

Do the rich ditch traditional politics?

Evidence from Sweden

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Abstract

The world has seen a massive increase in wealth and wealth inequality over the last decades. Given the skew in policy making towards the preferences of the wealthy, this raises the question of how individual wealth affects political participation. Approaching this question empirically is complicated by the fact that random variation in wealth is rare, and many factors that can bias the estimation of the relationship between wealth and participation are difficult to measure. We address the question using a Swedish discordant identical twin design with a) register-based wealth data, b) validated election turnout for multiple elections, and c) self-reported civic participation measures. This design allows us to rule out all shared confounders, such as genetics, family background and socialization, and shared networks. We find that even though wealthy individuals descriptively vote more often, the causal effect of wealth is probably zero, and may for civic participation even be negative.

Introduction

Undoubtedly, one of the most pivotal economic developments of the previous century was the marked escalation in labour income in the aftermath of the two world wars. This led social scientists to intensively study the interplay between labour market dynamics and political engagement. Dominant theories within the realm of political participation suggest that individuals with more substantial resources are more inclined to show a keen interest, and actively participate, in political activities (e.g. Brady et al. 1995; Niemi et al. 1991; Norris 2015; Rasmussen and Nørgaard 2018; Schafer et al. 2021; Tingsten 1937; Westholm and Niemi 1986).

The economic discourse of the 21st century, however, presents a different trajectory, marked by a significant but highly uneven growth in *asset wealth*. Currently, the wealth-to-income metrics in several developed nations approach figures reminiscent of the era before World War I, with unparalleled disparities in wealth distribution (Piketty 2014). This shift in economic paradigms has prompted political scientists to closely examine the relationship between asset wealth and electoral preferences (Foucault et al. 2013; Lewis-Beck et al. 2013; Stubager et al. 2013). This research tends to conclude that the wealthy lean to the right while the poor support left-wing parties (Piketty 2020). However, the literature has less frequently discussed how asset wealth influences political *participation*. This oversight is surprising, considering that the ultimate representation of preferences in a society depends not only on the distribution of political views but also on the varying propensities of different groups to express their concerns.

Since the seminal works of Downs (1957) and Meltzer and Richard (1981), the *Median voter model* has stood as a cornerstone in political economics, suggesting that political parties vie for the median voter's allegiance. Historically, the political conflict stood between

left-wing parties championing the working class, while right-leaning parties were seen as the advocates for the business sector (Esping-Andersen 1979; Hibbs 1977). From such a viewpoint, wealthy individuals naturally engage in political activities to protect their assets from taxation and other potentially detrimental market interventions.

Furthermore, according to the model of patrimonial voting, holding financial assets, such as equities, cultivates support for candidates favoring a market-liberal stance due to anticipated financial gains in a *laissez-faire* environment (Nadeau et al. 2011). Thus, owners of financial assets could potentially have strong economic incentives to participate relatively more in politics compared to non-owners because the government can influence market returns through regulation, capital gains taxes or even through nationalizing businesses and corporations (see Nadeau et al. 2017, for a discussion).

Accordingly, we should generally expect a disproportionate influence on politics by the wealthy (Elsässer and Schäfer 2023; Peters and Ensink 2015; Traber et al. 2022). The common underlying theme of these accounts, however, is that it really is the wealth of these individuals that drive their increased interest in participating in politics. This, we argue, is still an open question. While the democratic implications of unequal representation of interests may be equally grim (the disparities in economic and political power exacerbated by contemporary capitalism are perceived by many as ethically eroding the very foundations of Western democracy – e.g. Dahl 2006), it is also of special interest to find out whether it is in fact driven by wealth exerting a causal influence on political participation, or whether both individual level wealth and political engagement are influenced by other factors. A salient alternative explanation may be, for example, that the wealth–politics nexus is driven primarily by less transient cultural factors like class background and status: individuals growing up under more affluent conditions may be more likely to both inherit and “create”

more wealth for themselves, and also be encultured into being politically engaged.

As such, our focus is honed in on discerning the causal, rather than merely descriptive, links between wealth and political engagement. To investigate this question, we turn to a set of Swedish registers, namely the twin register and the wealth register. More specifically, we deploy a discordant twin design where we compare differences in wealth and participation within identical twin pairs. This design is important because citizens inherit both political behaviours and economic opportunities (Adermon et al. 2018; Alford et al. 2005; Benjamin et al. 2012; Hatemi et al. 2010; Ohlsson et al. 2019). This intergenerational transfer (whether genetic or environmental in origin) implies that the impact of wealth on efficacy and participation must be investigated among individuals who share the same background and similar opportunities.

Thus, the variation within identical twin-pairs allows us to overcome many of the problems associated with cross-sectional evidence while also allowing the use of a more common form of wealth as an independent variable. The twin dimension of the dataset allows us to cancel out time-invariant heterogeneity such as early life socialization and genetically heritable traits while keeping the external validity relatively high, given that we study common forms of asset wealth. This can be contrasted with research that utilizes so called unearned income gains from lottery winnings or political interventions as exogenous economic shocks in the role of independent variables rather than asset wealth (Akee et al. 2020; Brännlund et al. n.d.; Hirvonen et al. 2022). To the best of our knowledge, this is the first study to use this kind of wealth data for this purpose.

