



**Utrecht University**

# Why do we participate?

The Effect of Income on Civic Engagement in the Netherlands

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MSc in Economic Policy  
Economics of Labor Markets and Institutions  
Academic Year 2017/2018

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## Abstract

*This research is an exploratory and descriptive attempt to estimate the effect of income on civic engagement in the Netherlands. Using LISS survey panel data, from 2008 to 2017, I use logistic regressions to predict the likelihood that an individual will participate, and Poisson regressions to estimate the effect of income on the intensity of engagement. I also regress these models on different types and modes of participation in public life. I find mixed results for the direct effect of income on civic engagement, depending on the definition of it. Education is a strong and positive predictor, and seems to pick up the effect of income in describing the socioeconomic status of individuals. In addition, I find that home-ownership, being female and being religious are positive and significant predictors, whereas lack of interest in politics and the provision of informal personal care are negative predictors, for all the specifications.*

**Keywords:** civic engagement, social capital, labor markets, civic participation, democracy

## Introduction

In his pivotal paper *The Prosperous Community*,<sup>1</sup> Robert Putnam described the role of social capital as fundamental for the development of a society. In his view, social capital could be thought as a public good, which production is characterized by a variety of network externalities, the most prominent being the well-functioning of the democratic process. His study of the effectiveness of newborn Italian regional governments served as a natural experiment to assess the importance of civic behavior in society.

Its importance lays in the fact that the degree of civic participation can favor institutional development and lead to economic well-being. Easterly and Levine (1997)<sup>2</sup> find the role of institutions as staple for economic development, and the development of these institutions, in turn, depends on the level of social capital that a particular society presents, as shown by Putnam and many other authors.

The amount of civic engagement in a community can tell how connected its components are. *Trust* is a key factor in explaining why individuals might cooperate and build a less egoistic society, escaping from the Nash Equilibrium point of the

Prisoner's Dilemma. Trust in the institutions and in the other member of society can lead to the accumulation of social capital and the related network externalities, associated with the aforementioned economic growth: lower corruption levels,<sup>3</sup> crime rates,<sup>4</sup> and higher financial development.<sup>5</sup>

Again on the microeconomic side, a higher level of civic engagement also is associated with a more homogenous community.<sup>6</sup> Furthermore, as described by Tolbert et al. (1998), social capital interacts with local capitalism initiatives in explaining positive socioeconomic outcomes.<sup>7</sup>

Macroeconomics studies, instead, suggest that high levels of inequality are associated with lower levels of social capital. On the one hand, when values and norms for civic life are not shared, the accumulation of social capital is hampered through a lack of trust.<sup>8</sup> On the other, where income and resources are not equally distributed, individuals from lower socioeconomic background find themselves to be locked-out of society, in terms of education, opportunities and labor market outcomes.<sup>9</sup> These individuals will develop a sense of mistrust towards the richest socioeconomic groups, feeling that they are not sharing a common fate,<sup>10</sup> and therefore hampering civic efforts.

## Research Question

Since the work of Robert Putnam, economists and political scientists have focused more on the role of civic engagement in society.

Despite the difficulty of statistical definitions, which can make comparisons hard, it is largely recognized in the literature that the democratic engine is lubricated by a strongly connected social fabric. There is, in fact, consensus in recognizing civic participation as a cornerstone. Yet, evidence on the causes that lead individuals to engage (at least on a micro level) is mixed.

Levin-Waldman (2010),<sup>11</sup> explains how a wage policy that equalizes the distribution of income, by sustaining the incomes at the bottom, might increase the level of participation in society, by increasing the autonomy of individuals.

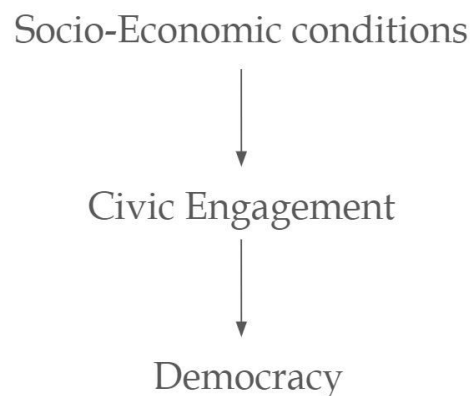
Levin-Waldman, in fact, has argued that is autonomy the key mechanism that enables people to participate, in turn leading to a better-functioning democracy: a wage policy (as simple as a basic income, or higher minimum wage) might in fact rise people from poverty, and reduce inequality by favoring the middle class. The enhanced

self-sufficiency of individuals would then lead to more autonomy and economic security, freeing up space to think about one's community.

In order to infer policy remarks from the analysis and test his assumptions, in a 2013 paper,<sup>12</sup> he argues that income variables can be interpreted as a proxy for wage policy and civic participation variables as a proxy for autonomy.

He explains: *"Given that much of the literature on democratic theory holds that democratic society requires that citizens be autonomous, we can then infer that wage policy will result in greater democracy as measured by higher levels of civic participation."*

My research follows a microeconomic approach, assessing the causality in the same direction of Levin-Waldman (2010, 2013):



Therefore, the relationship I examine is quite straightforward: **do socioeconomic conditions explain civic engagement? Does income, as a proxy for these conditions, have direct effect on the probability that citizens will engage?**

Although Levin-Waldman does not find a direct effect of income on participation, the proxies used seem to confirm that households with higher socioeconomic conditions engage more.

The aim of my research is also a descriptive one: I will outline the trends of several *types* and *modes* of civic engagement, and regress the models not only at the aggregate level, but also at the level of the individual measures that compose engagement.

## Data and Variables

The empirical problem is to define civic engagement. A clear-cut measurement is not possible, as what is considered civic change in different countries: forms of participation are embedded deeply in cultures, making it hard to define them. There are also a variety of different forms of participation: whereas voting is often recognized as the most basic form of participation in the public life, a civic activity can range from reading newspapers to volunteering in a cultural association.

Thus, I will use several definitions for civic engagement, a broad one that resembles more the concept of social capital and a more narrow measure of strictly civic activities. I will conduct an analysis based on the LISS Panel Data for the Netherlands. This survey-data is structured in waves that start in 2008. I merged the data in an unbalanced panel for 2008-2017.

The independent variables for civic engagement are constructed using the “Social Integration and Leisure” datasets. Here, LISS respondents were asked questions on the *way* they engaged in public activities, for several type of activities.

In my broad definition of engagement I included the following type of activities:

1. Cultural association or hobby club
2. Organization for humanitarian aid, human rights, minorities or migrants
3. Organization for environmental protection, peace or animal rights
4. Religious or church organization
5. Political party
6. Social society: associations for youth, pensioners/senior citizens, or women
7. Science, education, teachers or parents association
8. Trade union
9. Business, professional or agrarian organization

Whereas the narrow definition of civic engagement considers the types of engagement that are ‘civic’ in a stricter definition: this variable will only consider points 1 to 6 of the previous list.

For each of these types of activity the respondents were asked if they participated in one of these four ways:

- Donated money
- Participated in an activity

- Being a member
- Performed voluntary work

The answer to these questions were, than, yes or no binary values.

From this raw survey data I created several categories of independent.

1. A binary variable for each category (e.g. have you ever participated in cultural a cultural association in *any* way?)
2. A binary variable for *all* the categories (e.g. have you ever participated in *any* way in *any* of these activities?)
3. A discrete count variable that measures the *intensity of participation* for each category, by summing in how many ways one participates (e.g. if you donated money and you were a member of a cultural association the variable will take value 2)
4. A sum of all the intensity scores across the activities of point 3, ranging from 0 to 25.

For the overall scores (binary or count) described in points 2 and 4, I created an overall participation variable and one that narrows down the definition of civic engagement.

With the same approach, aiming at breaking down in the research the *modes* of engagement, I created binary and count variables for each of the four ways of participating (donate money, participate in an activity, membership and volunteering). I chose to do so with the narrow definition of civic engagement.

