# Appendix

“Government Responsiveness under Majoritarian and (within) Proportional Electoral Systems”. *Government and Opposition: An International Journal of Comparative Politics.*

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**Table A: List of Government Mandates and Election Surveys**

|  |  |
| --- | --- |
| **Country** | **Government mandates** |
| AustraliaAustriaCanadaDenmark(West) Germany FinlandFranceGreat BritainIcelandIrelandNetherlandsNew ZealandNorwaySpainSwedenSwitzerland | (1984-1987) (**1996**-1998) (1998-2001) (2001-**2004**) (**2004**-**2007**) (**2007-**2010) (2010-**2013**)(**2008-2013**)(**2008**-2011)(**2001-**2005) (2005**-2007**)(1983-1987) (**1998-2002**)(**2002-2005**)(**2005-2009**) (**2009-2013**)(**2003**-**2007**) (**2007-2011**)(**2002-2007**) (**2007-2012**)(**1997**-2001) (2001-**2005**) (**2005**-2010)(**1999-2003**) (**2003-2007**)(**2002**-**2007**) (**2007-2011**)(1982-1986) (1986-1989) (1989-1994) (1994-**1998**)(**1998-2002**) (**2002-**2003)(1990-1993) (1993-**1996**) (1999-**2002**) (**2002-**2005) (2005-**2008**) (**2008-**2011)(1993-**1997**) (**2001**-**2005**) (**2005-2009**)(1993-**1996**) (**1996-2000**) (**2000-2004**) (**2004-2008**)(1982-1985) (1988-1991) (1991-1994) (**1998-2002**) (**2002-2006**)(**1999**-**2003**) (**2003-2007**) (**2007-2011**) |

An election in bold indicates that the election was included in the CSES project. The elections from national election studies are the following: Australia (1984, 1987, 1998, and 2001 Australian Election Studies), Canada (2011 Canadian Election Studies), Germany (1983, and 1987 German Election Studies), Denmark (2005 Danish Election Projects – Dansk Data Arkiv), Spain (1993 Comparative National Elections Project), Great Britain (2001, and 2010 British Election Studies), Netherlands (1982, 1986, 1989, 1994, and 2003 Dutch Parliamentary Election Studies), New Zealand (1990, 1993, 1999, 2005, and 2011 New Zealand Election Studies), and Sweden (1982, 1985, 1988, 1991 and 1994 national election studies from the National Swedish Election Study 1979-2006, principal investigators : Henrik Oscarsson and Sören Holmberg, Swedish National Data Service). National Election Studies that did not ask respondents to locate themselves and party positions on a left-right ideological scale were not gathered and are not displayed in Table A.

### Conceptualizing Government Responsiveness to and Congruence With Citizens’ Preferences

In this section, we detail our conceptualization of government responsiveness with the help of several figures. As discussed in the paper, there are three different possibilities to consider with respect to possible changes in the preference of the median citizen. We illustrate each of these possibilities in Figures A, B, and C where we locate as a starting point the government policy at 6 (center-right policy) and the preference of the median citizen at 4 (center-left preference) on a 0-10 left-right policy dimension. First, the preference of the median citizen may stay the same as displayed in Figure A. Second, as shown in Figure B the preference of the median citizen may move to the left away from the government policy – from 4 to 2 as indicated by the dot arrow – with the consequence of decreasing congruence. Third, as shown in Figure C the preference of the median citizen may move to the right toward the government policy – from 4 to 5 as indicated by the dot arrow – with the consequence of increasing congruence.

The *standard approach* predicts that: if the median citizen moves left, the government should move left while if the median citizen moves right, the government should move right. It is unclear, however, what the prediction of the *standard approach is* when the median citizen stays as the same position. We assume, presumably, that governments might stay at the same position. In Figures Aa, Ba, and Ca the dashed arrow indicates the predicted government responsiveness based on the assumption of the *standard approach*. In Figures Aa and Ca, it appears that the predictions of the *standard approach* do not increase congruence with the median citizen. It is only in Figure Ba that the prediction of the *standard approach* actually increases congruence. Most of the predictions from the *standard approach* do not lead to an improvement in congruence because this approach omits to consider whether the preference of the median citizen is initially to the left or right of the government.