Our results are similar to Nadeau et al. (2017) in that there are strong positive naive correlations between wealth and voting. In contrast we find that wealth does not have *causal* effects on voting. For civic participation, the naive correlations are not significant, and the

causal estimates show a tendency in the *opposite* direction – wealth in fact has a significant negative effect. Furthermore, we corroborate the results for voting with precinct-level diff-in-diff analyses that show negative effects of wealth even for voter turnout. That is: becoming wealthy will *not* make one participate more, and in certain cases, it may make one participate *less*. The findings also contrast with studies that document a positive correlation between unearned income and participation (e.g. Hirvonen et al. 2022), suggesting that asset wealth and other types of windfall gains should be distinctly considered in empirical research.

We thus argue that whatever it is, wealth itself is not likely to be the causal factor at play for most of the outcomes we have measured here, and that it actually may confer certain *disadvantages* in terms of civic participation. A possible explanation is that the rich “ditch” politics, because their wealth affords them the luxury to chase personal interests – or perhaps more importantly, because wealth gives access to other means of influencing politics than traditional forms of participation. This sentiment aligns with e.g. the findings of Lupu and Warner (2022), who contend that imbalances in political representation aren’t necessarily tied to political engagement patterns.

Literature review

Generally speaking, political participation could be said to encompass the range of voluntary actions undertaken by the general populace intending to shape public policy. This influence can traditionally be exercised directly or indirectly through the selection of those in positions to formulate these policies. Such activities cover a broad spectrum and include casting votes in elections, contributing to a political campaign, financially supporting

a candidate or cause, engaging with officials, initiating or signing petitions, participating in protests, and collaborating with others on various issues. The drivers of political participation has interested political scientists for nearly 100 years and economic means are often put front and center (see Tingsten 1937, for seminal work). The empirical literature concerning *asset wealth*, specifically, and political participation is rather limited, but there are overall theoretical arguments for and against the idea that the wealthy should be more inclined to immerse themselves in politics.

To begin with, economic scholars assert that voters are easy to understand: voting choices are made based on the expected benefit from electing candidates into office (for the calculus of voting see Aldrich 1993; Downs 1957; Riker and Ordeshook 1968). Predominantly, significant asset holdings can engender a motivation to influence political outcomes, steered by their understanding of political stakes. For instance, policies formulated by governments can sway the returns of certain assets through taxation and regulation (Furió and Ángel Pardo 2012; Füss and Bechtel 2008). The patrimonial voting model articulates this sentiment, suggesting that those who own financial assets may be inclined towards market-liberal candidates because left-leaning governments often introduce more stringent regulation (Foucault et al. 2013; Lewis-Beck et al. 2013; Nadeau et al. 2011; Stubager et al. 2013). Thus, a prevailing argument suggests that affluent asset holders might be more actively engaged in political processes because they have more at stake in political decisions through their financial assets compared to their less wealthy counterparts (Nadeau et al. 2017).

Real estate, furthermore, also falls within this ambit, especially considering the government's influence over property markets and its capacity to introduce property taxes (Ahlskog and Brännlund 2022; Persson and Martinsson 2016). Existing studies indicate

patterns such as homeowners displaying more involvement in elections than renters (Hall and Yoder 2022). This heightened engagement is rooted in the belief that homeowners evolve into stakeholders in economic decisions as well. Given that political decisions can influence property valuations — either positively or negatively — homeowners are naturally inclined to support candidates and initiatives that might stabilize or enhance local property values (A. Dehring et al. 2008; Brunner et al. 2015; Fischel 2001; M Ahlfeldt and Maennig 2015). Consequently, this patrimonial mechanism is intrinsically attuned to governmental actions and prerogatives. It's thus coherent that both party choices and participation of the affluent exhibit variation congruent with the prevailing institutional framework (Kasara and Suryanarayan 2015; Quinlan and Okolikj 2019).

However, it is important to note that the underlying models predict an increase in economic incentives for the poor to mobilize as the rich grow wealthier as well. This query gains weight when factoring in that prospective benefits from wealth taxation for the economically disadvantaged intensify in line with escalating asset values (see Sachweh and Eicher 2023). A contemporary research endeavor by Brännlund and Szulkin (2023) offers important insights, highlighting an emergent preference for wealth redistribution in sync with surging wealth differentials. In addition, negative levels of net-wealth have been found to fuel left-wing support (Wiedemann 2022) as well. This trend highlights that both the wealthy and the asset poor are motivated to champion their political interests. In fact, some maintain that the welfare state is simply a consequence of large differences in economic resources and the mobilization of the working class (e.g. Esping-Andersen 1979). Therefore, the presence of economic incentives alone does not provide sufficient grounds to argue that the wealthy should be more involved in certain political activities than the poor.

A second set of arguments focus on citizen's economic resources under the pretext that interests are not enough to explain why citizens vote in the first place. Initially, the Downsian voting model failed to recognize the inherent costs of participation: voters must allocate time to gather information about candidates, attend debates, and secure transportation to voting venues (see Blais et al. 2019, for a discussion). The participation paradox suggests that rationally self-interested voters might abstain from electoral participation, knowing that their individual actions are unlikely to be pivotal. Yet, it's plausible to assume that the rich find these costs more manageable. A prevailing result in political science is, for instance, that personal resources correlate positively with both political participation and political interest (Brady et al. 1995; Freeman 2004; Hayes and Bean 1993; Leighley 1995; Niemi et al. 1991). The prevailing "withdrawal hypothesis" suggests that financial difficulties reduce time allocated on politics since the relative return of political participation versus solving more pressing personal problems decreases with financial distress (Schaub 2021; Shah and Wichowsky 2019). According to this traditional logic, the wealthy would afford to spend more time on political participation because they are less likely to experience financial anxiety if their investments produce a flow of unearned income.