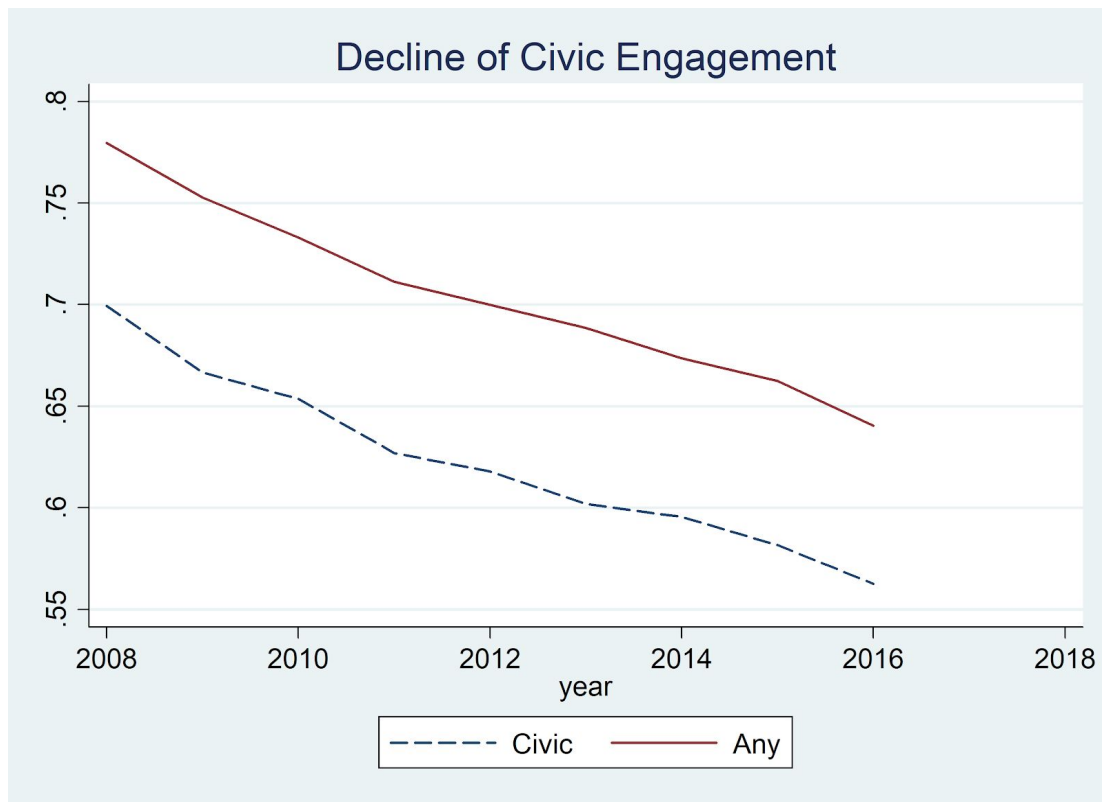
## The Decline of Civic Engagement

What comes out as clear from the descriptive statistics of the analysis is that there was a steep decline in social capital, in the Netherlands, from 2008 to 2016. Figure 1 plots on the vertical axis the proportion of people that engaged (according to the narrow definition) in any way in public life. From more than 70% of the sample to 56%.

The red line plots the larger definition of engagement (the blue line is a subset), that shows the same trend.

In Figure A of the Appendix, you can find similar graphs for each variable that I created, breaking down this figure for the different types and categories of engagement. These preliminary results indicate the need to include a time factor (trend or dummies) in the regression analysis.

Figure 1: The steep decline in Civic Engagement



The table below presents the summary statistics that proves the same concept for each variable. In the first column the average proportion of respondents engaged in the period 2008-2016.

The last two columns represent the difference in participation rates from 2008 to 2016, in absolute percentage points, and in percentage of the 2008 rate.

In the first column, it is specified if the variable is a *type* or mode of engagement. The three variables that are part of the broad measure “any”, in addition of the ones that compose the narrow “civic” measure.

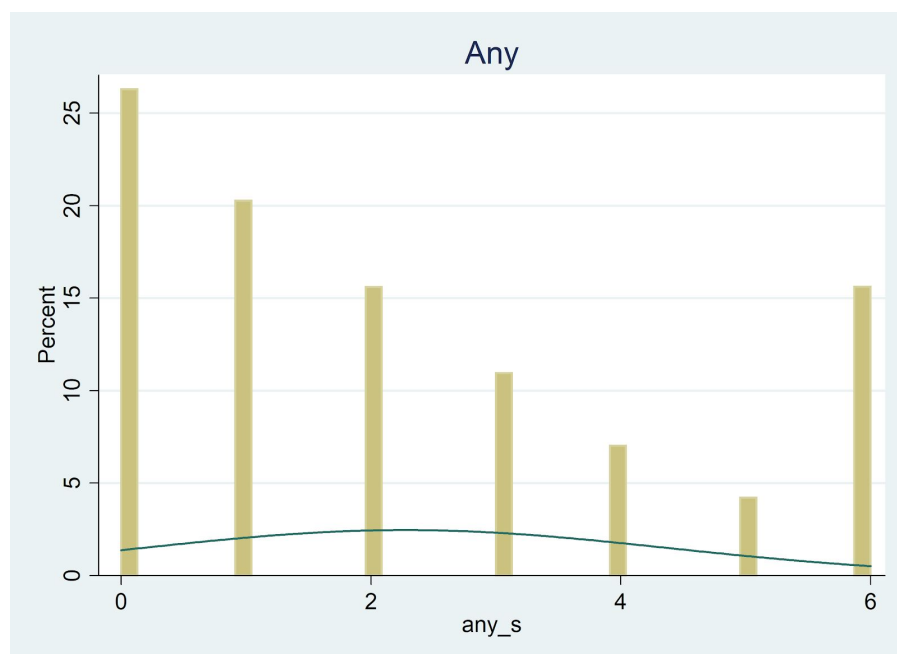


*Summary Table: Proportions of citizens engaged (39480 observations)*

	Variable	Mean	Min	Max	Decline (PP)	Decline (%)
aggregate	Any	71.03%	64.42%	78.25%	13.83%	17.68%
aggregate	Civic	62.95%	56.72%	70.25%	13.53%	19.26%
type	Church	30.68%	26.47%	34.00%	7.52%	22.13%
type	Cultural	24.27%	21.27%	28.79%	7.49%	26.00%
type	Humanitarian	28.71%	24.16%	35.39%	11.22%	31.72%
type	Environmental	27.48%	23.31%	33.37%	10.06%	30.14%
type	Political	6.97%	5.56%	7.81%	1.62%	20.81%
type	Social	12.94%	11.16%	15.49%	4.33%	27.96%
mode	Donate	33.51%	27.35%	41.12%	13.77%	33.49%
mode	Participate	18.23%	15.48%	22.42%	6.94%	30.95%
mode	Member	38.66%	35.70%	41.08%	5.26%	12.81%
mode	Volunteer	13.60%	12.33%	15.83%	3.14%	19.81%

The following figure, instead, plots the distribution of the count variable for participation in any kind of activity and across any type. The data has been truncated above 6, so to group “wide” participators together (flagging them with a score of 10) without leaving having groups with too low percentages.

*Figure 2: Frequency distribution of the intensity score over the sample (broad definition)*



The figure shows that, according to a broad definition of engagement, more than a quarter of the respondents do not participate in any form and in any category of engagement, while 15% have an intensity score for participation above 6.

## Models and Controls

For the binary type of dependent variable, I will use a logistic regression, predicting the effect of income and homeownership, *ceteris paribus*, on the likelihood that an individual will participate. For the intensity scores, I will use first a Pooled Ordinary Least Squares model, and secondly two count data models: Poisson Regressions and Negative Binomial Regression.

*Equation 1:*

$$\text{Civic Engagement}_{it} = \beta_0 + \beta_1 \text{Log}(\text{Income}_{it}) + u_{it}$$

I will first use pooled OLS and logistic regression to assess the direct effect of income on the likelihood of participation, using two types of dependent variable (broad and narrow definition).

