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Kim Leonie Kellermann

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Abstract

This paper examines the link of political participation and employment status in a dualized labor market. Both insiders and outsiders can actively take part in political decision-making, e.g. by voting for a certain party. Insiders only have the resources to also provide financial donations to policy-makers. Future policy outcomes are determined in a dynamic two-stage game. First, individuals choose their optimal quantity of support depending on policy strategies. Second, parties determine their optimal policy platform anticipating the individual behavior. In order to collect donations, parties are incentivized to occupy an insider-friendly position. Thereby, insiders are encouraged to participate in politics while outsiders are discouraged. Labor market dualization opens up a gap in political involvement which induces a reinforcement of economic segmentation. However, party capture by insiders is weaker, the more strongly a party is originally tied to outsiders. With two parties competing for support and donations, political inequality becomes firmly established since both parties fully adopt the insiders' preferences.

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University of Münster
CIW – Center for Interdisciplinary Economics
Scharnhorststrasse 100
D-48151 Münster

phone: +49-251/83-25329 (Office)
e-Mail: clementine.kessler@uni-muenster.de
Internet: www.wiwi.uni-muenster.de/ciw

"Every election is determined by the people who show up."

Larry J. Sabato, *The Pendulum Swing*

1 Introduction

For a long time, scholars from different disciplines have tried to explain the various determinants of electoral participation. Economists in particular are puzzled by high voter turnout rates: from a classic economic point of view, casting a ballot never pays off due to the negligbly small decisiveness of a single individual's vote (Downs, 1957). Different approaches have been developed in order to provide an economic explanation of participation rates higher than zero among which the theory of expressive voting – that is gaining utility from political participation as such – is the most prominent (Riker/Ordeshook, 1968). However, the debate on causal determinants of political participation has been fueled again in the light of the decrease in voter turnout rates in many developed democracies in recent decades (see figure A.1 in appendix A).

There are various determinants that have empirically been shown to positively affect participation, for instance, a higher level of education as well as institutional factors such as compulsory voting or social pressure (Ashenfelter/Kelley, 1975; Geys, 2006). Yet, the impact of economic aspects is not entirely clear since empirical evidence mostly indicates a zero overall effect of macroeconomic variables on voter turnout. This is attributed to the fact that distinct social groups are differently affected by economic booms and downturns and therefore show different reactions in terms of political behavior (Blais, 2006; Radcliff, 1992). Recently, the impact of rising income inequality on voter turnout and political interest has aroused scientific interest where the results unanimously point to a negative effect (Kelly/Enns, 2010; Solt, 2008, 2010; Stockemer/Scruggs, 2012). Evidently, in times of social and economic grievances, citizens attribute less importance and confidence to politics.

Taking a second look at those countries that experience a declining participation in politics, we notice a transformation of labor market structures throughout the same period. In line with globalization trends, the share of atypical jobs, for instance part-time or temporary employment, is on the rise (see figure A.1 in appendix A). These imply a lower job security and often a lower income compared to standard employment contracts which leads to a segmentation of the labor market. Usually, job opportunities and the contrac-

tual arrangements of employment are the result of a political or administrative process. Thus, we raise the question of a causal link between an individual's employment situation and her political participation. The abstention from political decision-making might be used as a device to express a certain discontent with past policies (Kselman/Niou, 2011; Lijphart, 1997; Myatt, 2017; Radcliff, 1992). In line with that, party programs are also observed to be polarized, mostly they are biased towards a privileged clientele's preferences (Lindvall/Rueda, 2013; Pontusson/Rueda, 2010; Rueda, 2005). Despite this growing body of empirical literature, theoretical consideration of a segmentation effect on political outcomes is scant.

Linking these phenomena, we design a dynamic two-stage game of political participation in a dualized labor market. Insiders and outsiders differ from each other with respect to employment protection coverage. Both groups form the society's electorate and shape future policy outcomes by means of participation in political-decision making and by support for their favored party. Given their higher labor market status, insiders have more access to financial resources which they can use in order to exert influence on politicians. We show that the dualization of the labor market translates into a dualization of political participation and representation. The privileged group uses their wage surplus to hold out the prospect of financial contributions to policy-makers. In reaction, these are incentivized to occupy insider-friendly policy positions in order to collect these donations. As a consequence, the privileged are encouraged to actively participate in politics while the deprived are discouraged and tend to withdraw.

Our results are in line with those of Lindbeck and Weibull (1987) as well as Grossman and Helpman (1994) who found groups with a higher instrumental influence on politicians to determine policy outcomes. Our main contribution, however, is to highlight the self-enforcement of economic segmentation due to the overrepresentation of insiders. Irrespective of political ideologies or attitudes, the reactions of citizens to biased policy plans fosters the creation of a participation gap which in turn enhances the gap in wages and employment protection. As parties move towards the preferences of the most influential group of citizens, economic and political inequality rise. Succinctly, as policy-makers converge, society diverges. Furthermore, we illustrate that the extent of party capture depends on how much parties are under pressure, not only in terms of foregone votes or donations but also in terms of political competition.

To the best of our knowledge, there is no such theoretical approach which sets out to study the impact of the individual labor market position on political participation.

In addition, we extend the existing theoretical perspective by combining both voters' and parties' optimization and endogenously determine their reactions to one another. The remainder of this paper is organized as follows. Section 2 summarizes the existing research regarding the economic theory of voting and the empirical evidence on the link of inequality and political behavior. In section 3, the basic version of our model is presented which is extended with respect to different party ideologies and inter-party competition in section 4. Section 5 concludes.

2 Theoretical Foundations and Empirical Evidence

The economic theory of voting was brought forward by Duncan Black with his *Median Voter Model* from 1948. Two parties which are located left and right of the median on a political scale maximize their shares of votes by moving to the center. Approaching each other, they both end up at the median of the preference distribution proclaiming identical political programs. Consequently, the election is determined by the median voter's preferences (Black, 1948). Economic theories of voting hence placed special emphasis on the individual decisiveness in terms of being the median voter. The prerequisite for a benefit B from political participation to materialize is that the victory of the preferred candidate is brought out by the individual's vote only. Yet, due to a large electorate, the probability p to be the pivotal voter is close to zero in real-world settings. Consequently, the expected benefit pB is unlikely to cover the cost of voting C even if C is rather small as well. Hence, casting a ballot does not pay off. Nonetheless, voter turnout rates largely exceed zero in reality, a phenomenon which Downs labeled the *Paradox of Voting* (Downs, 1957).

A large body of research attempts to provide a reasonable economic explanation for political participation where two types can be distinguished in principle. First, *expressive voting* models are based on the assumption of a second source of utility which is not linked to an individual's decisiveness or the realization of a certain policy line. Riker and Ordeshook (1968) originally introduced the expressive benefit which captures utility derived from fulfilling a civil duty, from taking delight in informing about politics, from supporting democracy or a particular candidate and so on. All of that positively drives participation regardless of whether the political outcome is in fact influenced. However, the sources of expressive utility and its functional form are not made explicit. As the expressive benefit is simply an additive term, it will obviously explain any positive voter

turnout as long as its absolute value exceeds the cost of casting a ballot. Admittedly, this means that the theory is on the edge of tautology.

