POLITICAL PARTICIPATION AND PARTY CAPTURE WITH SOCIAL INEQUALITY

Kim Leonie Kellermann

ABSTRACT

We theoretically examine the link between political participation and policy outcomes in a dualized economy. Society comprises two groups of citizens, the privileged and the deprived, who have unequal political leverage. Both groups can actively engage in public decision making. The privileged can additionally provide financial contributions to policymakers. Policy outcomes are determined in a repeated two-stage game. First, citizens choose their utility-maximizing amount of political involvement. Second, parties decide on an optimal future policy level. In order to collect financial contributions, parties occupy a policy position which is biased towards the interests of the privileged. Consequently, the privileged are encouraged to participate in politics while the deprived are discouraged. This gap in political involvement induces a reinforcement of social inequality. Capture by the privileged is even stronger for parties with an initial ideological commitment to the deprived. Furthermore, convergence towards the interests of the privileged provides an opportunity for new parties to enter the political market with an opposing political stance with the purpose of receiving support from the deprived.

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1 Introduction

Since the late 20th century, established democracies all around the globe have witnessed a period of political upheaval. Voter turnout has continuously been declining and some of the formerly leading parties have incurred considerable electoral losses. These particularly hit social-democratic and Labor parties, which used to play a major role as representants of the common voters in Europe (cf. appendix fig. A.1). The related literature attributes the decreasing support for this party family to a frequently observed shift towards the center of the political spectrum, which may have alienated the original voters (Eichhorst/Marx, 2011; Lindvall/Rueda, 2013; Rueda, 2005, 2006). By contrast, new movements have attained substantial political successes (cf. appendix fig. A.1), occupying extreme political platforms and targeting hitherto neglected groups of voters (Mudde, 2004, 2013). Notably, these political changes seem to coincide with an increase in socio-economic inequality in the same countries (cf. appendix fig. A.2). A plausible and intriguing question is the one of a causal link between unequally distributed resources, parties' policy suggestions and voters' involvement in public decision making.

We investigate how party capture, caused by unequal political leverage, feedbacks on the electorate's readiness to participate in the political process. We design a repeated two-stage game with citizens and parties jointly determining a policy outcome. Citizens are divided into two groups, the privileged and the deprived. All citizens can provide support for a party in return for a future policy realization. The privileged are endowed with politically valuable financial resources, which can be offered to a party as an additional tool of exerting political influence. We build on the contribution function approach by Grossman & Helpman (1994) and model the amount of financial contributions as being dependent on the future policy level. In the first stage of the game, all citizens choose their utility-maximizing level of political involvement as a function of the still unknown policy outcome. In the second stage, parties propose a policy level that maximizes their benefit in terms of aggregate citizen support and financial contributions. The results illustrate that the privileged group is able to shape political outcomes to their advantage. By holding out the prospect of financial support, the privileged capture parties in terms of a more favorable future policy level from their point of view. The privileged therefore increase their level of political involvement while the deprived are discouraged from participating and abstain. With the resulting overrepresentation of the privileged in subsequent decision making, the policy bias tends to self-reinforce over time.

We provide several extensions of the baseline approach. In a two-party scenario, the pressure from political competition may induce an even stronger bias towards the privileged. Parties uniformly converge to a political platform which is particularly advantageous to the privileged. This causes the gap in political participation to widen. A party originally committed to the deprived chooses an even more privileged-friendly policy than its competitor. Furthermore, a third party is likely to enter the political market, occupying a platform which particularly appeals to the deprived. The new party's position tends to be more extreme when the current level of social inequality is higher. If the deprived have another political option to side with, they enhance their level of involvement.

Related to our model approach, several scientific studies are concerned with the question of how a social group is able to capture political agents. Grossman & Helpman (1994) first introduced the concept of a political contribution schedule for organized interest groups. The amount of financial contributions depends on the favorability of the future policy outcome. In order to maximize financial benefits, policymakers implement measures to the advantage of the interest group. The approach has frequently been applied to different scenarios later (among others Drazen et al., 2007; Lai, 2010; Lohmann, 1995; Winter, 2017). The literature provides several terms to describe the phenomenon of policymakers being guided by a wealthy electorate or industrial interest groups. Holcombe (2015) speaks of *political capitalism* while Acemoglu & Robinson (2008) use the term *captured democracy*. Strictly separating between interest groups and private agents, Gilens & Page (2014) refer to a political dominance of a well-endowed group of citizens by *economic elite domination*. They provide tentative evidence of a higher influence of the wealthy on the implementation of policy changes. Stadelmann et al. (2015) as well as Krieger & Meierrieks (2016) find comparable results, confirming the positive correlation between voters' financial resources and the likelihood of their preferred policies to become reality.

Building on these general considerations, Rueda (2005) illustrates the specific dilemma of social-democratic and Labor parties given resource surpluses on the part of the privileged. They are originally committed to classic center-left policies, such as redistribution, but at the same time seek to maximize their own vote share by winning over the pivotal voter. If political leverage among the privileged is relatively larger, social-democratic parties have a strong incentive to move towards the preferred policy level of that group. By deviating from their original policy line, they initiate an alienation of the deprived (Fang et al., 2016; Lindvall/Rueda, 2013; Rueda, 2005, 2006; Shapiro/Zillante, 2017).

This line of argumentation illustrates the link between party capture and incentives of political participation. The deprived are discouraged from participating in public decision making when they have no political representant available.

Several real-world examples feature such abstention behavior which has been preceded by the implementation of unusual policies by deprived-oriented parties: after the so-called *Hartz Reforms* in 2001, which entailed severe cuts in unemployment and welfare benefits, the German Social Democrats (SPD) suffered losses of votes in the preponed 2005 parliamentary election. They were forced into a grand coalition with the Christian Democrats (Eichhorst/Marx, 2011) and most recently registered their all-time low of electoral support, receiving a vote share of only 20.5% in the 2017 election. The Swedish Social Democratic Party (SAP) promoted upper bounds for child care fees as a main campaign pledge prior to the 1998 parliamentary election. This policy disproportionally benefited a middle- and upper-class electorate, resulting in a substantially declining probability of lower-class voters to support the Social Democrats. Instead, the propensity to vote for the radical left increased (Lindvall/Rueda, 2013). Karreth et al. (2012) observe an enourmous shift of the British Labour Party towards the center of the political spectrum throughout the 1990s. By the end of the decade, more than 20% of self-reported former supporters of Labour chose vote for another party or to abstain.

On a more abstract level, a still growing body of research sheds light on the general impact of social inequality on political involvement. Solt (2008, 2010) provides empirical evidence of a lower voter turnout in societies with a relatively more unequal income distribution. Related empirical research unanimously supports his finding for different countries and forms of participation (Bouvet/King, 2016; Galbraith/Hale, 2008; Geys, 2006; Jensen/Bøgeskov Jespersen, 2017; Kelly/Enns, 2010; Pontusson/Rueda, 2010; Stockemer/Scruggs, 2012). Abstention is interpreted as a meaningful measure of expressing discontent with the incumbent's harmful policies. Refusing to vote or casting a blank ballot serve as ways to electorally blame political agents for the individual living situation. This type of electoral protest is thus more likely to occur among the deprived (Anduiza Perea, 2002; Kelly/Enns, 2010; Kselman/Niou, 2011; Myatt, 2017; Rooduijn et al., 2016; Solt, 2008, 2010; Stockemer/Scruggs, 2012). However, as unequal turnout provides an incomplete picture of social preferences, it produces political outcomes that are even less favorable for those who abstained (Aggeborn, 2016; Anduiza Perea, 2002; Kelly/Enns, 2010).