*Equation 2:*

$$\begin{aligned} \text{Civic Engagement}_{it} = & \beta_0 + \beta_1 \text{Log}(\text{Income}_{it}) + \beta_2 \text{Education}_{it} + \beta_3 \text{Age}_{it} \\ & + \beta_4 \text{Female}_{it} + \beta_5 \text{PersonalCare}_{it} + \beta_6 \text{Dwelling}_{it} \\ & + \beta_7 \text{PoliticalInterest}_{it} + \beta_8 \text{Religion} + \beta_9 \text{Year}_{it} + u_{it} \end{aligned}$$

In Equation 2, instead, I draw the model with full controls. This model will be applied in my regressions with several types of dependent variables, making use of Poisson Regression and Negative Binomial Regression for the count data dependent variables, and of Logistic regression for the binary ones.

The controls chosen tend to isolate the effect of income at the level of the individual. Education is controlled in form of dummy variables, from 1 to 6, progressively assigned to the various levels of education, keeping the lowest level as a reference group. Theory tells us (Corak, 2013) that increasing the level of education increases the civic participation. This is phenomenon often referred to as non-monetary returns to

education. The coefficients of the dummy variables should then be positive (every educational group should perform better than the lowest).

The key explanatory factor of why people engage, as argued by Levin-Waldman (2013), is autonomy, more than money itself. Age is generally a synonym of greater autonomy for individuals. Personal care is a binary variable: the respondents were asked if they were providing informal care to someone in the family. This is a highly relevant control as the amount of leisure time that an individual might give to his or her community is reallocated preferentially in this way.

Another particularly interesting coefficient is a stock measure for wealth: dwelling. This independent variable is a dummy variable for the type of dwelling an individual lives in: theoretically we expect positive effects of home-ownership with the respect to rental contracts. Not only owning a house means probably being settled in a community, but is also an obvious indicator of economic autonomy.

LISS Panel also makes it possible to control for two other factors that have a very important impact on the probability to participate: political interest and religion. Exploiting the survey nature of the data, I attempt to control for an ideological dimension that might affect the willingness to participate.

Political interest is expressed as a dummy variable for those who declare themselves not interested in politics, with the respect to who responds “interested or fairly interested”. Religion is controlled for in the same way: a dummy for those who consider themselves religious or members of a religious community.

I will show in the regressions how the inclusion of this ideological dimension can help to explain how people engage differently in public life.

As mentioned in the previous section, I also include a time trend in order to control for the decline of engagement over time.

## Regression Results

In this section I will present my results in the following way. Firstly, I use logistic regressions for binary variables and pooled OLS for count data. I will do this for aggregate measures and then for *types* and *modes* engagement. This structure will subsequently be repeated using count data models.

### Logit and Pooled OLS: aggregate measures

Most of the tables reported in this section are a compressed version, please refer to the Appendix of this document for a complete list of the tables, reporting all the coefficients.

In Table 1, I estimate the models using a logistic regression and pooled OLS with clustered standard errors. Where the dependent variables are expressed as count data models they are followed by the suffix “\_s”.

In columns (1) and (2) the effect of income on the likelihood to engage is positive and significant, in absence of controls. In columns (3) to (6) I add the full controls to my regressions, using both the broad and narrow definition of engagement.

For the broad definition I find a significant effect of income on the probability of being engaged only for the logistic model. The dummies on education (taking the lowest level as reference) are in line with the expectations: increasing the level of education has a positive and significant effect, particularly for the university level, which constantly shows t-values higher than 10 (educ6). Age has a significant and positive effect.

The gender control seems to suggest that women are more likely to participate than men, especially in the logistic regression (columns 3 and 5).

Giving personal care predicts a strong negative effect on the likelihood to participate in civic activities. The time trend is negative, and the signs and significance of political interest and religion seem to suggest that there is a cultural effect on the likelihood to participate: religion is a strong and positive predictor, while the lack of political interest decreases the likelihood (or the intensity, in the OLS case) of engagement.

**Table 1: Pooled Methods for broad definition (Any) and narrow Civic Engagement definition (Civic)**

	(1) any	(2) any_s	(3) any	(4) any_s	(5) civic	(6) civic_s
lnetinc	0.0929*** (12.40)	0.0800*** (11.87)	0.0259*** (2.73)	0.00726 (1.03)	-0.0135 (-1.40)	-0.0178*** (-2.80)
educ2			-0.00520 (-0.07)	-0.0170 (-0.31)	-0.112 (-1.47)	-0.0438 (-0.90)
educ3			0.513*** (5.98)	0.466*** (7.02)	0.516*** (5.91)	0.414*** (6.97)
educ4			0.375*** (4.71)	0.297*** (5.12)	0.209*** (2.62)	0.172*** (3.32)
educ5			0.772*** (9.17)	0.857*** (13.85)	0.777*** (9.35)	0.657*** (11.98)
educ6			1.182*** (10.97)	1.308*** (15.61)	1.224*** (11.63)	1.026*** (13.83)
age			0.0178*** (12.88)	0.0122*** (11.39)	0.0226*** (16.88)	0.0139*** (14.26)
female			0.0776* (1.72)	0.0216 (0.63)	0.217*** (5.01)	0.0727** (2.36)
personalcare			-0.368*** (-8.24)	-0.411*** (-12.25)	-0.361*** (-8.49)	-0.330*** (-10.90)
dwelling1			0.261*** (5.50)	0.202*** (5.61)	0.209*** (4.54)	0.151*** (4.73)
politint3			-0.423*** (-9.60)	-0.422*** (-13.40)	-0.519*** (-11.93)	-0.370*** (-13.07)
reld1			1.191*** (26.13)	1.099*** (31.52)	1.392*** (31.76)	1.095*** (34.30)
year			-0.102*** (-18.59)	-0.0881*** (-23.12)	-0.0950*** (-18.07)	-0.0658*** (-19.17)
N	38702	42481	34130	34166	34137	34166
adj. R <sup>2</sup>		0.01		0.21		0.21

*t* statistics in parentheses

\*  $p < 0.10$ , \*\*  $p < 0.05$ , \*\*\*  $p < 0.01$

The type of dwelling is also a strong positive predictor, coherently with the idea of autonomy bearing a causal effect. In columns (3) and (4), the effect of income is insignificant. In regressions not shown here, omitting the type of dwelling as a control does not lead to a lower participation.

More interestingly, in regressions (5) and (6), the coefficient on income becomes negative, without losing its significance.

The correlation of education and net income is 28%, and excluding the control for education in the model makes the coefficient on income, for these variables, significant and positive, as shown in table 1A.

**Table 1A: Pooled Methods for broad definition (Any) and narrow Civic Engagement definition (Civic) - exclude education**

	(1) any	(2) any_s	(3) civic	(4) civic_s
lnetinc	0.0638*** (7.37)	0.0528*** (7.83)	0.0260*** (2.97)	0.0165*** (2.74)
Full controls excluding Education	Yes	Yes	Yes	Yes
N	34191	34227	34198	34227
adj. R <sup>2</sup>		0.16		0.17

*t* statistics in parentheses

\*  $p < 0.10$ , \*\*  $p < 0.05$ , \*\*\*  $p < 0.01$

This finding is highly important and in line with the theoretical framework: it suggests that education might pick up the effect of income in terms of describing the socioeconomic status of individuals.

Another similar issue arises with political interest: there might be an endogeneity, given that it correlates with the logarithm of income at 15.6%, and that a simple logit model (not shown) that establishes the likelihood to be interested in politics, with income as the only regressor, shows a positive and significant result.

In table 1.1 I test the same regressions using dummy variables for the quantiles of income. In this case, the reference group is the highest quantile. If to an increase in income corresponds a higher likelihood to participate, all the coefficients of the quantiles should be negative. The findings are in line with this idea, as the positive coefficients are all insignificant.

