

Democracy and the Politicization of Inequality in Brazil, 1989-2018

Appendix

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March 2021



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GLOBAL INEQUALITY DATA

Democracy and the Politicization of Inequality in Brazil, 1989-2018*

Appendix

Amory Gethin Marc Morgan

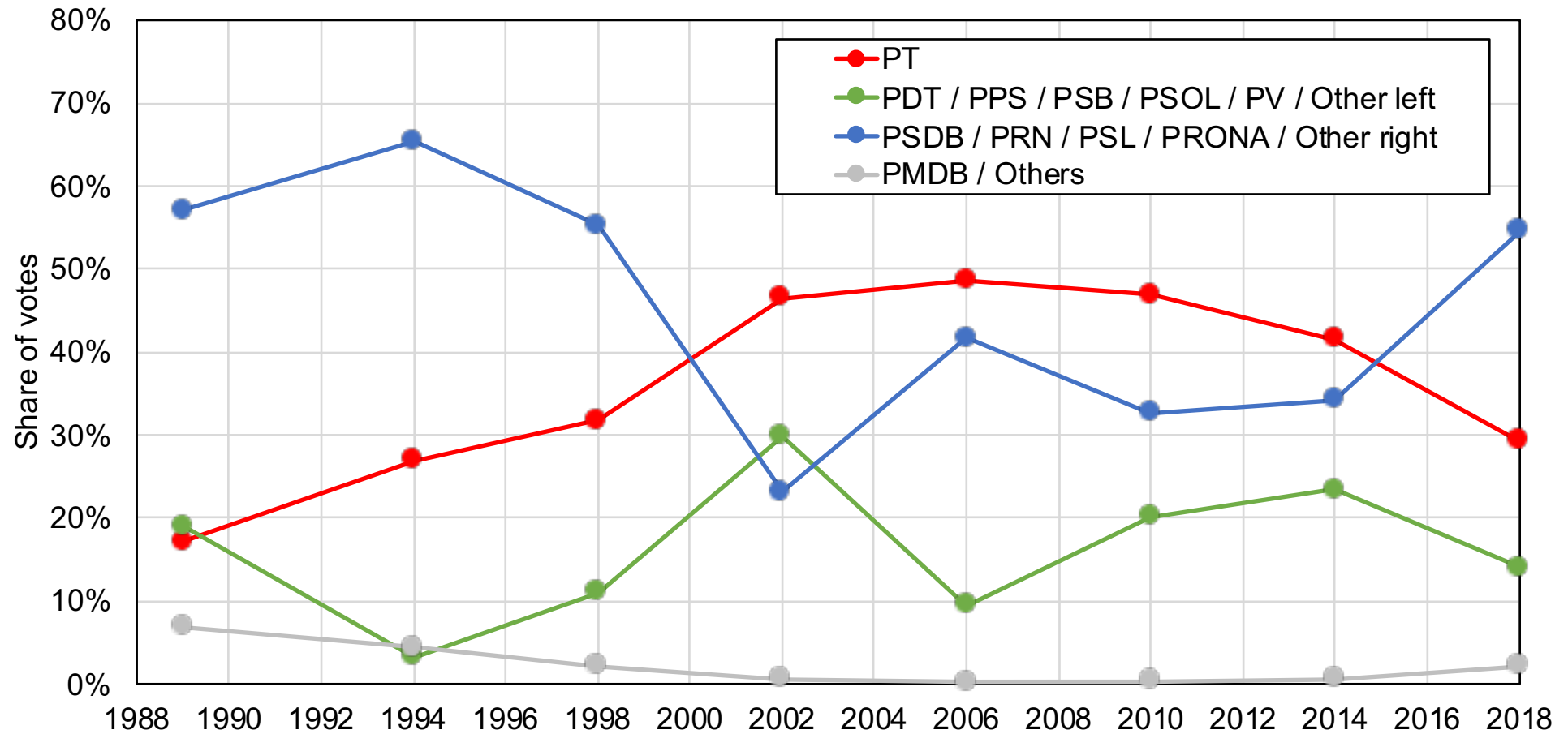
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Abstract

This document supplements our working paper “Democracy and the Politicization of Inequality in Brazil, 1989-2018”. It contains all appendix tables and figures.

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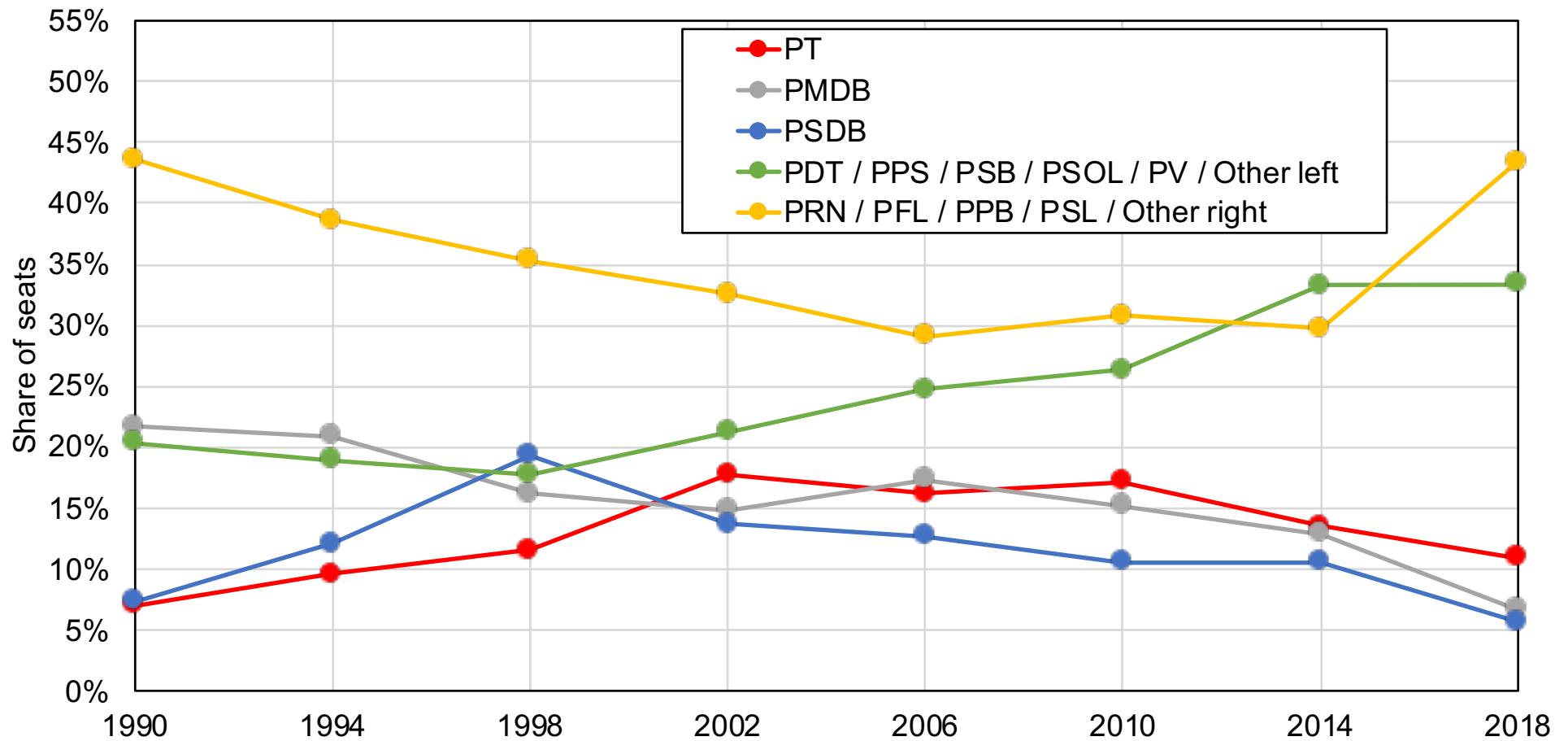
Figure A1 - Presidential election results, 1989-2018: First round



Source: authors' computations using official election results.

Note: the figure shows the share of votes received by selected Brazilian political parties in the first round of presidential elections. PT: Partido dos Trabalhadores; PDT: Partido Democrático Trabalhista; PPS: Partido Popular Socialista; PSB: Partido Socialista Brasileiro; PSOL: Partido Socialismo e Liberdade; PV: Partido Verde; PSDB: Partido da Social Democracia Brasileira; PRN: Partido da Reconstrução Nacional; PSL: Partido Social Liberal; PRONA: Partido de Reedificação da Ordem Nacional; PMDB: Partido do Movimento Democrático Brasileiro.

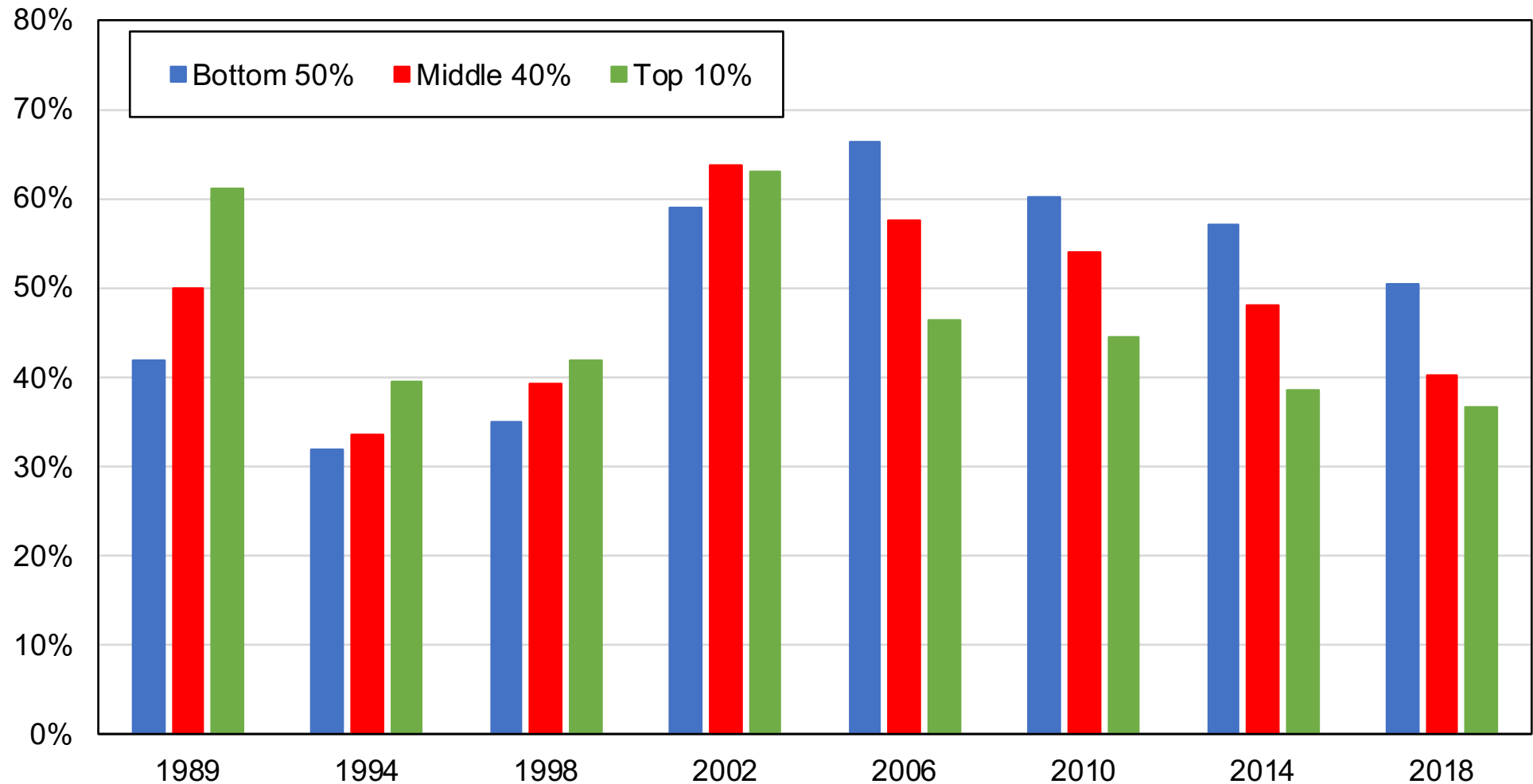
Figure A2 - Parliamentary election results, 1990-2018



Source: authors' computations using official election results.

Note: the figure shows the share of seats obtained by selected Brazilian political parties in the parliamentary elections. PT: Partido dos Trabalhadores; PMDB: Partido do Movimento Democrático Brasileiro; PSDB: Partido da Social Democracia Brasileira; PDT: Partido Democrático Trabalhista; PPS: Partido Popular Socialista; PSB: Partido Socialista Brasileiro; PSOL: Partido Socialismo e Liberdade; PV: Partido Verde; PRN: Partido da Reconstrução Nacional; PFL: Partido da Frente Liberal; PPB: Partido Progressista; PSL: Partido Social Liberal.

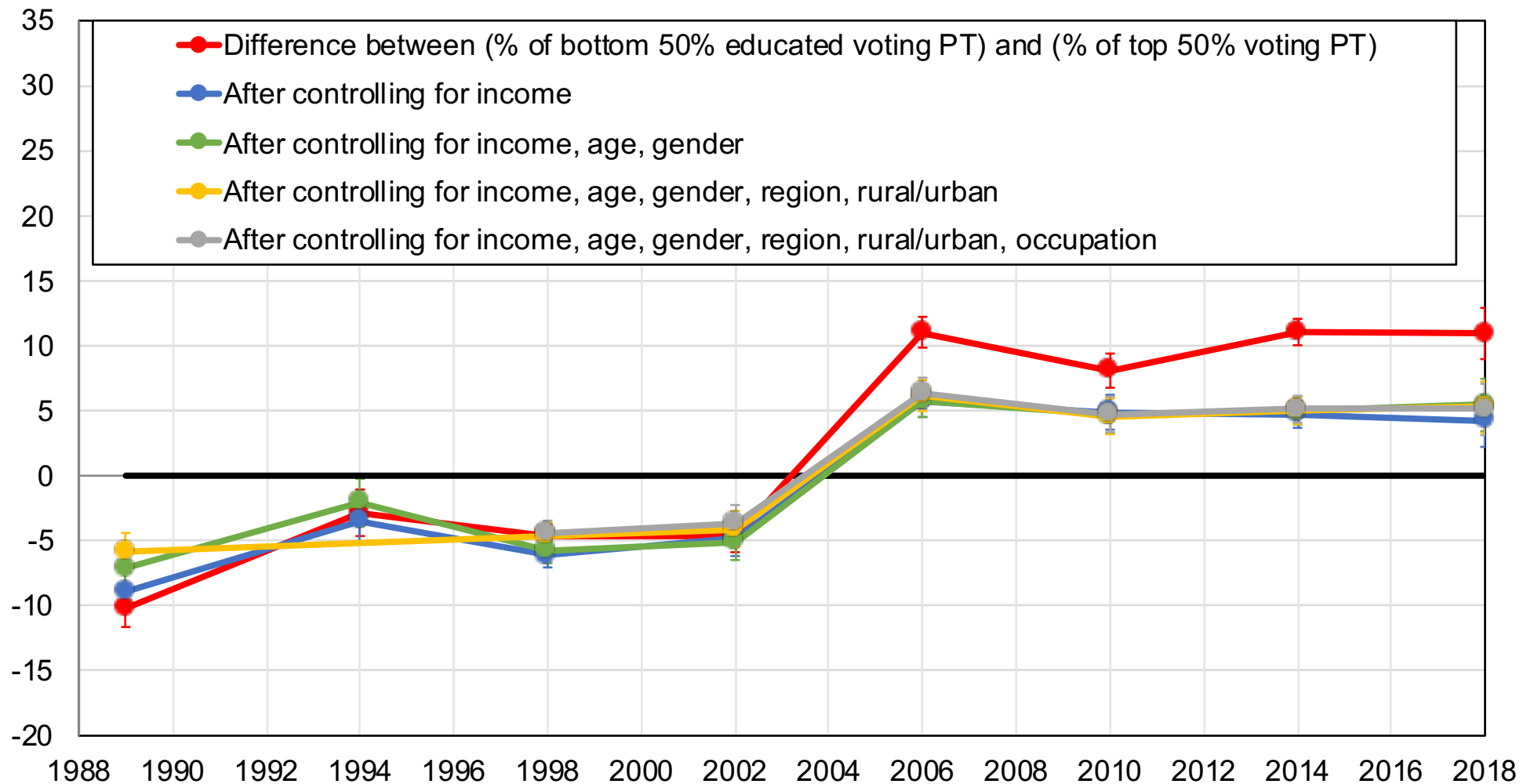
Figure A3 - Vote for PT by education group, 1989-2018



Source: authors' computations using Brazilian political attitudes surveys.

Note: the figure shows the share of votes received by the Workers' Party in the second round of presidential elections among voters with different levels of education. Bottom 50% educated voters have been increasingly more likely to support the PT in comparison to voters with higher levels of education.