The second type of explanations modifies the issue of individual decisiveness. Assumingly, political power is unequally distributed over the electorate which accounts for the higher participation of more influential individuals. Lindbeck and Weibull (1987) state that it is not the single median voter but the most powerful social group that determines the election outcome (see also Uhlaner, 1989). For the sake of maximizing their shares of votes, two competing parties only occupy the median political position if there are no systematically different party preferences across groups of voters. In the case that there are, for instance when policy preferences of low-income and high-income earners oppose each other, parties end up adopting an average position which might be skewed in favor of a more powerful group (Lindbeck/Weibull, 1987). If individuals have different political preferences and different levels of political power, an obvious question is how these differences evolve or if the affiliation to a certain social group shapes political behavior. Succinctly, social or economic segmentation is linked to political influence and representation (Lijphart, 1997). Schattschneider (1960) formulates three potential consequences for political behavior by different income groups.

Unequal Political Power As money is used to influence politicians or parties, a higher income inequality biases policy outcomes towards the wealthier groups' preferences which implies an underrepresentation and a below-average turnout of the less privileged (Goodin/Dryzek, 1980; Grossman/Helpman, 1994; Lijphart, 1997; Schattschneider, 1960; Solt, 2010).

Availability of Resources Political participation is costly in terms of money and time so that only high-income earners can afford to take part in collective decision-making (Becker, 1983; Brady et al., 1995; Schattschneider, 1960; Solt, 2010).

Motivation Increasing economic inequality stimulates political participation of the disadvantaged because they are willing to actively change their undesirable situation (Meltzer/Richard, 1981; Schattschneider, 1960; Solt, 2010).

As initially outlined, the observed trends in political participation are in support of a translation of economic inequality into political inequality which is confirmed by empirical investigations. Examining the impact of resources, Brady, Verba and Schlozman (1995) find that voting and other time-consuming acts such as party activities are determined by the availability of time and civic skills, i. e. oral and written communication, organizing an event or the like. However, the act of donating to political

actors depends on financial resources alone which gives an advantage to the financially able.

With respect to the relation of income inequality and political participation, most empirical studies find a negative effect on both aggregate voter turnout and the individual probability of voting (Bouvet/King, 2016; Galbraith/Hale, 2008; Geys, 2006; Jensen/Bøgeskov Jespersen, 2017; Solt, 2010; Stockemer/Scruggs, 2012). In addition, Solt (2008) observes that other indicators of political participation such as political interest and discussion of public issues are also negatively affected by rising income inequality. For the bottom quintile of the income distribution, the depressing impact is more pronounced than for the top quintile (see also Lijphart, 1997 and Radcliff, 1992). Kelly and Enns (2010) show that a higher income inequality results in less support for redistribution, which is usually favored by low-income earners, caused by a relatively lower political participation of that group. This essentially opposes the earlier presumption of Meltzer and Richard (1981) stating that the deprived are encouraged to participate in politics and pursue their objectives. The underlying problem is a sort of vicious circle induced by economic and social segmentation. If the marginalized have only limited political power, they fail to put urgent issues onto the political agenda. In consequence, policymakers follow the preferences expressed by the privileged, e. g. less redistribution, higher employment protection and the like. Consequently, social inequality further increases, which again limits the political influence of outsiders (Gallego, 2007; Kelly/Enns, 2010; Lindvall/Rueda, 2013; Rueda, 2006).

Shedding light on the incentives of political parties, Rueda (2005) outlines the resulting dilemma faced by social-democratic parties. Originally, they represent the interests of blue-collar workers and the disadvantaged who can be classified as outsiders in a segmented labor market (Lindbeck/Snower, 1988). However, just like every party, social-democrats try to serve the median voter's interests when seeking to get as many votes as possible. If the median voter is an insider, insider-friendly policies are added to the program which are topics also covered by conservative or liberal parties. Thus, insiders still have the option to vote for these parties which traditionally represent their interests. In the end, social-democratic parties neither receive votes from outsiders nor insiders (Pontusson/Rueda, 2010; Rueda, 2005). The argument is supported by empirical evidence confirming that outsiders are in favor of generous redistribution policies and a higher job security (Emmenegger, 2009; Grafstein, 2005; Rueda, 2006). However, social-democratic parties in Western democracies are found to rather promote insider-

oriented policies recently (Pontusson/Rueda, 2010). Hence, the deprived abstain from voting or to purposely vote against the incumbent in order to blame the government for their situation (Kselman/Niou, 2011; Marx, 2016; Myatt, 2017). Han (2016) even provides evidence of party preferences of Western European blue-collar workers to shift towards the far right given rising income inequality.

Although the empirical evidence is apparently consistent, a theoretical approach clearly linking economic dualism and political behavior does not yet exist. In the following, we illustrate the political behavior of different groups of labor suppliers with unequal instrumental influence on political decision-makers. We set out the reaction of parties in order to theoretically underpin the observation of policy-makers serving the interests of single social groups. Returning to citizens, we illustrate the resulting emergence of a gap in political participation between insiders and outsiders.

3 Basic Model Outline

General Overview We consider an economy with a total labor force of $1 = n_I + n_O$ with n_I labor market insiders and $n_O < n_I$ labor market outsiders. All labor suppliers are referred to as *citizens* who work in order to generate an income and have the option to actively engage in politics. Citizens seek to maximize utility $U_{i,t},\ i \in \{I, O\}$ which stems from political involvement[1] $v_{i,t}$ and from consumption of a private good $x_{i,t}$. Political involvement includes all forms of physical, that is non-financial, political activities such as voting, being an active party member, joining party meetings or rallies, advertising party ideas and the like. The act of running for office makes a citizen a politician.

As outlined by the insider-outsider theory, insiders have a higher wage where the surplus is the monetary equivalent of employment protection θ_t which is set outside the labor market. Since insiders are employed in standard full-time and permanent labor contracts, firms face positive firing costs so that insiders' wages are driven up to a level exceeding their marginal productivity (Lindbeck/Snower, 1988). Accordingly, insiders have a specific advantage in exerting political influence. They can use the wage benefit in order to make donations to political agents (Grossman/Helpman, 1994). The wages of outsiders are lower than their marginal productivity. Since the level of employment protection reduces the outsiders' chances to even find an employment, they bear a cost for their lower job security.

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

Policy-makers decide on the future level of employment protection θ_{t+1} which is an indicator of the degree of labor market segmentation. The timing is as follows. At the first stage, citizens maximize their utility with respect to political involvement and private consumption while the optimal amount of the former depends on the yet unknown θ_{t+1} which a party proposes. At the second stage, parties maximize their share of support and donations given the anticipated optimization behavior of citizens and choose the optimal θ_{t+1}.

Dualized Labor Market We assume a dualized labor market similar to that by Lindbeck and Snower (1988). A firm maximizes its profit Π_t from producing a quantity x_t of a consumption good using both insider and outsider labor as the only inputs. The labor market is cleared. For the sake of simplicity, we assume that workers are homogenous with respect to their productivity such that the marginal product F' of insider and outsider labor is identical. However, there is a difference in total wages because of different employment contracts. If a firm wants to lay off insiders, it bears positive firing costs θ_t for severance payments. In contrast, outsiders find themselves tied to flexible and permanently terminable contracts which imply a lower job security. This reduces the firm's cost of outsider labor and their wages by θ_t. The firm's profit function is

$$\Pi_t = p \cdot F(n_I, n_O) - (w_{I,t} - \theta_t)n_I - (w_{O,t} + \theta_t)n_O \tag{1}$$

with $w_{I,t}, w_{O,t}$ denoting the total wages for insiders and outsiders respectively and p denoting the exogenous market price for good x_t which is set equal to 1.

From that, we derive the firm's demand for insider and outsider labor respectively

$$w_{I,t} = F^{'} + \theta_t \tag{2}$$

$$w_{O,t} = F^{'} - \theta_t < w_{I,t}. \tag{3}$$

Thus, the total difference in wages accounts for $w_{I,t} - w_{O,t} = 2\theta_t$.