However, one could argue based on economic theory that too much asset wealth would reduce the relative return of participating in politics as well: To begin with, unearned income or wealth often reduces labor supply since wealth allows individuals to afford more free time (e.g. Cesarini et al. 2017). Drawing a parallel, if engagement in political activities demands time and if the derived benefits correlate with time spent, then such commitments can be likened to labor hours as well. Yet, as Brady (2004) notes, the returns from political engagement are typically not as straightforward or tangible as monetary compensation from work, with the expected rewards often being quite subdued. Thus, it's pivotal to recognize

that the wealthy face a comparable dilemma. With the means to chase personal endeavors, they might opt to invest their time away from both work and political realms because the *relative return* of these activities decreases due to their unique skills and resources.

But if certain individuals perceive political engagement as intrinsically rewarding, appreciating the act beyond its potential monetary gains, and if the main impediment is the allocation of time, then a surge in wealth might feasibly result in reduced working hours, thereby freeing up more time for political pursuits. From this perspective, political participation can be seen as both a gratifying endeavor and a consumption good that imparts inherent satisfaction to individuals (Brady 2004). Some studies suggest that this is indeed the case, showing that political participation tends to increase with unearned income generated by government programs (Hirvonen et al. 2022). Still, other studies offer a more critical view, finding no such effects (Akee et al. 2020).

However, it's essential to clarify that income derived from government programs doesn't equate to asset wealth, since such income is closely tied to political decisions. Thus, it's uncertain whether having substantial asset wealth necessarily leads to increased political involvement, considering the autonomy it offers for pursuing other interests, passions, or potentially more lucrative investment opportunities. Against this backdrop, the aim of our paper is straightforward. We seek to determine the causal impact of typical forms of asset wealth on standard modes of political participation. In doing so, we aim to enrich the literature on political behavior and the representation of the wealthy in Western democracies. In fact, many political scientists worry today that the wealthy have too much influence over the political process because policies tend to benefit the well-off rather than the poor, and elected representatives often come from more affluent households (Bartels 2018; Carnes 2018; Elsässer and Schäfer 2023; Gilens and Page 2014; Hacker and Pierson 2010). We

hope that this study will shed light on some of the mechanisms behind this pattern.

Methods and data

The aim of this study is to clarify the association between wealth and political participation, marking what we believe to be a novel exploration in this realm. However, the umbrella term “political participation” encompasses a myriad of activities. On one end of the spectrum, we find elite-directed participation, typified by actions such as voting. On the other, we have elite-challenging participation, embodied by activities like protesting. We choose to explore several different forms of participation, given the ambiguity in existing literature regarding the specific type of participation most correlated with wealth.

Our outcome variables are voting in both first- and second-order elections (national vs. EU elections), as well as a range of measures of civic participation. Electoral participation is taken from validated register-based election rolls. For national election turnout, we have taken the average participation in the parliamentary elections of 2010 and 2018. For EU parliament election turnout, we have taken the average participation in the EU elections of 2009 and 2019.

Civic participation, on the other hand, is based on items in the so called SALTY survey (Zagai et al. 2019), which was fielded by the Swedish Twin Register in 2009–2010, in a set of twins born between 1943 and 1958. The SALTY survey contains a battery of self-reported civic activities, asking whether the respondent has engaged in any of the following in the last five year: contacting politicians, contacting state officials, participating in protest actions, boycotting any specific goods, donating money to political causes and signing a petition. We will analyse each of these separately, as well as an index of the number of

Table 1: Descriptive statistics

VARIABLES	(1) N	(2) mean	(3) sd	(4) min	(5) max
EU voter	11,898	0.616	0.436	0	1
National voter	11,662	0.934	0.224	0	1
Civic index	1,988	0.807	1.119	0	6
Contacted politician	1,988	0.0926	0.290	0	1
Contacted public official	1,988	0.103	0.304	0	1
Participated in protest	1,988	0.0584	0.234	0	1
Boycotted any goods	1,988	0.129	0.336	0	1
Contributed economically to a cause	1,988	0.0428	0.202	0	1
Signed a petition	1,988	0.382	0.486	0	1
Net wealth	11,282	3.501	3.902	-8.850	11.81

activities.

Descriptives can be found in Table 1. As we can see, the participation rate in elections in this sample is high: 93.4% in national elections, and 61.6% in EU elections. The average respondent also participates in one of the listed activities, with the most common one being signing a petition (38.2%) and the least common one being contributing economically to a cause (4.3%) It is important to keep in mind that since voting in elections is available in register data, while the remaining participation measures are only available from the subsample of twins that were selected for the SALTY survey, the demographics of the voting data vs. the other variables are slightly different, and the sample for voting is larger. The latter is limited by the age range as well as the response rate to the survey (the final response rate was 47% (Zagai et al. 2019)).

Our wealth variable is taken from the wealth register, which existed from 1999 to 2007. In more detail, our independent variable net wealth is defined as the sum of financial assets and real assets minus total debt in thousands of SEK for each year in the register, and

transformed using the inverse hyperbolic sine (IHS). The IHS transformation is defined as $y_{\text{ihs}} = \ln(x + \sqrt{x^2 + 1})$ and has the advantage that it resembles a simple log transformation but is also defined for negative values, which is important in the present setting in order not to drop all observations for individuals who are in net debt (Friedline et al. 2015). Since the IHS transform (like the log transform) can be sensitive to the precise scale of the variable, we also test the sensitivity to an alternative definition of wealth in the Appendix. In the alternative specification, we instead use simple deciles of net wealth.