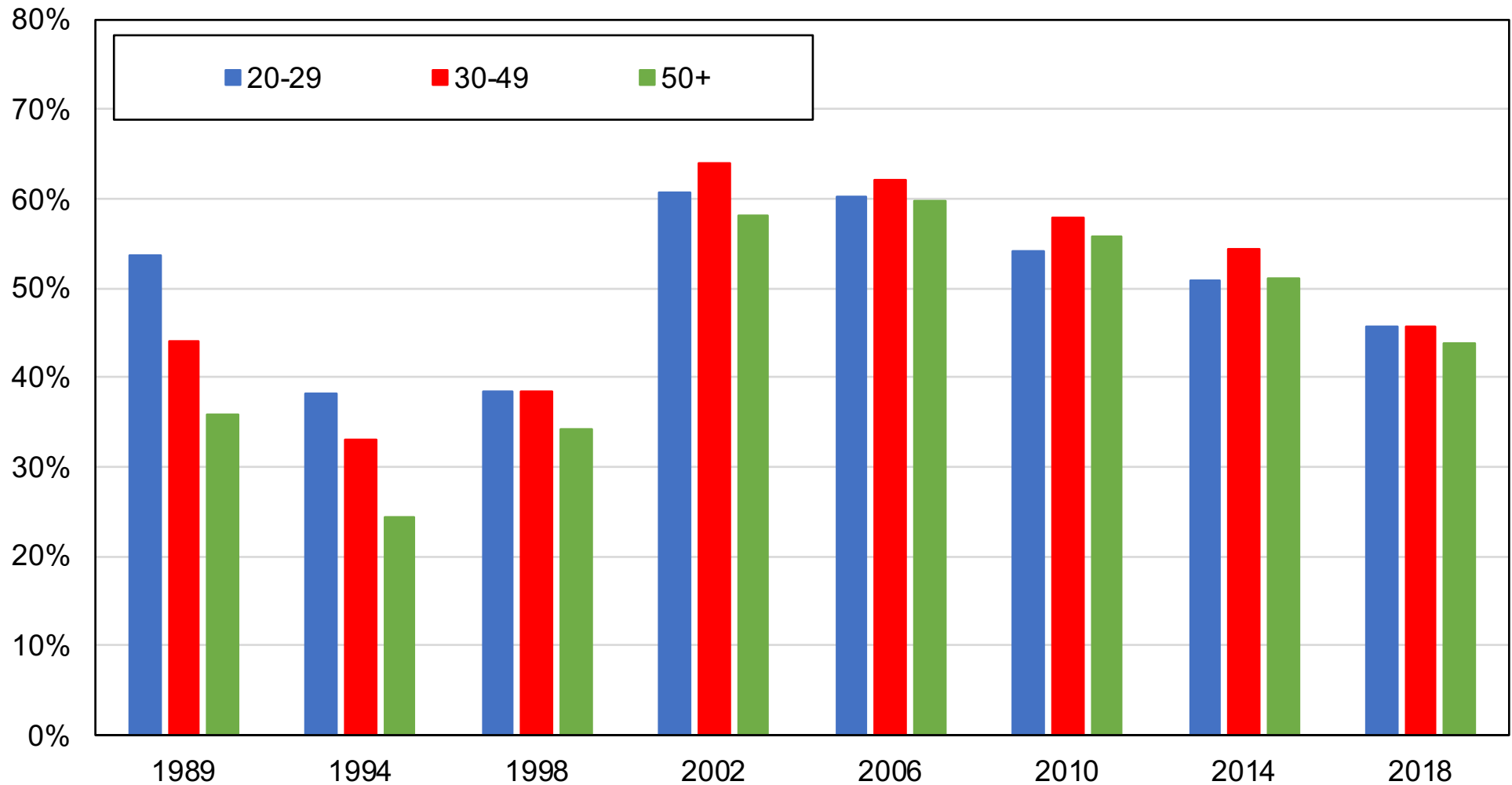
Figure A4 - Vote for PT among lower educated voters, 1989-2018



Source: authors' computations using Brazilian political attitudes surveys.

Note: the figure shows the difference between the share of bottom 50% less educated voters voting PT and the share of other voters voting PT in the second round of presidential elections, before and after controls. Error bars are at the 95% compatibility level.

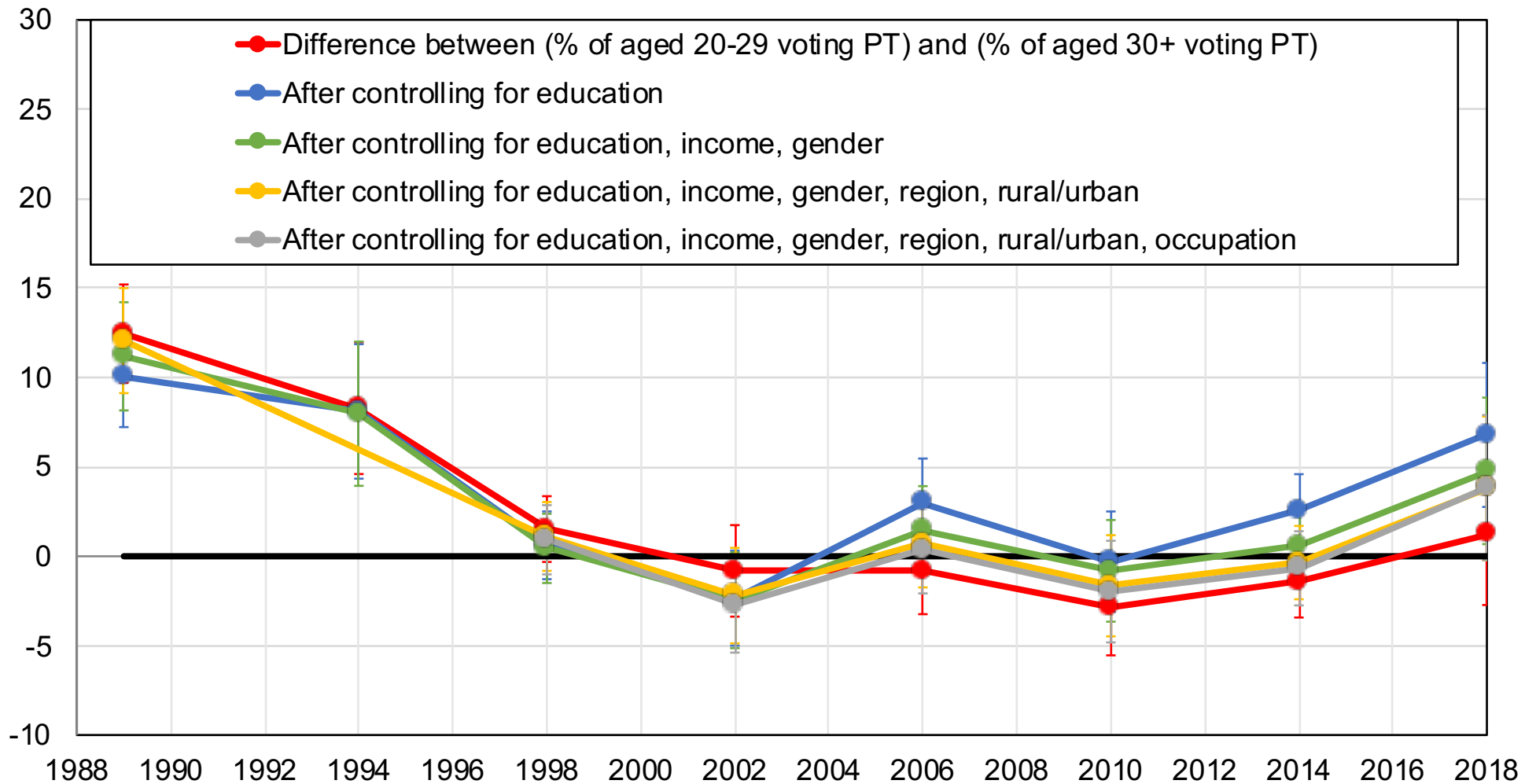
Figure A5 - Vote for PT by age group, 1989-2018



Source: authors' computations using Brazilian political attitudes surveys.

Note: the figure shows the share of votes received by the Workers' Party in the second round of presidential elections among voters belonging to different age groups.

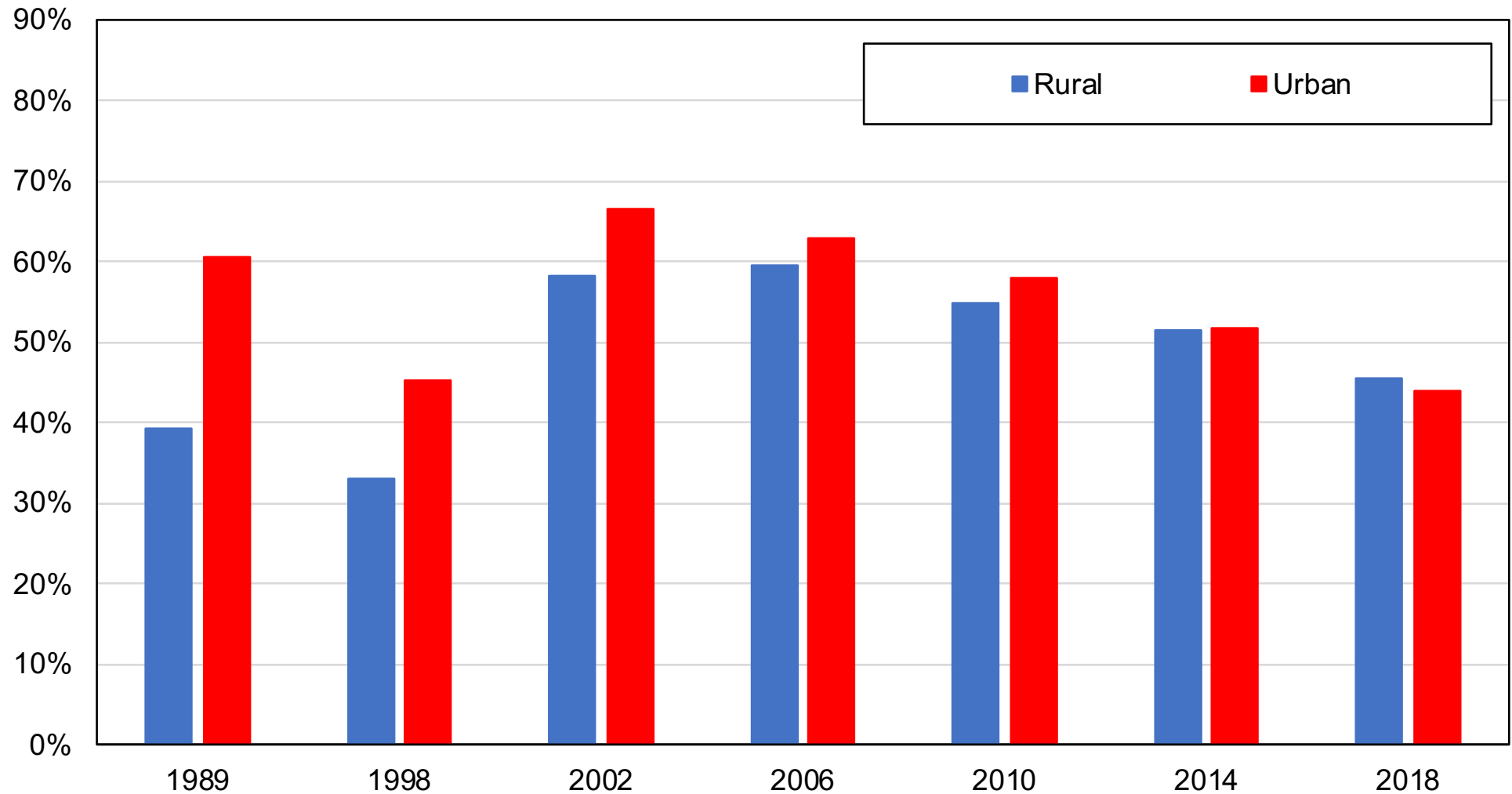
Figure A6 - Vote for PT among young voters, 1989-2018



Source: authors' computations using Brazilian political attitudes surveys.

Note: the figure shows the difference between the share of voters aged 20 to 29 voting PT and the share voters aged 30 or more voting PT in the second round of presidential elections, before and after controls. Error bars are at the 95% compatibility level.

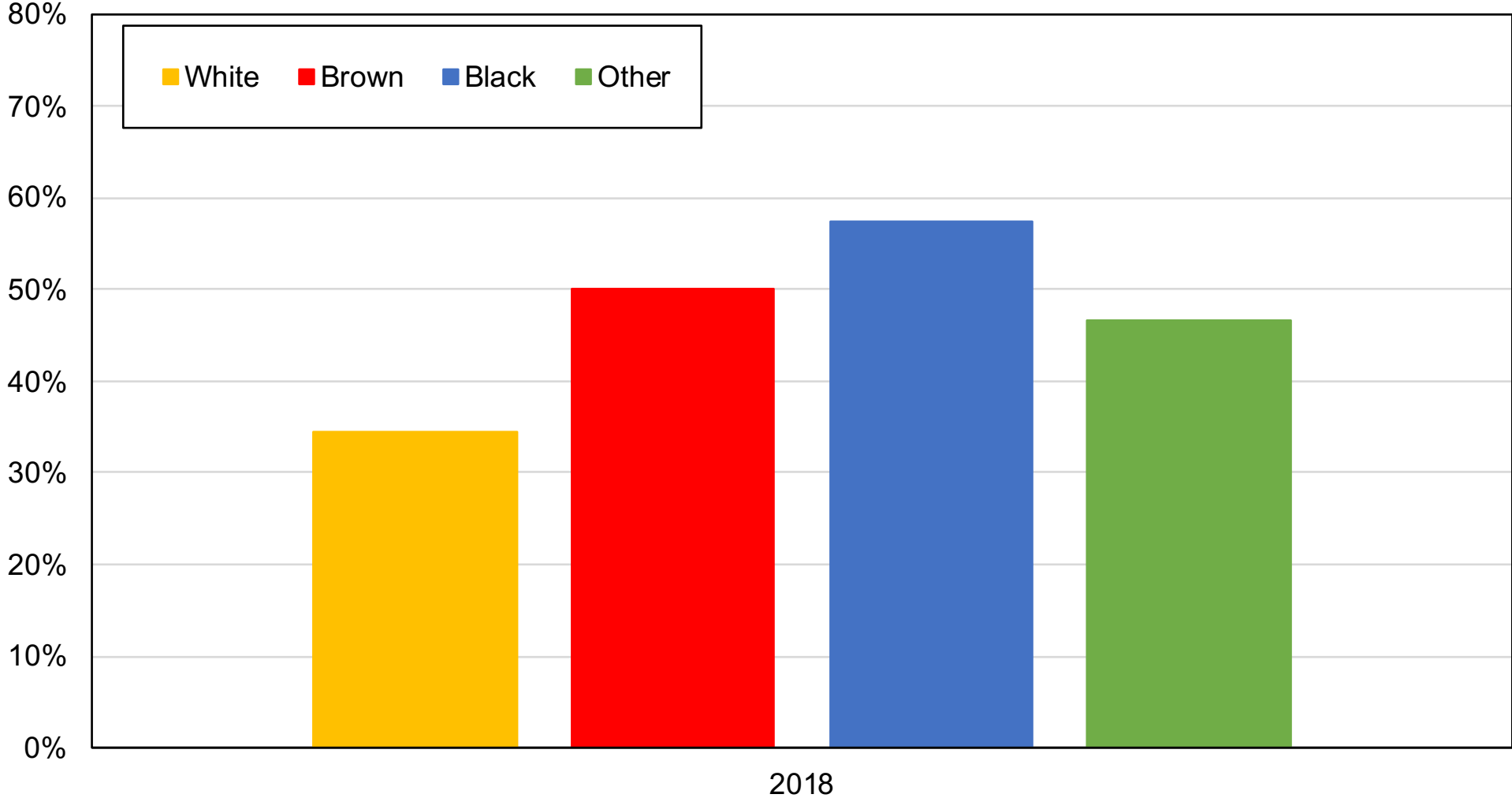
Figure A7 - Vote for PT by location, 1989-2018



Source: authors' computations using Brazilian political attitudes surveys.

Note: the figure compares the share of votes received by the Workers' Party in the second round of presidential elections among voters living in rural and urban areas.

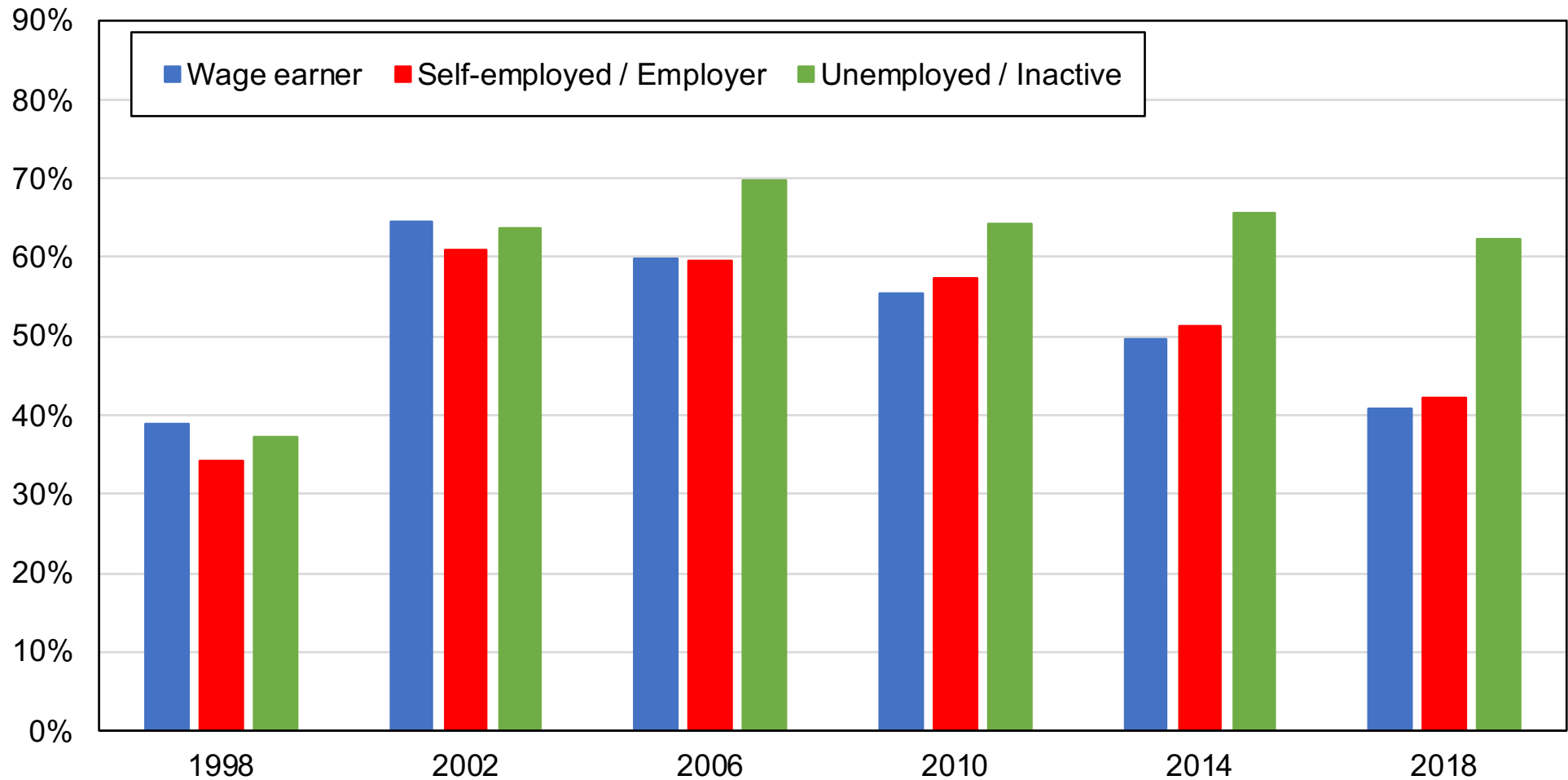
Figure A8 - Vote for PT by race, 2018



Source: authors' computations using Brazilian political attitudes surveys.

Note: the figure shows the share of votes received by the Workers' Party in the second round of presidential elections among voters belonging to different self-reported racial groups.

