| L.current expenditure | 0.167 (0.16) | -0.015 (0.29) | 0.168* (0.08) |
| Growth social protection | -0.056 (0.26) | 0.228 (0.43) | -0.112 (0.11) |
| Non-tax revenue | -0.268* (0.12) | -0.539*** (0.20) | 0.025 (0.05) |
| Trade openness | 0.006 (0.02) | 0.009 (0.03) | 0.025*** (0.01) |
| Country size | -0.000* (0.00) | -0.000 (0.00) | 0.000 (0.00) |
| Constant | 21.959*** (3.13) | 17.196*** (5.38) | 9.707*** (1.33) |
| <i>N</i> | 143 | 135 | 135 |
| <i>R</i> ² | 0.273 | 0.187 | 0.269 |

NOTE: *** p<0.01, ** p<0.05, * p<0.1; Primary fiscal balance is not defined as surplus only, therefore, it could have positive and negative values.

Table A12: Tax policy, government ideology, and informal labor market in Latin America 1990-2016. Baseline random-effects models (controlling for ethnic fractionalization)

| | (1) | (2) | (3) | (4) | (5) | (6) | (7) |
|--------------------------|--------------------|---------------------|---------------------|----------------------|---------------------|---------------------|---------------------|
| | Tax rev. | PIT | CIT | VAT | CIT rate | PIT rate | VAT rate |
| | b/se | b/se | b/se | b/se | b/se | b/se | b/se |
| Left government | 1.966*** (0.32) | 1.974* (0.96) | 2.799* (1.20) | -1.480 (0.90) | -0.285 (0.84) | 1.143 (1.20) | 0.006 (0.37) |
| Informal labor | 0.032* (0.01) | 0.049 (0.04) | 0.153*** (0.05) | 0.089* (0.04) | -0.078* (0.03) | -0.075 (0.05) | -0.011 (0.01) |
| Size govt. coalition | 3.301*** (1.21) | -5.015 (3.57) | 8.953* (4.36) | -2.016 (3.45) | 4.857 (3.22) | 4.803 (4.37) | 1.287 (1.40) |
| Growth rate | 0.169*** (0.05) | -0.226 (0.15) | 0.128 (0.18) | 0.094 (0.15) | -0.312* (0.14) | 0.025 (0.20) | 0.065 (0.06) |
| L.growth rate | 0.089* (0.04) | -0.128 (0.12) | 0.035 (0.15) | -0.032 (0.12) | -0.206 (0.12) | -0.349* (0.17) | -0.053 (0.05) |
| Primary fiscal balance | 0.402*** (0.12) | 0.039 (0.35) | 1.354*** (0.43) | -0.194 (0.34) | -0.073 (0.32) | 1.183* (0.48) | 0.483*** (0.14) |
| L.primary balance | 0.103 (0.12) | 0.105 (0.34) | 0.185 (0.43) | 0.245 (0.35) | 0.217 (0.32) | 0.223 (0.48) | 0.427*** (0.14) |
| Total public debt | 0.006 (0.02) | -0.070 (0.05) | -0.028 (0.06) | -0.068 (0.05) | 0.002 (0.04) | -0.010 (0.06) | 0.012 (0.02) |
| L.total public debt | -0.012 (0.02) | 0.020 (0.04) | -0.077 (0.05) | -0.032 (0.05) | 0.105* (0.04) | -0.030 (0.06) | -0.014 (0.02) |
| Current expenditure | 0.740*** (0.18) | 0.001 (0.53) | 1.205 (0.67) | -0.850 (0.53) | -0.118 (0.49) | -0.357 (0.74) | 0.177 (0.21) |
| L.current expenditure | -0.070 (0.19) | 0.612 (0.53) | -0.149 (0.67) | 0.780 (0.53) | 0.100 (0.49) | -0.166 (0.76) | 0.494* (0.21) |
| Non-tax revenue | -0.136* (0.07) | -0.909*** (0.20) | -1.426*** (0.25) | 0.305 (0.20) | -0.922*** (0.18) | -0.391 (0.26) | -0.379*** (0.08) |
| Trade openness | -0.024* (0.01) | -0.010 (0.03) | 0.047 (0.04) | -0.187*** (0.03) | 0.009 (0.03) | -0.229*** (0.04) | -0.114*** (0.01) |
| Country size | -0.000 (0.00) | 0.000*** (0.00) | 0.000*** (0.00) | -0.000*** (0.00) | 0.000*** (0.00) | 0.000*** (0.00) | 0.000*** (0.00) |
| Ethnic fractionalization | -2.134 (1.11) | -3.862 (3.28) | 10.145* (4.12) | -10.531*** (3.15) | 13.779*** (2.94) | -2.092 (4.41) | -2.083 (1.28) |
| Constant | 1.360 (1.44) | 1.511 (4.39) | -13.712* (5.38) | 62.668*** (4.09) | 22.807*** (3.82) | 50.931*** (5.38) | 13.487*** (1.66) |
| N | 166 | 152 | 147 | 166 | 166 | 141 | 166 |