**Table 1.1: Pooled Methods for broad definition (Any) and narrow Civic Engagement definition (Civic) - Quantiles of Income**

	(1) any	(2) any_s	(3) civic	(4) civic_s
q1	-0.243*** (-2.87)	-0.186*** (-2.92)	0.0390 (0.47)	0.0298 (0.51)
q2	-0.187** (-2.44)	-0.230*** (-3.94)	-0.0392 (-0.54)	-0.0779 (-1.46)
q3	-0.102 (-1.45)	-0.223*** (-4.20)	-0.102 (-1.56)	-0.181*** (-3.78)
q4	-0.0614 (-0.93)	-0.144*** (-2.89)	-0.141** (-2.33)	-0.164*** (-3.73)
Controls	Yes	Yes	Yes	Yes
N	34130	34166	34137	34166
adj. R <sup>2</sup>		0.21		0.21

*t* statistics in parentheses

\*  $p < 0.10$ , \*\*  $p < 0.05$ , \*\*\*  $p < 0.01$

In table 1.2 (see Appendix) I also use the level of income, instead of the logarithm, finding insignificant results.

## Logit and Pooled OLS: *types and modes of engagement*

Table 2 shows Logistic Regressions on the different types of engagement. Overall, the results are in line with those of the general regressions just shown.

**Table 2: Logistic Regression for different types of engagement**

	(1) cultural	(2) humanaid	(3) environ	(4) church	(5) political	(6) social
lnetinc	-0.0360*** (-3.45)	0.0178* (1.79)	0.0219** (1.98)	-0.0198 (-1.62)	-0.0385** (-2.18)	-0.0694*** (-6.39)
Controls	Yes	Yes	Yes	Yes	Yes	Yes
N	34153	34155	34147	34158	34152	34152
adj. R <sup>2</sup>						

*t* statistics in parentheses

\*  $p < 0.10$ , \*\*  $p < 0.05$ , \*\*\*  $p < 0.01$

It is interesting to notice that being a woman has a positive effect on participation in humanitarian and environmental types of activities (with the respect to men), whilst it has a negative effect on political participation.

The effects of income are the most notable changes across categories. Once again, education is responsible for the negative coefficients. It is interesting to notice that for activities typically characterized by donation of money (such as human rights associations and environmental organizations) income still matters positively.

In the case of political participation there is no effect of dwelling on the likelihood to engage, while both flow and stock measures of wealth are negatively associated with engaging in a social association (for youth, elderly and women).

It is also worth mentioning the role of religion: while somehow trivially it has a huge impact on religious engagement (column (4)), it has a negative and significant impact on participation in organization for environmental protection, peace or animal rights. I suspect that there might be a substitution effect for participation: given believers may prefer to commit their efforts to their religious community, the effect will be negative for secular organizations that work, for example, for peace.

**Table 3: Logistic Regression for different modes of engagement**

	(1) donate	(2) member	(3) participate	(4) volunteer
lnetinc	0.0155* (1.76)	-0.0216** (-2.42)	-0.0353*** (-4.05)	-0.0425*** (-3.81)
Controls	Yes	Yes	Yes	Yes
N	34137	34137	34137	34137
adj. $R^2$				

*t* statistics in parentheses

\*  $p < 0.10$ , \*\*  $p < 0.05$ , \*\*\*  $p < 0.01$

Regressions in table 3 follow the same approach as table 2, but focus on the *ways* individuals can engage. The coefficients for income are positive and significant when individuals decide to donate money.

However, when individuals are asked about their memberships (column (2)), the effect of income (and other regressors) is more similar to previous results.



## Count Data Models: aggregate measures

The distribution plotted in the histogram in Figure 2 above might be interpreted as a count data distribution. The decision of truncating the data at the value of 6, labeling at 6 the “wide participators”, avoids that the distribution follows a stable decrease, containing groups so little that might provoke a bias.

In this section, I will therefore exploit count data regression models.

**Table 4: Count Data Models - Basic Specification**

	(1) any_s	(2) any_s	(3) civic_s	(4) civic_s
lnetinc	0.0389*** (10.77)	0.0373*** (10.84)	0.0272*** (7.20)	0.0262*** (7.23)
N	42481	42481	42481	42481
adj. $R^2$				

*t* statistics in parentheses

\*  $p < 0.10$ , \*\*  $p < 0.05$ , \*\*\*  $p < 0.01$

Table 4 contains the estimates of the basic model, for the broad and narrow definition of engagement, with a Poisson Regression for columns (1) and (3), and Negative Binomial Regression for columns (2) and (4). The table reports the estimation of the marginal effects calculated as mean of the the sample. The coefficients yielded by these two models are highly similar.

However, the Negative Binomial Regression model does not make the assumption that the variance of the sample is equal to its mean, and does not require a coefficient of correction for overdispersion in the data. This correction is easy to apply in the calculations of the marginal effects, but I choose to use only the Negative Binomial Regression model in the following regressions, as it appears less restrictive in its assumptions. For every estimation below, I used Poisson Regression as a robustness test for my results.

**Table 5: Count Data Models**

	(1) any_s	(2) any_s	(3) civic_s	(4) civic_s
lnetinc	0.00796* (1.85)	0.0325*** (7.49)	-0.00915** (-2.00)	0.0139*** (3.05)
Controls	Full	No Education	Full	No Education
N	34166	34227	34166	34227
adj. R <sup>2</sup>				
<i>t</i> statistics in parentheses				
* $p < 0.10$ , ** $p < 0.05$ , *** $p < 0.01$				

Table 5 confirms the effect of education as a stronger prediction of income, also for this specification. In columns (2) and (4), where education is not controlled for, the coefficients for income are positive and significant.

### Count Data Models: *types* and *modes* of engagement

Tables 6 and 7 show mixed results on my hypothesis. In the case of social participation (column (6) of table 6), the coefficients for wealth measures are both significant and negative. For political participation, once again, wealth seems to not to play a role. For every other measure, instead, my findings are in line with those of the pooled OLS regression, seeing the type of dwelling to have a much more significant and positive effect than income.

Interestingly, those type of activities that generally see most people volunteering for (like elderly care and social associations), or where people usually attend to events (cultural associations) are negatively associated with income, *ceteris paribus* the level of educational attainment, which has a positive effect.

**Table 6: Negative Binomial Regression - by categories of engagement**

	(1) cultural_s	(2) humanaid_s	(3) environ_s	(4) church_s	(5) political_s	(6) social_s
lnetinc	-0.0248*** (-3.06)	0.0103 (1.39)	0.0164* (1.95)	-0.00764 (-1.15)	-0.0309* (-1.85)	-0.0671*** (-6.92)
Controls	Yes	Yes	Yes	Yes	Yes	Yes
N	34153	34155	34147	34158	34152	34152
adj. R <sup>2</sup>						

*t* statistics in parentheses

\*  $p < 0.10$ , \*\*  $p < 0.05$ , \*\*\*  $p < 0.01$

**Table 7: Negative Binomial Regression - by modes of engagement**

	(1) donate_s	(2) member_s	(3) participate_s	(4) volunteer_s
lnetinc	0.0128* (1.91)	-0.0106* (-1.75)	-0.0324*** (-3.84)	-0.0391*** (-3.87)
Controls	Yes	Yes	Yes	Yes
N	34137	34137	34137	34137
adj. R <sup>2</sup>				

*t* statistics in parentheses

\*  $p < 0.10$ , \*\*  $p < 0.05$ , \*\*\*  $p < 0.01$

In Table 7 I used Negative Binomial Regression to break down the *ways* of engagement. The marginal effects estimated are comparable in terms of magnitude and sign to those of the logistic regressions of table 3.

Once again, it appears that the level of education, positively correlated with income, plays a stronger role here: including it as a control makes the income effect insignificant or even negative, depending on the variable of interest. Donating money is still, somehow trivially, dependent on income, whereas (in line with the previous table) *ways* of engaging that are not directly related to money, are negatively associated with income.

Religion, absence of political interest and personal care are still important predictors for the intensity of engagement.

I also attempted to exploit the panel nature of the LISS dataset, by estimating a Panel Poisson regression with a Fixed Effects estimator (shown in table 8 of the Appendix). For a Fixed Effects regression I only consider variables which are not time-invariant, in order to obtain consistent estimates. The results I found are highly mixed, and income and even the type of dwelling seem to indicate no effect on the civic engagement, while the lack of political interest, giving personal care, and faith are still significant predictors.

## Conclusions and Policy Insights

In this paper I tried to prove a causal link between the income of individuals and their engagement in civic initiatives. Using LISS Panel Data I firstly described how civic engagement has sharply decreased in the past ten years, and I described the levels of participation in different *ways* and *types* of activities in the Netherlands.