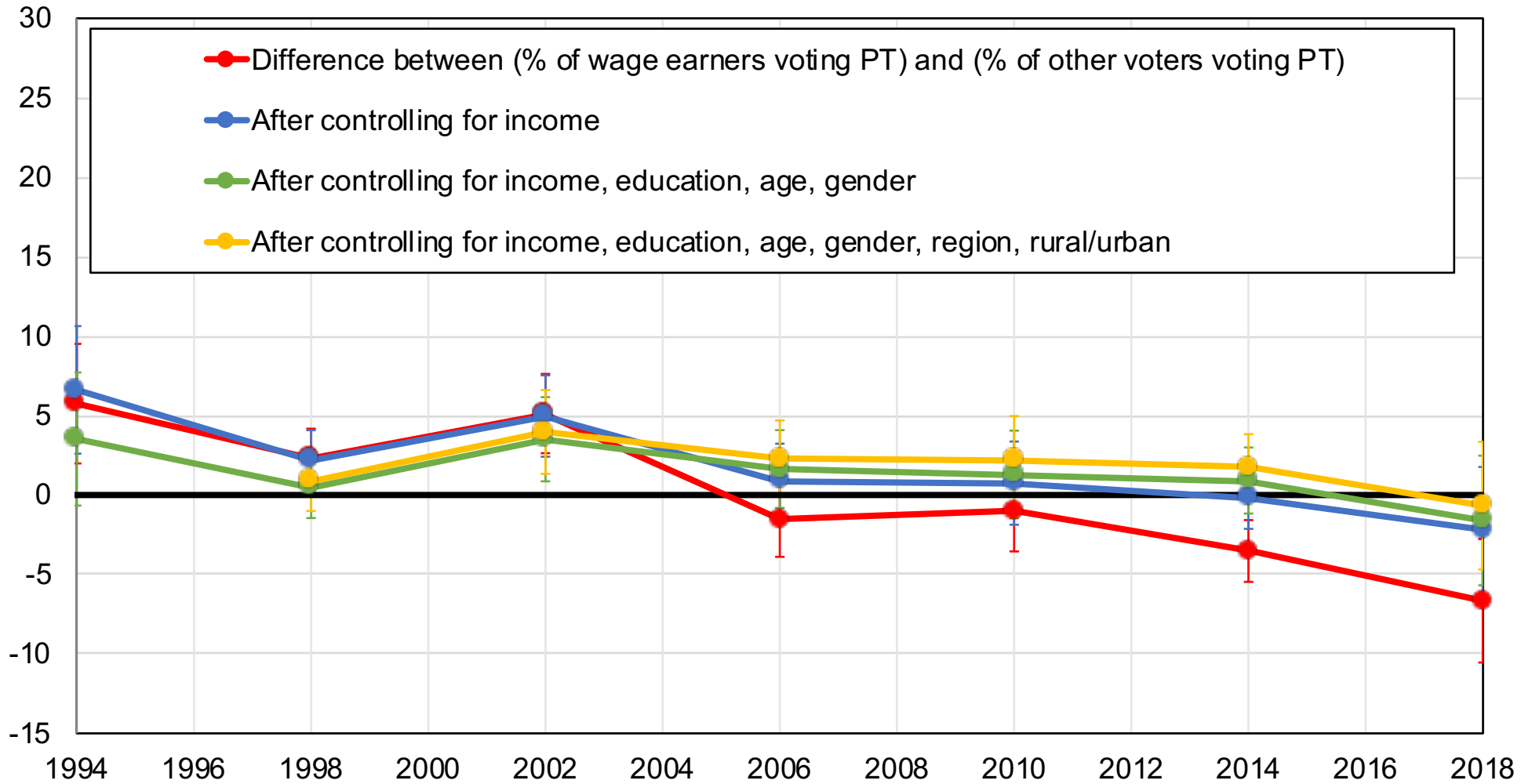
Figure A9 - Vote for PT by occupation, 1989-2018



Source: authors' computations using Brazilian political attitudes surveys.

Note: the figure shows the share of votes received by the Workers' Party in the second round of presidential elections among wage earners, self-employed individuals and employers, and unemployed or inactive voters.

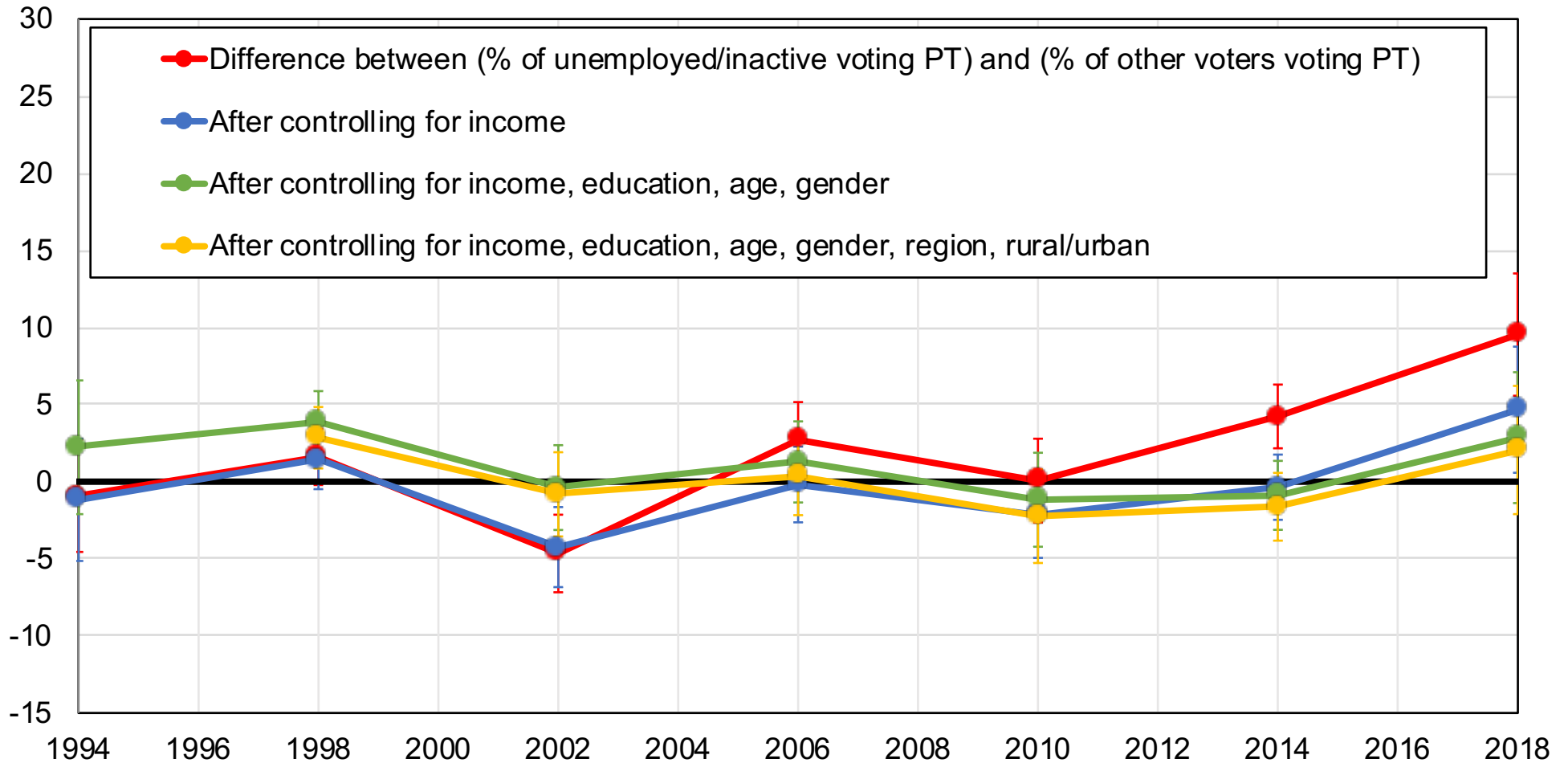
Figure A10 - Vote for PT among wage earners, 1994-2018



Source: authors' computations using Brazilian political attitudes surveys.

Note: the figure shows the difference between the share of wage earners voting PT and the share of other voters voting PT in the second round of presidential elections, before and after controls. Error bars are at the 95% compatibility level.

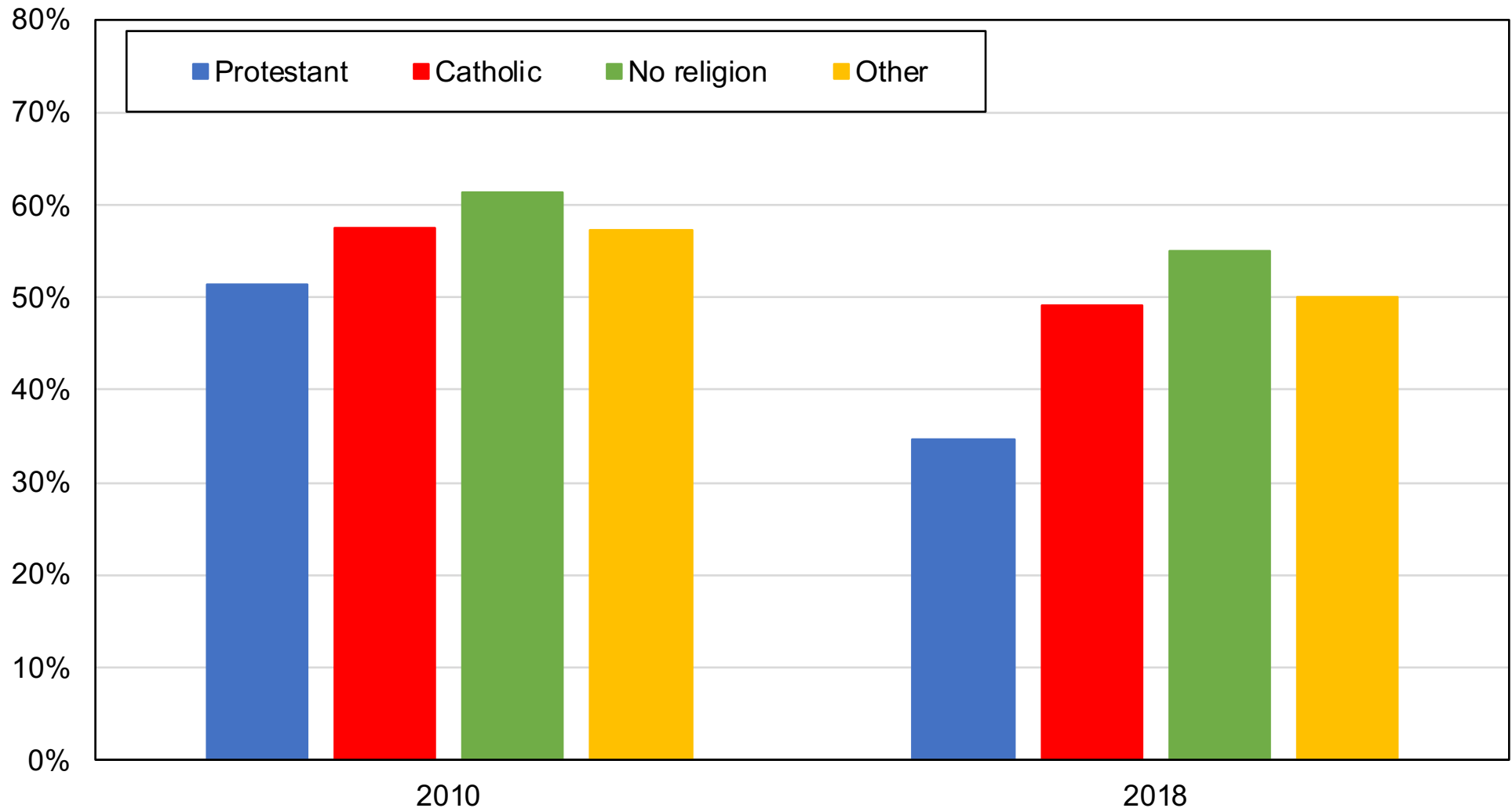
Figure A11 - Vote for PT among the unemployed / inactive, 1994-2018



Source: authors' computations using Brazilian political attitudes surveys.

Note: the figure shows the difference between the share of unemployed and inactive voters voting PT and the share of other voters voting PT in the second round of presidential elections, before and after controls. Error bars are at the 95% compatibility level.

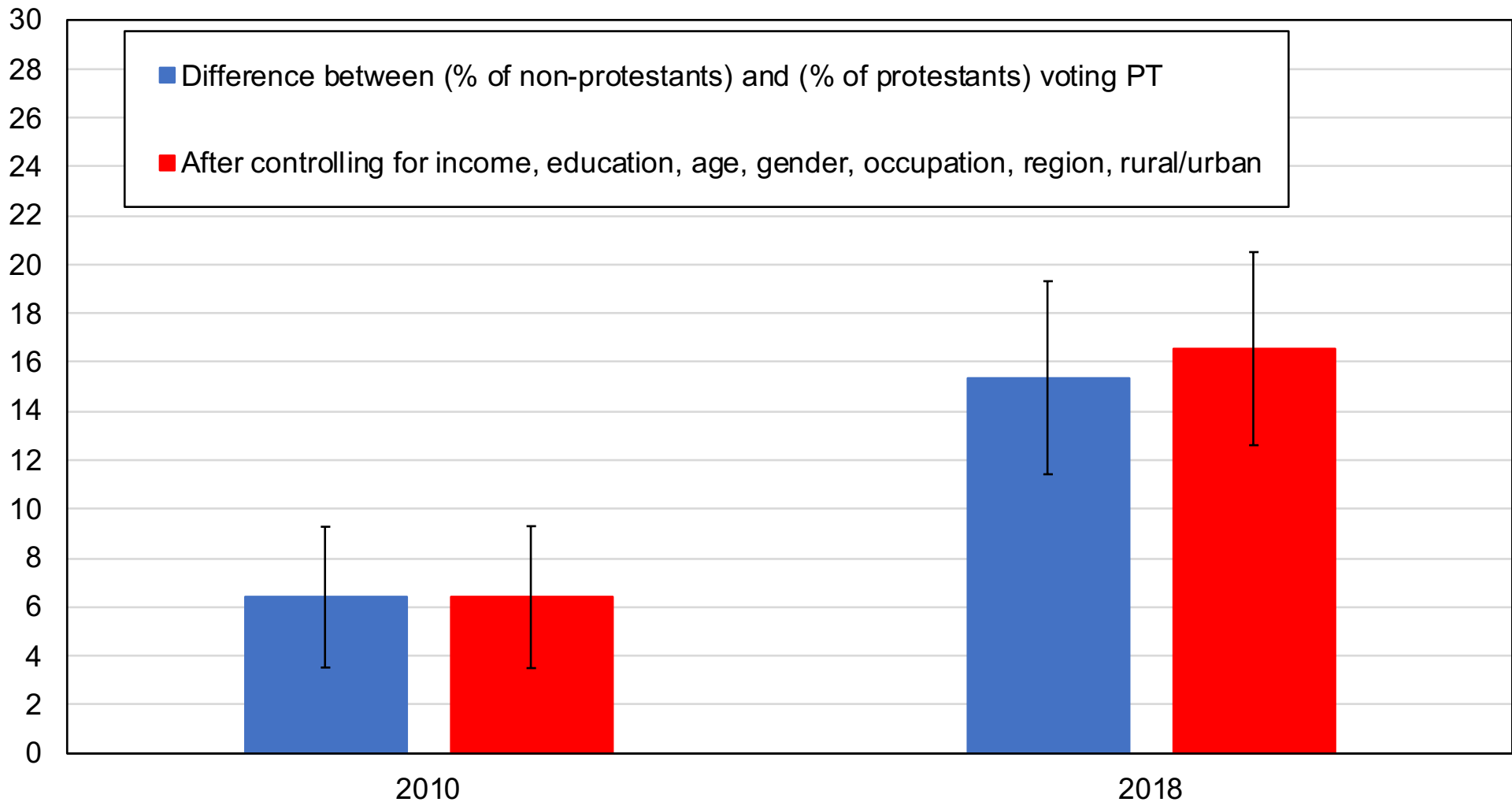
Figure A12 - Vote for PT by religious affiliation, 2010-2018



Source: authors' computations using Brazilian political attitudes surveys.

Note: the figure shows the share of votes received by the Workers' Party in the second round of presidential elections among voters belonging to different religious affiliations.

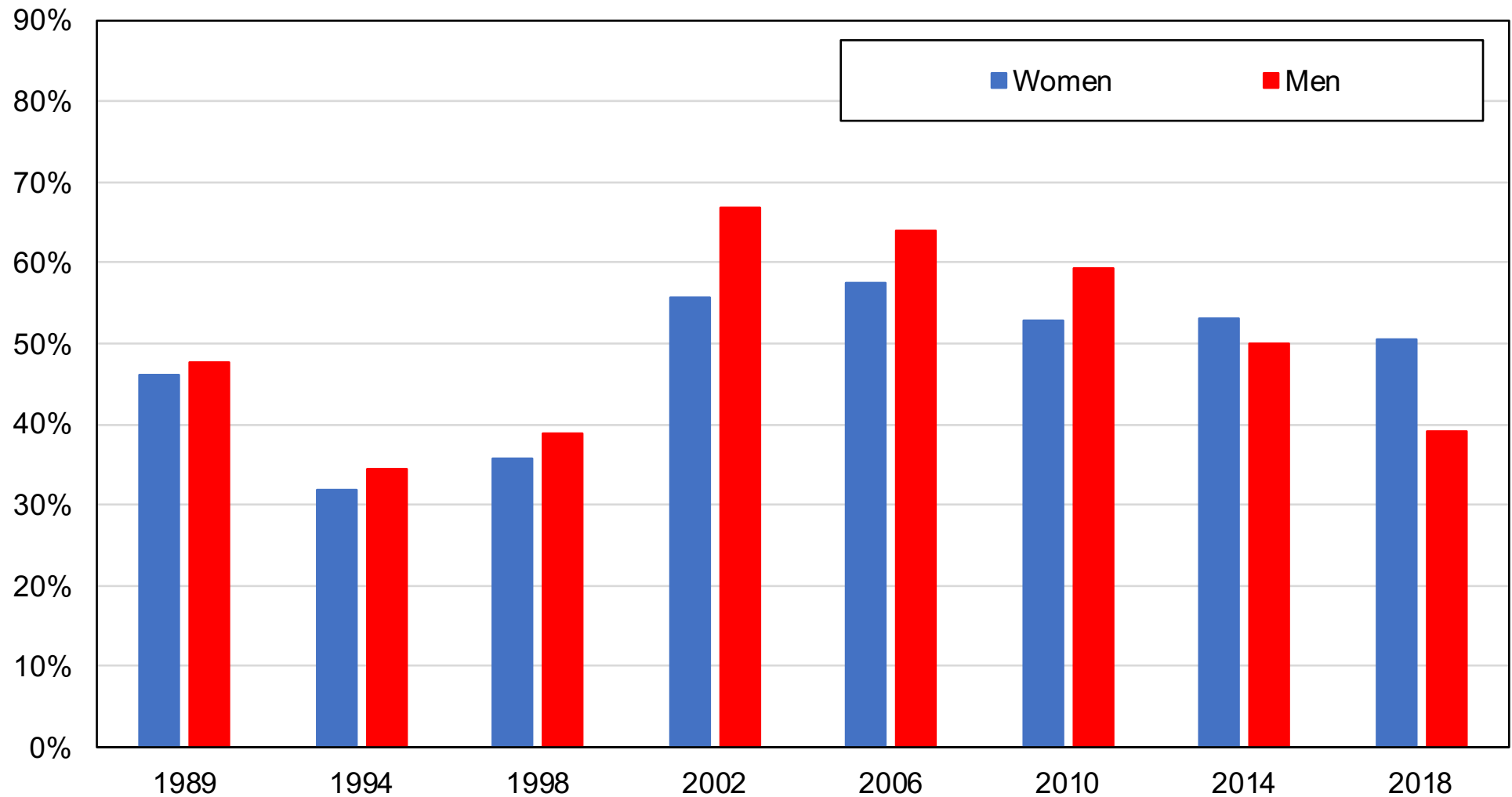
Figure A13 - Vote for PT among non-protestants, 2010-2018



Source: authors' computations using Brazilian political attitudes surveys.