NOTE: *** p<0.01, ** p<0.05, * p<0.1; Models estimated using a “legalistic” definition of the informal labor market. Tax revenue is measured as percentage of GDP. Personal income taxes, corporate income taxes, and VAT are measured as percentage of total tax revenues. CIT rate = maximum rates; PIT rate = maximum rates; VAT rate = general rates. Primary fiscal balance is not defined as surplus only, therefore, it could have positive and negative values.

Table A13: Tax policy, government ideology, and informal labor market in Latin America 1990-2016. Baseline fixed-effects models controlling for electoral competition

| | (1) | (2) | (3) | (4) | (5) | (6) | (7) |
|-------------------------|---------------------|---------------------|----------------------|---------------------|---------------------|---------------------|---------------------|
| | Tax revenue | PIT | CIT | VAT | CIT rate | PIT rate | VAT rate |
| | b/se | b/se | b/se | b/se | b/se | b/se | b/se |
| Left government | 1.204*** (0.24) | 2.338*** (0.56) | 2.580*** (0.93) | -1.068 (0.70) | -0.685 (0.72) | 0.327 (0.58) | -0.521*** (0.18) |
| Informal labor | -0.102*** (0.02) | -0.121** (0.05) | -0.195** (0.09) | 0.062 (0.07) | 0.133* (0.07) | -0.047 (0.06) | 0.020 (0.02) |
| Size govt. coalition | 1.136 (1.03) | -0.212 (2.40) | -6.610* (3.99) | 0.657 (3.03) | 3.285 (3.09) | 2.578 (2.37) | 1.693** (0.79) |
| Growth rate | 0.072* (0.04) | 0.027 (0.09) | 0.104 (0.14) | 0.144 (0.11) | -0.241** (0.11) | 0.134 (0.09) | -0.064** (0.03) |
| L.growth rate | 0.084*** (0.03) | 0.005 (0.07) | 0.178 (0.11) | 0.002 (0.09) | -0.143 (0.09) | -0.067 (0.07) | -0.009 (0.02) |
| Primary fiscal balance | 0.003 (0.09) | -0.389* (0.20) | 0.298 (0.34) | -0.260 (0.26) | -0.144 (0.26) | 0.149 (0.22) | -0.009 (0.07) |
| L.primary balance | 0.101 (0.09) | 0.087 (0.20) | 0.102 (0.33) | -0.220 (0.26) | 0.329 (0.26) | 0.383* (0.21) | 0.064 (0.07) |
| Total public debt | -0.007 (0.01) | -0.003 (0.03) | 0.023 (0.04) | -0.042 (0.03) | -0.028 (0.03) | 0.039 (0.03) | -0.010 (0.01) |
| L.total public debt | 0.025** (0.01) | -0.007 (0.03) | 0.000 (0.04) | -0.067* (0.03) | 0.057 (0.04) | -0.024 (0.03) | 0.013 (0.01) |
| current expenditure | 0.490*** (0.12) | -0.672** (0.27) | 0.415 (0.45) | -0.544 (0.34) | -0.480 (0.35) | 0.279 (0.28) | -0.027 (0.09) |
| L.current expenditure | 0.172 (0.12) | 0.302 (0.27) | -0.297 (0.46) | -0.218 (0.35) | 0.837** (0.36) | -0.236 (0.29) | 0.280*** (0.10) |
| Non-tax revenue | 0.104 (0.09) | 0.181 (0.22) | 0.637* (0.36) | -0.004 (0.27) | 0.284 (0.28) | -0.542** (0.21) | 0.073 (0.07) |
| Trade openness | 0.091*** (0.02) | -0.137*** (0.04) | -0.034 (0.06) | -0.043 (0.04) | 0.013 (0.05) | 0.008 (0.04) | 0.037*** (0.01) |
| Country size | -0.000*** (0.00) | 0.000*** (0.00) | 0.000* (0.00) | 0.000 (0.00) | -0.000 (0.00) | -0.000 (0.00) | 0.000 (0.00) |
| Electoral fragmentation | -0.135 (1.35) | 4.670 (3.09) | -14.643*** (5.35) | 1.751 (3.96) | -3.926 (4.04) | 1.559 (3.17) | 2.284** (1.02) |
| Constant | 5.106** (2.27) | 7.777 (5.59) | 25.175*** (9.28) | 53.072*** (6.65) | 18.210*** (6.79) | 25.495*** (5.36) | 5.749*** (1.70) |
| <i>N</i> | 179 | 165 | 160 | 179 | 179 | 154 | 169 |
| <i>R</i> ² | 0.716 | 0.496 | 0.409 | 0.264 | 0.215 | 0.151 | 0.288 |