If wealth were randomly distributed across the population, the following bivariate OLS equation would be sufficient for our empirical investigation:

$$y_i = \alpha + \beta_1 \times \text{Wealth}_i + \varepsilon_i. \quad (1)$$

Unfortunately, the level of personal wealth correlates strongly with other important predictors such as family background, income, education, etc. The most common method of solving such issues has traditionally been to add a vector with observable control variables. This approach is unlikely to recover causal estimates however, for several reasons. First, it is difficult to both know and accurately measure all confounders. Second, even if it were possible, it is not clear how one would control for them, since the causal order of measured variables is often ambiguous in a real world setting. Third – a critical contribution of this study – the role of genetics, while traditionally ignored in social science research, is increasingly acknowledged to play a role for complex social traits. Both traditional twin studies (e.g. Fowler et al. 2008) as well as modern molecular genetic studies (e.g. Ahlskog et al. 2022; Dawes et al. 2021) show that political participation is to some extent influenced by genetics. This raises the possibility that observed relationships are also genetically confounded, necessitating methods that can control for genetic factors.

To get closer to a causal estimate of the effect of wealth, we will use a discordant identical twin design. The idea of a discordant twin design is fairly simple: since identical twins share 100% of their DNA as well as most of their family environment and upbringing – and in many cases a substantial amount of their social networks – any confounding factors that reside in either of these components are automatically partialled out if we simply compare identical twins to each other (within-pair analyses) rather than across all individuals in a sample. In practice, this means running standard OLS models with fixed effects per twin pair. This gives us the following model:

$$y_i = \alpha + \beta_1 \times \text{Wealth}_i + \sum \gamma_j d_j + \sum c_k z_{ki} + \varepsilon_i \quad (2)$$

where γ_j is the fixed effect for twin pair j and z_{ki} is the value for control variable k . To avoid artificially deflating the standard errors when pair-nested data is used, standard errors are also clustered at the pair level.

While this model does remove confounders shared between identical twins, it also carries a number of methodological caveats of its own. The foremost of this is that it removes all between-family variation, meaning that the variation that remains to estimate the effect is substantially smaller. First, this means that the estimates will be noisier, and the standard errors will consequently be larger. Another possible consequence of this is that if the correlation in the measurement error in wealth between the twins is lower than the correlation in the “true” value of wealth, the level of attenuation bias due to classical measurement error is going to be larger in the twin pair fixed effects models (Ashenfelter and Krueger 1994).

We will present three model specifications per outcome. The first is the bivariate (naive) relationship between wealth and the participation measures outlined in Equation 1. This is presented as a point of comparison, showing the simple descriptive relationships. Second,

we will present the discordant twin model from Equation 2, showing what happens when we remove all shared confounders. Finally, we will also present results from discordant twin models extended with a set of additional controls, since discordant twin models are still liable to be confounded by factors in the twins' *unique* environments.

In these third models, we control for income, education, trust in politicians and political efficacy. Income is an important control since it would otherwise be easy to mistake an effect of income for an effect of wealth. Income is taken from the Statistics Sweden LISA database (the ForvErs variable) and is defined as the average income in the ten years leading up to 2010. Education, moreover, is important for the very same reason – there are substantial education disparities across the wealth gap, and education is also predictive of political participation. Education is measured using the LISA variable Sun2000Niva¹ and is defined as the highest number of education years an individual has achieved in 2010. Finally, the controls for trust in politicians (“In general, how much do you trust Swedish politicians?”) and political efficacy (“Do people like you have larger or smaller possibilities than others to make politicians meet your demands?”) are taken from the SALT survey.

Our data come from a sample of genotyped twins in the Swedish Twin Registry (STR). Since agreeing to participate in genotyping can itself be considered a type of civic participation, this sample should not be considered representative of the general population. For instance, the sample is slightly more educated and has a somewhat higher average income.² The implications of this are further developed in the Discussion section. However, as a validation of our results, we also present difference-in-difference models using precinct

¹This variable contains education level codes according to the 2000 Swedish Educational Nomenclature standard and can be converted to years of education.

²The level of education in the subsample of identical twins that has information on civic participation and efficacy is on average .5 years longer than in the general population born during the same period. Similarly, the average work income is 249K SEK in our sample, whereas it is 214K SEK in the general population for the same years.

level turnout and wealth. Methods, data and results for these models can be found in the Appendix.

As an additional check, we also include difference-in-difference analyses using precinct level wealth and turnout in the Appendix. These analyses rely on a completely different set of assumptions and therefore act as a type of methodological triangulation for our results on voter turnout. A detailed description of the method, data and results for these complementary analyses can be found in the Appendix.

Institutional setting

Before delving into our empirical results, it is crucial to detail our case selection, as this will undoubtedly influence the generalizability of our conclusions – the impact of asset ownership on party choices has been argued to be heavily contextually contingent. For instance, Stubager et al. (2013) contend that in nations with minimalistic welfare states, voters tend to gravitate towards macroeconomic indicators, sidelining their personal economic conditions. In such contexts, the government’s sway over individual finances is relatively marginal. Conversely, in states with expansive welfare systems, voters might be predisposed to cast their votes based on self-interest, recognizing the considerable influence the government wields in their personal financial affairs. Another perspective, advanced by (Quinlan and Okolikj 2019), posits that assets assume heightened significance in countries where the tax framework doesn’t curb investment incentives. Adding another layer to this discourse, Hellwig and McAllister (2019) argues that asset wealth becomes a pivotal determinant of electoral choices in settings where political parties exhibit pronounced polarization on economic matters. Finally, inequality could matter as well if poor voters