In addition to a general rejection of participation, voters in European multiparty systems have been expressing their political dissatisfaction by switching to newly emerging extreme and populist parties. As Mudde (2004) sets out, radical and populist movements claim the representation of the *will of the common people*, which established parties and social elites have been ignoring. Usually, populist manifestos are characterized by promising future outlooks with respect to social and economic security. Numerous studies provide evidence of party preferences shifting towards the far ends of the political spectrum as a sign of electoral protest. Both extreme right-wing and extreme left-wing voting tend to be associated with individual economic deprivation. The extreme left-wing electorate may also constitute better-endowed and higher skilled social groups (Funke et al., 2016; Golder, 2003; Han, 2016; Immerzeel/Pickup, 2015; Jansen et al., 2013; March/Rommerskirchen, 2015; Oesch, 2008a,b; Rooduijn et al., 2016).

Being related to the above-outlined research, our contribution to the literature is threefold. First, we extend the existing theoretical considerations by presenting an approach that endogenously determines the behaviors of both citizens and policymakers as reactions to one another. As a main innovation, we include a dynamic component and highlight the self-reinforcement of social inequality as a consequence of political inequality. Second, we provide a previously missing, extensive theoretical underpinning for the interdependence of social inequality, political inequality and party capture as observed in the empirical literature. Third, we engage in the scientific discussion of the most recent emergence of new, extreme parties. We highlight the incentives of deprived social groups to support these movements, given that other parties have been captured by the well-endowed. Our approach bears relevant practical implications by illustrating the mechanism of exerting political influence by other than the classic tools as well as the root causes of the resulting voter abstention.

The remainder of this paper is organized as follows. Section 2 presents the baseline model framework. In section 3, the basic version is extended by discussing the impact of party competition and ideological biases on policy outcomes. Section 4 deals with the emergence of new parties as a result of party capture by the privileged. Section 5 concludes.

2 Basic Model Outline

General Overview   We consider an economy with an electorate of $1 = n_p + n_d$, comprising n_p privileged and n_d deprived citizens, and a representative political party j. Citizens seek to maximize utility $U_{i,t}$, $i \in \{p,d\}$ from consumption of a private good and from political involvement.[1] The latter includes all forms of physical – i. e. non-financial – political activities such as voting, being an active party member, joining party meetings or rallies and the like.

The members of the privileged group are endowed with a larger amout of financial resources. While all citizens work and receive a wage equal to their marginal productivity, the privileged receive an additional surplus of $\theta_t \in [0,1]$. This financial advantage is the monetary equivalent of a social advantage such as employment protection coverage, higher education, an exclusive public transfer payment or better access to political information. The level of θ_t is endogenously determined in the political process and it can be used to make financial contributions to policymakers.[2]

The timing is as follows. Every time period t represents a legislative term consisting of two stages. In the first stage, citizens maximize their utility with respect to political involvement and private consumption. The optimal amount of involvement depends on the yet unknown future policy level θ_{t+1}, which is the only issue on the political agenda. In the second stage, party j maximizes its benefit from support and contributions by choosing the optimal θ_{t+1}.

Voters' Optimization   A citizen $i \in \{p,d\}$ is a rational, utility-maximizing individual. She receives utility from private consumption $x_{i,t}$ and from political involvement $v_{i,t}$. The latter affects both the instrumental and the expressive utility from politics. The instrumental benefit $B_{i,t+1}$ is a function of the future policy level $\theta_{t+1} \in [0,1]$. It manifests with probability $\alpha(v_{i,t})$ that the supported party takes office and implements its proposed policy level in the following period. Members of group p favor high values of θ_{t+1}, i.e. $B_{p,t+1} = \theta_{t+1}$. Group d favors the opposite policy line, $B_{d,t+1} = (1 - \theta_{t+1})$. α is a function of $v_{i,t}$, yet we adopt the general assumption in the voting literature and set the individual impact $\frac{\partial \alpha}{\partial v_{i,t}} = \alpha_v$ equal to 0 (Downs, 1957). Furthermore, a citizen

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[1]We use the terms *political involvement* and *political support* interchangeably.

[2]It should be emphasized here that contributions in this context are an alternative but legal tool of political influence, not to confuse with bribes.

receives expressive utility from being politically involved,[3] which is positively related to both the amount of involvement $v_{i,t+1}$ and the benefit $B_{i,t+1}$ with declining marginal utility in both components.[4] The quasi-linear utility function of individual i reads

$$U_{i,t} = \alpha(v_{i,t})B_{i,t+1}^a + log(v_{i,t})B_{i,t+1}^a + x_{i,t}, \qquad 0 < a < 1. \tag{1}$$

p and d both receive an income $w_{i,t}$. The labor market is by assumption cleared at any time and all citizens exhibit an identical marginal productivity $F' = w_{d,t}$. Due to the wage surplus θ_{t+1}, p's total income amounts to $w_{p,t} = F' + \theta_t$. The consumption good $x_{i,t}$ is bought at the market price ρ_x and political support $v_{i,t}$ involves a unit cost of ρ_v.[5] To keep it simple, it is $\rho_x = \rho_v = 1$.

A member of group p is able to support a party by means of a financial contribution $C_{p,t}$, which equals

$$C_{p,t} = \theta_t B_{p,t+1}^a = \theta_t \theta_{t+1}^a \tag{2}$$

$$\text{so that } \frac{\partial C_{p,t}}{\partial \theta_{t+1}} > 0,\ C_{p,t}(0, \theta_{t+1}) = C_{p,t}(\theta_t, 0) = 0.$$

The amount contributed positively depends on the current and future policy level proposed by a party. p exclusively uses her wage surplus θ_t for contributions so that the future policy benefit θ_{t+1}^a represents the share of the current wage surplus spent on political influence. In case that the future policy level equals zero, p is unwilling to provide financial contributions. The act of financially contributing is assumed not to generate expressive utility.

A citizen's maximization problem is

$$\max_{v_{i,t}, x_{i,t}}!\ U_{i,t} = \alpha(v_{i,t})B_{i,t+1}^a + log(v_{i,t})B_{i,t+1}^a + x_{i,t}, \qquad 0 < a < 1 \tag{3}$$

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[3]We relate to the literature on *expressive voting* and assume that the act of voting as such generates utility (Brennan/Hamlin, 1998; Brennan/Lomasky, 1993; Fiorina, 1976).

[4]Declining marginal utility of $B_{i,t+1}$ is ensured by use of the parameter $a \in (0, 1)$. Declining marginal utility of $v_{i,t+1}$ is modeled by employing a log function in order to keep the later presented results simple.