Voters' Behavior All citizens are rational and utility-maximizing individuals. They gain direct utility from private consumption $x_{i,t}$ and from political involvement $v_{i,t}$ while the latter term represents a form of expressive utility derived from politics. Furthermore, political involvement positively contributes to the probability α that the supported party takes office and will implement the proposed level of job security in the following period $\frac{\partial \alpha}{\partial v_{i,t}} = \alpha_v > 0$. The individual benefit equals the expected wage level in the next period $w_{i,t+1} = F' + \theta_{t+1}$. Thus, the quasi-linear utility function reads

$$U_{i,t} = \alpha(v_{i,t}) w_{i,t+1} + {v_{i,t}}^a + x_{i,t}, \qquad 0 < a < 1. \tag{4}$$

The level of employment protection θ_{t+1} with $\theta_{t+1} \in [0, 1]$ is the only political issue on the agenda. We assume that insiders favor higher values of θ_{t+1}, i. e. their instrumental benefit increases in θ_{t+1}. Outsiders favor the opposite policy line, thus, their benefit decreases in θ_{t+1}.

Insiders and outsiders spend their entire labor income $w_{i,t}$ on consumption and political involvement. The consumption good $x_{i,t}$ is bought at the market price $p = 1$. Every unit of political support $v_{i,t}$ causes a cost of c which is, for example, a membership fee paid to a party or the opportunity cost of leisure time. Furthermore, insiders are assumed to financially support a party with the individual donation corresponding to

$$\begin{aligned} D_t = D_t(\theta_t, \theta_{t+1}) = \theta_t \theta_{t+1}, \quad \text{with} \\ D_\theta \geq 0, \; D_t(0, \theta_{t+1}) = D_t(\theta_t, 0) = 0. \end{aligned} \tag{5}$$

In case that insiders have no wage advantage over outsiders, that is $\theta_t = 0$, the amount of donations is also zero. Furthermore, D_t increases in the future level of employment protection. The act of donating as such is assumed not to raise insiders' utility.

The maximization problem of citizens results as

$$\underset{v_{i,t}, x_{i,t}}{max!} \; U_{i,t} = \alpha(v_{i,t}) w_{i,t+1} + {v_{i,t}}^a + x_{i,t}, \qquad 0 < a < 1 \tag{6}$$

subject to the budget restrictions

$$w_{I,t} = F^{'} + \theta_t \geq x_{I,t} + cv_{I,t} + \theta_t\theta_{t+1} \text{ or} \tag{7}$$

$$w_{O,t} = F^{'} \geq x_{O,t} + cv_{O,t}. \tag{8}$$

After transforming (7) and (8) and inserting into (6), the first-order conditions with respect to $v_{i,t}$ are derived and yield the optimal quantities of political involvement for a representative member of the two groups:

$$v_{I,t} = \Big(\frac{c - \alpha_v(F' + \theta_{t+1})}{a}\Big)^{-\frac{1}{1-a}} \tag{9}$$

$$v_{O,t} = \Big(\frac{c - \alpha_v(F' - \theta_{t+1})}{a}\Big)^{-\frac{1}{1-a}}. \tag{10}$$

As insiders benefit from a higher level of employment protection, their optimal quantity of political support increases in θ_{t+1}. By contrast, outsiders show more involvement if θ_{t+1} decreases. Since the values determined by (9) and (10) are functions of θ_{t+1}, they are used to specify a party's choice of the employment protection level.

Party's Optimization We consider a party j of which the objective is to maximize its own benefit (Grossman/Helpman, 1994). We formulate the party's benefit function as the sum of citizen support and the total of donations. A party's cost for facilities, administration and the like are assumed to be fixed and are therefore neglected. Thus, the net benefit function reads

$$R_{j,t} = n_I v_{I,t} + n_O v_{O,t} + n_I D_t \tag{11}$$

which is to maximize over the future level of employment protection θ_{t+1}. We rule out cheap talk strategies so that the party is able to credibly commit to the implementation of θ_{t+1} if it takes office. Since insiders and outsiders favor different levels, an increase in insiders' support due to a higher future level of employment protection is accompanied by a decrease in outsiders' support. The party weighs benefits against losses and chooses

the optimal θ_{t+1}. Citizens then react by providing the corresponding optimal quantity of support. We define a Nash equilibrium as a vector of strategies $(\theta^*_{t+1}, v^*_{I,t}, v^*_{O,t})$ with

$$
\begin{aligned}
R_{j,t}(\theta^*_{t+1}, v^*_{I,t}, v^*_{O,t}) > R_{j,t}(\theta_{t+1}, v^*_{I,t}, v^*_{O,t}) \; \forall \; \theta_{t+1} \neq \theta^*_{t+1}, \\
U_{I,t}(\theta^*_{t+1}, v^*_{I,t}, v^*_{O,t}) > U_{I,t}(\theta^*_{t+1}, v_{I,t}, v^*_{O,t}) \; \forall \; v_{I,t} \neq v^*_{I,t}, \\
U_{O,t}(\theta^*_{t+1}, v^*_{I,t}, v^*_{O,t}) > U_{O,t}(\theta^*_{t+1}, v^*_{I,t}, v_{O,t}) \; \forall \; v_{O,t} \neq v^*_{O,t},
\end{aligned}
$$

implying that every agent follows her respective utility-maximizing strategy given the strategies of the others.

Proposition 1. *(i) Suppose $R_{j,t}$ as given by (11) with $\theta_t > 0$ and $v_{I,t}, v_{O,t}$ as given by (9) and (10). Then, the Nash equilibrium consists of strategies $(\theta^*_{t+1}, v^*_{I,t}, v^*_{O,t})$ where*

$$
\begin{aligned}
\theta^*_{t+1} &= (\phi_I - \phi_O)(F' - \frac{c}{\alpha_v}) + \phi_O \frac{\gamma}{\theta^b_t}, \\
v^*_{I,t} &= \Big(\frac{\alpha_v \big(2\phi_I (F' - \frac{c}{\alpha_v}) - \phi_O \frac{\gamma}{\theta^b_t} \big)}{a} \Big)^{-\frac{1}{1-a}} \; \textit{and} \\
v^*_{O,t} &= \Big(\frac{\alpha_v \big(2\phi_O (F' - \frac{c}{\alpha_v}) + \phi_O \frac{\gamma}{\theta^b_t} \big)}{a} \Big)^{-\frac{1}{1-a}}.
\end{aligned}
$$

with $\phi_I = \frac{n^b_I}{n^b_I + n^b_O}$, $\phi_O = \frac{n^b_O}{n^b_I + n^b_O}$, $b = \frac{1-a}{2-a}$, $\gamma = \frac{a^{1-b}}{(1-a)^b \alpha_v^{1-b}}$.

(ii) Suppose $R_{j,t}$ as given by (11) with $\theta_t = 0$ and $v_{I,t}, v_{O,t}$ as given by (9) and (10). Then, the Nash equilibrium consists of strategies $(\theta^{nd}, v^{nd}_{I,t}, v^{nd}_{O,t})$ where

$$
\begin{aligned}
\theta^{nd} &= (\phi_I - \phi_O)(F' - \frac{c}{\alpha_v}) < \theta^*_{t+1}, \\
v^{nd}_{I,t} &= \Big(\frac{\alpha_v 2\phi_I (F' - \frac{c}{\alpha_v})}{a} \Big)^{-\frac{1}{1-a}} < v^*_{I,t} \; \textit{and} \\
v^{nd}_{O,t} &= \Big(\frac{\alpha_v 2\phi_O (F' - \frac{c}{\alpha_v})}{a} \Big)^{-\frac{1}{1-a}} > v^*_{O,t}.
\end{aligned}
$$

Thus, labor market segmentation and the resulting gap in political representation encourage insiders to provide more political support while outsiders are discouraged from participating.