**Figure A: Predictions of Government Responsiveness when the Median Citizen Stays at the Same Position**



We present now our predictions where *government responsiveness* implies a dynamic change from the government in order to foster *congruence.* Importantly, all our predictions lead to an increase in *congruence* (see Figures Ab, Bb, and Cb). First, if the preference of the median citizen is staying the same, the government is *responsive* to citizens’ preferences if it changes its policy to the left toward the preference of the median citizen from 6 to 5 or 4 (the dashed arrow in Figure Ab). This prediction is different than the one based on the existing literature.

Second, if the preference of the median citizen is moving to the left away from the government policy – from 4 to 2 – the government is *responsive* to citizens’ preferences if it changes its policy to the left toward the preference of the median citizen from 6 to 5, 4, 3 or 2 (the dashed arrow in Figure Bb). The more the government changes its policy close to 2 the more responsive the government. This is consistent with the prediction of the *standard approach*.

**Figure B: Predictions of Government Responsiveness when the Median Citizen Moves Away from the Government**



Third, if the preference of the median citizen is moving to the right toward the government policy – from 4 to 5 – the government is *responsive* to citizens’ preferences if it changes its policy to the left toward the preference of the median citizen from 6 to 5 (the dashed arrow in Figure Cb). This prediction is different from the prediction of the *standard approach*.[[1]](#footnote-1)

**Figure C: Predictions of Government Responsiveness when the Median Citizen Moves Toward the Government**



### Additional Results

Table B: The Impact of *Closer/Away* ∆ *Median Citizen* on ∆ *Social Spending*

|  |  |  |
| --- | --- | --- |
|  | (1) Standard | (2) Our model |
| ∆ median citizen  | -0.08 | (0.06)  |  |  |
| Closer ∆ median citizen |  |  | -0.12 | (0.19)  |
| Away ∆ median citizen |  |  | -0.04 | (0.08)  |
| Disadvantageous  |  |  | 0.18 | (0.24)  |
| Social spending t-1  | -0.46 | (0.14)\*\*\* | -0.46 | (0.15)\*\*\* |
| ∆ GDP  | -0.39 | (0.07)\*\*\* | -0.41 | (0.08)\*\*\* |
| GDP t-1  | 0.02 | (0.05)  | 0.02 | (0.05)  |
| ∆ age65  | 0.36 | (0.49)  | 0.41 | (0.54)  |
| ∆ unemployment  | 0.16 | (0.07)\*\*  | 0.14 | (0.07)\*  |
| Median citizen t-1  | -0.11 | (0.12)  | -0.12 | (0.13)  |
| Government t-1  | 0.01 | (0.02)  | 0.01 | (0.02)  |
| Constant  | 15.81 | (8.09)\*  | 15.26 | (8.38)\*  |
| Observations  | 55 |  | 55 |  |
| Sigma u  | 2.19 |  | 2.18 |  |
| Sigma e  | 1.06 |  | 1.09 |  |
| Rho  | 0.81 |  | 0.80 |  |
| R-squared within model | 0.72 |  | 0.73 |  |

Robust standard errors in parentheses. \* *p* < 0.10, \*\* *p* < 0.05, \*\*\* *p* < 0.01. The dependent variable is the change in social spending between two elections as a percentage of a country GDP. The analysis includes 16 countries over the 1980-2016 period.