[5]For example, a membership fee paid to a party or the cost to accumulate relevant political information.

s.t.

$$w_{p,t} = F' + \theta_t \geq x_{p,t} + v_{p,t} + C_{p,t}(\theta_t, \theta_{t+1}) \text{ or} \tag{4}$$

$$w_{d,t} = F' \geq x_{d,t} + v_{d,t}, \text{ respectively.} \tag{5}$$

Inserting eqs. (4) and (5) into eq. (3), the first-order conditions with respect to $v_{p,t}, v_{d,t}$ yield the optimal quantities of political involvement for a representative member of the two groups:

$$v_{p,t} = \theta_{t+1}^a, \tag{6}$$

$$v_{d,t} = (1 - \theta_{t+1})^a. \tag{7}$$

p benefits from a higher policy level, thus her optimal quantity of political support increases in θ_{t+1}. By contrast, d shows more involvement if θ_{t+1} decreases.

Party's Optimization The objective of a representative party j is to maximize the sum of aggregate citizen support $v_{p,t}, v_{d,t}$ and financial contributions $C_{p,t}$ (Drazen et al., 2007; Grossman/Helpman, 1994; Lai, 2010; Winter, 2017), yielding the benefit function

$$R_{j,t} = n_p v_{p,t} + n_d v_{d,t} + n_p C_{p,t}, \tag{8}$$

which is to maximize over the future policy level θ_{t+1}. Cheap talk strategies are ruled out so that party j is able to credibly commit to the implementation of θ_{t+1} if it takes office. j anticipates $v_{p,t}, v_{d,t}$ and weighs benefits against losses to choose the optimal θ_{t+1}. We henceforth set $n_p = n_d$ without loss of generality. Throughout the argumentation, we distinguish between a case without contributions, indicated by nc, and a case with contributions. Finally, we define a Nash equilibrium as a combination of strategies all of which maximize utility of players given the other players' strategies.

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Proposition 1. *(i) Suppose $R_{j,t}$ as given by eq. (8) with $\theta_t = 0$ and $v_{p,t}, v_{d,t}$ as given by eqs. (6) and (7). The unique Nash equilibrium consists of $(\theta_{t+1}^{nc}, v_{p,t}^{nc}, v_{d,t}^{nc}, C_{p,t}^{nc})$ with*

$$\theta_{t+1}^{nc} = 0.5,$$
$$v_{p,t}^{nc} = v_{d,t}^{nc} = 0.5^a \qquad and$$
$$C_{p,t}^{nc} = 0.$$

(ii) Suppose $R_{j,t}$ as given by eq. (8) with $\theta_t > 0$ and $v_{p,t}, v_{d,t}$ as given by eqs. (6) and (7). The unique Nash equilibrium consists of $(\theta_{t+1}^*, v_{p,t}^*, v_{d,t}^*, C_{p,t}^*)$ with

$$\theta_{t+1}^* = \frac{(1+\theta_t)^{\frac{1}{1-a}}}{1+(1+\theta_t)^{\frac{1}{1-a}}},$$

$$v_{p,t}^* = \left(\frac{(1+\theta_t)^{\frac{1}{1-a}}}{1+(1+\theta_t)^{\frac{1}{1-a}}}\right)^a, \quad v_{d,t}^* = \left(\frac{1}{1+(1+\theta_t)^{\frac{1}{1-a}}}\right)^a \qquad and$$

$$C_{p,t}^* = \theta_t \frac{(1+\theta_t)^{\frac{1}{1-a}}}{1+(1+\theta_t)^{\frac{1}{1-a}}}.$$

(iii) The future policy level θ_{t+1}^* increases in θ_t, i. e. $\frac{\partial \theta_{t+1}^*}{\partial \theta_t} > 0$, $\frac{\partial^2 \theta_{t+1}^*}{\partial \theta_t^2} < 0$.

(iv) $\lim\limits_{t \to \infty} \theta_{t+1}^* = \left(\frac{2}{3}\right)^{\frac{1}{1-a}}$

Proof. See appendix B.

Figure 1 illustrates the equilibrium policy level with and without contributions. In the contribution case, j's equilibrium choice is relatively closer to the preferred policy platform of the privileged because contributions are positive if $\theta_t > 0$ and increasing in θ_{t+1}. The party hereby fosters a reinforcement of social inequality over time.

Note that in eqs. (6) and (7), $v_{p,t}$ is strictly increasing in θ_{t+1} and $v_{d,t}$ is strictly decreasing in θ_{t+1}. Thus with contributions, the privileged are encouraged to be politically involved, $v_{p,t}^* > v_{p,t}^{nc}$, while the deprived are discouraged, $v_{d,t}^* < v_{d,t}^{nc}$. The explanation is straightforward. Their contributions lead to a more favorable policy plan from their point of view so that the privileged receive a higher utility from participation. The incentive to be involved is yet lowered for the deprived as party j moves away from their preferred platform. Consequently, a gap in participation opens.

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Figure 1: Policy Outcomes with and without Contributions
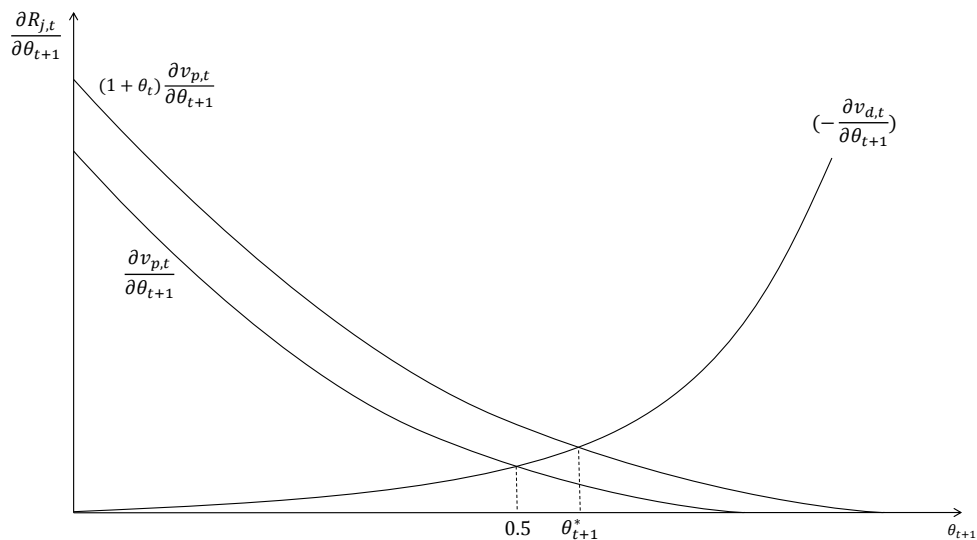
Because θ_{t+1}^* is a function of θ_t, we take a closer look at the dynamics of the model starting with a policy level of $\theta_0 = 0$. Following (i) of proposition 1, the policy level in $t = 1$ is equal to 0.5. In the subsequent period $t = 2$, the policy level is determined as in (ii) of proposition 1 and equals

$$\theta_2^* = \frac{(1 + 0.5)^{\frac{1}{1-a}}}{1 + (1 + 0.5)^{\frac{1}{1-a}}}.$$

Continuing this process, the limiting value of θ_{t+1}^* is

$$\lim_{t \to \infty} \theta_{t+1}^* = \left(\frac{2}{3}\right)^{\frac{1}{1-a}},$$

implying an increasing capture of party j by the privileged in the long run (see figure 2). Political inequality and social inequality turn out to be mutually reinforcing. The limiting value, however, is always smaller than 1 in order not to completely alienate the deprived.