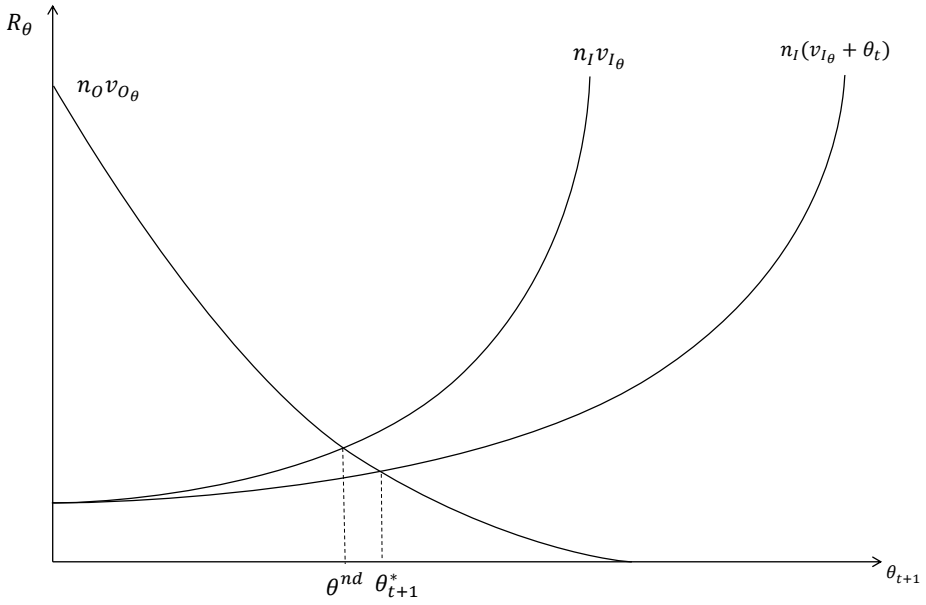
(iii) The future policy level θ^*_{t+1} declines in the current degree of labor market segmentation, i. e. $\frac{\partial \theta^*_{t+1}}{\partial \theta_t} < 0$, $\frac{\partial^2 \theta^*_{t+1}}{\partial \theta^2_t} > 0$.

(iv) $\lim_{t\to\infty} \theta_t^* = (\phi_I - \phi_O)(F' - \frac{c}{\alpha_v})$

Proof. See appendix B.

The equilibrium in (ii) corresponds to a situation in which a party aims to maximize total welfare in terms of aggregate utility of citizens. Thus, when striving to maximize its own benefit, a party chooses a higher policy level which increases the utility of insiders to the disadvantage of outsiders, see figure 1.

Figure 1: Equilibrium Choice of Employment Protection

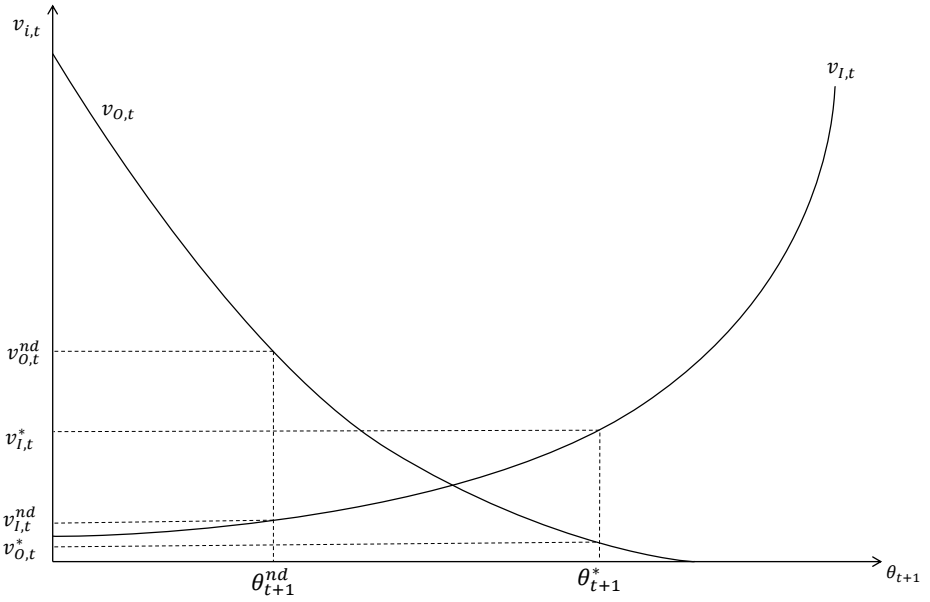


With labor market segmentation, insiders' equilibrium strategy implies a higher level of physical support than without. The explanation is intuitively accessible. Insiders face a higher incentive to provide political support since their donations lead to a more favorable policy plan from their point of view which raises their instrumental utility from participation. Yet for outsiders, the incentive to be involved is lowered. Thus, $v^*_{I,t} > v^{nd}_{I,t}$ while $v^*_{O,t} < v^{nd}_{O,t}$. Note that without labor market segmentation, the optimal amount of support by outsiders is higher compensating the fact that they are by assumption outnumbered by insiders. However, taking donations into account, insiders provide more support than outsiders if

$$\alpha_v(\phi_I - \phi_O)(F' - \frac{c}{\alpha_v}) < \phi_O \frac{\gamma}{\theta_t^b} \tag{12}$$

that is if donations have a higher marginal impact on a party's benefit than physical support (see figure 2).

Figure 2: Political Involvement with and without Labor Market Segmentation



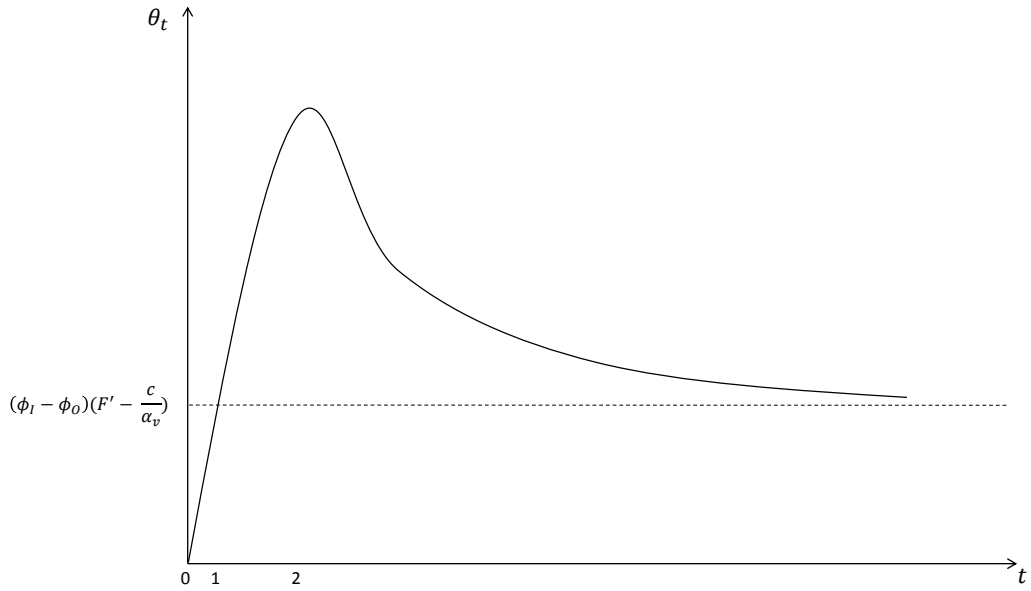
Since θ_{t+1}^* is found to be a function of θ_t, we take a closer look at the dynamics of the model. We start with a level of employment protection of zero in $t = 0$, i. e. $\theta_0 = 0$. Following the results in (ii) of proposition 1, the employment protection level in $t = 1$ will be equal to θ^{nd} which is larger than zero. Thus, in the subsequent period $t = 2$, the level of employment protection is determined as described in (i) of proposition 1 and equals