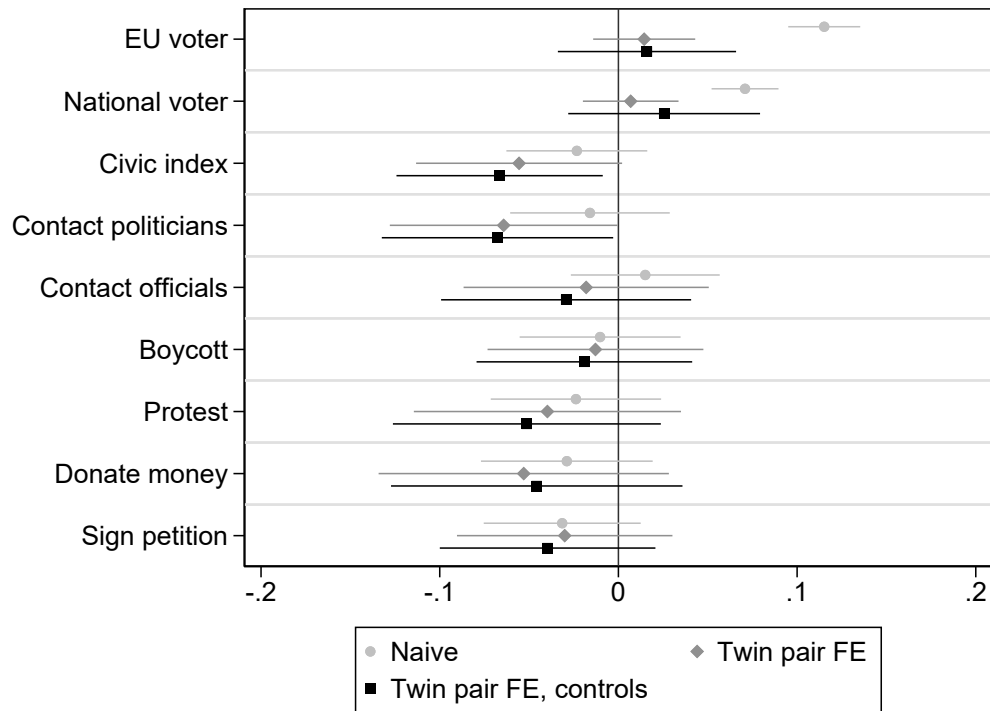
withdraw from the political process if too much resources become concentrated at the top (e.g. Solt 2008).

Sweden is known for its egalitarian welfare-state policies and its even distribution of income. However, asset wealth is often less evenly distributed than labour income in most economies, and this is particularly true for Sweden. The median citizen today has less than half the savings of the average citizen, indicating that a small group with large savings pushes the average higher, while a typical Swedish citizen is sitting on considerably less capital. One explanation behind this pattern could be that a significant share of all wealth in Sweden is inherited – up to 50% of all private wealth according to some estimates (Ohlsson et al. 2019). Currently, 10% of the wealthiest households own 75% of all wealth, and most Swedish citizens have few financial assets.

Furthermore, although the country has historically had among the highest marginal taxes on income, it treats wealthy asset owners quite differently, and it is easy to spot a pattern in which governments of both political colours have encouraged households to accumulate assets over the last three decades. For instance, Swedish wealth and property taxes were completely abolished in 2007 by the centre-right Alliance government. The previous Social Democratic government, on the other hand, had abolished both taxes on inheritance and gifts in the preceding years. However, the parties are greatly polarized over the wealth and property taxes. Moreover, government revenues from capital income further declined after the introduction of a special account for financial savings in 2012 and corporate taxes were lowered in several steps. This was a bullish period for asset owners, and consequently, the national wealth-to-income ratio more than doubled over the 1990s (Waldenström 2017).

Despite being a country famed for its egalitarian policies, we argue that Sweden is

Figure 1: Main results



therefore in this respect a most-likely case, among Western democracies, for finding wealth effects on participation: the incentives for wealth holders to get involved in politics and avoid a return to higher taxation on assets are highly robust.

Results

The regression results presented in this section aim at illuminating whether wealth has a causal impact on political participation. Figure 2 presents results for all models and outcome variables.

As a point of reference, we can begin by looking at the naive results, i.e. without twin-pair fixed effects. First off, the naive OLS results for the relationship between voting

and wealth are positive and significant: more wealth is associated with higher rates of participation in both national and EU elections. The association is much stronger – almost twice as big – for EU election turnout than for national election turnout, which is to be expected given that the variation in national election turnout is much lower (recall that the rate of participation in national elections in this sample is about 93%). The size of these relationships is also practically relevant: for example, one standard deviation increase in the measure of wealth is associated with 13% of a standard deviation increase in EU election participation, or about 5 percentage points.

For the civic participation measures (both the individual items themselves and the index) the naive results are not significantly different from zero. Descriptively speaking, it thus seems that we observe a clear wealth gradient in election turnout, but not in civic participation.

Moving to the discordant twin models (twin pair fixed effects), the positive results for voting disappear: they are now close to zero, and not statistically significant. The addition of extended controls reduce the number of observations and therefore increase the size of the standard errors, but the picture remains the same. In short, if we believe that the discordant twin estimates are a closer approximation to the true causal effects, we can fairly confidently say that wealth is unlikely to exert a positive causal influence on the tendency to vote in elections.

Our results using difference-in-difference models of precinct-level measures of wealth and turnout can be found in the Appendix, and also elucidate these results: an increase in average financial wealth did lead to a *decrease* in average voter turnout. While we did not find a net negative effect among the twins, this further bolsters the case that the discordant twin approach is probably not simply failing to detect positive effects due to

methodological issues such as lack of precision or unmeasured suppressive confounders in the unique environment.