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Figure 2: Dynamics of Policy Outcomes
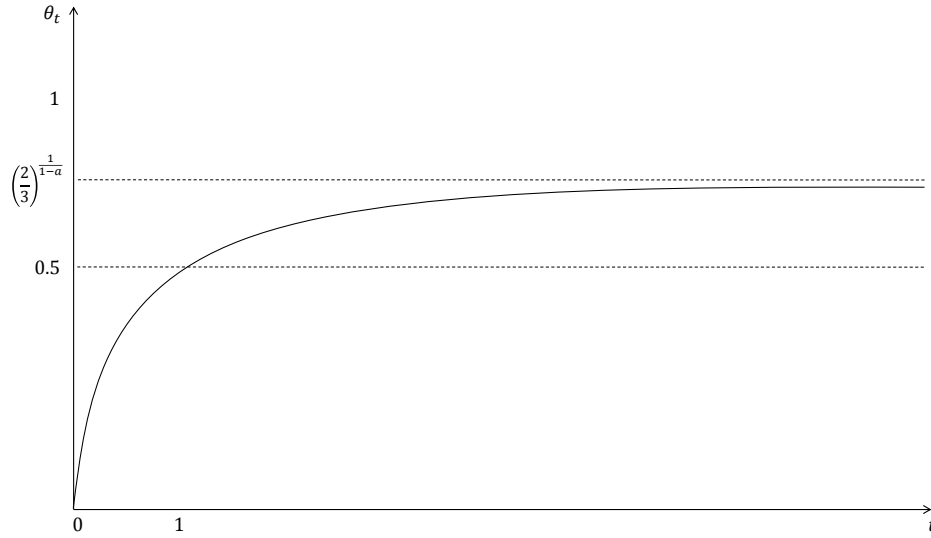
3 Extensions

3.1 Political Outcome with Party Competition

Up to this point, the analysis has been limited to the incentives of one representative party of which the decision regarding its policy platform is independent of any competitor. We now illustrate the behaviors of citizens and parties in a two-party scenario. Citizens still seek to maximize utility with respect to consumption and political involvement. There are two parties A and B that strive to maximize their respective party benefit. Citizens only support one party at a time whose policy suggestion is closer to their preferred position $B_{i,t+1}$ (Downs, 1957). In case of different policy platforms, party A receives all support and contributions from the privileged if $\theta_{A,t+1} > \theta_{B,t+1}$, while the deprived uniformly support B. If $\theta_{A,t+1} < \theta_{B,t+1}$, A receives support from d and B receives support and contributions from p. With $\theta_{A,t+1} = \theta_{B,t+1}$, citizens choose to support A and B with equal probability, leaving them with equal shares of total benefits.

A and B non-cooperatively choose their optimal policy strategies from sets $S_A = S_B = [0, 1]$. Both parties simultaneously announce their policy suggestions so that the competitor's choice is unknown.

Proposition 2. *Suppose $R_{j,t}$ as given by eq. (8) with $j \in \{A, B\}, \theta_t = 0$, and $v_{p,t}, v_{d,t}$ as given by eqs. (6) and (7). A Nash equilibrium consists of $(\theta_{A,t+1}^{nc}, \theta_{B,t+1}^{nc}, v_{p,j,t}^{nc}, v_{d,-j,t}^{nc}, C_{p,t}^{nc})$ with*

$$\theta_{A,t+1}^{nc} = \theta_{B,t+1}^{nc} = 0.5,$$

$$v_{p,j,t}^{nc,comp} = v_{d,-j,t}^{nc,comp} = 0.5^a \qquad and$$

$$C_{p,t}^{nc,comp} = 0.$$

(ii) Suppose $R_{j,t}$ as given by eq. (8) with $j \in \{A, B\}, \theta_t > 0$ and $v_{p,t}, v_{d,t}$ as given by eqs. (6) and (7). A Nash equilibrium consists of $(\theta_{A,t+1}^*, \theta_{B,t+1}^*, v_{p,j,t}^{*,comp}, v_{d,-j,t}^{*,comp}, C_{p,t}^{*,comp})$ with

$$\theta_{A,t+1}^* = \theta_{B,t+1}^* = \frac{1 + 2\theta_t}{2 + \theta_t},$$

$$v_{p,t}^{*,comp} = \left(\frac{1 + 2\theta_t}{2 + \theta_t}\right)^a, \quad v_{d,t}^{*,comp} = \left(\frac{1 - \theta_t}{2 + \theta_t}\right)^a \qquad and$$

$$C_{p,t}^{*,comp} = \theta_t \frac{1 + 2\theta_t}{2 + \theta_t}.$$

(iii) $\frac{\partial \theta_{j,t+1}^*}{\partial \theta_t} > 0, \ \frac{\partial^2 \theta_{j,t+1}^*}{\partial \theta_t^2} < 0.$

(iv) $\lim_{t \to \infty} \theta_{j,t+1}^* = 1$

Proof. See appendix B.

Both A and B again uniformly choose the intermediate policy level of 0.5 in the case without contributions. Therefore, political participation of citizens is the same as in (i) of Proposition 1. Allowing for contributions, parties propose a policy level of $\theta_{A,t+1}^* = \theta_{B,t+1}^* > 0.5$. Party competition again fosters biased representation, leading to a gap in political participation between the two social groups. The proposed policy level increases with the already existing level of social inequality θ_t, entailing a self-enforcing dualization over time.[6]

The set of Nash equilibria, both with and without contributions, comprises two additional equilibria with diverging policy levels of $(0, 1)$ and $(1, 0)$. From a point of view

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[6]It can furthermore be shown that $\theta_{A,t+1}^* = \theta_{B,t+1}^* > \theta_{t+1}^*$ from the baseline case if $a < 0.68$. With $a \geq 0.68$, $\theta_{A,t+1}^* = \theta_{B,t+1}^* \leq \theta_{t+1}^*$ for specific values of θ_t.

of welfare maximization, these polarizing equilibria are always pareto-superior to the converging one when there are no contributions. Recall that policy preferences of citizens peak at the outer margins of the policy spectrum. Provided policy platforms of $(0, 1)$ or $(1, 0)$, both groups of citizens were ready to be involved at their maximum level of $v_{i,t}^* = 1$. Both parties would then be better off in terms of aggregate benefits, $R_{j,t}(1) > R_{j,t}(0.5)$. Utility levels of citizens would also be higher since each group receives its maximum political benefit $B_{i,t+1}$ by siding with the party which proposes its preferred policy. We can infer that coordination in terms of fully catering the interests of only one social group at a time is a pareto-improvement compared to sharing the political market. With financial contributions, however, this is only the case if a is sufficiently large. Consequently, parties increase their own benefit by implementing the intermediate policy level but decrease overall welfare.[7]

Bringing the scenario even closer to the real world, it is common that parties are ideologically committed to a certain political line. Speaking of a classic political scale, we expect left-wing parties to enforce a policy benefitting the deprived, while conservative or liberal parties are more prone to policies favoring the privileged. However, following Rueda (2005, 2006) and Lindvall & Rueda (2013), parties may diverge from these expectations and occupy a different political platform, even one that conflicts with the interests of their original clientele. We thus highlight the two parties' strategies taking into account an ideological commitment. Assume that party A is a p-oriented party, while B is a d-oriented party. Denote by $\delta_j > 0$ the loss j incurs when receiving support or contributions from the other but its original target group.