NOTE: *** p<0.01, ** p<0.05, * p<0.1; Models estimated using a “legalistic” definition of the informal labor market. Tax revenues are measured as percentage of GDP. PIT, CIT and VAT revenues are measured as percentage of total tax revenues. Primary fiscal balance is not defined as surplus only, therefore, it could have positive and negative values.

Table A14: Tax policy, government ideology, and informal labor market in Latin America 1990-2016. Baseline fixed-effects models controlling for year effects

| | (1) Tax revenue b/se | (2) PIT b/se | (3) CIT b/se | (4) VAT b/se | (5) CIT rate b/se | (6) PIT rate b/se | (7) VAT rate b/se |
|-----------------|----------------------------|--------------------|--------------------|---------------------|-------------------------|-------------------------|-------------------------|
| Left government | 1.542*** (0.31) | -0.654 (0.67) | 0.190 (1.02) | -2.882*** (0.96) | 0.350 (0.96) | 1.420** (0.65) | -0.407* (0.21) |
| Informal labor | -0.039* (0.02) | -0.035 (0.05) | -0.111 (0.07) | -0.125* (0.07) | 0.259*** (0.07) | -0.016 (0.05) | 0.034** (0.02) |
| 1991 | -4.718*** (1.54) | -5.989* (3.33) | -6.104 (4.90) | -10.329** (4.74) | -8.714* (4.99) | | -2.136** (1.06) |
| 1992 | -0.941 (1.00) | -1.574 (2.41) | 0.525 (3.55) | 4.162 (3.07) | 3.269 (3.49) | . | 1.163 (0.77) |
| 1993 | -1.125 (1.08) | -1.609 (2.68) | 0.138 (3.95) | 6.362* (3.31) | 5.378 (3.73) | -5.408*** (2.05) | 0.267 (0.86) |
| 1994 | -1.773 (1.09) | 0.906 (2.52) | 1.079 (4.08) | 2.903 (3.35) | 1.532 (3.72) | -6.988** (2.69) | 0.019 (0.79) |
| 1995 | -1.373 (0.98) | 1.033 (2.34) | -1.139 (3.54) | 2.111 (3.01) | 8.097** (3.42) | -6.114*** (2.07) | 1.621** (0.75) |
| 1996 | -1.031 (1.01) | 0.500 (2.37) | 2.183 (3.63) | 7.983** (3.09) | 0.787 (3.47) | -6.091*** (2.07) | 3.366*** (0.77) |
| 1997 | -0.388 (1.02) | 0.529 (2.40) | -1.017 (3.68) | 3.900 (3.13) | 4.502 (3.53) | -1.771 (1.86) | 2.717*** (0.79) |
| 1998 | -0.675 (0.92) | 1.471 (2.32) | 0.882 (3.50) | 2.178 (2.83) | 2.750 (3.24) | -0.448 (1.56) | 2.395*** (0.70) |
| 1999 | -0.242 (0.90) | 2.774 (2.26) | 2.001 (3.33) | -0.329 (2.76) | 4.313 (3.23) | -2.875* (1.59) | 2.321*** (0.69) |
| 2000 | 0.398 (0.90) | 3.400 (2.29) | -0.080 (3.37) | -1.127 (2.77) | 2.550 (3.21) | -1.130 (1.49) | 2.311*** (0.68) |
| 2001 | 0.371 (0.90) | 1.566 (2.24) | 1.362 (3.31) | -1.558 (2.78) | 4.020 (3.25) | -3.659** (1.56) | 2.905*** (0.70) |
| 2002 | 0.803 (0.88) | 2.057 (2.17) | 2.560 (3.20) | -2.918 (2.71) | 4.546 (3.19) | -2.884* (1.49) | 2.894*** (0.68) |
| 2003 | 1.167 (0.88) | 0.927 (2.14) | 1.898 (3.17) | -1.711 (2.72) | 4.300 (3.18) | -3.139** (1.51) | 2.900*** (0.68) |
| 2004 | 1.871** (0.91) | 0.844 (2.21) | 3.216 (3.27) | -1.849 (2.79) | 4.934 (3.25) | -3.144* (1.60) | 3.082*** (0.70) |
| 2005 | 2.013** (0.90) | 1.392 (2.19) | 6.796** (3.25) | -1.773 (2.75) | 2.566 (3.21) | -3.524** (1.54) | 3.083*** (0.69) |
| 2006 | 2.409*** (0.87) | 1.677 (2.16) | 7.228** (3.20) | -1.633 (2.69) | 2.065 (3.13) | -3.820** (1.47) | 3.192*** (0.67) |
| 2007 | 2.220** (0.91) | 3.573 (2.25) | 8.098** (3.35) | 0.480 (2.81) | 1.747 (3.23) | -3.226** (1.59) | 2.727*** (0.69) |
| 2008 | 2.477*** (0.90) | 4.674** (2.24) | 8.091** (3.33) | -0.396 (2.77) | 1.306 (3.20) | -4.594*** (1.54) | 2.746*** (0.68) |
| 2009 | 1.772* (0.92) | 5.444** (2.29) | 9.359*** (3.40) | -1.748 (2.84) | 1.877 (3.24) | -4.370*** (1.60) | 2.876*** (0.70) |
| 2010 | 1.780* (0.93) | 4.884** (2.30) | 6.662* (3.42) | 0.682 (2.85) | 2.096 (3.22) | -5.099*** (1.62) | 3.074*** (0.68) |
| 2011 | 1.914** (0.93) | 5.332** (2.32) | 7.911** (3.46) | -0.271 (2.87) | 2.695 (3.25) | -4.443*** (1.63) | 2.966*** (0.69) |
| 2012 | 2.438*** (0.90) | 6.138*** (2.25) | 7.893** (3.35) | -0.851 (2.78) | 3.477 (3.18) | -4.275*** (1.56) | 3.011*** (0.67) |
| 2013 | 2.279** (0.96) | 6.714*** (2.38) | 7.306** (3.54) | -1.372 (2.96) | 3.357 (3.33) | -4.038** (1.69) | 2.958*** (0.71) |
| 2014 | 2.582*** (0.91) | 6.681*** (2.27) | 7.341** (3.37) | -1.756 (2.80) | 3.291 (3.20) | -3.681** (1.60) | 3.015*** (0.68) |
| 2015 | 2.701*** (0.94) | 7.491*** (2.34) | 6.642* (3.47) | -2.105 (2.90) | 3.492 (3.29) | -3.911** (1.64) | 2.968*** (0.70) |
| N | 193 | 178 | 173 | 193 | 192 | 164 | 176 |
| R ² | 0.702 | 0.510 | 0.496 | 0.331 | 0.270 | 0.260 | 0.480 |