Following the theory of Levin-Waldman (2013), my results suggest that income does not play a key role as a cause for civic engagement. The level of education (positively associated with civic engagement) seems to be picking up the effect of income in describing the socioeconomic conditions of individuals. This result is in line with the literature, recognizing education as a very important predictor.

A notable effect, in terms of wealth, is homeownership. The stability and autonomy that owning a house give to individuals seem to be of great importance for them to generate social capital. According to the results of logistic regressions and pooled Ordinary Least Squares, *ceteris paribus* the controls of Equation 2, an individual who owns his or her house, is roughly 20% more likely to be civically engaged.

In addition, I find that when individuals provide informal personal care to someone (plausibly a close family-member) their likelihood to engage civically diminishes to around 35%. The negativity of this effect is significant in all my regressions. Provision of personal care is clearly a competing activity in the allocation of leisure time, as the effect is more negative for activities that typically require time commitments.

By trying to control for an ideological dimension, I find effects on the lack of interest in politics and current affairs and on religion. Generally, the former has a negative and small impact and the latter has a positive and large impact, although depending on the specification of the model and on the independent variable.

According to Levin-Waldman (2013), if the aim of a democratic government is to ensure that its citizens are autonomous and able to freely engage in public life, it should invest in a wage policy that balances the differences in socioeconomic backgrounds. His suggestion is to use a wage policy that equalizes the socioeconomic outcomes of individuals.

My evidence is mixed, but reflects the idea of autonomy as a cornerstone for participation. This exploratory research suggest that there is an allocation mechanism worth exploring in future research. There are endogeneity issues to be disentangled between income, education, and the interest in politics, which is positively correlated to both these dimensions. Yet, the direction of these relationships strongly confirms the idea that socioeconomic status (proxied by income, education and the type of dwelling) is a strong predictor for the interest in politics and the subsequent participation in public life.

In this sense, a democratic government that wanted to maximize social capital creation should invest in policies aimed at helping youth, and people with lower socioeconomic outcomes, to reach autonomy.

The wage policy suggested by Levin-Waldman might be an efficient instrument, but a policy directed at increasing the education level of individuals might be even more important. Being homeownership such an important predictor, low-interest house mortgages incentives could act in this direction.

Policies aimed at making households switch from informal to formal care, might reduce the costs of care-provision borne by the families, also in terms of leisure time allocation.

In general, after ten years of sharp decline in civic engagement, it is essential for policymakers to consider the various positive externalities, both for the economy and for the democratic system, and act with the respect of this awareness. In a society characterized by increasing division and fragmentation, the role of social capital accumulation has to be recognized.

A tight network is worth more than the sum of the single nodes.