For the discordant twin estimates for the civic participation measures, we see that all items, as well as the index, now have point estimates below zero. The item on contacting politicians is also statistically significant. When adding all of the items up, the gain in precision leads to the complete civic index also showing a significant negative effect when the extended controls are added.³

As a simple robustness check on the inverse hyperbolic sine definition of wealth, the Appendix also contains results using decile ranks instead. The results are robust to this difference. Taking all of our results together, the clear tendency is therefore not only that wealth does not have a positive effect on participation, but that it may even confer a disadvantage in some cases.

Discussion

Wealth has recently attracted the attention of political scientists as a growing number of scholars claim that our assets shape both political attitudes and behaviour. While some scholars suggest that the wealthy are different in that they lean more to the right (Foucault et al. 2013; Lewis-Beck et al. 2013; Stubager et al. 2013), others assert that wealth affects participation as well (Nadeau et al. 2017). We set out to investigate the gap in participation between rich and poor voters by taking a closer look at the causal role of wealth. We find

³It is interesting that wealth also does not make you more likely to donate to a political cause, which could have been another mechanism by which one could channel resources into influence. It is important to note in this regard that this measure does not take the actual amount into account, but merely whether or not you donated. It is still entirely possible that wealth makes you donate *more* to political causes, conditional on giving at all. Unfortunately, we do not have data to answer this more nuanced question.

no causal effect of wealth on election turnout in our twin design, meaning that the descriptive disparity in turnout between the wealthy and the poor must be driven by something else. We also find what appears to be a *negative* association between wealth and civic participation. Furthermore, complementary diff-in-diff analyses with precinct-level data also show negative effects on voter turnout. These results should perhaps not be as surprising as they may seem, but may rather be fairly in line with economic theory. For example, the wealthy could face a higher alternative cost to participate, if the *relative* material benefit from participation becomes smaller as voters grow rich. Put simply, wealthy voters can afford to stay out of politics and spend time on matters that really interest them.

Some of the uncertainties regarding the influence of the wealthy on the political process are also eased with this paper, given that we solve some of the methodological difficulties associated with earlier studies. First, we have register data on actual wealth holdings, which allows us to say something about the impact of common assets and liabilities, rather than extreme tail events like e.g. large lottery winnings. Second, we also cancel out time invariant heterogeneity since we exploit variation between twins rather than across all individuals.

Against this background, we suggest that the wealthy rather than the poor could face a higher alternative cost to participate given that the *relative* material benefit from traditional forms of participation becomes smaller as voters grow rich. This also follows from the simple logic of numbers: the rich represent a minority interest, and the ballot is in this sense inherently robust to minority influence. Money may, in fact, be a poor driver of political participation if citizens participate for the expected monetary pay off (see Brady 2004, for different economic models). To distill it down: if individuals engage in politics primarily for the financial gains it offers (as implied by the argument about patrimonial voting, for ex-

ample), then an increase in income from sources unrelated to political participation such as capital placements, should logically lead to diminished political involvement. This notion becomes even more compelling when recognizing that the wealthy can sidestep tax obligations without necessarily diving into the political fray (Guyton et al. 2021; Seim 2017). Put simply, wealthy voters can afford to stay out of politics and spend time on matters that really interest them – or on ways of obtaining influence that lie outside the realm of traditional participatory measures.

The external validity of our results is limited by at least two factors. First, the sample: since it consists of individuals from a twin register (who, among other things, have agreed to participate in genotyping as well as answering a number of survey questions), it is reasonable to assume that the sample is more civically interested than the average person from the population. While this will move baseline averages up, it would only affect our effect estimates if we were close to getting ceiling effects. Since the mean of the civic index variable in Table 1 is fairly low, there is no reason to think that this is the case. Additionally, the variable that is closest to being vulnerable to ceiling effects – turnout in national elections, at 93% – still shows a significant naive relationship with wealth. Second, the context: Sweden is not a typical setting even among rich democracies due its egalitarian heritage. As we have argued above, we think the institutional characteristics speak in favor of Sweden, if anything, being a most-likely case for finding the types of effects that we in fact fail to find. Thus, we think it is reasonable to argue that our results are generalizable at least to other rich democracies.

A number of methodological caveats can be discussed. First of all, due to a) the fewer degrees of freedom when adding fixed effects, and b) the smaller amount of variation remaining within twin pairs, the precision of the estimates is going to be lower. This is also

evidenced by the larger standard errors. Second, if the within-pair correlation in the measurement error for the wealth variable is lower than the within-pair correlation in “true” wealth, the attenuation bias will be larger than what we see in the naive models. To the extent that this is true, it will therefore bias the within-pair estimates somewhat more toward zero than the naive effects. Taken together, these two points serve to make our preferred estimates more conservative than the naive estimates, over and above simply controlling for the shared factors. In this regard, it is first of all reassuring that for the voting outcomes, the estimates are not just moved toward zero, they are almost precisely zero. The required degree of measurement error in wealth to give this amount of attenuation is not reasonable – within-pair variation in wealth would have to be almost entirely noise. Second of all, these arguments would make it less likely, not more likely, to find a negative effect for civic participation. In this regard, the negative effect we find should most likely be regarded as an underestimate of the true effect size.

It should be noted that this study does not at all negate that the preferences of wealthy individuals have a disproportionate influence on the political process – this fact is already well documented, and can take many forms, from network effects to large donations. We also find that descriptively, wealthier individuals do vote more often. However, the degree to which this gradient in voting is actually a causal consequence of wealth has not been previously known, and the answer appears to be – not much. On the contrary, wealth may even confer a “disadvantage” for civic forms of participation. As we have seen, this is a reasonable expectation from economic considerations, but there may also be even simpler reasons to expect this. If nothing else, the mechanisms of voting, and to some extent direct civic participation, are inherently robust to minority influence. It is simply more difficult for a vocal minority with powerful interests to effect political change via the ballot box.