Note: the figure shows the difference between the share of non-protestants voting PT and the share of protestant voters voting PT in the second round of presidential elections, before and after controls. Error bars are at the 95% compatibility level.

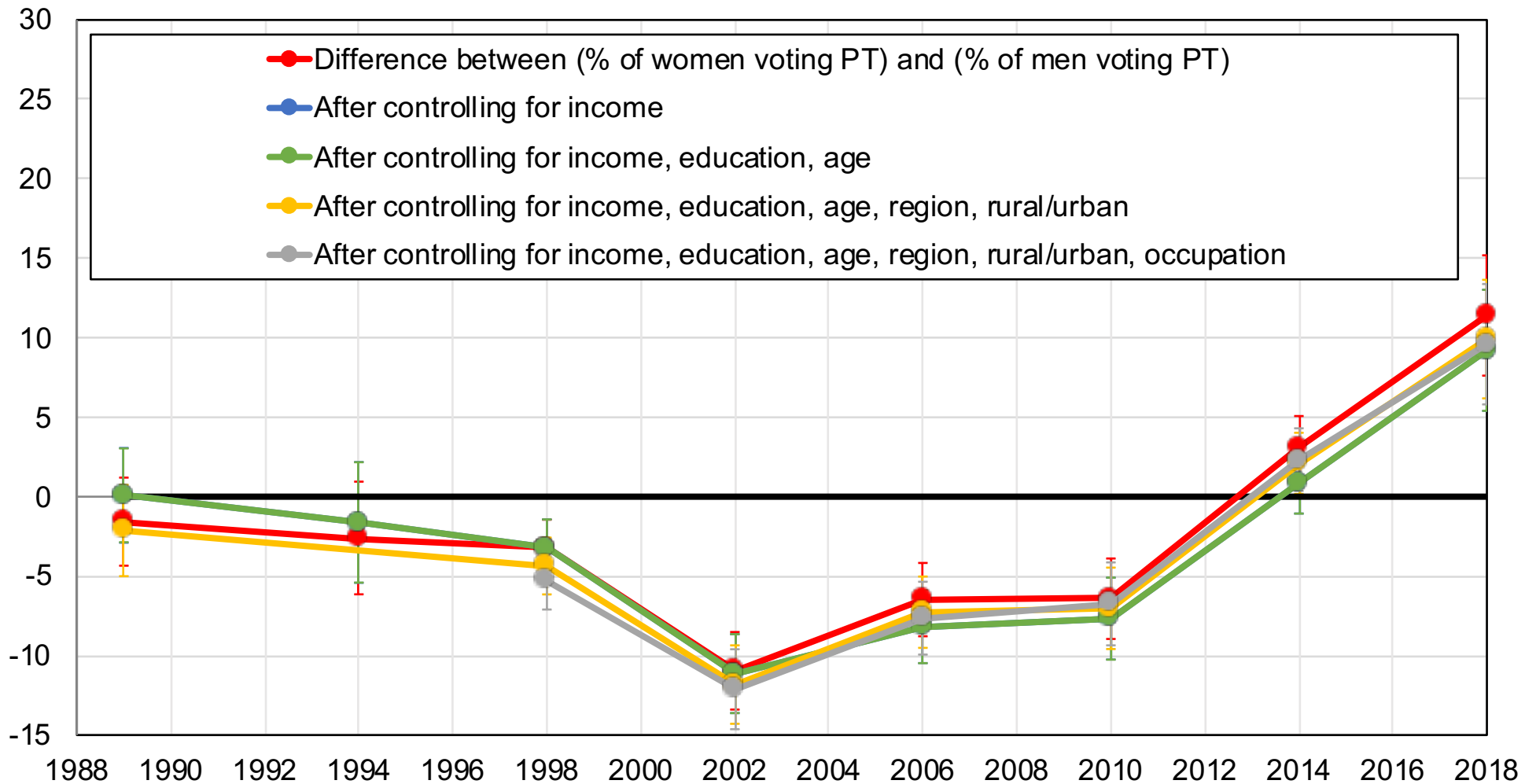
Figure A14 - Vote for PT by gender, 1989-2018



Source: authors' computations using Brazilian political attitudes surveys.

Note: the figure shows the share of votes received by the Workers' Party in the second round of presidential elections by gender.

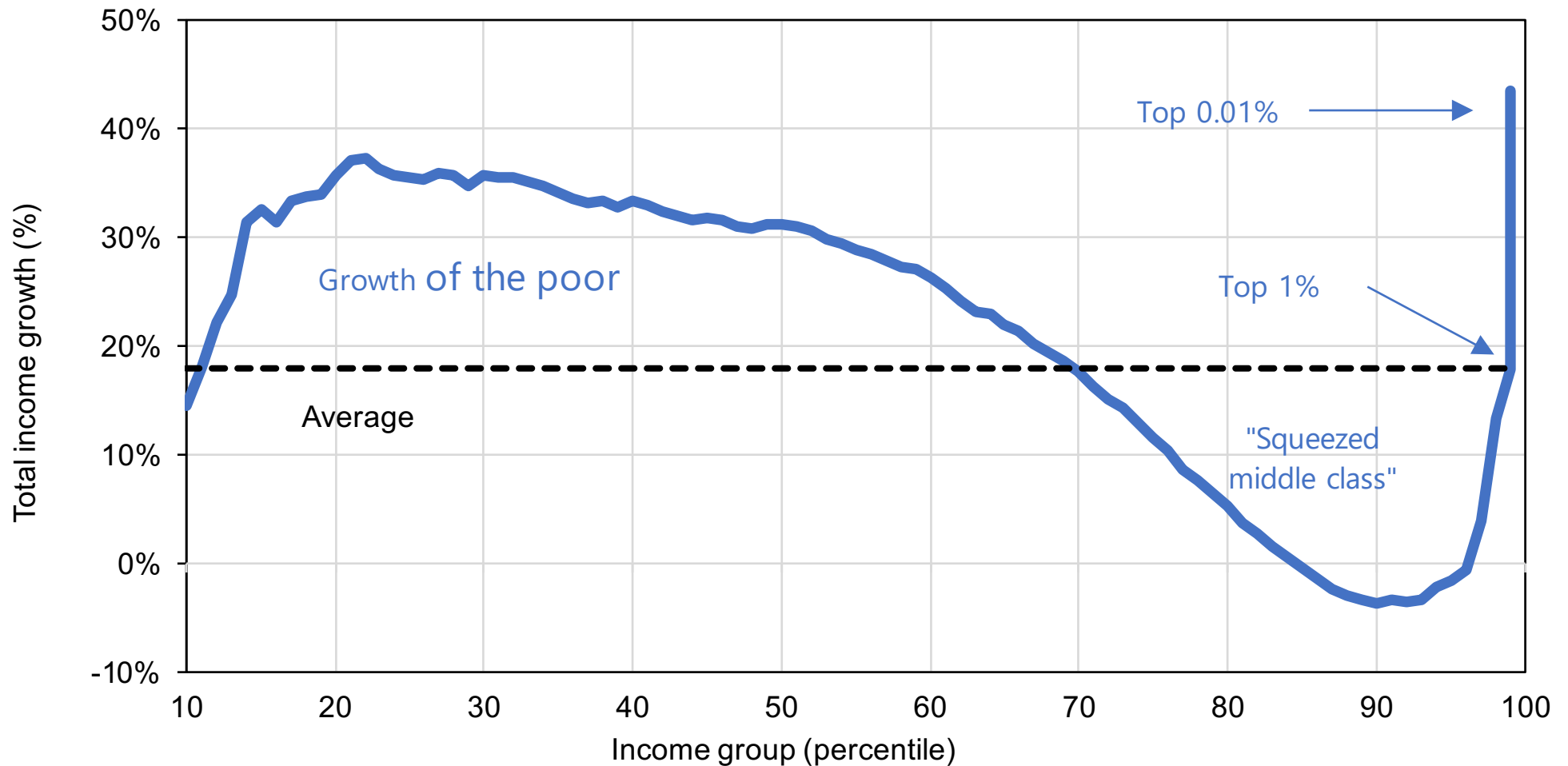
Figure A15 - Vote for PT among women, 1989-2018



Source: authors' computations using Brazilian political attitudes surveys.

Note: the figure shows the difference between the share of women voting PT and the share of men voting PT in the second round of presidential elections, before and after controls. Error bars are at the 95% compatibility level.

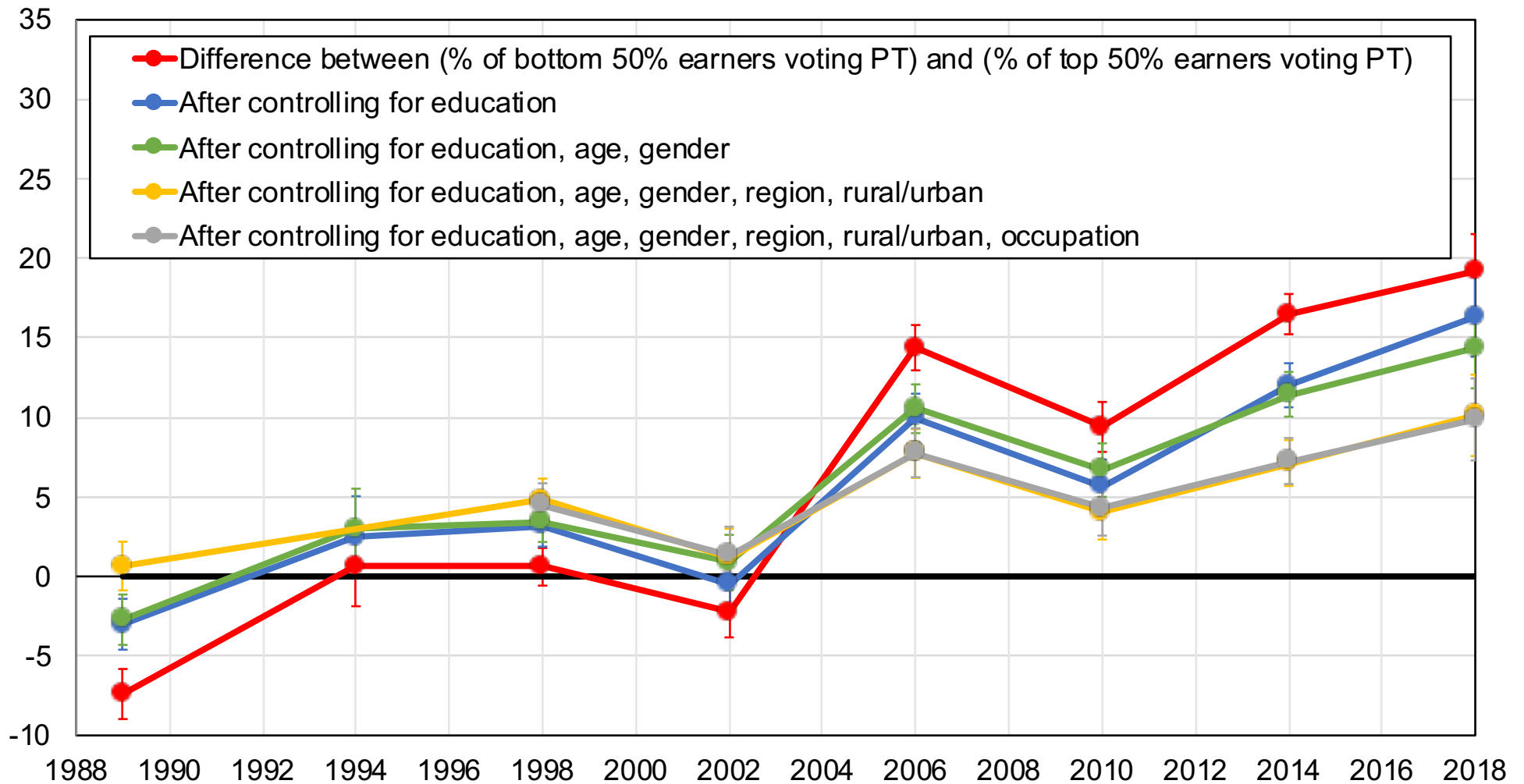
Figure A16 - Growth Incidence Curve in Brazil, 2002-2014



Source: authors' elaboration based on data from Morgan, M. "Falling Inequality vs Persistent Concentration: Reconciling Evidence from Surveys, Administrative Data and National Accounts in Brazil (1995-2016)", WID.world Working Paper n. 2017/12, Version: October 2018.

Note: income is before taxes but after pension transfers and social contributions.

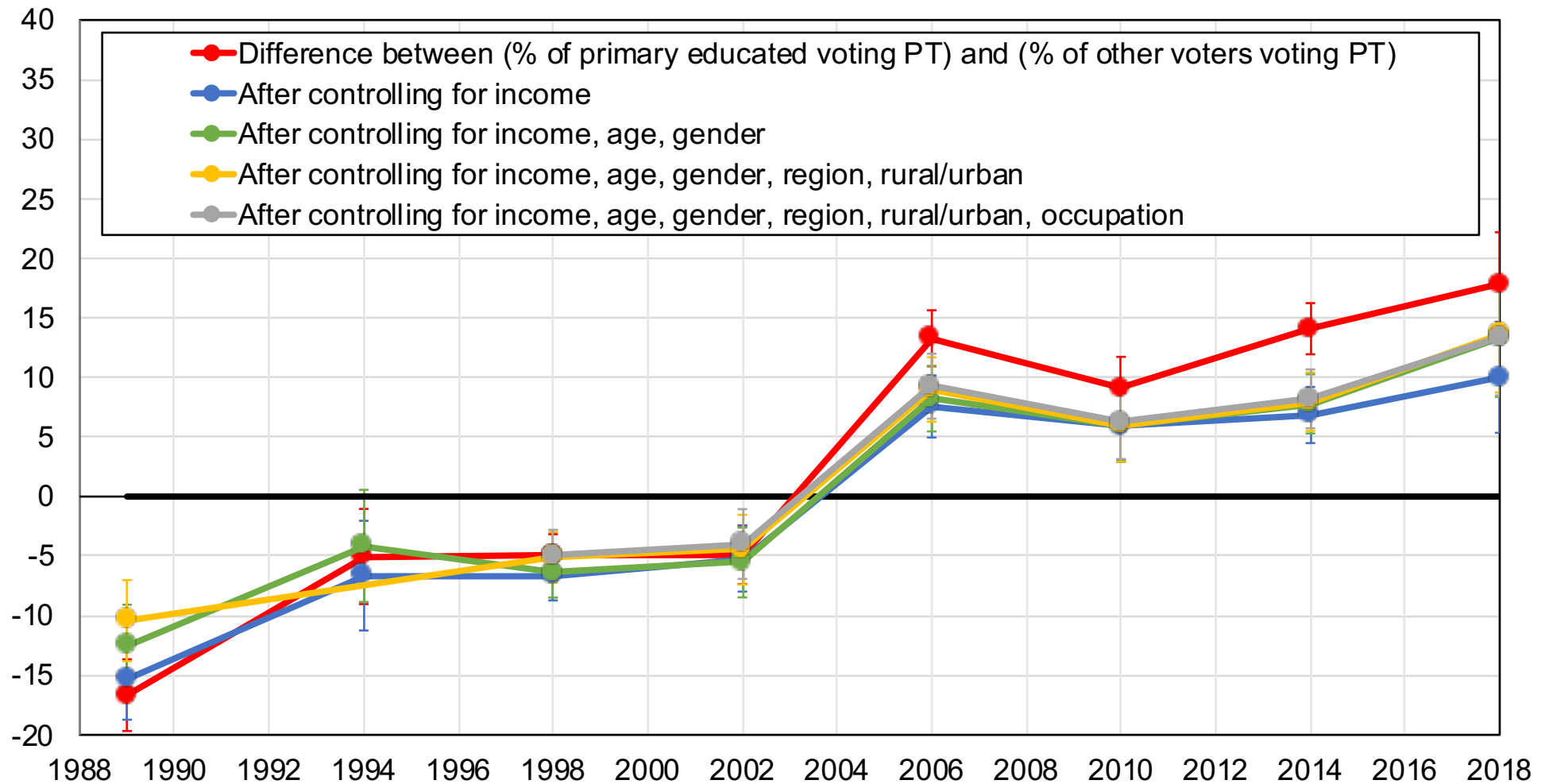
Figure A17 - Vote for PT among low-income earners, 1989-2018



Source: authors' computations using Brazilian political attitudes surveys.

Note: the figure shows the difference between the share of bottom 50% earners voting PT and the share of top 50% earners voting PT in the second round of presidential elections, before and after controls. Error bars are at the 95% compatibility level.