Table C: The Conditioning Impact of Electoral Systems

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | (1) Standard | (2) Our model | (3) Standard | (4) Our model |
| ∆ median citizen  | -0.17 | (0.09)\*  |  |  | -0.11 | (0.10)  |  |  |
| ∆ median citizen X PR | 0.11 | (0.1)  |  |  | 0.05 | (0.11)  |  |  |
| Closer ∆ median citizen X MAJ |  |  | 0.33 | (0.26)  |  |  | 0.02 | (0.17)  |
| Closer ∆ median citizen X PR |  |  | -0.12 | (0.39)  |  |  | -0.15 | (0.29)  |
| Away ∆ median citizen X MAJ |  |  | -0.49 | (0.15)\*\*\* |  |  | -0.35 | (0.17)\*\*  |
| Away ∆ median citizen X PR |  |  | -0.04 | (0.09)  |  |  | -0.09 | (0.09)  |
| Disadvantageous  |  |  | -0.12 | (0.22)  |  |  | -0.24 | (0.45)  |
| Disadvantageous X PR  |  |  | 0.29 | (0.67)  |  |  | -0.05 | (0.63)  |
| PR  | 1.50 | (0.58)\*\*  | 2.15 | (1.37)  | 0.91 | (0.51)\*  | 0.77 | (0.64)  |
| Social spending t-1  | -0.49 | (0.14)\*\*\* | -0.46 | (0.15)\*\*\* | -0.18 | (0.06)\*\*\* | -0.12 | (0.04)\*\*\* |
| ∆ GDP  | -0.45 | (0.07)\*\*\* | -0.44 | (0.08)\*\*\* | -0.45 | (0.09)\*\*\* | -0.38 | (0.13)\*\*\* |
| GDP t-1  | 0.01 | (0.05)  | -0.001 | (0.04)  | -0.01 | (0.03)  | 0.01 | (0.03)  |
| ∆ age65  | 0.05 | (0.61)  | 0.25 | (0.85)  | 0.18 | (0.54)  | 0.13 | (0.64)  |
| ∆ unemployment  | 0.13 | (0.07)\*  | 0.15 | (0.09)  | 0.14 | (0.09)  | 0.23 | (0.12)\*\*  |
| Median citizen t-1  | -0.21 | (0.15)  | -0.16 | (0.17)  | 0.07 | (0.06)  | 0.03 | (0.07)  |
| Government t-1  | 0.02 | (0.02)  | 0.02 | (0.02)  | -0.01 | (0.01)  | -0.02 | (0.01)  |
| Constant  | 19.69 | (9.28)\*  | 16.71 | (9.88)  | 2.00 | (4.17)  | 2.57 | (4.31)  |
| Observations  | 55 |  | 55 |  | 55 |  | 55 |  |
| Sigma u  | 2.23 |  | 1.93 |  | 1.08 |  | 0.00 |  |
| Sigma e  | 1.05 |  | 1.09 |  | 1.05 |  | 1.09 |  |
| Rho | 0.82 |  | 0.76 |  | 0.51 |  | 0.00 |  |
| R-squared within model | 0.75 |  | 0.77 |  | 0.69 |  | 0.65 |  |
| Model  | FE |  | FE |  | RE |  | RE |  |
|

|  |
| --- |
| Robust standard errors in parentheses. \* *p* < 0.10, \*\* *p* < 0.05, \*\*\* *p* < 0.01.  |

The dependent variable is the change in social spending between two elections as a percentage of a country GDP. The analysis includes 16 countries over the 1980-2016 period.  |

Table D: The Impact of *Closer/Away* ∆ *Median Citizen* on ∆ Social Spending under PR Systems