$$\begin{aligned} \theta_2^* &= (\phi_I - \phi_O)(F' - \frac{c}{\alpha_v}) + \phi_O \frac{\gamma}{\theta_1^{*b}} \\ &= (\phi_I - \phi_O)(F' - \frac{c}{\alpha_v}) + \phi_O \frac{\gamma}{[(\phi_I - \phi_O)(F' - \frac{c}{\alpha_v})]^b}. \end{aligned}$$

Continuing this process, the limiting value as t goes to infinity is

$$\lim_{t\to\infty} \theta_t^* = \theta^{nd} = (\phi_I - \phi_O)(F' - \frac{c}{\alpha_v}).$$

Figure 3: Dynamics of Policy Outcomes



The dynamic adjustment is thus as follows. Starting from an employment protection level of zero, a party chooses a moderate level of protection in $t = 1$ in order to collect donations from insiders. In $t = 2$, employment protection is further raised which drives up the amount of donations received. However, due to the multiplicative structure of the donation function, the necessity to increase the total of donations by means of a higher policy level in the future is smaller, the larger the current policy level is. Therefore, the optimal level of employment protection decreases from period $t = 3$ and asymptotically approaches the welfare-maximizing level θ^{nd} (see figure 3).

In the short run, a party is captured by the insiders so that the process of economic segmentation is reinforced. This in turn leads to a larger amount of donations and thereby to a lower upward pressure on the future level of employment protection. Hence,

in long run, a moderate level of employment protection is implemented which balances the party's gains and losses of support.

4 Extensions

4.1 Party Bias

In reality, parties are usually biased towards a certain political direction. We expect left-wing parties to enforce an outsider-friendly policy while conservative or liberal parties are more prone to policies favoring insiders. However, following Rueda (2005, 2006) and Pontusson and Rueda (2010), parties might diverge from these expectations under certain circumstances and occupy a different political platform. In order to illustrate this behavior, we denote by $K(\theta_{t+1}) = k\theta_{t+1}$ the cost that a party incurs if it proposes a policy plan that deviates from its original interest. Thus, the party's benefit function as stated in (11) changes to

$$R_{j,t}^{Bias} = n_I[\Big(\frac{c-\alpha_v(F'+\theta_{t+1})}{a}\Big)^{-\frac{1}{1-a}} + \theta_t\theta_{t+1}] + n_O[\Big(\frac{c-\alpha_v(F'-\theta_{t+1})}{a}\Big)^{-\frac{1}{1-a}}] - k\theta_{t+1}. \tag{13}$$

with $k > 0$ for a party which is originally biased towards outsiders' interests. That is, a larger θ_{t+1} raises the distance to the initial position of an outsider-friendly party. Likewise, $k < 0$ for a party that is disposed to insiders' interests. Comparing (11) to (13), the cost of implementing a higher employment protection level θ_{t+1} now rises for an outsider-friendly party, which might outweigh the benefit from donations.

Proposition 2. *Suppose $R_{j,t}^{Bias}$ as given by (13) with $K = k\theta_{t+1}$, $\theta_t > 0$ and $v_{I,t}, v_{O,t}$ as given by (9) and (10). Then, the Nash equilibrium consists of strategies $(\theta_{t+1}^{Bias}, v_{I,t}^{Bias}, v_{O,t}^{Bias})$ with*

$$\theta_{t+1}^{Bias} = (\phi_I - \phi_O)(F' - \frac{c}{\alpha_v}) + \gamma\phi_O(\frac{1}{\theta_t^b} - \frac{n_O^b}{k^b})$$

implying that

(i) $\theta_{t+1}^{Bias} < \theta_{t+1}^{*}$ *if* $k > 0$
(ii) $\theta_{t+1}^{Bias} = \theta_{t+1}^{*}$ *if* $k = 0$
(iii) $\theta_{t+1}^{Bias} > \theta_{t+1}^{*}$ *if* $k < 0$.

and

$$v_{I,t}^{Bias} = \Big(\frac{\alpha_v\big(2\phi_I(F' - \frac{c}{\alpha_v}) - \gamma\phi_O(\frac{1}{\theta_t^b} - \frac{n_O^b}{k^b})\big)}{a}\Big)^{-\frac{1}{1-a}},$$
$$v_{O,t}^{Bias} = \Big(\frac{\alpha_v\big(2\phi_O(F' - \frac{c}{\alpha_v}) + \gamma\phi_O(\frac{1}{\theta_t^b} - \frac{n_O^b}{k^b})\big)}{a}\Big)^{-\frac{1}{1-a}}.$$

In case (i), the participation gap between insiders and outsiders is narrowed, in case (iii), it is widened compared to the baseline result.

Proof. See appendix B

In order to compare this result with the equilibrium value θ_{t+1}^{*} in the baseline case, we calculate the difference $\Delta = \theta_{t+1}^{*} - \theta_{t+1}^{Bias}$ yielding

$$\Delta = \frac{n_O^b}{k^b}\gamma\phi_O \overset{!}{>} 0 \tag{14}$$
$$\Leftrightarrow k > 0 \tag{15}$$

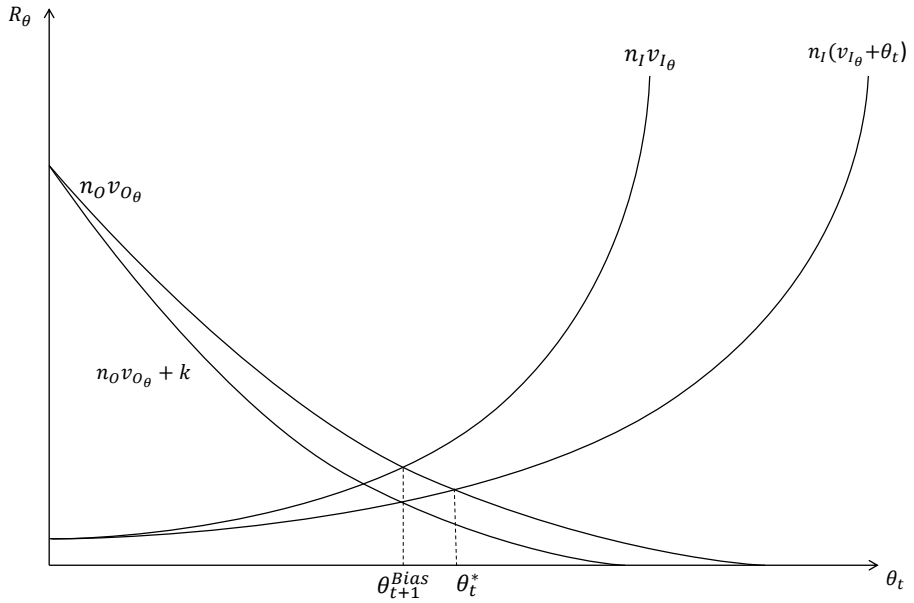
Analoguously, $\Delta < 0$ if $k < 0$. Thus, with an insider-bias, $k < 0$, the proposed policy platform even exceeds θ_{t+1}^{*}. With $k = 0$, we obtain the same result as in the baseline case. The result for $k > 0$ indicates that, under the influence of donations, outsider-favoring parties generally enforce a higher policy level. Yet, the effect of financial contributions is offset if