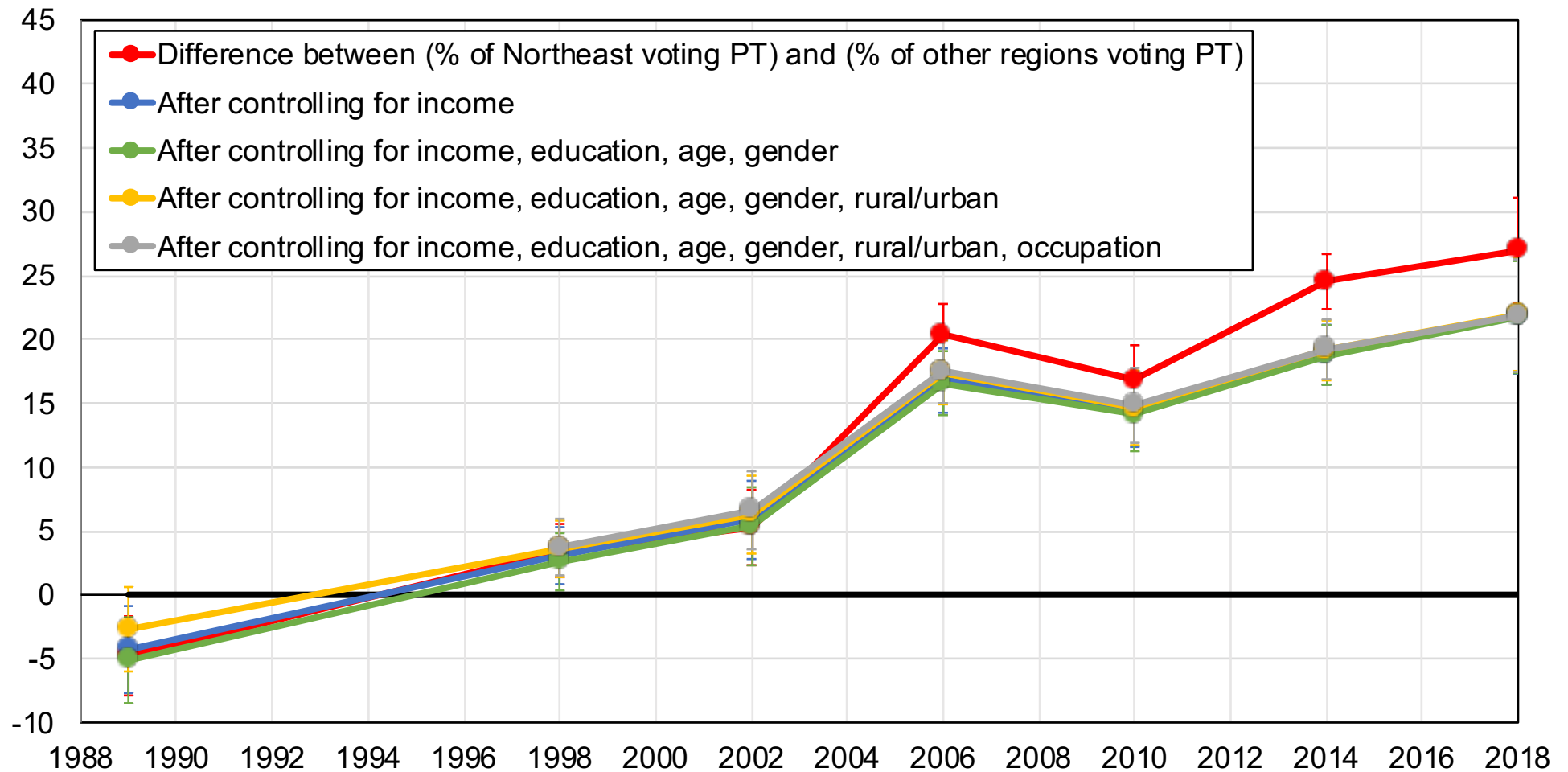
Figure A18 - Vote for PT among primary educated voters, 1989-2018



Source: authors' computations using Brazilian political attitudes surveys.

Note: the figure shows the difference between the share of primary-educated voters voting PT and the share of other voters voting PT in the second round of presidential elections, before and after controls. Error bars are at the 95% compatibility level.

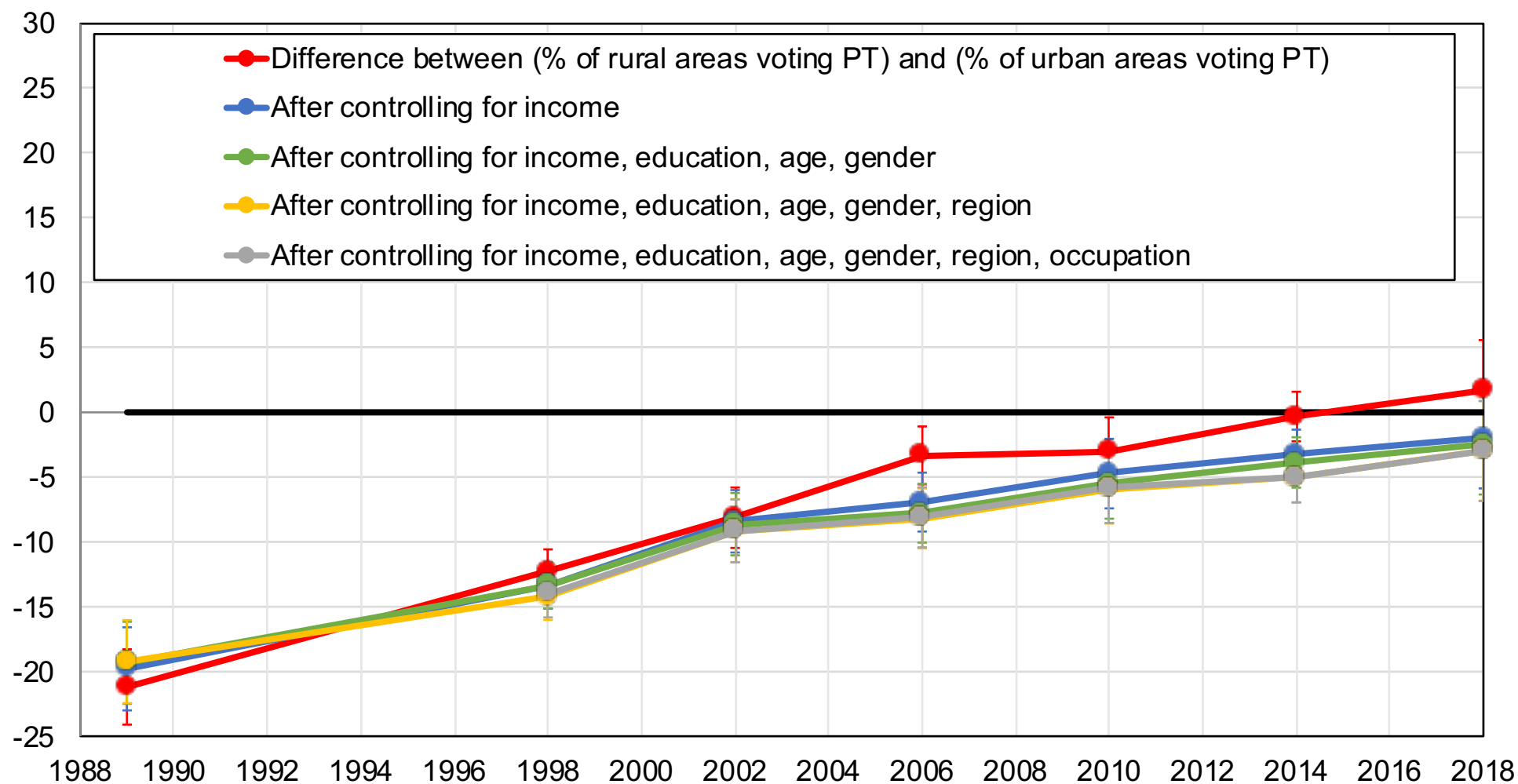
Figure A19 - Vote for PT in the Northeast region, 1989-2018



Source: authors' computations using Brazilian political attitudes surveys.

Note: the figure shows the difference between the share of voters living in the Northeast region voting PT and the share voters living in other regions voting PT in the second round of presidential elections, before and after controls. Error bars are at the 95% compatibility level.

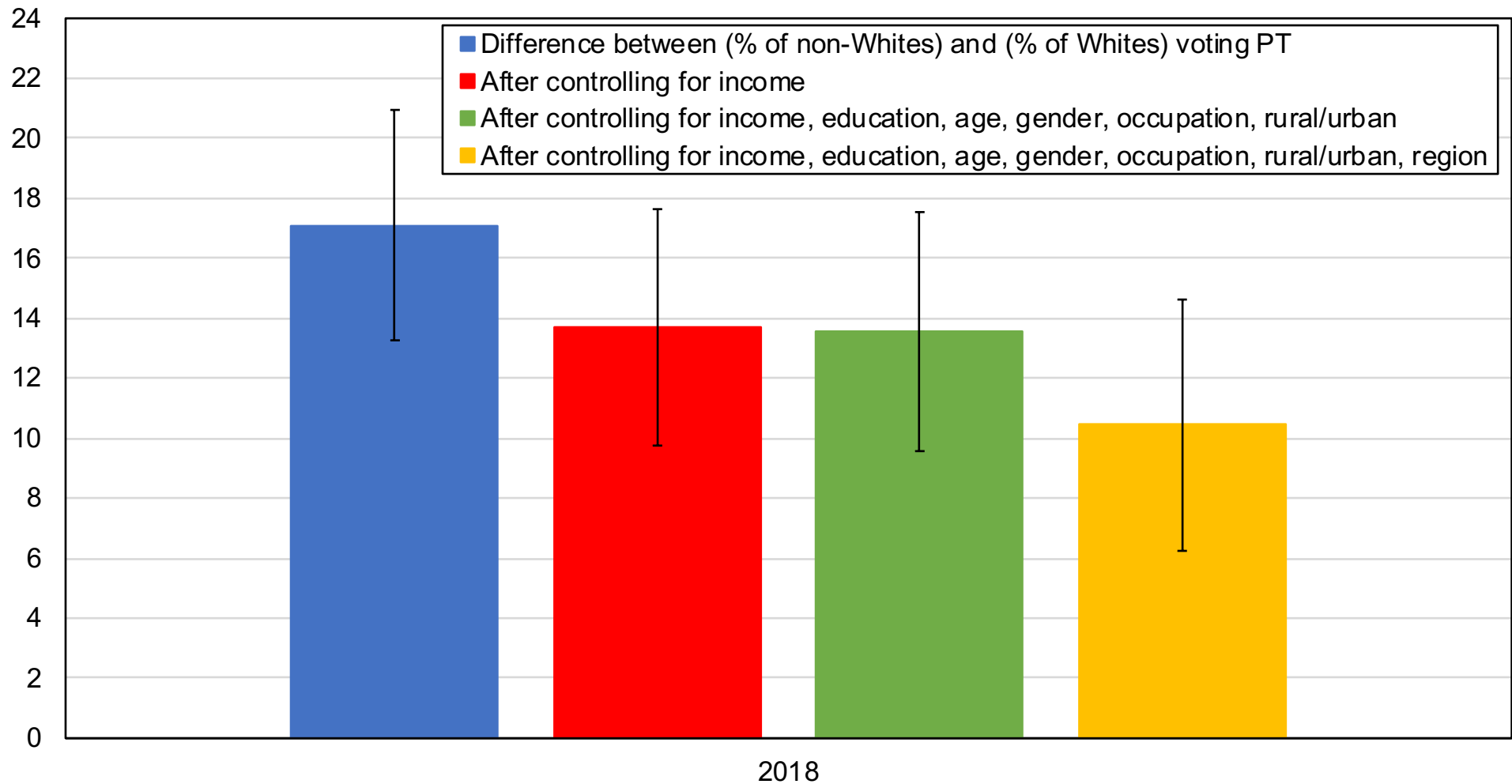
Figure A20 - Vote for PT among rural areas, 1989-2018



Source: authors' computations using Brazilian political attitudes surveys.

Note: the figure shows the difference between the share of voters living in rural areas voting PT and the share urban areas voting PT in the second round of presidential elections, before and after controls. Error bars are at the 95% compatibility level.

Figure A21 - Vote for PT among non-Whites, 2018



Source: authors' computations using Brazilian political attitudes surveys.

Note: the figure shows the difference between the share of self-declared non-white voters voting PT and the share of white voters voting PT in the second round of presidential elections, before and after controls. Error bars are at the 95% compatibility level.

Table A1 - The evolution of suffrage in Brazil since independence

Constitutional period	Minimum voting age	Gender requirement	Income requirement	Literacy requirement	Secrecy	Compulsory	Direct elections
1824-1891	25	yes	yes	yes	no	no	no
1891-1934	21	yes	no	yes	no	no	yes
1934-1937	18	no	no	yes	yes	yes	yes
1937-1946	18	no	no	yes	yes	no	no
1946-1967	18	no	no	yes	yes	yes	yes
1967-1988	18	no	no	yes	yes	yes	no
1988-present	18*	no	no	no	yes	yes	yes

Note 1: *Since 1988 voting is optional for persons aged 16 and 17. The income requirement refers to periods when only persons earning above a given income threshold could vote. Until 1891 this was defined at 200 milr  s. The gender requirement indicates periods when only males could vote. The literacy requirement refers to periods when only persons who could read and write were eligible to vote. Secrecy refers to anonymous voting. Compulsory refers to periods when voting was obligatory among eligible citizens. Direct elections refer to periods when registered voters could directly elect their representatives. Sources: Authors' elaboration based on data from Love (1970) and Political Database of the Americas (PDBA), Center for Latin American Studies, Georgetown University

Note 2: According to the 1890 Census the illiterate population made up 74% of the population aged 15 and over (see Figure 1). There were 684,448 literate women, which comprised about 12% of the voting age population in 1890 (see <https://biblioteca.ibge.gov.br/visualizacao/livros/liv25487.pdf>). If we assume the same proportion of illiterates among persons aged 25 and over, and assume that all slaves (about 16% of the population in 1870; see T. Piketty. Capital and Ideology, Harvard University Press, 2020) were illiterate, the disenfranchised made up about 86% of the voting age population.

Table A2 - Survey data sources

Year	Survey	Source	Sample size
1989	Datafolha (00211)	CESOP	6930
1994	Datafolha (00378)	CESOP	3000
1998	Datafolha (00870)	CESOP	19797
2002	Datafolha (02498)	CESOP	10402
2006	Datafolha (02551)	CESOP	12561
2010	Datafolha (03351)	CESOP	6554
2014	Datafolha (03893)	CESOP	19318
2018	Datafolha (04618)	CESOP	3235

Source: authors' elaboration.

Note: all surveys were conducted by the Datafolha institute (<http://datafolha.folha.uol.com.br/>) and are available upon request from the Centro de Estudos de Opinião Pública (CESOP, <https://www.cesop.unicamp.br/por>). CESOP survey references in parenthesis.

Table A3 - Complete descriptive statistics

	1989	1994	1998	2002	2006	2010	2014	2018
Age: 20-40	46%	38%	37%	36%	37%	34%	39%	36%
Age: 40-60	35%	40%	39%	38%	37%	37%	20%	21%
Age: 60+	19%	22%	25%	26%	27%	29%	41%	43%
Education: Primary	70%	71%	53%	48%	36%	35%	27%	26%
Education: Secondary	23%	22%	39%	43%	50%	49%	52%	50%
Education: Tertiary	8%	7%	8%	9%	14%	16%	20%	24%
Gender: Man	51%	51%	50%	49%	48%	48%	48%	47%
Location: Rural areas	65%		63%	63%	62%	59%	61%	60%
Occupation: Inactive / Unemployed		38%	39%	40%	35%	31%	33%	38%
Occupation: Self-employed / Employer		27%	27%	22%	20%	20%	21%	24%
Occupation: Wage earner		36%	35%	38%	45%	49%	45%	38%
Region: North / Centre-West	12%		13%	14%	14%	14%	15%	15%
Region: Northeast	27%		27%	27%	25%	25%	27%	27%
Region: South	16%		16%	16%	16%	16%	15%	15%
Region: Southeast	46%		44%	44%	45%	45%	44%	44%
Religion: Catholic						63%		55%
Religion: No religion						6%		8%
Religion: Other						3%		3%
Religion: Protestant						27%		34%
Race: Black								15%
Race: Brown								41%
Race: Other								5%
Race: White								39%

Source: authors' computations using Brazilian political attitudes surveys.

Note: the table shows descriptive statistics for selected available variables. In 2018, 39% of the Brazilian voting age population declared themselves as being "White", while 15% declared being "Black".