Proposition 3. *Suppose $R_{j,t}$ as given by eq. (8) and $\delta_j > 0$ with $j \in \{A, B\}, \theta_t = 0$ and $v_{p,t}, v_{d,t}$ as given by eqs. (6) and (7). A Nash equilibrium consists of $(\theta_{A,t+1}^{nc,\delta}, \theta_{B,t+1}^{nc,\delta}, v_{p,B,t}^{nc,\delta}, v_{d,A,t}^{nc,\delta}, C_{p,t}^{nc,\delta})$ with*

$$\theta_{A,t+1}^{nc,\delta} = 0.5 - \delta_B, \ \theta_{B,t+1}^{nc,\delta} = 0.5 + \delta_A,$$
$$v_{p,B,t}^{nc,\delta} = (0.5 + \delta_A)^a, v_{d,A,t}^{nc,\delta} = (0.5 - \delta_B)^a \qquad and$$
$$C_{p,t}^{nc,\delta} = 0.$$

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[7]The situation can be compared to the well-known *Public Good Game*. In order to attain the social optimum, one party would have to fully leave financial contributions to its competitor. Its benefit would then be larger then in the Nash equilibrium with converging policies, yet smaller than the competitor's. Therefore, both parties aim at being the party that represents the insiders and receives their contributions.

(ii) Suppose $R_{j,t}$ as given by eq. (8) and $\delta_j > 0$ with $j \in \{A, B\}, \theta_t > 0$ and $v_{p,t}, v_{d,t}$ as given by eqs. (6) and (7). A Nash equilibrium consists of $(\theta_{A,t+1}^{*,\delta}, \theta_{B,t+1}^{*,\delta} v_{p,B,t}^{*,\delta}, v_{d,A,t}^{*,\delta}, C_{p,t}^{*,\delta})$ with

$$\theta_{A,t+1}^{*,\delta} = \frac{1 + 2\theta_t - 2\delta_B}{2 + \theta_t}, \ \theta_{B,t+1}^{*,\delta} = \frac{1 + 2\theta_t + 2\delta_A}{2 + \theta_t},$$

$$v_{p,B,t}^{*,\delta} = \left(\frac{1 + 2\theta_t + 2\delta_A}{2 + \theta_t}\right)^a, \ v_{d,A,t}^{*,\delta} = \left(\frac{1 - \theta_t + 2\delta_B}{2 + \theta_t}\right)^a > v_{d,t}^{*,comp} \qquad and$$

$$C_{p,t}^{*,\delta} = \theta_t \frac{1 + 2\theta_t + 2\delta_A}{2 + \theta_t}.$$

Proof. See appendix B.

These results provide an explanation why, for instance, social-democratic parties are guided by the interests of wealthier citizens as observed by the above-presented empirical literature. If decisiveness is related to financial contributions, B is willing to propose a policy platform appealing to the pivotal voter. It can only outperform A by proposing a policy level which exceeds A's choice. The exact size of the deviation depends on the magnitudes of δ_A and δ_B. A and B show stronger tendencies to move towards the opposite end of the policy spectrum if the ideological commitment of the competitor is greater. The alignment of voters with parties go into reverse as it is now the originally d-friendly party that seeks to implement the higher future policy level. Consequently, it realizes gains in terms of support and contributions by p but does not satisfy d anymore. The members of group d now find another political representant so that they are encouraged to participate in the political process again, $v_{d,t}^{*,\delta} > v_{d,t}^{*,comp}$.

3.2 Emergence of New Parties

We initially mentioned that there are several countries, in particular in European multiparty systems, that have witnessed the rise in success of parties located at the far ends of the political spectrum. Our considerations now address the question of whether the outlined convergence towards a privileged electorate fosters the entrance of newly emerging parties to the political market, which attempt to win back the alienated electorate. Assume that there is a third party E which considers entering the political market. It observes the policies currently in effect so that it knows the strategies obtained by A and

B. E's ambition to enter the political stage is private knowledge. A and B therefore have no incentive to change their strategies compared to the two-party case.

Proposition 4. *Suppose $R_{j,t}$ as given by eq. (8) with $j \in \{A, B, E\}, \theta_t = 0$ and $v_{p,t}, v_{d,t}$ as given by eqs. (6) and (7). A Nash equilibrium consists of $(\theta_{A,t+1}^{nc,E}, \theta_{B,t+1}^{nc,E}, \theta_{E,t+1}^{nc,E}, v_{p,t}^{nc,E}, v_{d,t}^{nc,E}, C_{p,t}^{nc,E})$ with*

$$\theta_{A,t+1}^{nc,E} = \theta_{B,t+1}^{nc,E} = \theta_{E,t+1}^{nc,E} = 0.5$$
$$v_{p,t}^{nc,E} = v_{d,t}^{nc,E} = (0.5)^a \qquad and$$
$$C_{p,t}^{nc} = 0.$$

(ii) Suppose $R_{j,t}$ as given by eq. (8) with $j \in \{A, B, E\}, \theta_t > 0, n_p = n_d$ and $v_{p,t}, v_{d,t}$ as given by eqs. (6) and (7). A Nash equilibrium consists of $(\theta_{A,t+1}^{*,E}, \theta_{B,t+1}^{*,E}, \theta_{E,t+1}^{*,E}, v_{p,t}^{*,E}, v_{d,E,t}^{*,E}, C_{p,t}^{*,E})$ with

$$\theta_{A,t+1}^{*,E} = \theta_{B,t+1}^{*,E} = \frac{1 + 2\theta_t}{2 + \theta_t}, \quad \theta_{E,t+1}^{*,E} = \frac{1}{2 + \theta_t},$$
$$v_{p,t}^{*,E} = \left(\frac{1 + 2\theta_t}{2 + \theta_t}\right)^a, \quad v_{d,E,t}^{*,E} = \left(\frac{1 + \theta_t}{2 + \theta_t}\right)^a \qquad and$$
$$C_{p,t}^{*,E} = \theta_t \frac{1 + 2\theta_t}{2 + \theta_t}.$$

Proof. See appendix B.

The newly created party E can produce a stable equilibrium in two ways, taking the strategies of A and B as given. It can opt for a policy level $\theta_{E,t+1} = 1$ to completely absorb insider support and contributions. E would hence turn out to be a fully p-oriented party. More interestingly, E can choose to implement $\theta_{E,t+1}^{*,E} = \frac{1}{2+\theta_t}$. It then collects support from d by proposing a policy level that is lower than the competitors' level (and even lower than 0.5). Note that $\theta_{E,t+1}^{*,E}$ decreases in the currently realized inequality θ_t. Intuitively, the higher is p's potential to financially contribute, the higher are the opportunity cost for E when foregoing it. Support from d must increase accordingly to compensate E for the loss, which is the case if $\theta_{E,t+1}^{*,E}$ declines. From the citizens' perspective, the smaller the incentives of the deprived are to politically engage, the more alternative political ideas must approach their favored level to win them over. d's

amount of support is larger here compared to the two-party-scenario. It still falls short of participation among the privileged, yet the gap is narrowed.