$$\frac{1}{\theta_t^b} = \frac{n_O^b}{k^b}$$
$$\Leftrightarrow \theta_t = \frac{k}{n_O}, \tag{16}$$

that is if the marginal impact of donations on the party's benefit equals the marginal cost of leaving the originally favored position. Figure 4 illustrates the case in which the

party's commitment to outsiders is strong enough to outweigh the benefit from donations so that $\theta_{t+1}^{Bias} = \theta^{nd}$. Thus, if abandoning a traditional policy line imposes too large a cost, an outsider-friendly party will refocus on its specific clientele.

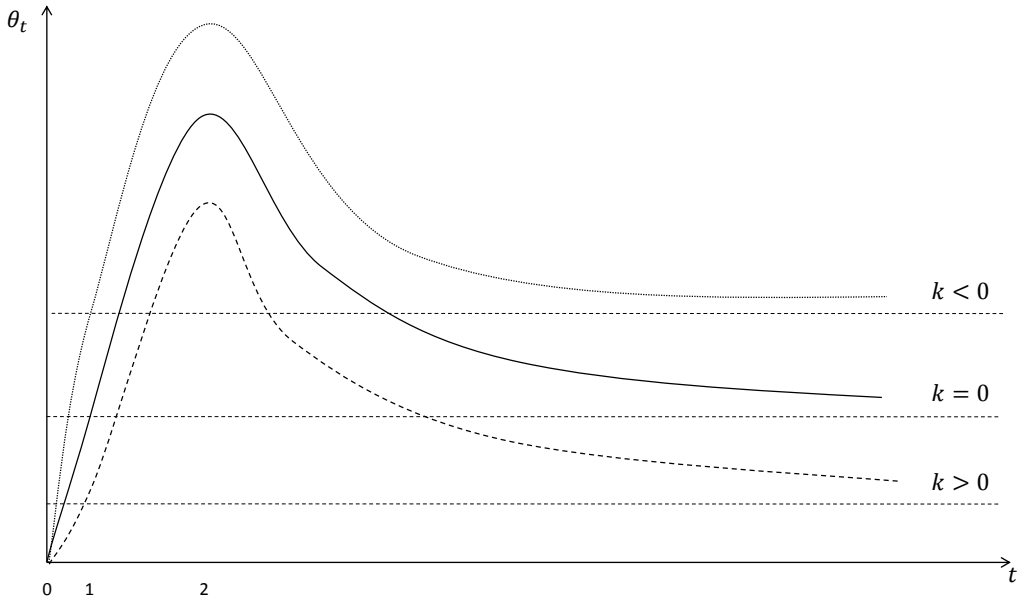
Figure 4: Policy Choice in Case of Party Biases



For $k < 0$, the party's insider orientation leads to an even widening participation gap since $v_{I,t}^{Bias} > v_{I,t}^*$ and $v_{O,t}^{Bias} < v_{O,t}^*$. An outsider orientation $k > 0$, however, has the opposite effect and narrows the participation gap caused by labor market segmentation. If condition (16) is satisfied, we observe the same amounts of participation by both groups as without labor market segmentation. Consequently, if outsiders feel that their position is represented, they are motivated to take part in politics.

Figure 5 shows the dynamics of θ_t^{Bias} for the three cases of $k > 0, k < 0, k = 0$. Comparable to what is shown in figure 3, all graphs first reach the long-run equilibrium value in $t = 1$, have their maximum points in $t = 2$ and then again fall to approach the long-run equilibrium. Yet, with $k > 0$ ($k < 0$), the limiting value for $t \to \infty$ is lower (higher) than in the baseline case. Again, a certain economic segmentation is irreversibly established over time but its level depends on the party's original stance.

Figure 5: Dynamics of Policy Outcomes with Party Bias



With regard to previous empirical evidence (Pontusson/Rueda, 2010; Rueda, 2005, 2006), the results provide an explanation for the guidance of social-democratic parties by the interests of wealthier citizens. The cost of implementing a non-traditional policy must be high enough to outweigh the benefit from donations. Yet, social-democratic parties are mostly found at the center-left of the political spectrum. The smaller the distance to the center or center-right is, the lower is the cost they incur for abandoning their original policy line. Therefore, dealing with political issues that have not been part of the program before might pay off. Compared to far-left parties, the bond of social-democratic parties to their original political goals might be too weak to waive the potential of financial contributions by insiders.

4.2 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 relax this assumption and illustrate the behavior of citizens and parties in a two-party scenario. Insiders and outsiders 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 which depends on the share of support and donations they receive. This implies that insider support for party j decreases in the opposing party's policy platform $\theta_{-j,t+1}$ while outsider support for j is positively related to $\theta_{-j,t+1}$. Thus, the expected benefit from point of view of a party is a function of the opponent's policy choice. Citizens only support one party at a time which is the one that is closer to their individual political preference. In case that both parties choose identical platforms, citizens are indifferent and randomize, supporting each party with equal probability.

Proposition 3. *In a two-party competition setting with $\theta_t > 0$, the reaction function of party $j \in \{A, B\}$ to the policy platform $\theta_{-j,t+1}$ proposed by its opponent is*

$$\theta_{j,t+1}^{comp} = \theta_{-j,t+1} - (\phi_I - \phi_O)\frac{c}{\alpha_v} + \phi_O \frac{\gamma}{\theta_t^b}.$$

The Nash equilibrium consists of strategies $(\theta_{A,t+1}^{comp}, \theta_{B,t+1}^{comp}, v_{I,t}^{comp}, v_{O,t}^{comp})$ where

$$\theta_{A,t+1}^{comp} = \theta_{B,t+1}^{comp} = 1 \text{ and}$$
$$v_{I,t}^{comp} = v_{O,t}^{comp} = \left(\frac{c}{a}\right)^{-\frac{1}{1-a}}$$

so that both parties fully adapt to the insiders' preferences.

Proof. See appendix B.

From the reaction function, one can infer that policy levels $\theta_{A,t+1}$ and $\theta_{B,t+1}$ are strategic complements entailing that a party's response to a higher policy proposition by the opponent is to raise its own policy platform as well. Since the reaction functions are identical, $\theta_{A,t+1} = \theta_{B,t+1}$ is a necessary condition for equilibrium. Consequently, the equilibrium quantity of support provided by insiders and outsiders is $v_{I,t}^{comp} = v_{O,t}^{comp} = \left(\frac{c}{a}\right)^{-\frac{1}{1-a}}$.