NOTE: *** p<0.01, ** p<0.05, * p<0.1; Models estimated using a “legalistic” definition of the informal labor market. Tax revenues are measured as percentage of GDP. PIT, CIT and VAT revenues are measured as percentage of total tax revenues. Primary fiscal balance is not defined as surplus only, therefore, it could have positive and negative values.

Table A15: Informality and Electoral Support for the Left

| | (1) b/se | (2) b/se |
|-----------------------|---------------------|---------------------|
| Informal (no ins.) | | 0.401* (0.23) |
| Self-employed | 0.438*** (0.15) | |
| Public Salary | 0.617*** (0.16) | |
| Retired | -0.190 (0.24) | |
| Housework | 0.169 (0.12) | |
| Student | 0.351* (0.19) | |
| Out of work | 0.121 (0.15) | |
| Left | 1.607*** (0.21) | 1.599*** (0.21) |
| Center | 0.414*** (0.14) | 0.402*** (0.14) |
| Rich | 0.021 (0.20) | 0.050 (0.20) |
| Poor | -0.141 (0.11) | -0.146 (0.10) |
| Very Poor | -0.333** (0.15) | -0.334** (0.15) |
| High School | -0.199* (0.12) | -0.214* (0.12) |
| University | -0.328* (0.17) | -0.309* (0.18) |
| Middle age | -0.204 (0.13) | -0.226* (0.13) |
| Old | -0.388* (0.23) | -0.572** (0.22) |
| Constant | 12.174*** (0.25) | 12.373*** (0.26) |
| <i>N</i> | 7484 | 7484 |
| <i>R</i> ² | 0.048 | 0.045 |

NOTE: OLS Models with robust standard errors, clustered by region, in brackets, based on Latinobarometro 2009; * $p < 0.01$, ** $p < 0.05$, *** $p < 0.1$. The reference category in model 1 is salaried workers in private sector.

Table A16: Pairwise correlation between size of the informal labor market and degree of business coordination

| | Business coordination |
|---|-----------------------|
| Size of informal labor market (legalistic definition) | -0.1648* |
| Size of informal labor market (productive definition) | -0.1488* |