Table A4 - Complete descriptive statistics by income group

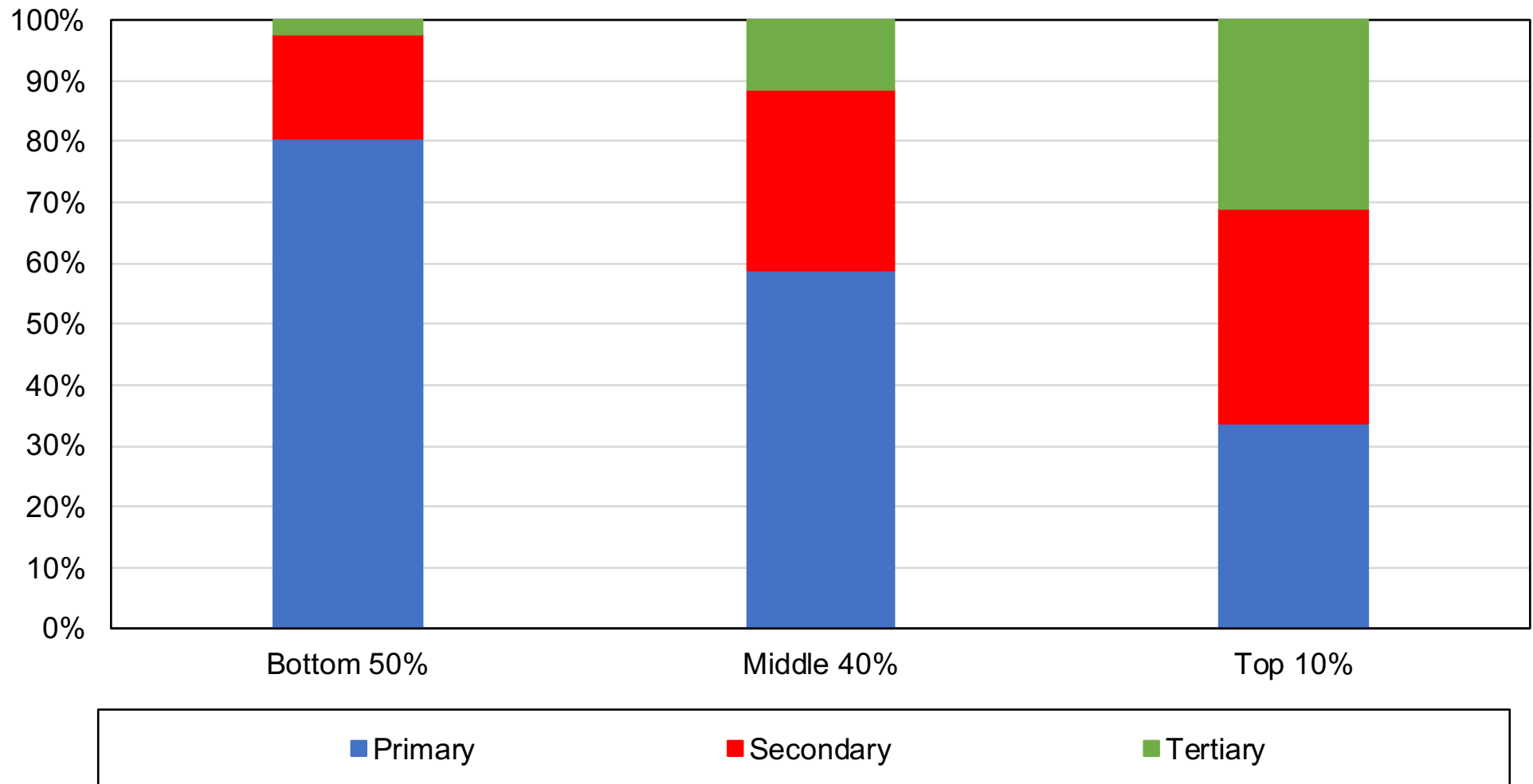
	1989	1994	1998	2002	2006	2010	2014	2018
Bottom 50%								
Age: 20-40	43%	35%	34%	34%	35%	31%	38%	35%
Age: 40-60	36%	39%	37%	37%	37%	37%	19%	21%
Age: 60+	21%	26%	28%	29%	28%	32%	43%	44%
Education: Primary	81%	84%	71%	66%	53%	51%	42%	39%
Education: Secondary	17%	15%	28%	32%	44%	45%	51%	52%
Education: Tertiary	2%	2%	1%	2%	3%	4%	7%	10%
Gender: Man	51%	50%	47%	45%	44%	41%	42%	42%
Location: Rural areas	73%		72%	72%	69%	67%	66%	66%
Occupation: Inactive / Unemployed		41%	46%	47%	42%	41%	42%	47%
Occupation: Self-employed / Employer		27%	25%	22%	20%	20%	20%	24%
Occupation: Wage earner		32%	29%	31%	38%	39%	38%	30%
Race: Black								17%
Race: Brown								46%
Race: Other								6%
Race: White								31%
Region: North / Centre-West	11%		14%	14%	14%	14%	15%	14%
Region: Northeast	31%		38%	36%	35%	37%	38%	36%
Region: South	18%		14%	14%	14%	14%	12%	11%
Region: Southeast	39%		34%	35%	37%	36%	35%	38%
Religion: Catholic						66%		57%
Religion: No religion						5%		6%
Religion: Other						2%		2%
Religion: Protestant						27%		35%
Middle 40%								
Age: 20-40	48%	39%	39%	39%	39%	36%	42%	39%
Age: 40-60	36%	43%	41%	40%	38%	38%	21%	21%
Age: 60+	16%	18%	19%	21%	23%	26%	37%	40%
Education: Primary	59%	63%	38%	34%	22%	23%	14%	15%
Education: Secondary	30%	29%	52%	57%	60%	56%	58%	52%

Race: Other							5%
Race: White							55%
Region: North / Centre-West	9%	11%	11%	14%	15%	14%	16%
Region: Northeast	13%	12%	14%	11%	10%	10%	13%
Region: South	15%	16%	19%	17%	17%	14%	16%
Region: Southeast	63%	61%	57%	58%	58%	62%	54%
Religion: Catholic					59%		54%
Religion: No religion					10%		15%
Religion: Other					5%		5%
Religion: Protestant					26%		27%

Source: authors' computations using Brazilian political attitudes surveys.

Note: the table shows descriptive statistics for selected available variables by income group. In 2018, 55% of the richest 10% declared themselves as being "White", while for the poorest 50% this was 31%.

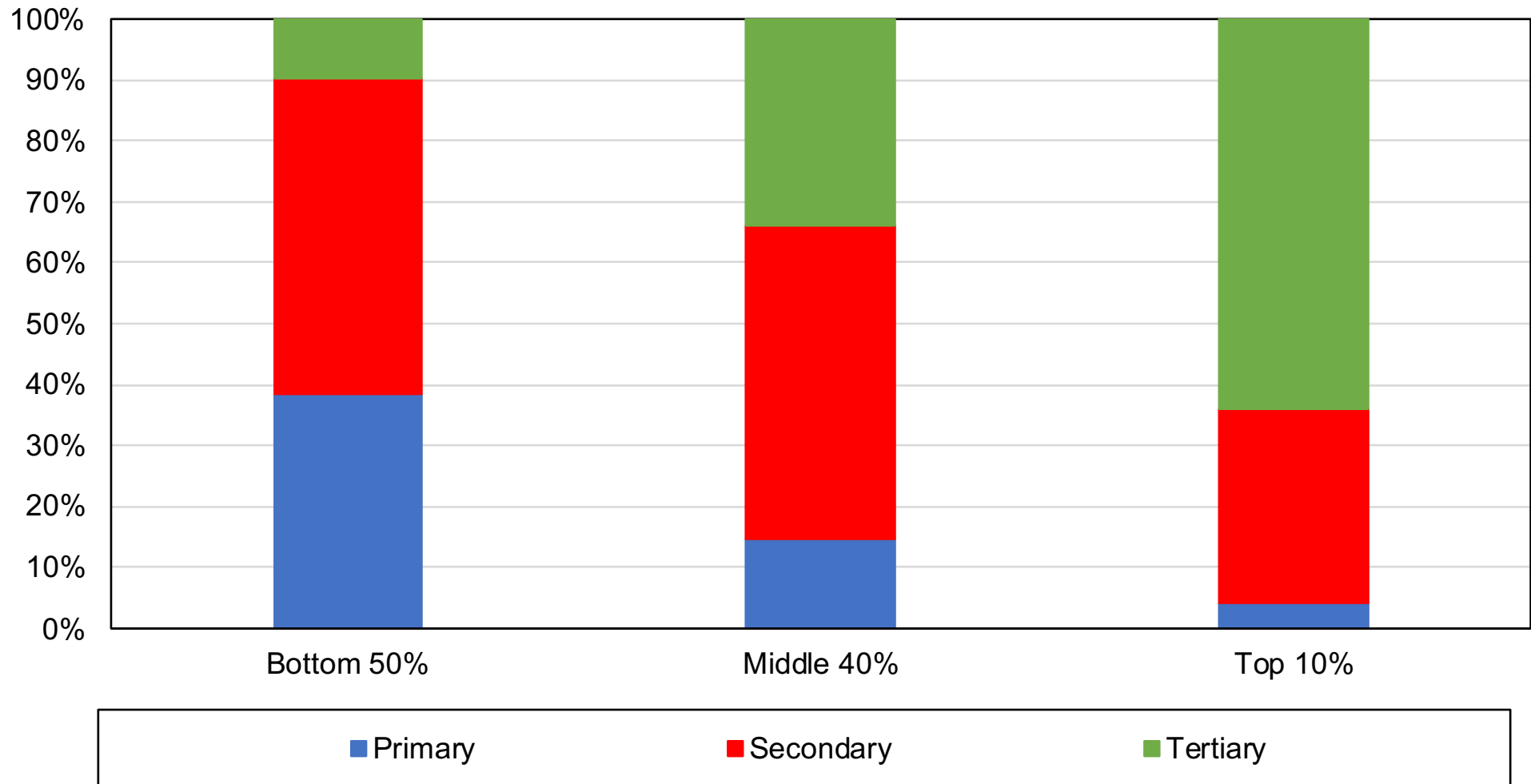
Educational composition of income groups, 1989



Source: authors' computations using Brazilian political attitudes surveys.

Note: the figure shows the distribution of income groups by education level of the Brazilian adult population in 1989.

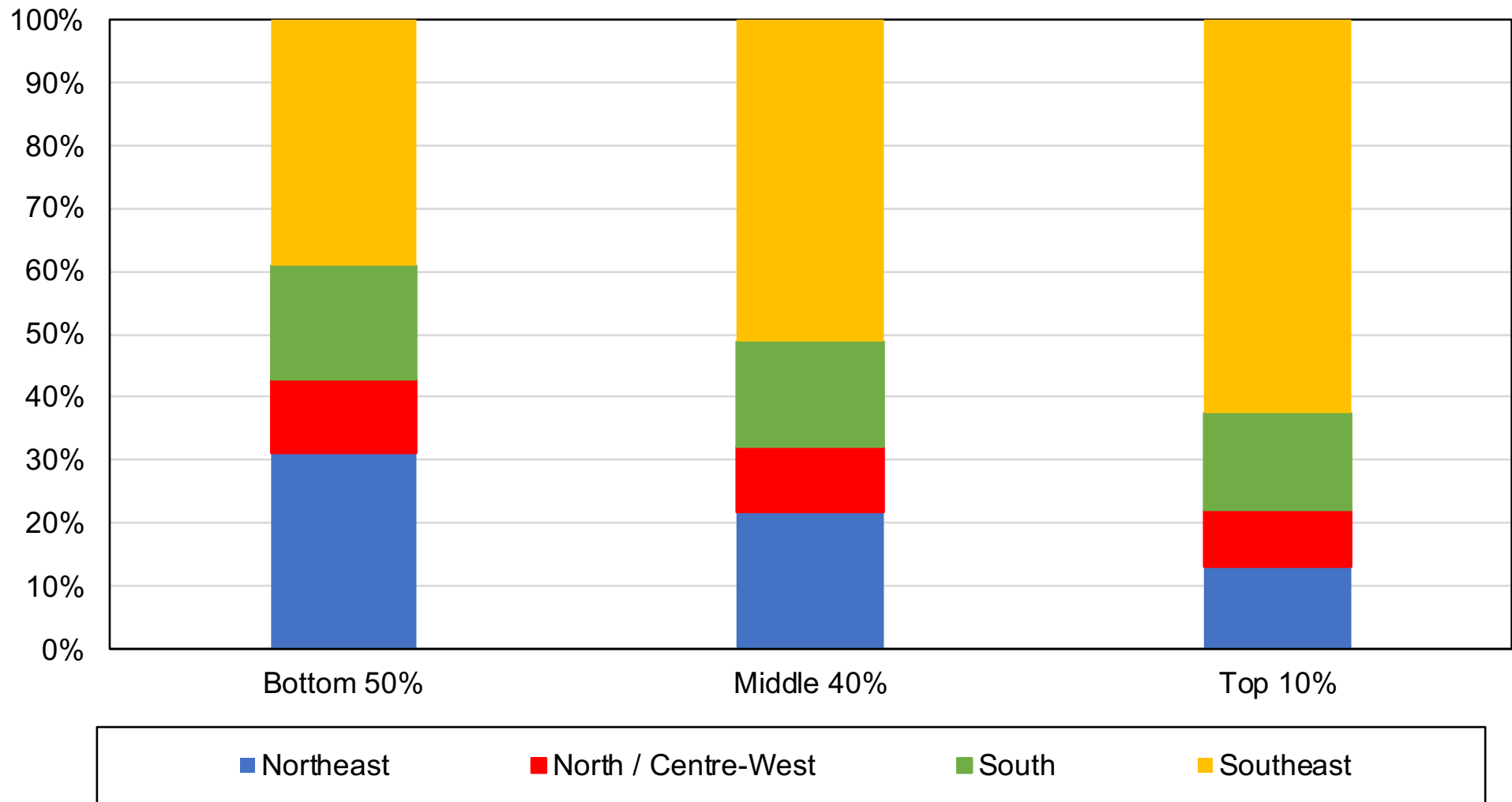
Educational composition of income groups, 2018



Source: authors' computations using Brazilian political attitudes surveys.

Note: the figure shows the distribution of income groups by education level of the Brazilian adult population in 2018.

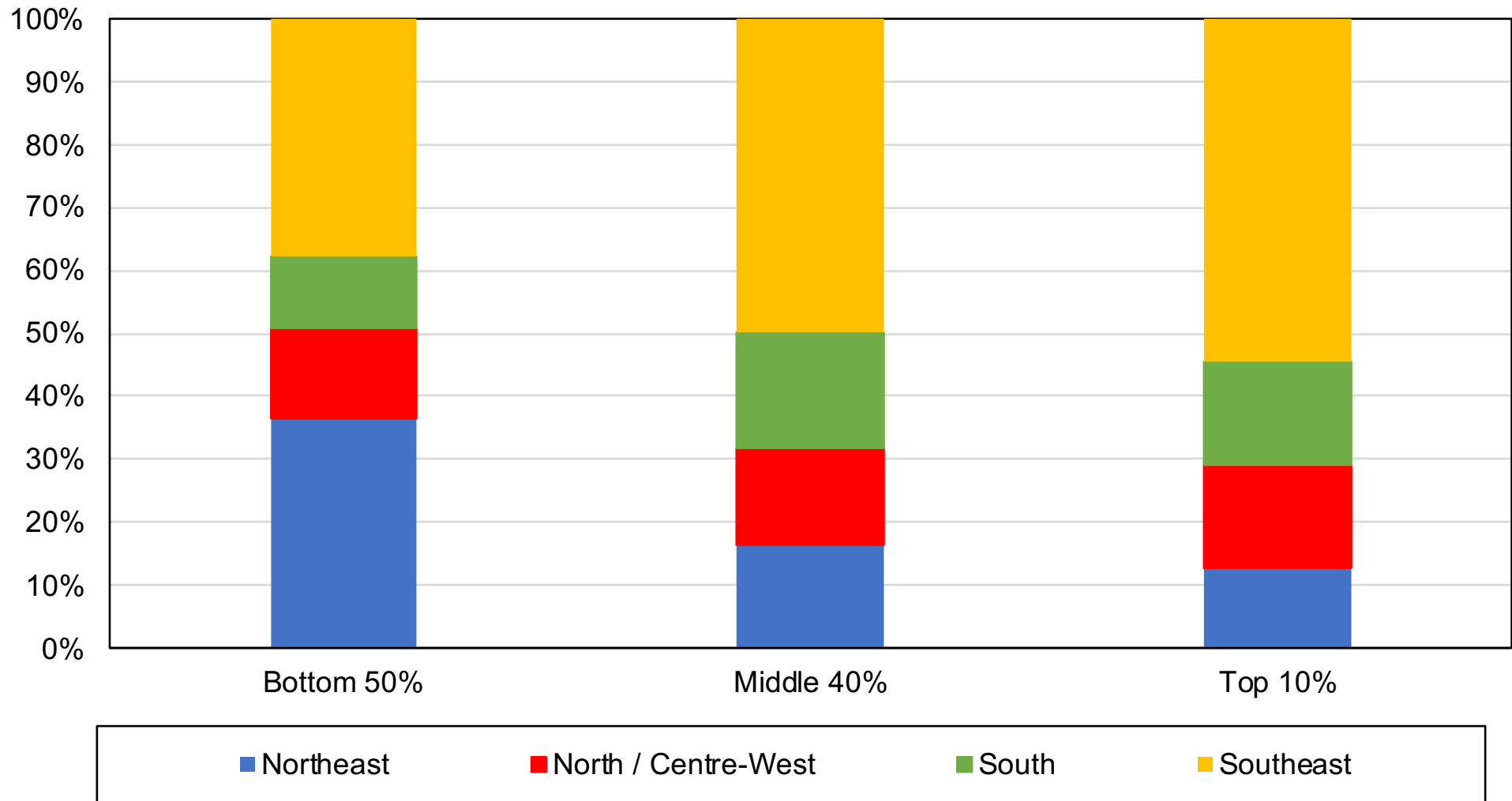
Regional composition of income groups, 1989



Source: authors' computations using Brazilian political attitudes surveys.

Note: the figure shows the distribution of income groups by region in 1989.

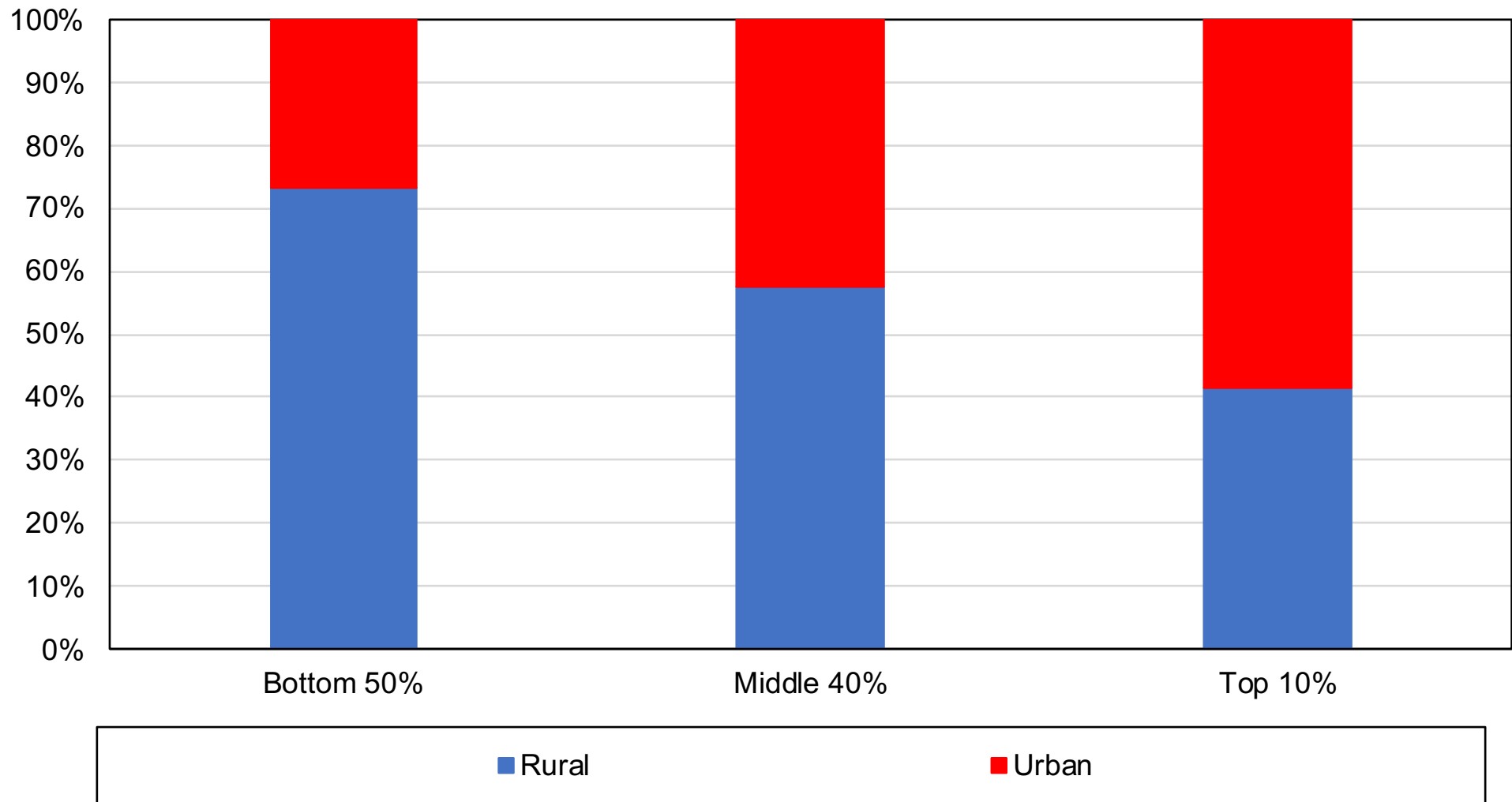
Regional composition of income groups, 2018



Source: authors' computations using Brazilian political attitudes surveys.