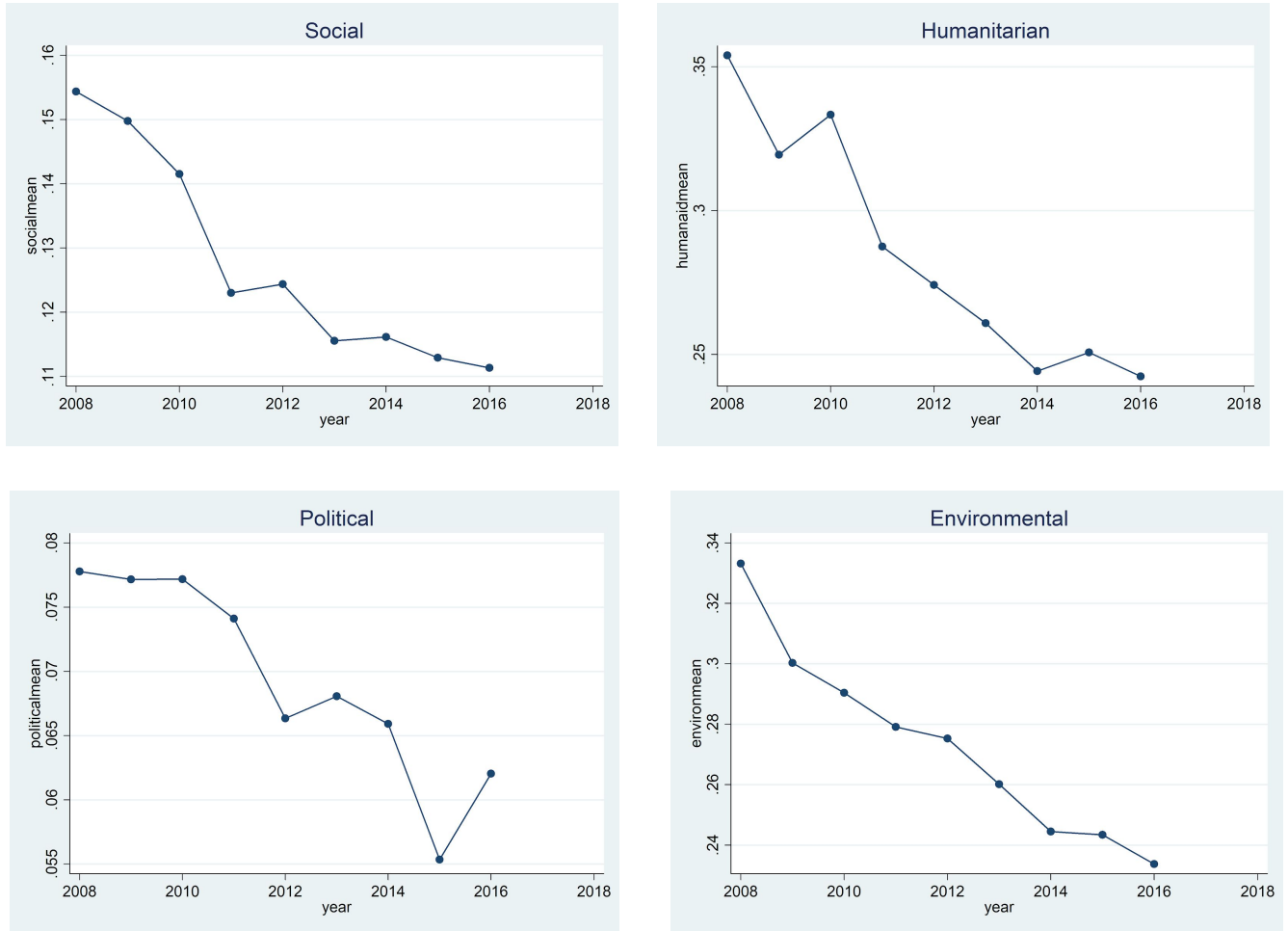
## References

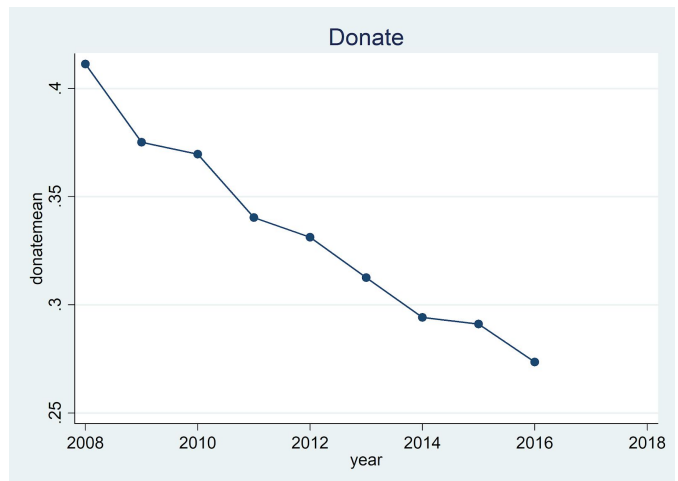
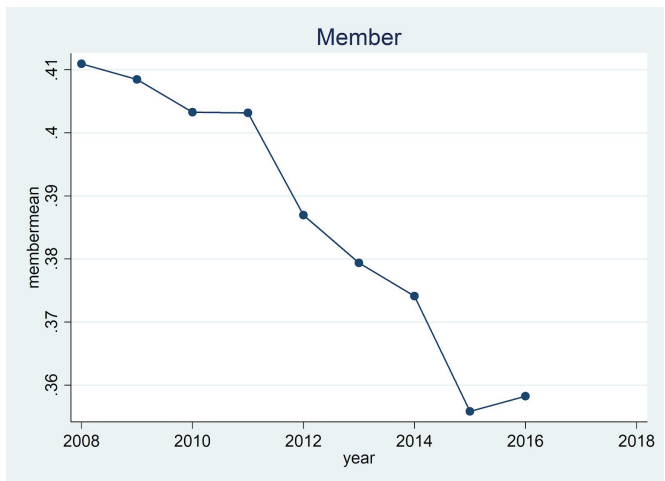
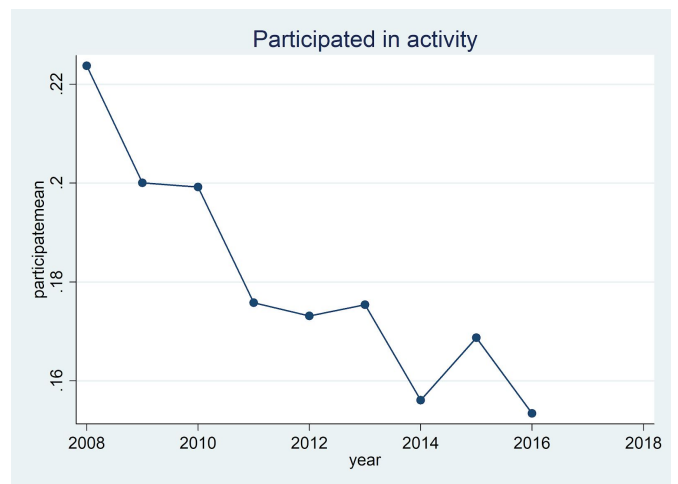
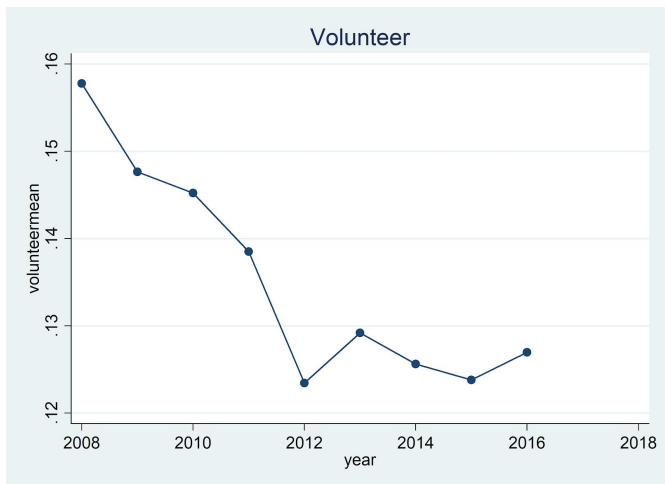
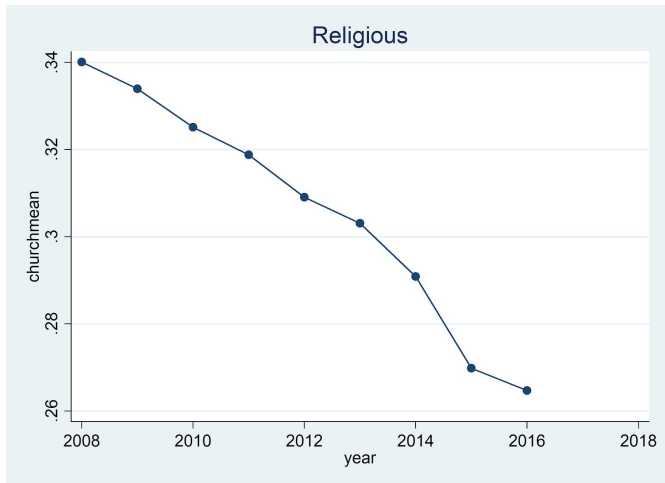
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## Appendix: Figures and Tables

### Figures

Figure A: The decline of Civic Engagement in Various Forms







## Regression Tables

**Table 1: Pooled Methods for broad definition (Any) and narrow Civic Engagement definition (Civic)**

	(1) any	(2) any_s	(3) any	(4) any_s	(5) civic	(6) civic_s
lnetinc	0.0929*** (12.40)	0.0800*** (11.87)	0.0259*** (2.73)	0.00726 (1.03)	-0.0135 (-1.40)	-0.0178*** (-2.80)
educ2			-0.00520 (-0.07)	-0.0170 (-0.31)	-0.112 (-1.47)	-0.0438 (-0.90)
educ3			0.513*** (5.98)	0.466*** (7.02)	0.516*** (5.91)	0.414*** (6.97)
educ4			0.375*** (4.71)	0.297*** (5.12)	0.209*** (2.62)	0.172*** (3.32)
educ5			0.772*** (9.17)	0.857*** (13.85)	0.777*** (9.35)	0.657*** (11.98)
educ6			1.182*** (10.97)	1.308*** (15.61)	1.224*** (11.63)	1.026*** (13.83)
age			0.0178*** (12.88)	0.0122*** (11.39)	0.0226*** (16.88)	0.0139*** (14.26)
female			0.0776* (1.72)	0.0216 (0.63)	0.217*** (5.01)	0.0727** (2.36)
personalcare			-0.368*** (-8.24)	-0.411*** (-12.25)	-0.361*** (-8.49)	-0.330*** (-10.90)
dwelling1			0.261*** (5.50)	0.202*** (5.61)	0.209*** (4.54)	0.151*** (4.73)
politint3			-0.423*** (-9.60)	-0.422*** (-13.40)	-0.519*** (-11.93)	-0.370*** (-13.07)
reld1			1.191*** (26.13)	1.099*** (31.52)	1.392*** (31.76)	1.095*** (34.30)
year			-0.102*** (-18.59)	-0.0881*** (-23.12)	-0.0950*** (-18.07)	-0.0658*** (-19.17)
N	38702	42481	34130	34166	34137	34166
adj. R <sup>2</sup>		0.01		0.21		0.21

*t* statistics in parentheses

\*  $p < 0.10$ , \*\*  $p < 0.05$ , \*\*\*  $p < 0.01$

**Table 1.1: Pooled Methods for broad definition (Any) and narrow Civic Engagement definition (Civic) - Quantiles of Income**

	(1) any	(2) any_s	(3) civic	(4) civic_s
q1	-0.243*** (-2.87)	-0.186*** (-2.92)	0.0390 (0.47)	0.0298 (0.51)
q2	-0.187** (-2.44)	-0.230*** (-3.94)	-0.0392 (-0.54)	-0.0779 (-1.46)
q3	-0.102 (-1.45)	-0.223*** (-4.20)	-0.102 (-1.56)	-0.181*** (-3.78)
q4	-0.0614 (-0.93)	-0.144*** (-2.89)	-0.141** (-2.33)	-0.164*** (-3.73)
educ2	0.000205 (0.00)	-0.0134 (-0.25)	-0.108 (-1.42)	-0.0401 (-0.83)
educ3	0.513*** (5.99)	0.450*** (6.78)	0.510*** (5.85)	0.400*** (6.75)
educ4	0.372*** (4.67)	0.294*** (5.08)	0.219*** (2.75)	0.182*** (3.51)
educ5	0.742*** (8.70)	0.811*** (12.76)	0.777*** (9.24)	0.643*** (11.37)
educ6	1.144*** (10.36)	1.229*** (14.30)	1.199*** (11.12)	0.976*** (12.74)
age	0.0177*** (12.45)	0.0119*** (10.96)	0.0227*** (16.52)	0.0138*** (13.98)
female	0.112** (2.35)	0.0722** (1.99)	0.215*** (4.71)	0.0860*** (2.65)
personalcare	-0.370*** (-8.29)	-0.414*** (-12.37)	-0.361*** (-8.49)	-0.331*** (-10.96)
dwelling1	0.244*** (5.07)	0.172*** (4.73)	0.199*** (4.27)	0.131*** (4.07)
politint3	-0.418*** (-9.49)	-0.415*** (-13.17)	-0.519*** (-11.90)	-0.368*** (-13.00)
reld1	1.195*** (26.19)	1.102*** (31.63)	1.390*** (31.68)	1.093*** (34.27)
year	-0.103*** (-18.68)	-0.0892*** (-23.38)	-0.0955*** (-18.12)	-0.0665*** (-19.36)
N	34130	34166	34137	34166
adj. R <sup>2</sup>		0.21		0.21