The rationale behind the advance towards extreme political positions among newly parties is obvious. They are better off by encouraging a hitherto politically apathetic group to participate instead of following established policy lines and having to share limited benefits. Nevertheless, party E has to ensure optimality of its strategy. As the opportunity cost in terms of θ_t rise, it moves closer to the margins of the political spectrum and obtains a more extreme position.

4 Conclusion

The model approach designed in this paper illustrates how an unequal distribution of resources among the electorate translates into unequal political representation and participation. Two groups of citzens, the privileged and the deprived, favor opposing policy platforms. The privileged are endowed with a higher level of politically valuable financial resources, which they use to influence policymakers. A party seeking to maximize its own benefit reacts by implementing a future policy plan which is biased towards the preferences of the privileged. This in turn stimulates political involvement of this social group. By contrast, the deprived are discouraged from political participation as the proposed policies are not in accordance with their interests.

If two parties compete for support and financial contributions, their policy platforms converge, yielding a uniform bias towards the wealthier group. Given an initial ideological commitment to the deprived, a party faces an even stronger incentive to propose a privileged-friendly platform in order to outperform its competitor. The deprived are then less likely to provide further electoral support for this party. We show that newly emerging parties can realize gains by entering the political market with a policy position particularly appealing to the deprived. They hereby stimulate involvement among members of this social group and receive hitherto foregone political benefits. The higher the level of social inequality, the more extreme is the platform proposed by a new party.

Our results theoretically elaborate on the underlying causes of two phenomena widely recognized in the empirical literature: first, the lower political participation of deprived social groups associated with socio-economic inequality and second, the recent changes

in political landscapes in established democracies. An unequal distribution of politically valuable resources and leverage may affect the motivation of eligible voters to embrace their right of political involvement. If the actual or perceived impact on politics is too low for the deprived groups to participate, they withdraw from the political process. The resulting bias in future policy levels to the advantage of the privileged leads to a self-reinforcement of inequality and an even stronger polarization of societies. Originally deprived-oriented parties, which have been captured by a wealthy and influential electorate, register sharp declines in electoral support and potentially lose their voters to newly-emerging, extreme movements.

Several implications for real-world politics can be inferred from our considerations. As socio-economic inequality or at least its persistence are politically induced, a respective politically induced convergence could ensure political equality and counteract social dualization. Our results furthermore suggest that established parties benefit from a coordination in terms of clearly distinct political positions and a focus on original target groups. Not only could they realize higher political support, diverse platforms would also curb incentives for more competitors to enter the political market. Finally, we highlight the ineffectiveness of abstention as a measure of protest. Withdrawing from public decision making makes sense from a point of view of individual utility maximization, it however cannot bring about the intended change in political outcomes.

Our understanding of a controversial policy in this model more or less refers to social redistribution. Yet, the line of argumentation can easily be transferred to other political issues. Examples include the vitally important discussion of conflicts such as economic expansion vs. environmental protection or international integration vs. nationalism. In-compliance with party positions might likewise pave the way for a realignment of party scenes, entailing the emergence of special-issue parties covering these topics. While the theoretical analysis conducted here is comprehensive and supports single findings of different empirical studies, we leave an encompassing test of the highlighted interdependencies to future research.

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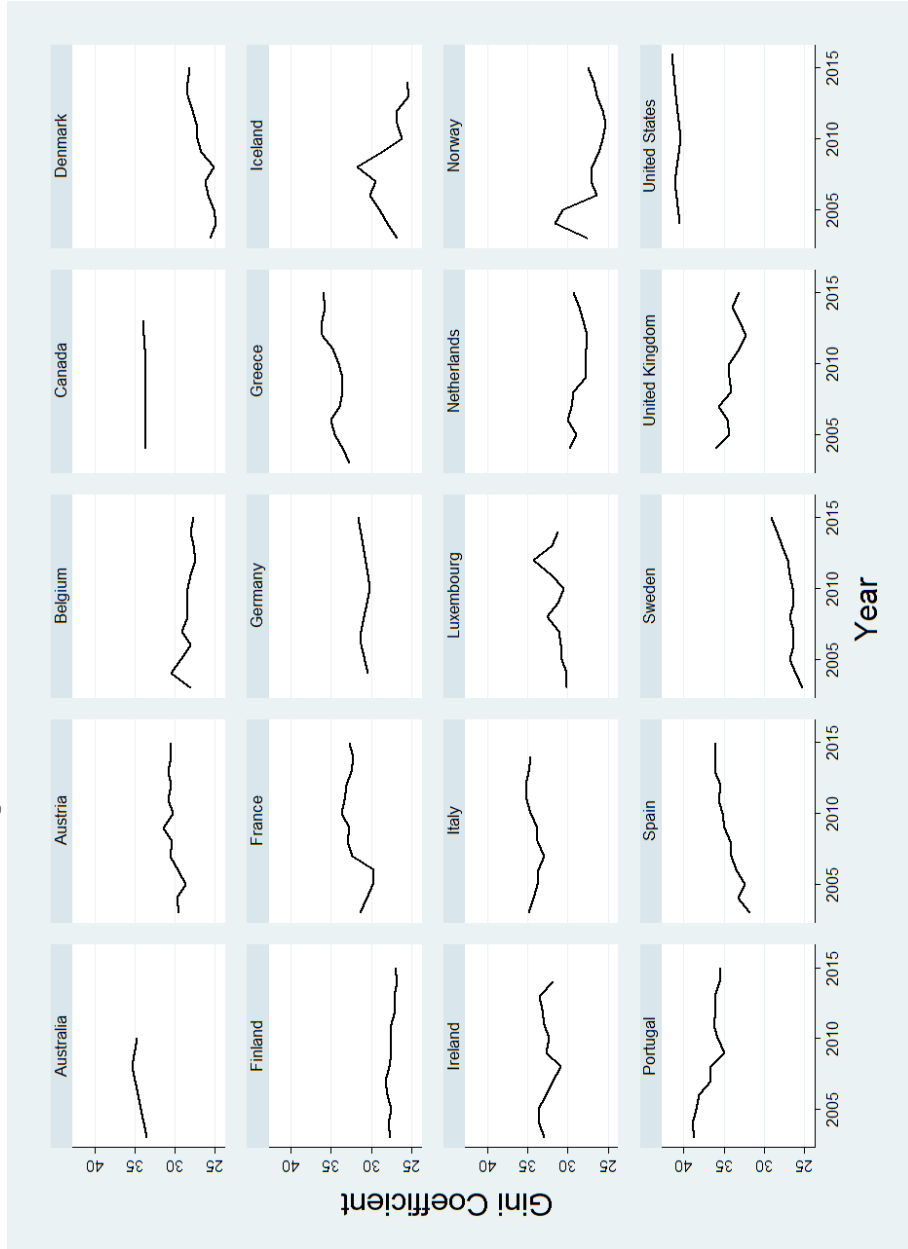
Appendix A