|  |  |  |  |
| --- | --- | --- | --- |
|  | **(1) Standard** | **(2) Our model (closer)** | **(3) Our model (away)** |
| ∆ median citizen  | -0.26 | (0.15)  |  |  |  |  |
| Closer ∆ median citizen |  |  | -0.89 | (0.56)  | -0.05 | (0.41)  |
| Away. ∆ median citizen |  |  | 0.04 | (0.14)  | -0.44 | (0.15)\*\*  |
|  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |
| ∆ median citizen X # of parties | 0.09 | (0.07)  |  |  |  |  |
| Closer ∆ median citizen X # of parties |  |  | 0.59 | (0.28)\*  |  |  |
| Away ∆ median citizen X # of parties |  |  |  |  | 0.21 | (0.07)\*\*  |
|  |  |  |  |  |  |  |
| Disadvantageous  |  |  | -1.18 | (1.30)  | -0.52 | (1.43)  |
| # of parties | 0.23 | (0.43)  | -0.92 | (0.88)  | -0.01 | (0.68)  |
| Disadvantageous X # of parties |  |  | 1.18 | (0.77)  | 0.41 | (0.59)  |
|  |  |  |  |  |  |  |
| Social spending | -0.66 | (0.10)\*\*\* | -0.66 | (0.10)\*\*\* | -0.71 | (0.12)\*\*\* |
| ∆ GDP  | -0.45 | (0.09)\*\*\* | -0.44 | (0.09)\*\*\* | -0.42 | (0.05)\*\*\* |
| GDP t-1  | -0.03 | (0.06)  | -0.07 | (0.05)  | -0.03 | (0.05)  |
| ∆ age65  | -0.19 | (0.82)  | -0.29 | (1.33)  | -0.19 | (1.19)  |
| ∆ unemployment  | 0.16 | (0.08)\*  | 0.08 | (0.09)  | 0.23 | (0.14)  |
| Median citizen t-1  | -0.39 | (0.23)  | -0.21 | (0.17)  | -0.50 | (0.19)\*\*  |
| Government t-1  | 0.03 | (0.02)  | 0.03 | (0.024)  | 0.05 | (0.02)\*\*  |
| Constant  | 35.47 | (10.58)\*\*\* | 28.58 | (6.41)\*\*\* | 41.47 | (10.28)\*\*\* |
| Observations  | 40 |  | 40 |  | 40 |  |
| Sigma u  | 2.90 |  | 2.96 |  | 3.24 |  |
| Sigma e  | 1.09 |  | 1.15 |  | 1.11 |  |
| Rho  | 0.88 |  | 0.87 |  | 0.89 |  |
| R-squared within model | 0.81 |  | 0.82 |  | 0.83 |  |
| Robust standard errors in parentheses \* *p* < 0.10, \*\* *p* < 0.05, \*\*\* *p* < 0.01. The dependent variable is the change in social spending between two elections as a percentage of a country GDP. The analysis includes 12 countries over the 1980-2016 period.  |

### Replication of the Results with the “Standard Approach” to Interaction Effects

In this section, we detail the procedure of the “alternative approach” to interaction models when one of the modifying variables is discrete. We also replicate our results with the “standard approach” to interaction models.

In Tables 1 and 2, we followed Brambor, et al. (2006, see equation 7, 69-70) alternative specification to interaction models. Statistically, the results of this alternative approach are exactly the same than those of the “standard approach”. We present in Tables E and F a comparison of the results of both approaches based on Tables 1 and 2, respectively.

The specification that we estimated in Table 1 is the following:

*∆ social spending* = b1 + b2 [*closer ∆ median citizen*] +b3 [*away ∆ median citizen*] + b4 [*disadvantageous*] + *controls*

The results are presented in column 2 of Table E. Given our computation of *away ∆ median citizen* and *closer ∆ median citizen* detailed in page 22, the above specification may also be written as:

*∆ social spending* = b1 + b2 [*∆ median citizen X (1- disadvantageous)*] +b3 [*∆ median citizen X disadvantageous*] + b4 [*disadvantageous*] + *controls*

On the other hand, the specification based on the standard approach to interaction effects extensively discussed in Brambor, et al. (2006) is the following:

*∆ social spending* = b1 + b2 [*∆ median citizen*] +b3 [*disadvantageous*] + b4 [*disadvantageous\*∆ median citizen*] + *controls*

The results of this model are presented in column 1 of Table E.