*t* statistics in parentheses

\*  $p < 0.10$ , \*\*  $p < 0.05$ , \*\*\*  $p < 0.01$

**Table 1.2: Pooled Methods for broad definition (Any) and narrow Civic Engagement definition (Civic)**  
**Level of Income**

	(1) any	(2) any_s	(3) civic	(4) civic_s
netinc	0.00000806 (1.54)	0.00000596*** (2.87)	0.000000561 (0.18)	0.00000219 (1.10)
educ2	0.0159 (0.21)	-0.0132 (-0.24)	-0.124 (-1.63)	-0.0589 (-1.22)
educ3	0.533*** (6.29)	0.470*** (7.12)	0.506*** (5.82)	0.399*** (6.78)
educ4	0.420*** (5.50)	0.307*** (5.52)	0.185** (2.40)	0.141*** (2.82)
educ5	0.820*** (10.13)	0.867*** (14.59)	0.750*** (9.35)	0.620*** (11.78)
educ6	1.233*** (11.79)	1.316*** (16.18)	1.193*** (11.71)	0.984*** (13.67)
age	0.0189*** (14.72)	0.0124*** (12.30)	0.0220*** (17.75)	0.0131*** (14.27)
female	0.0559 (1.25)	0.0182 (0.54)	0.231*** (5.39)	0.0920*** (3.03)
personalcare	-0.365*** (-8.19)	-0.410*** (-12.23)	-0.362*** (-8.52)	-0.332*** (-10.96)
dwelling1	0.256*** (5.41)	0.201*** (5.58)	0.211*** (4.59)	0.154*** (4.84)
politint3	-0.425*** (-9.64)	-0.422*** (-13.41)	-0.517*** (-11.88)	-0.367*** (-12.97)
reld1	1.187*** (26.08)	1.099*** (31.56)	1.395*** (31.84)	1.098*** (34.46)
year	-0.103*** (-18.80)	-0.0882*** (-23.21)	-0.0945*** (-18.01)	-0.0652*** (-19.01)
N	34130	34166	34137	34166
adj. R <sup>2</sup>		0.21		0.21

*t* statistics in parentheses

\*  $p < 0.10$ , \*\*  $p < 0.05$ , \*\*\*  $p < 0.01$

**Table 2: Logistic Regression for different types of engagement**

	(1) cultural	(2) humanaid	(3) environ	(4) church	(5) political	(6) social
lnetinc	-0.0360*** (-3.45)	0.0178* (1.79)	0.0219** (1.98)	-0.0198 (-1.62)	-0.0385** (-2.18)	-0.0694*** (-6.39)
educ2	-0.0325 (-0.38)	0.107 (1.27)	0.150* (1.71)	0.00202 (0.02)	0.0962 (0.67)	-0.225** (-2.48)
educ3	0.165* (1.65)	0.757*** (7.76)	0.687*** (6.70)	0.122 (1.04)	0.121 (0.67)	0.391*** (3.69)
educ4	0.0904 (1.01)	0.501*** (5.66)	0.471*** (5.12)	0.191* (1.82)	0.201 (1.25)	-0.209** (-2.10)
educ5	0.343*** (3.86)	1.092*** (12.48)	1.018*** (11.24)	0.410*** (3.89)	0.310** (2.04)	0.0254 (0.26)
educ6	0.442*** (4.15)	1.492*** (14.32)	1.418*** (13.04)	0.417*** (3.14)	1.014*** (5.72)	0.570*** (4.87)
age	0.0288*** (18.78)	0.0118*** (8.46)	0.0130*** (8.93)	0.0155*** (9.07)	0.0141*** (4.87)	0.0268*** (13.17)
female	0.0102 (0.21)	0.385*** (8.59)	0.323*** (6.80)	0.0243 (0.43)	-0.396*** (-4.56)	0.0354 (0.62)
personalcare	-0.216*** (-5.15)	-0.375*** (-9.31)	-0.323*** (-7.76)	-0.289*** (-5.67)	-0.382*** (-5.16)	-0.309*** (-6.40)
dwelling1	0.169*** (3.27)	0.233*** (4.71)	0.233*** (4.51)	0.228*** (3.73)	-0.0714 (-0.80)	-0.192*** (-3.27)
politint3	-0.277*** (-5.30)	-0.600*** (-11.77)	-0.429*** (-7.99)	-0.331*** (-5.32)	-0.978*** (-8.66)	-0.383*** (-6.19)
reld1	0.267*** (6.12)	0.291*** (7.00)	-0.200*** (-4.51)	3.516*** (64.39)	0.769*** (9.41)	0.615*** (12.25)
year	-0.0809*** (-14.16)	-0.0906*** (-16.84)	-0.0793*** (-14.90)	-0.0518*** (-7.71)	-0.0429*** (-4.45)	-0.0759*** (-10.15)
N	34153	34155	34147	34158	34152	34152
adj. R <sup>2</sup>						

*t* statistics in parentheses

\*  $p < 0.10$ , \*\*  $p < 0.05$ , \*\*\*  $p < 0.01$

**Table 3: Logistic Regression for different modes of engagement**

	(1) donate	(2) member	(3) participate	(4) volunteer
main				
lnetinc	0.0155* (1.76)	-0.0216** (-2.42)	-0.0353*** (-4.05)	-0.0425*** (-3.81)
educ2	0.119* (1.70)	-0.106 (-1.46)	-0.263*** (-3.52)	-0.144 (-1.46)
educ3	0.560*** (6.84)	0.381*** (4.45)	0.101 (1.16)	0.273** (2.42)
educ4	0.400*** (5.48)	0.146* (1.90)	-0.181** (-2.29)	0.0393 (0.37)
educ5	0.837*** (11.49)	0.542*** (7.09)	0.212*** (2.72)	0.560*** (5.49)
educ6	1.177*** (13.33)	0.930*** (9.68)	0.388*** (4.17)	0.558*** (4.48)
age	0.00627*** (5.17)	0.0217*** (16.65)	0.00383*** (2.77)	0.00902*** (5.25)
female	0.288*** (7.38)	-0.0346 (-0.83)	0.107** (2.48)	-0.0809 (-1.46)
personalcare	-0.272*** (-7.54)	-0.159*** (-4.13)	-0.302*** (-7.58)	-0.393*** (-8.17)
dwelling1	0.271*** (6.25)	0.211*** (4.71)	-0.106** (-2.33)	0.0765 (1.28)
politint3	-0.443*** (-9.93)	-0.396*** (-8.71)	-0.396*** (-7.93)	-0.253*** (-4.00)
reld1	0.680*** (18.72)	1.302*** (33.58)	0.890*** (21.85)	1.167*** (22.26)
year	-0.0844*** (-16.65)	-0.0445*** (-8.70)	-0.0571*** (-9.34)	-0.0376*** (-5.27)
N	34137	34137	34137	34137
adj. $R^2$				

*t* statistics in parentheses

\*  $p < 0.10$ , \*\*  $p < 0.05$ , \*\*\*  $p < 0.01$

**Table 4: Count Data Models - Basic Specification**

	(1) any_s	(2) any_s	(3) civic_s	(4) civic_s
lnetinc	0.0389*** (10.77)	0.0373*** (10.84)	0.0272*** (7.20)	0.0262*** (7.23)
N	42481	42481	42481	42481
adj. $R^2$				