Figure A.1: Voter Turnout in Parliamentary Elections and Atypical Employment
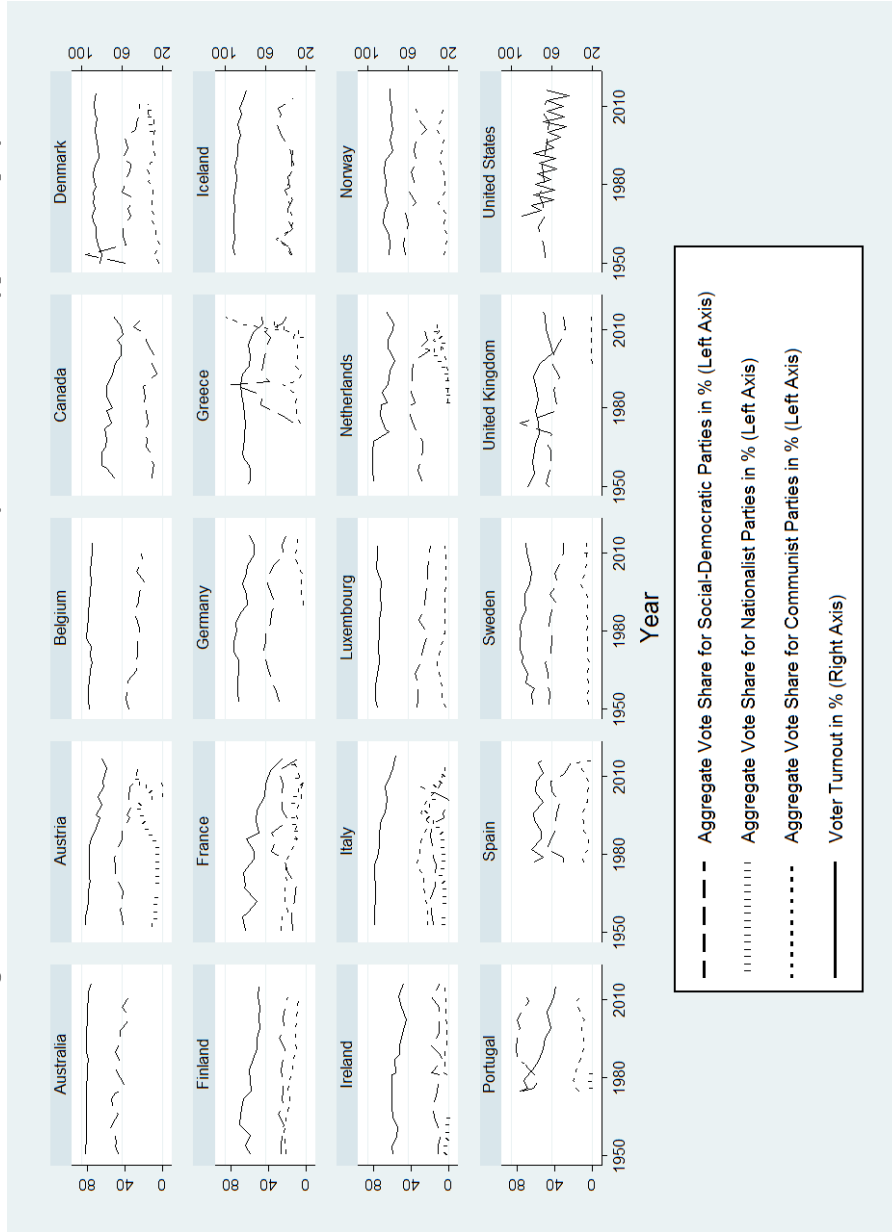
Notes: Parliamentary elections only. Graphs display the respective aggregate vote shares for parties labeled *social-democratic, communist* or *nationalist* by the Manifesto Project Database on a country-year base. Vote shares are taken from the Manifesto Project Database. Voter turnout rates are taken from the International IDEA Voter Turnout Database.

Source: International IDEA, Manifesto Project Database

Figure A.2: Gini Coefficient of Household Income

Appendix B

Proof to Proposition 1. Inserting eqs. (6) and (7), eq. (8) can be written as

$$R_{j,t} = \theta_{t+1}^a + (1 - \theta_{t+1})^a + \theta_t \theta_{t+1}^a. \tag{B.1}$$

First-order condition with respect to θ_{t+1} is

$$\frac{\partial R_{j,t}}{\partial \theta_{t+1}} = a\theta_{t+1}^{a-1} - a(1 - \theta_t)^{a-1} + \theta_t a \theta_{t+1}^{a-1} \overset{!}{=} 0, \tag{B.2}$$

while solving for θ_{t+1} yields an optimal policy level of

$$\theta_{t+1}^* = \frac{(1 + \theta_t)^{\frac{1}{1-a}}}{1 + (1 + \theta_t)^{\frac{1}{1-a}}}. \tag{B.3}$$

In the absence of financial contributions by the privileged, that is if $\theta_t = 0$, the optimal policy level is

$$\theta_{t+1}^{nc} = 0.5 < \theta_{t+1}^*. \tag{B.4}$$

Taking the first and second derivative of eq. (B.3) w.r.t θ_t, we obtain

$$\frac{\partial \theta_{t+1}^*}{\partial \theta_t} = \frac{\frac{1}{1-a}(1 + \theta_t)^{\frac{a}{1-a}}}{\left(1 + (1 + \theta_t)^{\frac{1}{1-a}}\right)^2} > 0 \qquad \text{and} \tag{B.5}$$

$$\frac{\partial^2 \theta_{t+1}^*}{\partial \theta_t^2} < 0 \qquad \text{for } 0 < a < 1. \tag{B.6}$$

By inserting eq. (B.3) into eqs. (6) and (7), the optimal quantities of political support provided by citizens result

$$v_{p,t}^* = \left(\frac{(1 + \theta_t)^{\frac{1}{1-a}}}{1 + (1 + \theta_t)^{\frac{1}{1-a}}}\right)^a, \tag{B.7}$$

$$v_{d,t}^* = \left(\frac{1}{1 + (1 + \theta_t)^{\frac{1}{1-a}}}\right)^a. \tag{B.8}$$

Inserting eq. (B.4) into eqs. (6) and (7), we obtain

$$v_{p,t}^{nc} = v_{d,t}^{nc} = (0.5)^a \,, \tag{B.9}$$

so that $v_{p,t}^* > v_{p,t}^{nc}$ and $v_{d,t}^* < v_{d,t}^{nc}$ ∎

Proof to Proposition 2. Parties A and B have strategy spaces $S_A = S_B = [1,0]$. The policy level $\theta_{j,t+1}$ affects both the probability of having chosen a higher (or lower) level than the competitor and the size of j's benefit. Thus, in order to maximize the latter, parties A and B are expected to choose between the margin values 0 and 1. The resulting payoffs are as displayed in tab. B.1.