First, it appears in Table E that the coefficients of the control variables are exactly the same under both specifications. The effect of *disadvantageous* (0.18) is also the same in the two models. The main difference between the two models is how we interpret the effect of *away ∆ median citizen* and *closer ∆ median citizen.* In column 2, those effects are provided directly by the coefficients in the regression tables. The interpretation is slightly more complicated in column 1. When *disadvantageous* equals 0 *∆ median citizen* gives the effect of a change in the position of the median citizen *toward* the government position (-0.12). This is substantively and numerically the same effect than *closer ∆ median citizen* in column 2 (-0.12). As for the impact of *∆ median citizen* when *disadvantageous* equals 1 in column 1, we need to add up the coefficients of ∆ *median citizen* (-0.12) and ∆ *median citizen\*disadvantageous* (0.08) which equals -0.04. This represents the effect of a change in the position of the median citizen *away from* the government position. This is substantively and numerically the same effect than *away ∆ median citizen* in column 2 (-0.04).

Table E: Comparison of the results of the standard and alternative approaches to interaction models (Table 1)

|  |  |  |
| --- | --- | --- |
|  | (1) Standard interaction | (2) Our model (alternative interaction) |
| ∆ median citizen  | **-0.12** | **(0.19)**  |  |  |
| ∆ median citizen\*disadvantageous | **0.08** | **(0.23)** |  |  |
| Disadvantageous  | **0.18** | **(0.24)**  | **0.18** | **(0.24)**  |
| Closer ∆ median citizen |  |  | **-0.12** | **(0.19)**  |
| Away ∆ median citizen |  |  | **-0.04** | **(0.08)**  |
| Social spending t-1  | -0.46 | (0.15)\*\*\* | -0.46 | (0.15)\*\*\* |
| ∆ GDP  | -0.41 | (0.08)\*\*\* | -0.41 | (0.08)\*\*\* |
| GDP t-1  | 0.02 | (0.05)  | 0.02 | (0.05)  |
| ∆ age65  | 0.41 | (0.54)  | 0.41 | (0.54)  |
| ∆ unemployment  | 0.14 | (0.07)\*  | 0.14 | (0.07)\*  |
| Median citizen t-1  | -0.12 | (0.13)  | -0.12 | (0.13)  |
| Government t-1  | 0.01 | (0.02)  | 0.01 | (0.02)  |
| Constant  | 15.26 | (8.38)\*  | 15.26 | (8.38)\*  |
| Observations  | 55 |  | 55 |  |
| Sigma u  | 2.18 |  | 2.18 |  |
| Sigma e  | 1.09 |  | 1.09 |  |
| Rho  | 0.80 |  | 0.80 |  |
| R-squared within model | 0.73 |  | 0.73 |  |

Robust standard errors in parentheses. \* *p* < 0.10, \*\* *p* < 0.05, \*\*\* *p* < 0.01. The dependent variable is the change in social spending between two elections as a percentage of a country GDP. The analysis includes 16 countries over the 1980-2016 period.

To demonstrate furthermore the equivalence of the results, let’s take the regression coefficients in Table E and assign them to the equations we specified above.

Alternative specification:

*∆ social spending* = 15.26 + -0.12[*∆ median citizen\*(1-disadvantageous)*] + -0.04[*∆ median citizen\*disadvantageous*] + 0.18[*disadvantageous*] + *controls*

Standard specification:

*∆ social spending* = 15.26 + -0.12[*∆ median citizen*] + 0.18[*disadvantageous*] + 0.08[*disadvantageous\*∆ median citizen*] + *controls*

It is possible to show that the two equations are equal:

15.26 + -0.12[*∆ median citizen\*(1- disadvantageous)*] + -0.04[*∆ median citizen\*disadvantageous*] + 0.18[*disadvantageous*] + *controls =* 15.26 + -0.12[*∆ median citizen*] + 0.18[*disadvantageous*] + 0.08[*disadvantageous\*∆ median citizen*] + *controls*

dropping on both sides 15.26, 0.18[*disadvantageous]*, and *controls,* we get:

-0.12[*∆ median citizen\*(1- disadvantageous)*] + -0.04[*∆ median citizen\*disadvantageous*] *=*

-0.12[*∆ median citizen*] + 0.08[*disadvantageous\*∆ median citizen*]

which could be written as:

-0.12[*∆ median citizen -(∆ median citizen\*disadvantageous)*] + -0.04[*∆ median citizen\*disadvantageous*] *=*