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Appendix

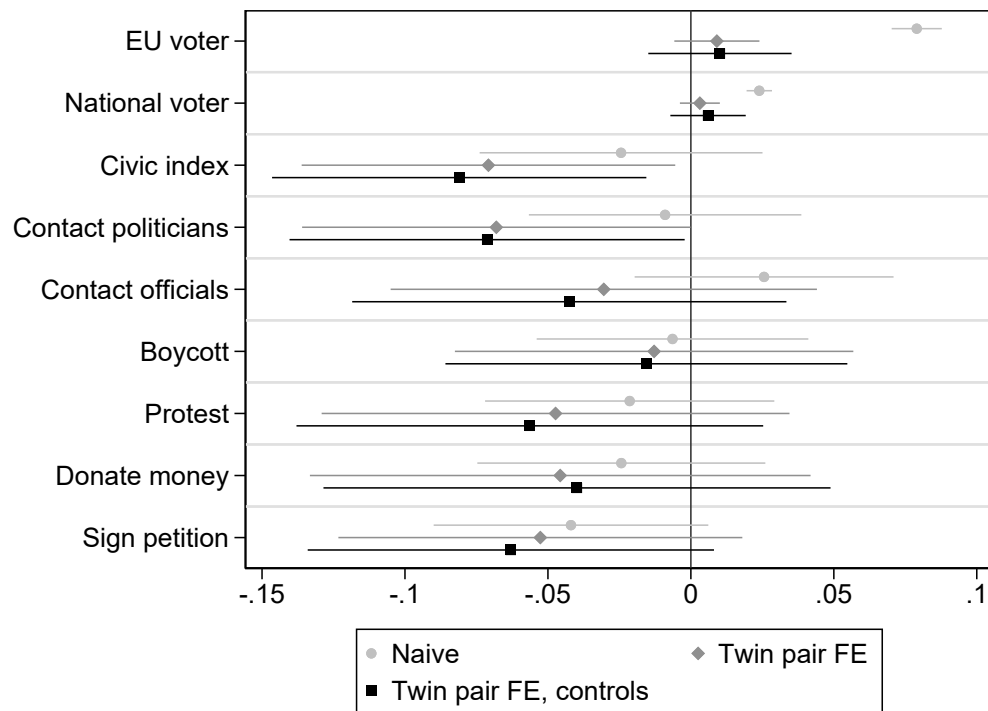
Alternative specifications

Figure 2 contains all results with an alternative definition of wealth, using simple deciles instead of the inverse hyperbolic sine transformation. The precise estimates differ somewhat, as should be expected. However, all results are qualitatively similar.

Precinct level results

In this section, the primary dependent variable is voter turnout in general elections spanning the years 1998 to 2018. Voter turnout is quantified as the number of actual votes cast

Figure 2: Main results



divided by the total number of voters within Swedish electoral *precincts*. These precincts represent the smallest analytical unit accessible for researchers keen to scrutinize aggregated electoral outcomes in Nordic nations (see Ansell et al. 2022; Brännlund and Szulkin 2023; Larsen et al. 2019, for other examples), usually encompassing between 1000 and 2000 voters. Notably, this figure can escalate in larger urban areas. To facilitate our aggregated analysis, we have gathered data on the number of voters and votes from Statistics Sweden, supplemented by information from the Swedish wealth register. Our identification strategy is fairly straightforward: we commence with the recognition that all voters have the capacity to observe and respond to fluctuations in financial markets, including periods of booms and busts. Adopting a shift share approach, we propose that the ramifications of variations in financial markets on actual wealth will be more pronounced in precincts characterized by a higher concentration of financial asset owners because market shifts will affect the value of their assets (see Goldsmith-Pinkham et al. 2018, on the shift-share method). Consider the following variable:

$$\Delta \text{Financial wealth}_{it} = \frac{\text{Owners financial assets}_{i1999}}{\text{Total voters}_{i1998}} \times \text{Financial Growth}_t \quad (3)$$

Alterations in financial wealth are delineated as the total number of owners of financial asset classes (stocks or mutual fund shares) in precinct i in the year 1999, divided by the number of eligible voters in that precinct during the election held in 1998. This quotient is then multiplied by the national growth rate in the value of these financial assets during time frame t , where $t \in 2002, 2006, 2010, 2014, 2018$. The national growth rate encapsulates the expansion of the total stock of most financial assets in the interval between elections

and, unlike local growth rates, it should be more exogenous to all electoral precincts. This time span encompasses significant financial events including the dot-com bubble and the financial crisis etc... In this analysis, we contend that precincts possessing a greater proportion of financial asset owners tend to experience increased or decreased wealth relative to precincts with a smaller proportion of financial asset owners, coinciding with the respective rise or fall in the overall value of these assets. It is pertinent to note that the precinct owner voter ratio is not updated post-1999. This is to mitigate the potential introduction of bias in the final estimation because the shift (*Financial Growth_t*) will change the share (Owner to voter ratio) over time (see Broxterman and Larson 2020, for a discussion on this problem). Put simply: people will invest in financial assets during good times and sell them when prices go down and by restricting the share to a base year, we make our explanatory variable more exogenous even if we introduce a measurement error. Using this data we can run the following regression model:

$$\Delta Turnout_{it} = \beta_1 \times \Delta Financial\ wealth_{it} + \beta_2 \times \Delta X'_{it} + \lambda_t \times \zeta_m + \delta_i + \varepsilon_{it}. \quad (4)$$

The dependent variable in this analysis, "Turnout," represents the voter turnout in precinct *i* at time *t*, where *t* corresponds to the years 2002, 2006, 2010, 2014, and 2018. Utilizing changes instead of levels aids in nullifying the time-invariant characteristics intrinsic to the populations of the precincts. The alterations in financial wealth are a product of growth rates in national asset valuations, coupled with the initial distribution of asset owners in the precinct during the baseline year. Our study predominantly centers on financial wealth due to its relatively higher accessibility for owners when contrasted with housing assets (e.g. Hariri et al. 2020). Furthermore, it's pertinent to highlight that fluctuations in housing wealth can potentially influence voter turnout by exacerbating wealth inequality.