Table B.1: Payoffs with Margin Policy Choices in the Two-Party Case

	$\theta_{A,t+1} = 0$	$\theta_{A,t+1} = 1$
$\theta_{B,t+1} = 0$	$0.5, 0.5$	$1 + \theta_t, 1$
$\theta_{B,t+1} = 1$	$1, 1 + \theta_t$	$0.5 + 0.5\theta_t, 0.5 + 0.5\theta_t$

There are two evident Nash equilibria, $(1,0)$ and $(0,1)$. However, a third Nash equilibrium with intermediate strategies can be determined, using the logic of deriving a mixed-strategy equilibrium. Assume that $\theta_{A,t+1}$ is an intermediate policy level chosen by party A, which can be considered A's probability of choosing a policy level of 1. Party B is then indifferent between policy levels of 1 and 0 if

$$\theta_{A,t+1}(0.5 + 0.5\theta_t) + (1 - \theta_{A,t+1})(1 + \theta_t) = \theta_{A,t+1} + (1 - \theta_{A,t+1})\,0.5. \tag{B.10}$$

Solving for $\theta_{A,t+1}$ yields

$$\theta_{A,t+1}^* = \frac{1 + 2\theta_t}{2 + \theta_t}. \tag{B.11}$$

The calculus for B is identical so that the resulting Nash equilibrium implies policy choices $\left[\left(\frac{1+2\theta_t}{2+\theta_t}\right), \left(\frac{1+2\theta_t}{2+\theta_t}\right)\right]$. The amounts of $v_{p,t}$, $v_{d,t}$ and $C_{p,t}$ result from inserting the

equilibrium policy levels into eqs. (6), (7) and (2). The Nash equilibria for the case without contributions are derived accordingly ∎

Proof to Proposition 3. Denote by δ_A the cost that A incurs from receiving support from d and by δ_B the cost that B incurs from receiving support and contributions from p. Assume again that parties A and B only decide between policy levels of 0 and 1, similar to the previous proof. The resulting payoffs are as displayed in tab. B.2.

Table B.2: Payoffs with Party Commitment

	$\theta_{A,t+1} = 0$	$\theta_{A,t+1} = 1$
$\theta_{B,t+1} = 0$	$0.5 - \delta_A, 0.5$	$1 + \theta_t, 1$
$\theta_{B,t+1} = 1$	$1 - \delta_A, 1 + \theta_t - \delta_B$	$0.5 + 0.5\theta_t, 0.5 + 0.5\theta_t - \delta_B$

$(1,0)$ is always a Nash equilibrium as these strategies are fully in line with ideological commitments. $(0,0)$ is never a Nash equilibrium because A is strictly better off by deviating. $(0,1)$ is a Nash equilibrium if $\delta_A < 0.5 + 0.5\theta_t$ and $\delta_B > 0.5\theta_t + 0.5$. $(1,1)$ is a Nash equilibrium if $\delta_A > 0.5 + 0.5\theta_t$ and $\delta_B < 0.5\theta_t + 0.5$.

There is again another Nash equilibrium with intermediate policy strategies which we derive as above. Party B is indifferent between policy levels of 1 and 0 if

$$\theta^\delta_{A,t+1}(0.5 + 0.5\theta_t - \delta_B) + \left(1 - \theta^\delta_{A,t+1}\right)(1 + \theta_t - \delta_B) = \theta^\delta_{A,t+1} + \left(1 - \theta^\delta_{A,t+1}\right)0.5. \quad (B.12)$$

Solving for θ^δ_A yields

$$\theta^{*,\delta}_{A,t+1} = \frac{1 + 2\theta_t - 2\delta_B}{2 + \theta_t}. \quad (B.13)$$

Party A is indifferent if

$$\theta^\delta_{B,t+1}(0.5 + 0.5\theta_t) + \left(1 - \theta^\delta_{B,t+1}\right)(1 + \theta_t) = \theta^\delta_{B,t+1}(1 - \delta_A) + \left(1 - \theta^\delta_{B,t+1}\right)(0.5 - \delta_A). \quad (B.14)$$

Solving for θ^δ_B yields

$$\theta^{*,\delta}_{B,t+1} = \frac{1 + 2\theta_t + 2\delta_A}{2 + \theta_t}. \quad (B.15)$$

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Now $\theta^{*,\delta}_{B,t+1} > \theta^{*,\delta}_{A,t+1}$ so that, by inserting eq. (B.15) into eqs. (6) and (2), we obtain

$$v^{*,\delta}_{p,t} = \left(\frac{1 + 2\theta_t + 2\delta_A}{2 + \theta_t}\right)^a \tag{B.16}$$

$$C^{*,\delta}_{p,t} = \theta_t \left(\frac{1 + 2\theta_t + 2\delta_A}{2 + \theta_t}\right)^a, \tag{B.17}$$

as the privileged uniformly side with party B. By inserting eq. (B.13) into eq. (7), we obtain

$$v^{*,\delta}_{d,t} = \left(\frac{1 - \theta_t + 2\delta_B}{2 + \theta_t}\right)^a. \tag{B.18}$$

The equilibria for the case without contributions are derived accordingly ∎

Proof to Proposition 4. We again assume strategies spaces $S_A = S_B = S_E = [0, 1]$ with a third party E now entering the game. Parties A and B do not know about their new competitor for what reason they do not change their behavior compared to the two-party case. Their strategies $\theta^*_{A,t+1}$ and $\theta^*_{B,t+1}$ as determined above are thus given. To find a Nash equilibrium, there should be a value of $\theta_{E,t+1}$ satisfying the condition that no party can realize a higher benefit by deviating. We derive the intermediate equilibrium strategy of E, applying the same calculation as in the previous proofs. Assume that – hypothetically – A would be indifferent between policy levels if

$$\theta^*_{B,t+1}\theta_{E,t+1}(1 + \theta_t) = \theta^*_{B,t+1}(1 - \theta_{E,t+1}). \tag{B.19}$$

Solving for $\theta_{E,t+1}$ yields

$$\theta^*_{E,t+1} = \frac{1}{2 + \theta_t}, \tag{B.20}$$

which is smaller than $\theta^*_{A,t+1} = \theta^*_{B,t+1}$.[8] The respective Nash equilibrium thus results

$$\left[\left(\frac{1 + 2\theta_t}{2 + \theta_t}\right), \left(\frac{1 + 2\theta_t}{2 + \theta_t}\right), \left(\frac{1}{2 + \theta_t}\right)\right].$$

---

[8]Using B's hypothetical indifference equation leads to the same result.

p here sides with parties A and B so that

$$v_{p,t}^* = \left(\frac{1 + 2\theta_t}{2 + \theta_t}\right)^a \tag{B.21}$$

$$C_{p,t}^* = \theta_t \left(\frac{1 + 2\theta_t}{2 + \theta_t}\right)^a, \tag{B.22}$$

whereas support and donations are equally shared among A and B. d uniformly sides with party E so that

$$v_{d,t}^* = \left(\frac{1 + \theta_t}{2 + \theta_t}\right)^a. \tag{B.23}$$

Support provided by the deprived is now higher than in the two-party case so that the participation gap is narrowed.

As discussed earlier, another Nash equilibrium is

$$\left[\left(\frac{1 + 2\theta_t}{2 + \theta_t}\right), \left(\frac{1 + 2\theta_t}{2 + \theta_t}\right), 1\right].$$

E here realizes the maximum benefit from p's support and contributions, while A and B share d's support $\blacksquare$