*t* statistics in parentheses

\*  $p < 0.10$ , \*\*  $p < 0.05$ , \*\*\*  $p < 0.01$

**Table 5: Count Data Models**

	(1) any_s	(2) any_s	(3) civic_s	(4) civic_s
lnetinc	0.00796* (1.85)	0.0325*** (7.49)	-0.00915** (-2.00)	0.0139*** (3.05)
educ2	0.00493 (0.14)		-0.0285 (-0.74)	
educ3	0.278*** (6.87)		0.296*** (6.78)	
educ4	0.181*** (4.96)		0.120*** (2.99)	
educ5	0.446*** (12.54)		0.422*** (10.98)	
educ6	0.648*** (15.83)		0.644*** (14.34)	
age	0.00667*** (11.23)	0.00398*** (6.83)	0.00946*** (13.99)	0.00671*** (10.21)
female	0.0265 (1.44)	0.0137 (0.72)	0.0680*** (3.26)	0.0495** (2.33)
personalcare	-0.196*** (-12.81)	-0.204*** (-12.71)	-0.197*** (-11.57)	-0.203*** (-11.49)
dwelling1	0.106*** (5.11)	0.166*** (7.75)	0.0950*** (4.09)	0.154*** (6.47)
politint3	-0.286*** (-13.18)	-0.380*** (-17.26)	-0.322*** (-12.87)	-0.418*** (-16.52)
reld1	0.561*** (32.86)	0.542*** (30.70)	0.702*** (36.20)	0.678*** (34.02)
year	-0.0478*** (-22.32)	-0.0416*** (-19.13)	-0.0449*** (-18.50)	-0.0386*** (-15.72)
N	34166	34227	34166	34227
adj. R <sup>2</sup>				

*t* statistics in parentheses

\*  $p < 0.10$ , \*\*  $p < 0.05$ , \*\*\*  $p < 0.01$

**Table 6: Negative Binomial Regression - by categories of engagement**

	(1) cultural_s	(2) humanaid_s	(3) environ_s	(4) church_s	(5) political_s	(6) social_s
main						
lnetinc	-0.0248*** (-3.06)	0.0103 (1.39)	0.0164* (1.95)	-0.00764 (-1.15)	-0.0309* (-1.85)	-0.0671*** (-6.92)
educ2	-0.0386 (-0.60)	0.0591 (0.82)	0.0959 (1.31)	-0.0415 (-0.77)	0.0918 (0.68)	-0.204*** (-2.61)
educ3	0.181** (2.28)	0.562*** (7.23)	0.510*** (6.27)	0.126* (1.79)	0.254 (1.43)	0.467*** (5.17)
educ4	0.0615 (0.89)	0.364*** (4.92)	0.353*** (4.65)	0.0457 (0.78)	0.222 (1.50)	-0.172* (-1.93)
educ5	0.302*** (4.46)	0.782*** (10.91)	0.747*** (10.29)	0.272*** (4.66)	0.350** (2.45)	0.0501 (0.60)
educ6	0.424*** (5.17)	1.034*** (12.95)	1.003*** (12.49)	0.309*** (4.28)	1.168*** (7.18)	0.574*** (5.68)
age	0.0189*** (15.30)	0.00797*** (8.02)	0.00870*** (8.36)	0.00265*** (2.73)	0.0109*** (4.08)	0.0173*** (9.18)
female	-0.0489 (-1.28)	0.257*** (8.09)	0.213*** (6.28)	-0.0171 (-0.56)	-0.419*** (-4.85)	-0.0345 (-0.65)
personalcare	-0.173*** (-5.29)	-0.263*** (-9.94)	-0.225*** (-7.85)	-0.133*** (-5.29)	-0.348*** (-4.97)	-0.247*** (-5.74)
dwelling1	0.161*** (3.90)	0.148*** (3.98)	0.174*** (4.51)	0.134*** (3.95)	-0.0473 (-0.55)	-0.184*** (-3.45)
politint3	-0.232*** (-5.06)	-0.473*** (-11.52)	-0.344*** (-7.93)	-0.162*** (-4.26)	-0.962*** (-7.95)	-0.405*** (-6.96)
reld1	0.236*** (6.57)	0.215*** (7.42)	-0.126*** (-3.95)	2.720*** (58.87)	0.817*** (10.02)	0.588*** (12.26)
year	-0.0525*** (-11.18)	-0.0583*** (-15.33)	-0.0549*** (-14.47)	-0.0162*** (-4.54)	-0.0368*** (-3.99)	-0.0549*** (-7.72)
N	34153	34155	34147	34158	34152	34152
adj. R <sup>2</sup>						

t statistics in parentheses

\*  $p < 0.10$ , \*\*  $p < 0.05$ , \*\*\*  $p < 0.01$



**Table 7: Negative Binomial Regression - by modes of engagement**

	(1) donate_s	(2) member_s	(3) participate_s	(4) volunteer_s
lnetinc	0.0128* (1.91)	-0.0106* (-1.75)	-0.0324*** (-3.84)	-0.0391*** (-3.87)
educ2	0.144** (2.45)	0.00213 (0.04)	-0.240*** (-3.38)	-0.159* (-1.73)
educ3	0.498*** (7.46)	0.346*** (5.98)	0.0493 (0.64)	0.237** (2.27)
educ4	0.353*** (5.87)	0.177*** (3.42)	-0.232*** (-3.30)	-0.0141 (-0.15)
educ5	0.653*** (11.30)	0.445*** (9.02)	0.111 (1.63)	0.396*** (4.32)
educ6	0.893*** (13.85)	0.767*** (12.66)	0.295*** (3.60)	0.518*** (4.52)
age	0.00590*** (6.55)	0.0179*** (19.95)	0.00141 (1.01)	0.00876*** (5.62)
female	0.175*** (6.08)	-0.000491 (-0.02)	0.0438 (1.04)	-0.0696 (-1.35)
personalcare	-0.215*** (-8.66)	-0.131*** (-5.39)	-0.258*** (-7.33)	-0.378*** (-8.66)
dwellling1	0.235*** (6.98)	0.153*** (4.93)	-0.214*** (-4.65)	0.0271 (0.49)
politint3	-0.340*** (-9.32)	-0.311*** (-9.26)	-0.363*** (-7.19)	-0.284*** (-4.80)
reld1	0.517*** (19.34)	0.836*** (31.20)	0.782*** (20.70)	1.067*** (21.91)
year	-0.0609*** (-16.46)	-0.0346*** (-10.73)	-0.0388*** (-6.38)	-0.0332*** (-5.06)
N	34137	34137	34137	34137
adj. R <sup>2</sup>				

*t* statistics in parentheses\*  $p < 0.10$ , \*\*  $p < 0.05$ , \*\*\*  $p < 0.01$

**Table 8: Panel Data Negative Binomial Regression - Fixed Effects Estimation**

	(1) any_s	(2) civic_s	(3) cultural_s	(4) humanaid_s	(5) environ_s	(6) church_s
lnetinc	0.00854* (1.65)	0.00782 (1.39)	-0.0269* (-1.95)	0.0267** (2.10)	0.0182 (1.37)	0.0106 (1.04)
age	0.0340 (1.36)	0.0365 (1.33)	0.0242 (0.55)	0.0621 (0.82)	0.0423 (0.70)	0.0452 (0.75)
personalcare	-0.0576*** (-4.11)	-0.0581*** (-3.73)	-0.0239 (-0.67)	-0.0780** (-2.28)	-0.0768** (-2.17)	-0.0315 (-1.08)
dwelling1	-0.00967 (-0.26)	0.00473 (0.11)	0.0733 (0.75)	0.135 (1.48)	0.0449 (0.47)	0.0306 (0.36)
politint3	-0.0408** (-2.01)	-0.0295 (-1.27)	-0.00190 (-0.04)	-0.00860 (-0.16)	0.00810 (0.15)	-0.0228 (-0.55)
reld1	0.110*** (4.74)	0.144*** (5.40)	0.0299 (0.52)	0.104* (1.82)	0.0335 (0.58)	0.400*** (7.03)
year	-0.0798*** (-3.19)	-0.0791*** (-2.90)	-0.0675 (-1.52)	-0.117 (-1.55)	-0.0862 (-1.42)	-0.0776 (-1.29)
N	28478	26686	15476	17035	15888	13735
adj. R <sup>2</sup>						

*t* statistics in parentheses\*  $p < 0.10$ , \*\*  $p < 0.05$ , \*\*\*  $p < 0.01$