Apparently, any equilibrium with $\theta_{A,t+1} = \theta_{B,t+1} < 1$ must be unstable as each party has a strong incentive to deviate. Let $\theta'_{t+1} < 1$ be the policy level proposed by both parties. The total benefit of party j then sums up to

$$R_{j,t}(\theta'_{t+1}) = \frac{1}{2}[(n_I + n_O)\left(\frac{c}{a}\right)^{-\frac{1}{1-a}} + n_I \theta'_{t+1}\theta_t]. \tag{17}$$

Imagine that party A deviates and proposes a slightly higher policy level of $\theta'_{t+1} + \epsilon$ so that A receives total support and donations from the insiders. Then, A's benefit accounts for

$$R_{A,t}(\theta'_{t+1} + \epsilon) = n_I\big(\frac{c - \alpha_v \epsilon}{a}\big)^{-\frac{1}{1-a}} + n_I(\theta'_{t+1} + \epsilon)\theta_t \tag{18}$$

which is clearly higher than the benefit in (17).[2] Of course, the same calculus applies to party B. Therefore, in order to ensure that the own policy platform cannot be exceeded by the opponent's proposition, each party's dominant strategy is to choose a platform equal to 1. With no political competition, insiders capture parties only in the short run while in the long run, politicians are willing to renounce donations in exchange for outsider support. Thus, the level of employment protection turns out to be a political compromise in terms of a moderate policy strategy. In contrast, party competition exacerbates the problem of unequal representation and capture by the financially able as the only stable equilibrium involves a full orientation towards the insiders' preferences. A certain level of political inequality emerges in any case, yet it is stronger in a competitive political setting.

However, as policy platforms of competing parties do not differ from each other, the optimal levels of involvement are also equal for insiders and outsiders. The participation gap disappears since the policy propositions meet insiders' ideas anyway. Therefore, citizens only take part in politics for the sake of expressive utility but not for reasons of instrumental influence.

5 Conclusion

The model approach designed in this paper illustrates how a dualization of the labor market translates into a dualization of political representation and participation. Two groups of labor suppliers, insiders and outsiders, favor different policy lines. Insiders' jobs are characterized by a coverage by employment protection. The respective monetary equivalent raises their wages so that they can use the surplus in order to influence political decision-making by means of financial contributions. Parties that seek to maximize the amount of both physical support and donations react to this behavior by

[2] Recall that we initially assumed $n_I > n_O$. Thus, the additional benefit received from an increase in insider support and donations outweighs the loss of outsider support. By the same logic, it is obvious that setting a lower policy level than the opponent never makes sense from a point of view of benefit maximization.

announcing the implementation of a policy plan which is close to the insiders' preferences. Utility from political involvement thus rises for insiders and decreases for outsiders which opens up a gap in participation. The analysis shows that the ability to donate encourages insiders to provide more physical support as well. In contrast, outsiders are discouraged from participation in political decision-making since the proposed policies are not in accordance with their interests. Our results theoretically elaborate on the widely recognized phenomenon of fatalistic withdrawal from politics observed among the economically disadvantaged.

The guidance by the privileged is less pronounced if a party is closely tied to a deprived clientele. In that case, the effect of donations can even be outperformed. If two parties compete for support and financial contributions by citizens, both of them choose the insiders' preferred position in order to ensure that the opponent's benefit does not outweigh the own benefit. In this case, a representative citizen's amount of political involvement is independent of her group affiliation since there is no instrumental benefit from party competition.

Directly following up on this, we can formulate concrete starting points for further research. With regard to our model results, we are left with the open question of why and to what extent political involvement differs in qualitative terms, especially in the case of indiscernible political candidates. If each party occupies an insider-friendly position, it is unclear which decision rule to follow then. If insiders still prefer to vote for an originally insider-friendly party, there must be a source of utility from doing so which might be purely expressive. A similar impact of expressive utility on the political behavior of the underrepresented might be of concern for the examination of a potential relation between labor market segmentation and the emergence of protest voting or electoral blaming.

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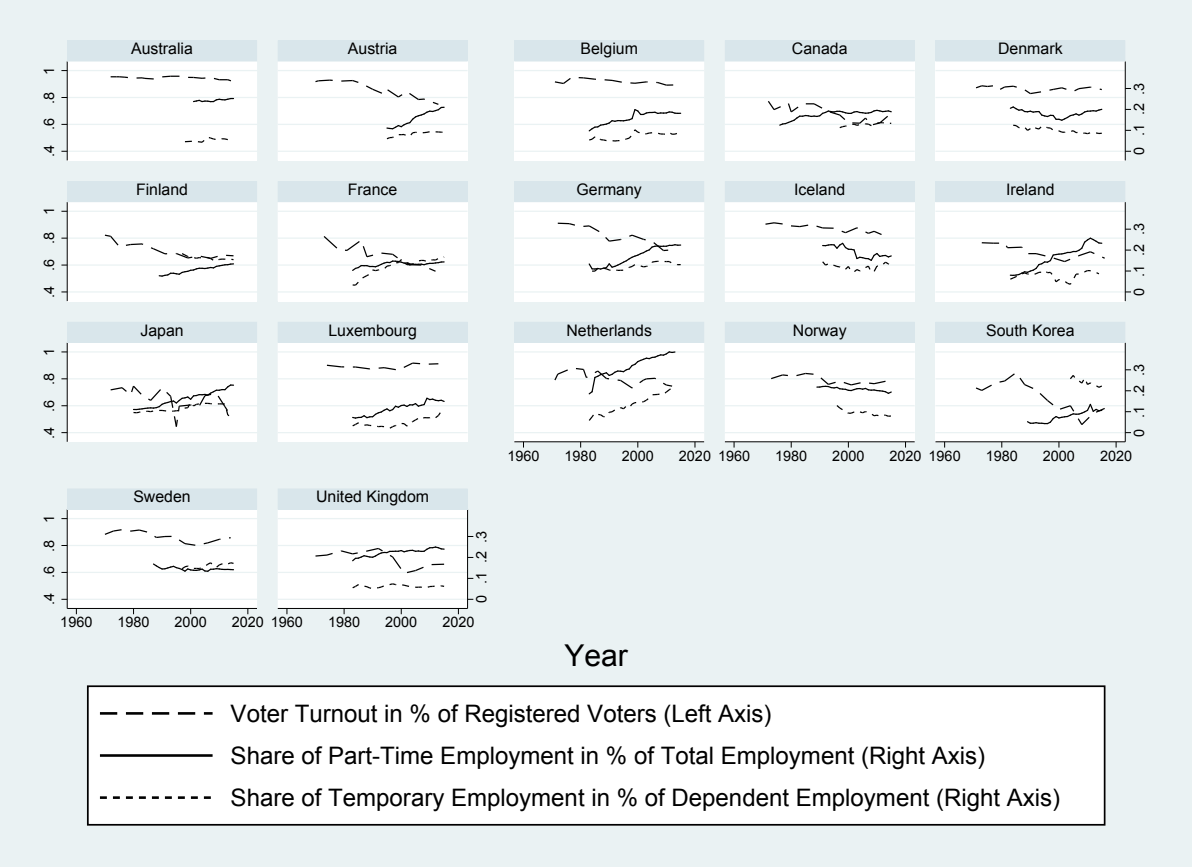
Appendix A

Figure A.1: Voter Turnout in Parliamentary Elections and Atypical Employment



Source: International IDEA, OECD Employment Database

Appendix B

Proof to Proposition 1. Inserting the optimal quantities of support as given by (9) and (10), (11) can be written as

$$R_{j,t} = n_I[\Big(\frac{c-\alpha_v(F'+\theta_{t+1})}{a}\Big)^{-\frac{1}{1-a}} + \theta_t\theta_{t+1}] + n_O[\Big(\frac{c-\alpha_v(F'-\theta_{t+1})}{a}\Big)^{-\frac{1}{1-a}}]. \quad \text{(A.1)}$$

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

$$\begin{aligned}\frac{\partial R_{j,t}}{\partial \theta_{t+1}} = n_I[(-\frac{1}{1-a})\Big(\frac{c-\alpha_v(F'+\theta_{t+1})}{a}\Big)^{\frac{a-2}{1-a}}(-\frac{\alpha_v}{a}) + \theta_t] \\ +n_O[(-\frac{1}{1-a})\Big(\frac{c-\alpha_v(F'-\theta_{t+1})}{a}\Big)^{\frac{a-2}{1-a}}\frac{\alpha_v}{a}] \stackrel{!}{=} 0\end{aligned} \quad \text{(A.2)}$$

which yields an optimal policy level of

$$\theta^*_{t+1} = (\phi_I - \phi_O)(F' - \frac{c}{\alpha_v}) + \phi_O\frac{\gamma}{\theta_t^b} \quad \text{(A.3)}$$

with $\phi_I = \frac{n_I^b}{n_I^b+n_O^b}$, $\phi_O = \frac{n_O^b}{n_I^b+n_O^b}$, $b = \frac{1-a}{2-a}, \gamma = \frac{a^{1-b}}{(1-a)^b\alpha_v^{1-b}}$.