Conversely, financial assets do not elicit similar repercussions, primarily because financial savings are not as conspicuous compared to the fluctuations in property wealth and values (see Brännlund and Szulkin 2023). Taken together, changes in financial wealth will capture the wealth-based effect on turnout conditional a group of controls.

In the initial stages, we introduce precinct fixed effects, symbolized by δ_i , to mitigate the time-invariant heterogeneity between precincts during the baseline year. Consequently, this methodology permits us to execute the regression without necessitating the inclusion of initial ownership-to-voter ratios, as these are absorbed by the precinct fixed effects. Significantly, the utilization of precinct fixed effects parallels the control for extended linear trends in voting tendencies, a critical component given that the underlying assumption in a shift-share analytical framework with exclusive reliance on shares bears resemblance to a conventional difference-in-differences model with continuous treatment. Under the parameters of our existing framework, turnout rates across different precincts are allowed to pursue individualized trends, provided these trends adhere to a linear progression. This implies that we are eliminating the influence of any unobserved confounding variables that exhibit a linear growth over time, ensuring a more streamlined and precise analysis.

Table 2: Precinct level descriptive statistics

	mean	sd	min	max
Δ Turnout	.004056	.0345493	-.3949305	.3733367
Δ Financial wealth	.2407868	.4550911	-.4238819	1.945326
Δ Employment	-.0017938	.0366287	-.481194	.3908543
Δ Migrant share	.0100598	.0290224	-.7327881	.5579381
Δ Education	.2243204	.1806715	-2.334161	2.455614
Δ Age	.7570196	1.565289	-19.00969	15.6672
Δ Age square	73.68135	151.5186	-1805.651	1663.494
Δ Income (SEK)	187.0474	147.4474	-1670.526	2355.456
<i>N</i>	17868			

Moreover, the vector X encompasses an array of economic and demographic controls, effectively addressing potential issues pertaining to the evolution in the demographic composition and characteristics of the district's populace over time. To adeptly manage this, we introduce variables such as average income, age, age squared, average years of education, proportion of migrants, and the employment rate. These variables are presumed to exhibit a correlation with both the accumulation of wealth and voter turnout trends. Data pertaining to these variables is retrieved from the LISA database and summary statistics are visible in Table 2. Lastly, to negate the influences of spatial and inter-temporal heterogeneity, we implement municipality-year fixed effects. This strategy facilitates a focused analysis on variations occurring between precincts situated within the same geographical area and participating in the same election cycle. In essence, our analysis is based on discrepancies observed between adjacent precincts.

The outcomes derived from this regression model are detailed in Table 3, revealing a downturn in electoral turnout rates within precincts hosting a relatively larger fraction of financial asset owners compared to voters, during periods of financial market surges. Initially, as showcased in the first column, we delineate that a single unit increase in our explanatory variable is anticipated to cause a reduction in electoral engagement by 0.6 percentage points, holding observable precinct characteristics constant, paired with election year fixed-effects. This fluctuation is substantiated at a 99% confidence level, with the standard errors concentrated at the precinct level. As we progress to introduce municipality by election year fixed effects in column 2, we basically factor out average differences in changes in financial wealth and turnout over time, both within and across municipalities. Notably, these fixed effects do not exert a substantial alteration on the initial estimate.

Moving forth to the third column, the precinct fixed effects are brought into the equa-

tion, thereby neutralizing the influences of all unobserved confounders proliferating linearly within the precincts and electoral cycles. The inclusion of these fixed effects attenuates the impact to a measure of -0.0046, adjusting the significance threshold to a 95% confidence interval. Consequently, a unit elevation in the explanatory variable is predicted to diminish turnout by roughly 0.5% percentage points - a figure that may initially appear marginal. Nonetheless, it is imperative to consider that the average fluctuation in turnout throughout this duration was a mere 0.4 percentage points. Hence, a standard deviation increment in the explanatory variable by 0.45 has the potential to escalate the change in turnout by 0.2 percentage points, underscoring a non-trivial effect in the grand scheme of the electoral dynamics. Thus, the findings here suggest that the impact of wealth on political engagement is not limited to our sample of twins.

Table 3: Changes in financial wealth and electoral turnout

	1	2	3
$\Delta Financial\ wealth_{it}$	-0.00617*** (0.00145)	-0.00640*** (0.00150)	-0.00458** (0.00190)
Constant	-0.00642*** (0.000867)	-0.00694*** (0.000911)	-0.00679*** (0.00115)
N	17868	17856	17856
Year fixed-effects	Yes	No	No
Controls	Yes	Yes	Yes
Municipality by year fixed-effects	No	Yes	Yes
Precinct fixed effects	No	No	Yes

Standard errors in parentheses clustered at the precinct level

* $p < .10$, ** $p < .05$, *** $p < .01$