Note: the figure shows the distribution of income groups by region in 2018.

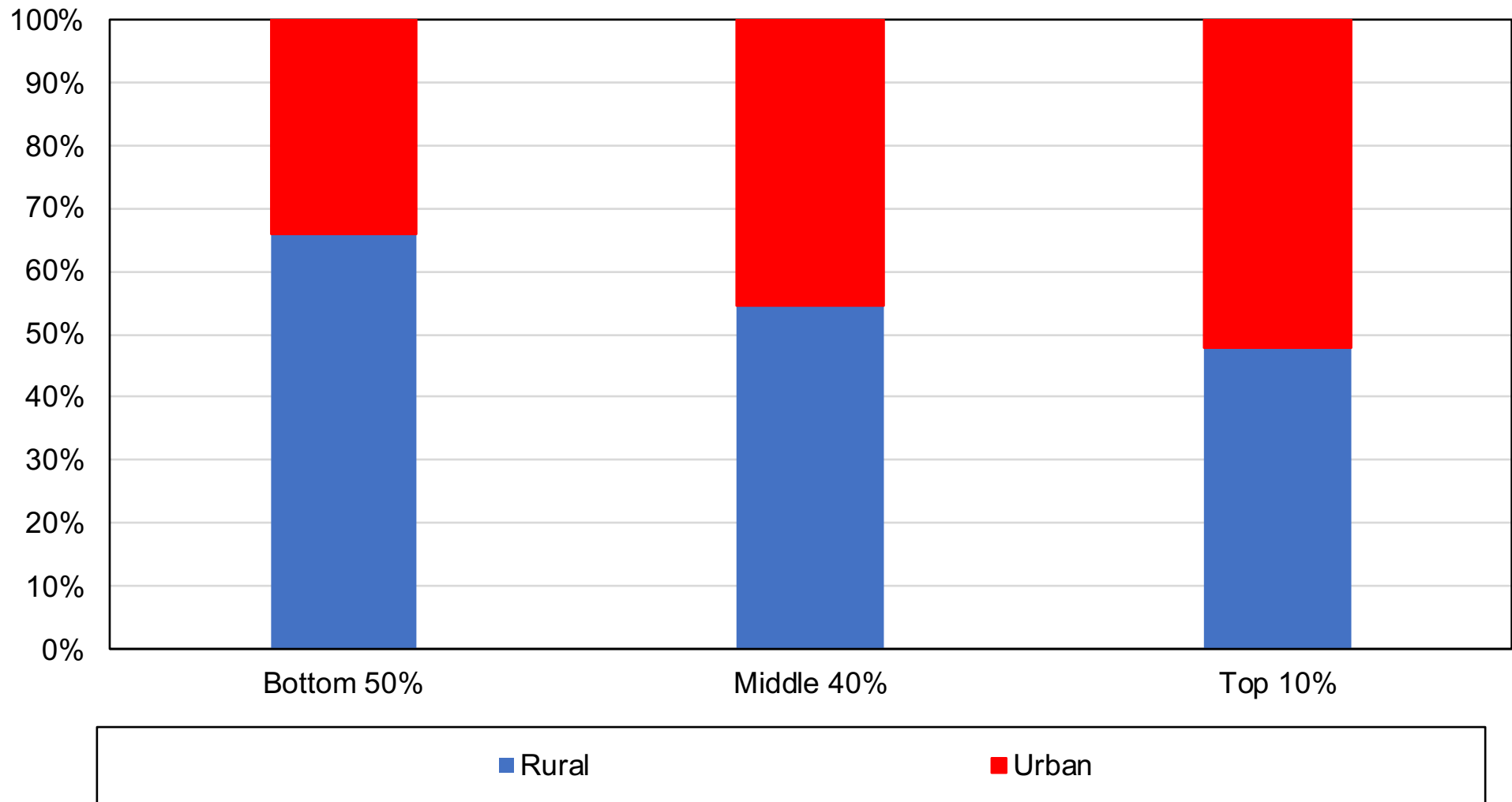
Rural-urban composition of income groups, 1989



Source: authors' computations using Brazilian political attitudes surveys.

Note: the figure shows the distribution of income groups by location in 1989.

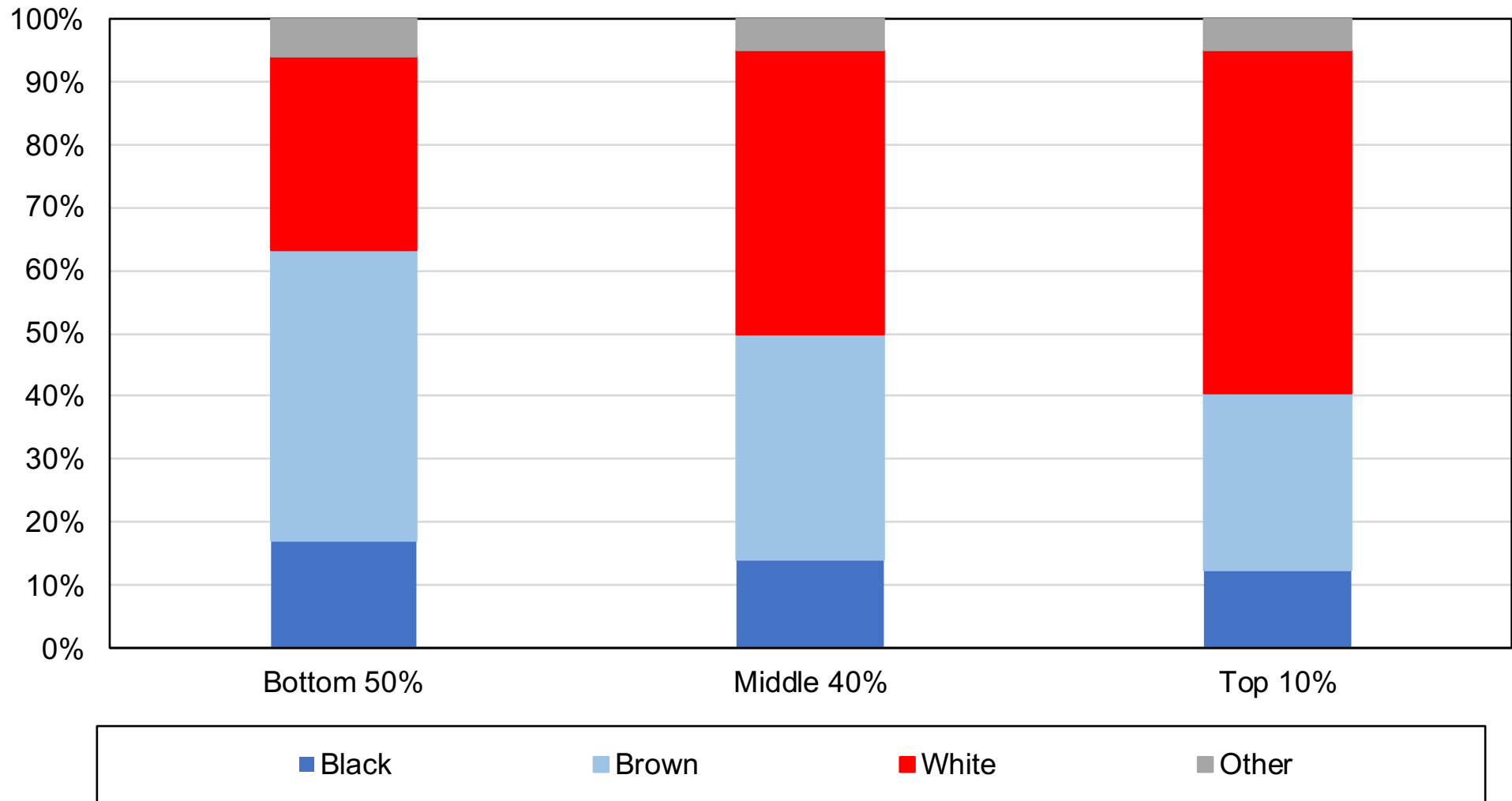
Rural-urban composition of income groups, 2018



Source: authors' computations using Brazilian political attitudes surveys.

Note: the figure shows the distribution of income groups by location in 2018.

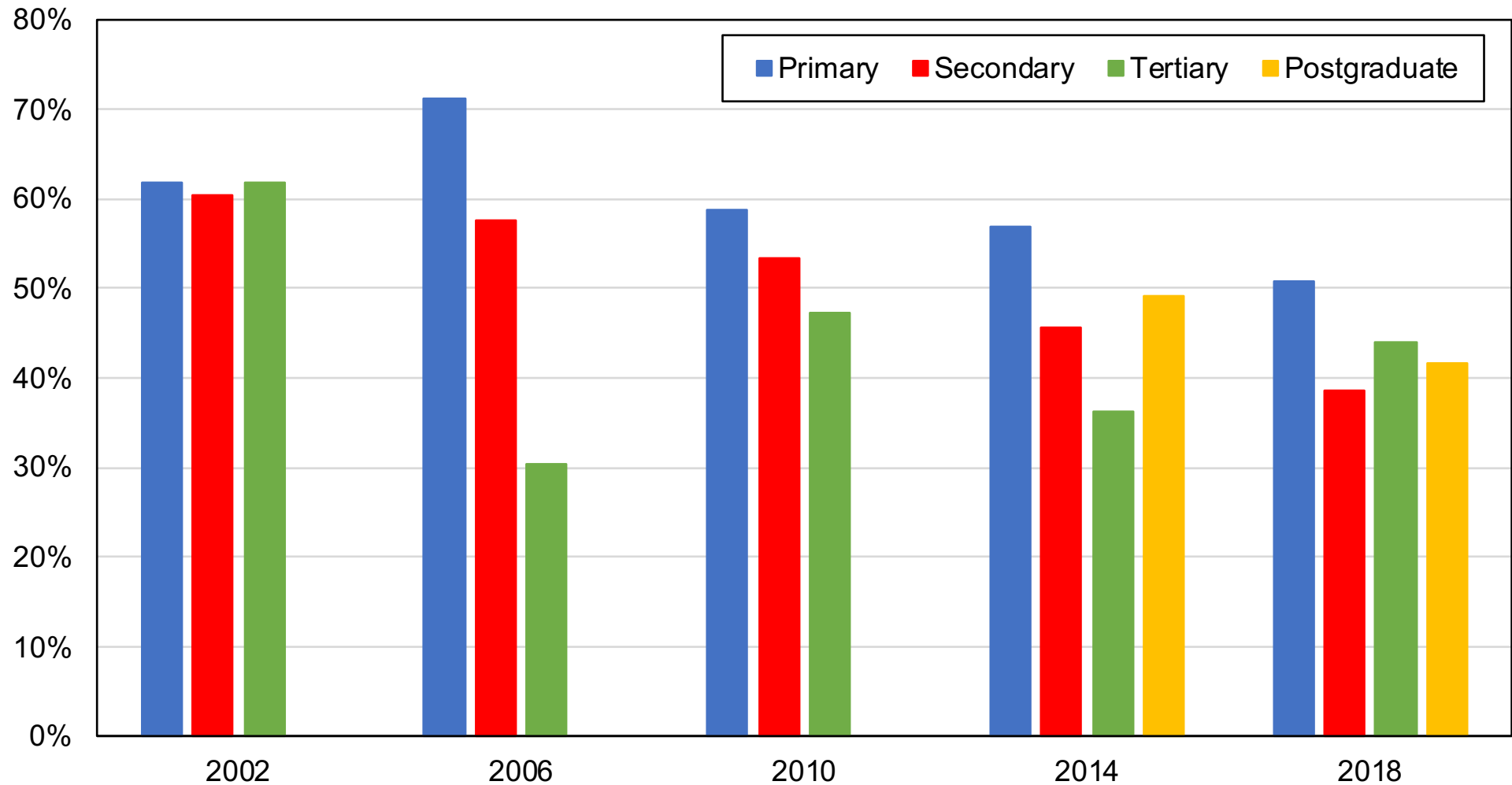
Racial composition of income groups, 2018



Source: authors' computations using Brazilian political attitudes surveys.

Note: the figure shows the distribution of income groups by race in 2018.

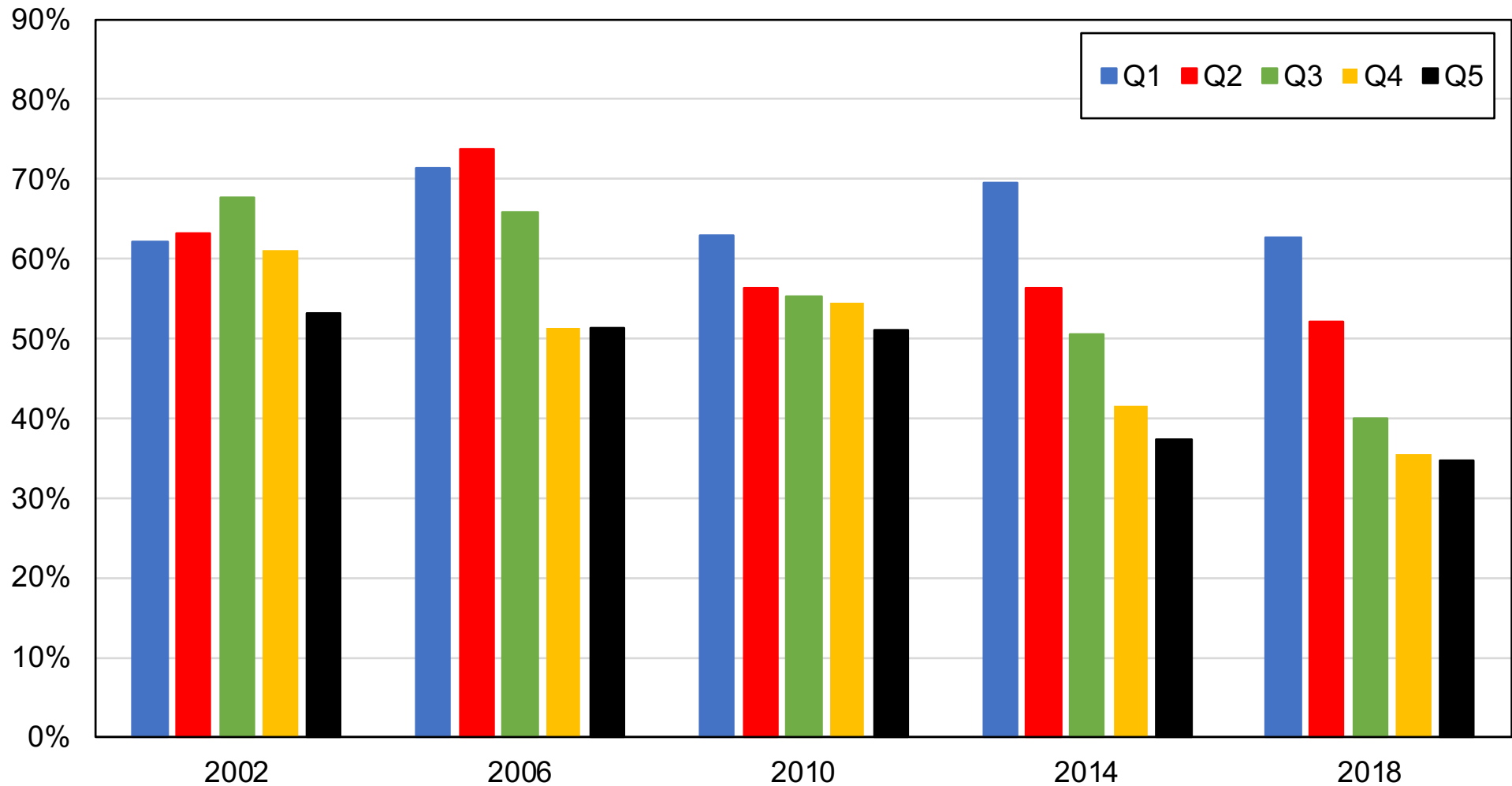
Figure C1 - Vote for PT by education level



Source: authors' computations using CSES surveys.

Note: the figure shows the share of votes received by the Workers' Party in the second round of presidential elections among voters belonging to different education groups.