-0.12[*∆ median citizen*] + 0.08[*disadvantageous\*∆ median citizen*]

-0.12[*∆ median citizen*]+ 0.12[*∆ median citizen\*disadvantageous*] + -0.04[*∆ median citizen\*disadvantageous*] *=*

-0.12[*∆ median citizen*] + 0.08[*disadvantageous\*∆ median citizen*]

0.12[*∆ median citizen\*disadvantageous*] + -0.04[*∆ median citizen\*disadvantageous*] *=*

 0.08[*disadvantageous\*∆ median citizen*]

0.08[*∆ median citizen\*disadvantageous*] *=* 0.08[*disadvantageous\*∆ median citizen*]

In table F, we present a comparison of the results based on the standard and alternative approaches to interaction effects based on Table 2.

Table F: Comparison of the results of the standard and alternative approaches to interaction models (Table 2)

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | (1) Standard interaction | (2) Our model(alternative interaction) | (3) Standard interaction | (4) Our model(alternative interaction) |
| ∆ median citizen  | 0.33 | (0.26) |  |  | 0.02 | (0.17) |  |  |
| ∆ median citizen X Disadvantageous | -0.82 | (0.35)\*\* |  |  | -0.37 | (0.28) |  |  |
| ∆ median citizen X PR | -0.45 | (0.56) |  |  | -0.17 | (0.39) |  |  |
| ∆ median citizen X Disadvantageous X PR | 0.91 | (0.58) |  |  | 0.43 | (0.47) |  |  |
| Closer ∆ median citizen X MAJ |  |  | 0.33 | (0.26)  |  |  | 0.02 | (0.17)  |
| Closer ∆ median citizen X PR |  |  | -0.12 | (0.39)  |  |  | -0.15 | (0.29)  |
| Away ∆ median citizen X MAJ |  |  | -0.49 | (0.15)\*\*\* |  |  | -0.35 | (0.17)\*\*  |
| Away ∆ median citizen X PR |  |  | -0.04 | (0.09)  |  |  | -0.09 | (0.09)  |
| Disadvantageous  | -0.12 | (0.22)  | -0.12 | (0.22)  | -0.24 | (0.45)  | -0.24 | (0.45)  |
| Disadvantageous X PR  | 0.29 | (0.67)  | 0.29 | (0.67)  | -0.05 | (0.63)  | -0.05 | (0.63)  |
| PR  | 2.15 | (1.37)  | 2.15 | (1.37)  | 0.77 | (0.64)  | 0.77 | (0.64)  |
| Social spending t-1  | -0.46 | (0.15)\*\*\* | -0.46 | (0.15)\*\*\* | -0.12 | (0.04)\*\*\* | -0.12 | (0.04)\*\*\* |
| ∆ GDP  | -0.44 | (0.08)\*\*\* | -0.44 | (0.08)\*\*\* | -0.38 | (0.13)\*\*\* | -0.38 | (0.13)\*\*\* |
| GDP t-1  | -0.001 | (0.04)  | -0.001 | (0.04)  | 0.01 | (0.03)  | 0.01 | (0.03)  |
| ∆ age65  | 0.25 | (0.85)  | 0.25 | (0.85)  | 0.13 | (0.64)  | 0.13 | (0.64)  |
| ∆ unemployment  | 0.15 | (0.09)  | 0.15 | (0.09)  | 0.23 | (0.12)\*\*  | 0.23 | (0.12)\*\*  |
| Median citizen t-1  | -0.16 | (0.17)  | -0.16 | (0.17)  | 0.03 | (0.07)  | 0.03 | (0.07)  |
| Government t-1  | 0.02 | (0.02)  | 0.02 | (0.02)  | -0.02 | (0.01)  | -0.02 | (0.01)  |
| Constant  | 16.71 | (9.88)  | 16.71 | (9.88)  | 2.57 | (4.31)  | 2.57 | (4.31)  |
| Observations  | 55 |  | 55 |  | 55 |  | 55 |  |
| Sigma u  | 1.93 |  | 1.93 |  | 0.00 |  | 0.00 |  |
| Sigma e  | 1.09 |  | 1.09 |  | 1.09 |  | 1.09 |  |
| Rho | 0.76 |  | 0.76 |  | 0.00 |  | 0.00 |  |
| R-squared within model | 0.77 |  | 0.77 |  | 0.65 |  | 0.65 |  |
| Model  | FE |  | FE |  | RE |  | RE |  |
|

|  |
| --- |
| Robust standard errors in parentheses. \* *p* < 0.10, \*\* *p* < 0.05, \*\*\* *p* < 0.01.  |