In the absence of financial contributions by insiders, that is if $D_t = 0$, the optimal policy level is

$$\theta^{nd}_{t+1} = (\phi_I - \phi_O)(F' - \frac{c}{\alpha_v}) < \theta^*_{t+1} \quad \text{(A.4)}$$

since $\frac{\gamma}{\theta_t^b}\phi_O > 0$ for all possible parameter values.

Taking the first derivative of (A.3) w.r.t θ_t, we obtain

$$\frac{\partial \theta^*_{t+1}}{\partial \theta_t} = -\frac{\gamma b}{\theta_t^{(1+b)}}\phi_O < 0, \tag{A.5}$$

thus the higher the extent of labor market segmentation, the higher is the amount of donations so that the necessity to implement an even higher policy level in the subsequent period decreases.

By inserting (A.3) into (9) and (10), the optimal quantities of political support provided by citizens result as

$$v^*_{I,t} = \Big(\frac{\alpha_v\big(2\phi_I(F' - \frac{c}{\alpha_v}) - \phi_O\frac{\gamma}{\theta_t^b}\big)}{a}\Big)^{-\frac{1}{1-a}}, \tag{A.6}$$

$$v^*_{O,t} = \Big(\frac{\alpha_v\big(2\phi_O(F' - \frac{c}{\alpha_v}) + \phi_O\frac{\gamma}{\theta_t^b}\big)}{a}\Big)^{-\frac{1}{1-a}}. \tag{A.7}$$

Inserting (A.4) into (9) and (10), we obtain

$$v^{nd}_{I,t} = \Big(\frac{\alpha_v 2\phi_I(F' - \frac{c}{\alpha_v})}{a}\Big)^{-\frac{1}{1-a}}, \tag{A.8}$$

$$v^{nd}_{O,t} = \Big(\frac{\alpha_v 2\phi_O(F' - \frac{c}{\alpha_v})}{a}\Big)^{-\frac{1}{1-a}}. \tag{A.9}$$

It follows that $v^*_{I,t} > v^{nd}_{I,t}$ and $v^*_{O,t} < v^{nd}_{O,t}$ since $\phi_O\frac{\gamma}{\theta_t^b} > 0$.

Proof to Proposition 2. Using (9) and (10) and maximizing (13) w.r.t θ_{t+1}, we obtain

$$\theta^{Bias}_{t+1} = (\phi_I - \phi_O)(F' - \frac{c}{\alpha_v}) + \gamma\phi_O(\frac{1}{\theta_t^b} - \frac{n_O^b}{k^b}) \tag{A.10}$$

By inserting (A.10) into (9) and (10), the optimal quantities of political support provided by citizens result as

$$v_{I,t}^{Bias} = \Big(\frac{\alpha_v\big(2\phi_I(F' - \frac{c}{\alpha_v}) - \gamma\phi_O(\frac{1}{\theta_t^b} - \frac{n_O^b}{k^b})}{a}\Big)^{-\frac{1}{1-a}}, \tag{A.11}$$

$$v_{O,t}^{Bias} = \Big(\frac{\alpha_v\big(2\phi_O(F' - \frac{c}{\alpha_v}) + \gamma\phi_O(\frac{1}{\theta_t^b} - \frac{n_O^b}{k^b})}{a}\Big)^{-\frac{1}{1-a}}. \tag{A.12}$$

Proof to Proposition 3. In a two-party system, the individual utility function of an insider changes to

$$U_{I,t} = \alpha\theta_{j,t+1} + (1-\alpha)\theta_{-j,t+1} + {v_{j,I,t}}^a + x_{I,t}, \qquad 0 < a < 1 \tag{A.13}$$

with $\alpha = \alpha(v_{j,I,t})$ still. Hence, the optimal level of involvement if the individual supports party j is

$$v_{j,I,t} = \Big(\frac{c - \alpha_v(\theta_{j,t+1} - \theta_{-j,t+1})}{a}\Big)^{-\frac{1}{1-a}}. \tag{A.14}$$

Illustrating the optimization for outsider individuals, we have the individual utility function

$$U_{O,t} = \alpha(1 - \theta_{j,t+1}) + (1-\alpha)(1 - \theta_{-j,t+1}) + {v_{j,O,t}}^a + x_{O,t}, \qquad 0 < a < 1 \tag{A.15}$$

which is maximized w.r.t. to political support $v_{j,O,t}$ yielding an optimal value of

$$v_{j,O,t} = \Big(\frac{c - \alpha_v(\theta_{-j,t+1} - \theta_{j,t+1})}{a}\Big)^{-\frac{1}{1-a}}. \tag{A.16}$$

Similar to our analysis before, both parties try to maximize their benefit which is the sum of citizen support and donations. Thus, party j's optimization problem is

$$\underset{\theta_{j,t+1}}{max!}\ R_{j,t} = n_I\Big(\frac{c-\alpha_v(\theta_{j,t+1}-\theta_{-j,t+1})}{a}\Big)^{-\frac{1}{1-a}} + n_I\theta_t(\theta_{j,t+1}-\theta_{-j,t+1}) \\ +n_O\Big(\frac{c-\alpha_v(\theta_{-j,t+1}-\theta_{j,t+1})}{a}\Big)^{-\frac{1}{1-a}} \tag{A.17}$$

resulting in an optimal policy choice of

$$\theta^{comp}_{j,t+1} = \theta_{-j,t+1} - (\phi_I - \phi_O)\frac{c}{\alpha_v} + \phi_O\frac{\gamma}{\theta^b_t}. \tag{A.18}$$

Due to identical reaction functions, any strategy combination $\theta^{comp}_{j,t+1} = \theta^{comp}_{-j,t+1}$ characterizes an equilibrium so that the difference between policy platforms is zero. The only Nash equilibrium implies that $\theta^{comp}_{j,t+1} = \theta^{comp}_{-j,t+1} = 1$ as illustrated in section 4.2. Inserting $\theta^{comp}_{j,t+1} = \theta^{comp}_{-j,t+1} = \theta_{t+1}$ into (9) and (10) in turn yields the optimal value of support for both insiders and outsiders which is

$$v^{comp}_{I,t} = v^{comp}_{O,t} = \Big(\frac{c}{a}\Big)^{-\frac{1}{1-a}}. \tag{A.19}$$

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University of Münster
CIW – Center for Interdisciplinary Economics
Scharnhorststrasse 100
D-48151 Münster

phone: +49-251/83-25329
fax: +49-251/83-28429

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