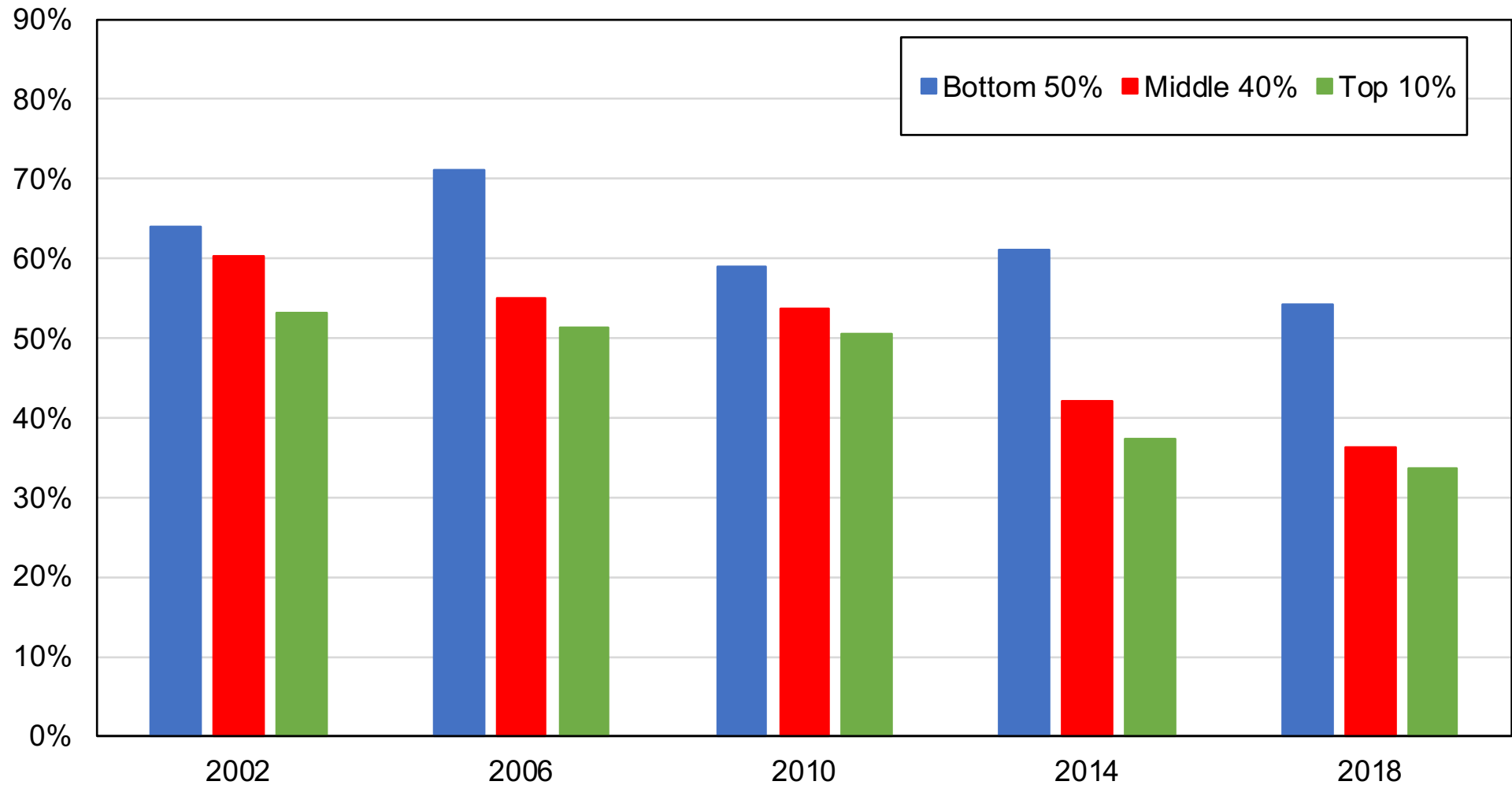
Figure C2 - Vote for PT by income quintile



Source: authors' computations using CSES surveys.

Note: the figure shows the share of votes received by the Workers' Party in the second round of presidential elections among voters belonging to different income quintiles.

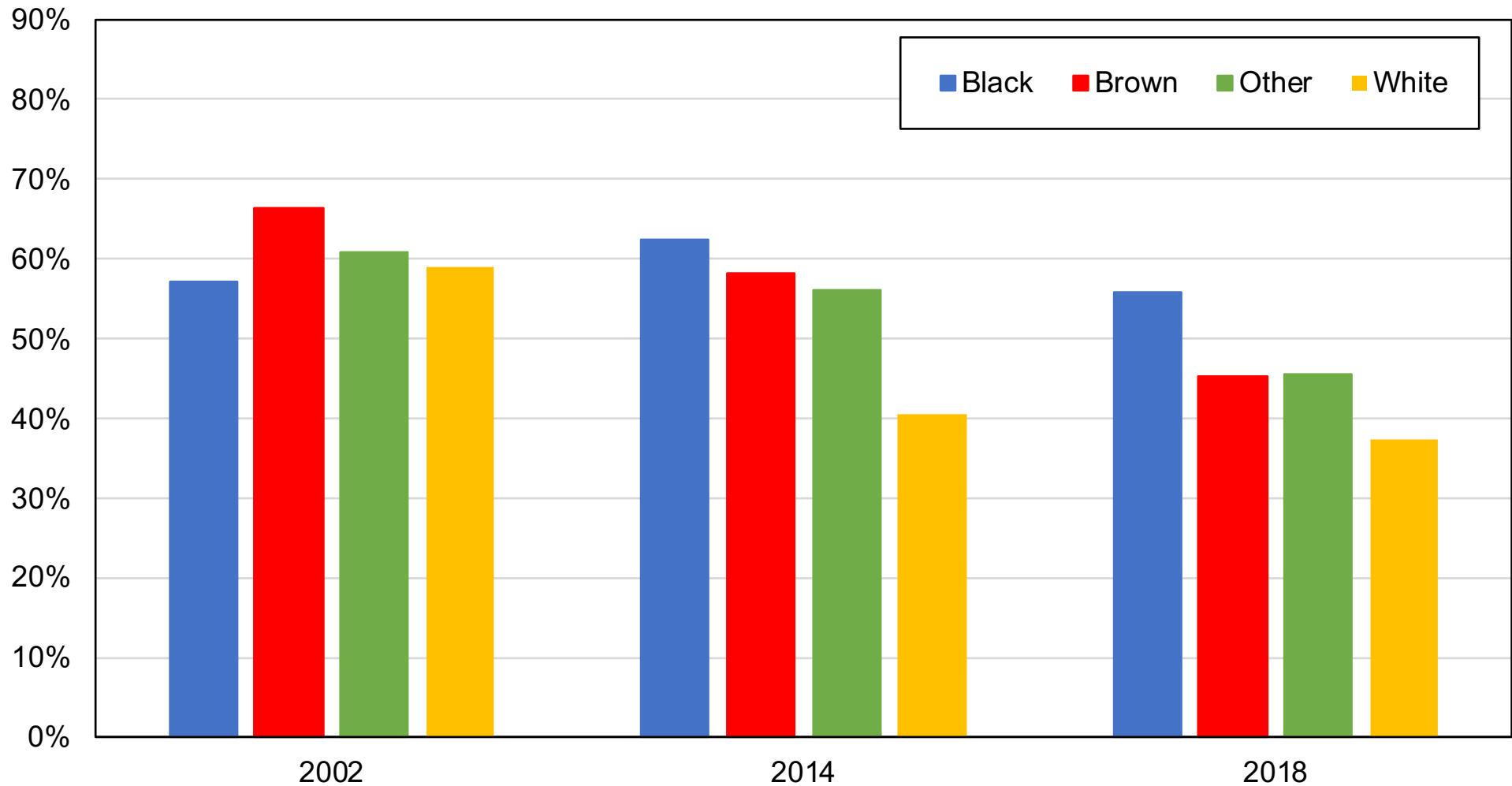
Figure C3 - Vote for PT by income group



Source: authors' computations using CSES surveys.

Note: the figure shows the share of votes received by the Workers' Party in the second round of presidential elections among voters belonging to different income groups.

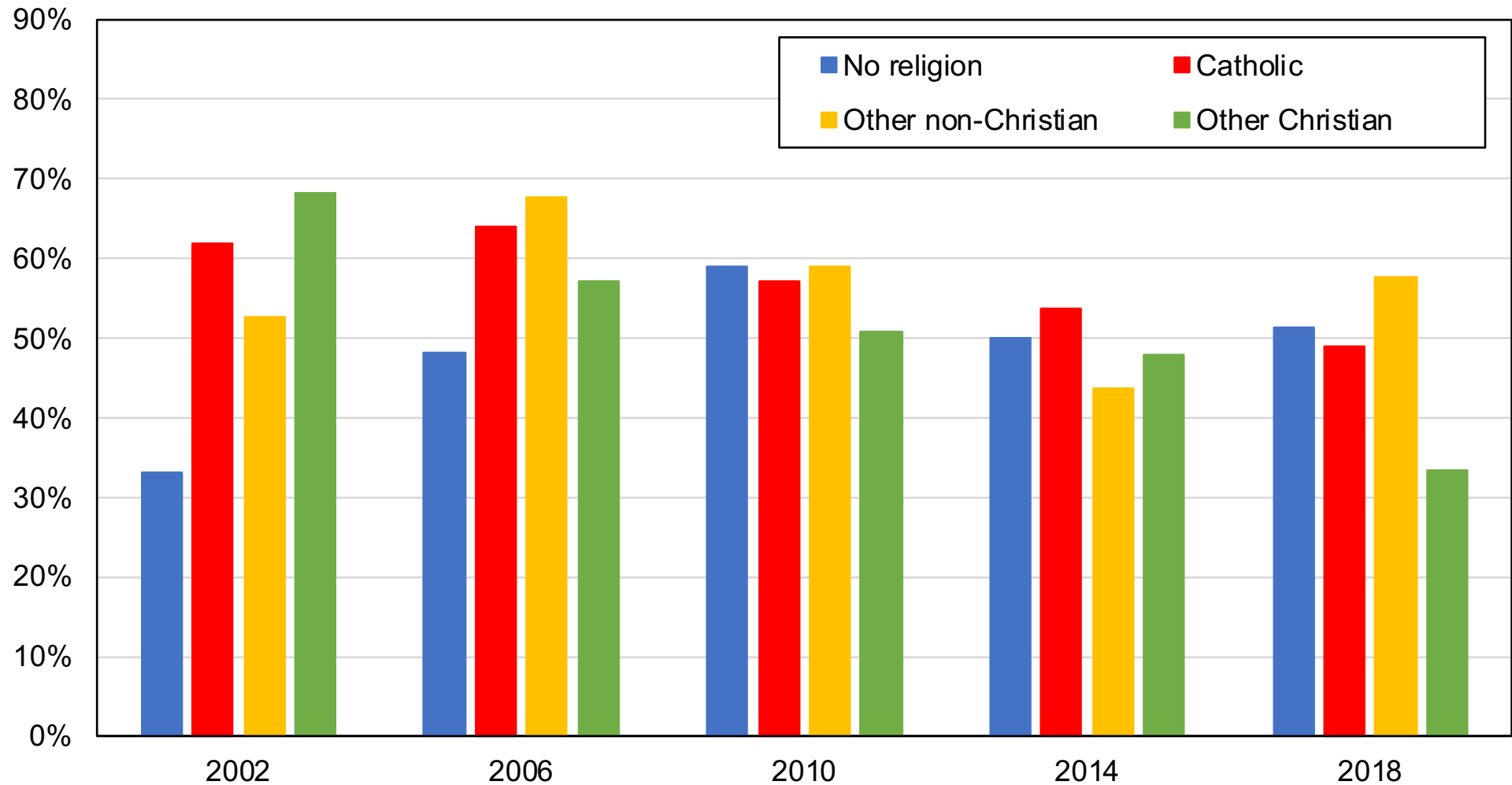
Figure C4 - Vote for PT by racial affiliation



Source: authors' computations using CSES surveys.

Note: the figure shows the share of votes received by the Workers' Party in the second round of presidential elections among voters belonging to different racial affiliations.

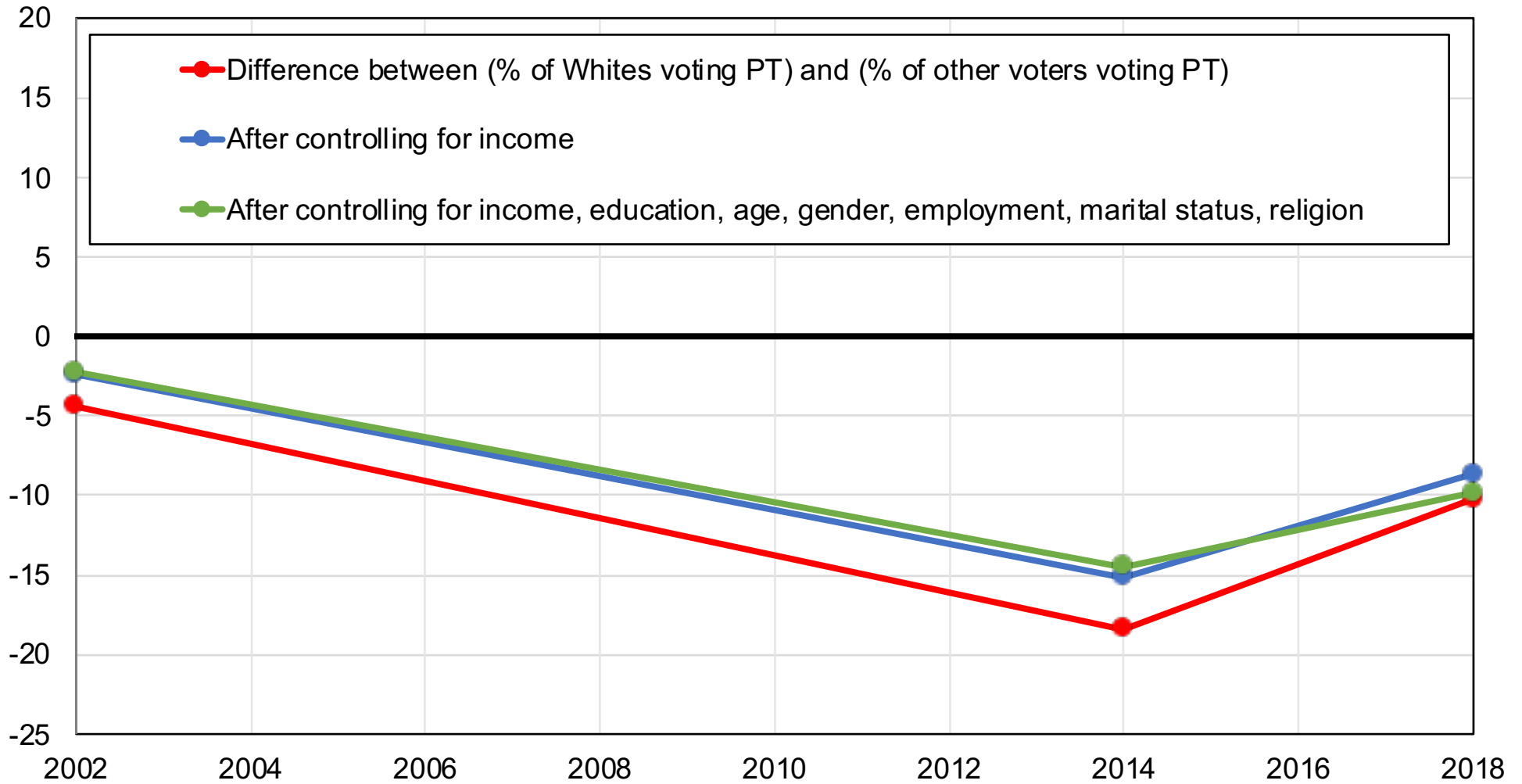
Figure C5 - Vote for PT by religious affiliation



Source: authors' computations using CSES surveys.

Note: the figure shows the share of votes received by the Workers' Party in the second round of presidential elections among voters belonging to different religious affiliations.

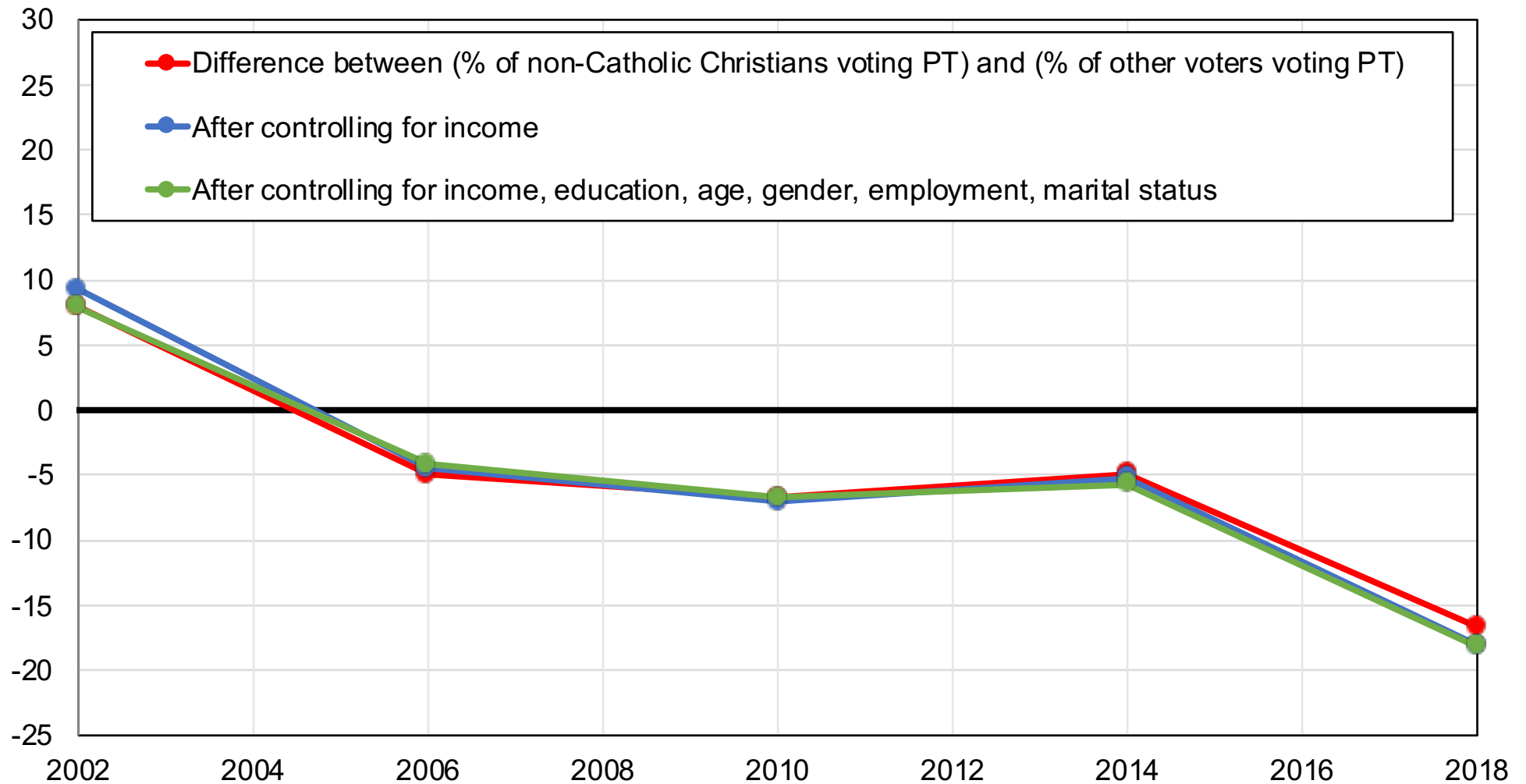
Figure C6 - Vote for PT among White Brazilians



Source: authors' computations using CSES surveys.

Note: the figure shows the difference between the share of Whites voting PT and the share of other voters voting PT in the second round of presidential elections, before and after controls.

Figure C7 - Vote for PT among non-Catholic Christians, 1989-2018



Source: authors' computations using CSES surveys.

Note: the figure shows the difference between the share of Whites voting PT and the share of other voters voting PT in the second round of presidential elections, before and after controls.