The dependent variable is the change in social spending between two elections as a percentage of a country GDP. The analysis includes 16 countries over the 1980-2016 period.  |

The advantage of Brambor et al. (2006) alternative specification is also apparent in Table F. The impact of *closer* and *away ∆ median citizen* on ∆ *social spending* under majoritarian and PR electoral systems, respectively, are provided directly from the coefficients displayed in columns (2) and (4). For PR systems see: *closer ∆ median citizen* X *PR,* and *away ∆ median citizen* X *PR*. For majoritarian systems see: *closer ∆ median citizen* X *MAJ*, and *away ∆ median citizen* X *MAJ*. To get the equivalent effects in columns (1) and (3) based on the standard approach to interaction effects, we need to add up coefficients. We present here the details of the results for column (1).

The results in column (1) could be written as:

*∆ social spending* = 0.33[*∆ median citizen*] +-0.82[*∆ median citizen\*disadvantageous*] + -0.45[*∆ median citizen\*PR*] + 0.91[*∆ median citizen\*disadvantageous\*PR*] + *controls + constant*

To get the effect of *∆ median citizen* when *disadvantageous=0 & PR*=0

(i.e. *closer ∆ median citizen* X *MAJ*, which equals 0.33 in column 2*)*:

*∆ social spending* = 0.33[*∆ median citizen*] +-0.82[*∆ median citizen\*0*] + -0.45[*∆ median citizen\*0*] + 0.91[*∆ median citizen\*0\*0*] = **0.33[*∆ median citizen*]**

To get the effect of *∆ median citizen* when *disadvantageous=0 & PR*=1

(i.e. *closer ∆ median citizen* X *PR*, which equals -0.12 in column 2*)*:

*∆ social spending* = 0.33[*∆ median citizen*] +-0.82[*∆ median citizen\*0*] + -0.45[*∆ median citizen\*1*] + 0.91[*∆ median citizen\*0\*1*] = 0.33[*∆ median citizen*] – 0.45[*∆ median citizen*] = **-0.12[*∆ median citizen*]**

To get the effect of *∆ median citizen* when *disadvantageous=1 & PR*=0

(i.e. *away ∆ median citizen* X *MAJ*, which equals -0.49 in column 2*)*:

*∆ social spending* = 0.33[*∆ median citizen*] +-0.82[*∆ median citizen\*1*] + -0.45[*∆ median citizen\*0*] + 0.91[*∆ median citizen\*1\*0*] = 0.33[*∆ median citizen*] – 0.82[*∆ median citizen*] = **-0.49[*∆ median citizen*]**

To get the effect of *∆ median citizen* when *disadvantageous=1 & PR*=1

(i.e. *away ∆ median citizen* X *PR*, which equals -0.04 in column 2*)*:

Note that we need to keep 3 decimals to show the equality.

*∆ social spending* = 0.329[*∆ median citizen*] +-0.825[*∆ median citizen\*1*] + -0.455[*∆ median citizen\*1*] + 0.907[*∆ median citizen\*1\*1*] = 0.329[*∆ median citizen*] – 0.825[*∆ median citizen*] – 0.455[*∆ median citizen*] + 0.907[*∆ median citizen*]= **-0.044**

1. In addition, we may also consider a situation where the preference of the median citizen is moving toward the government policy but overshoots it. Empirically, we found only one case of overshooting in our data and excluded it from the analysis because the incentives to respond to such changes may be different. [↑](#footnote-ref-1)