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A Prey of Political Opportunism?**

Berlin, March 2007

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Social security in Germany: A prey of political opportunism?

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Abstract:

This paper examines how politicians influenced social security policy in Germany. Using yearly data from the German Pension Insurance from 1957 to 2005, revenues as well as expenditures are analysed in linear regression models, respectively. In accordance with opportunistic political behaviour, revenues from contributions decreased in pre-election years. Most important, pension expenditures increased in election years. Interestingly, the CDU/FDP governments provided higher subsidies to the social security system than the grand coalition and the SPD/GR government. Overall, there is no evidence for the prospect, that left coalitions caused higher intergenerational redistribution than right governments.

Keywords: social security, partisan politics, pension system

JEL Classification: D72, H55

1 Introduction

In recent years, social security policy enjoys a tremendous popularity in the scientific as well as the public debate. Above all, the demographic change causes the interest in this field. More young people will have to provide more old people via the widespread pay-as-you-go systems. As a result, politicians have become more aware of the importance of social security as a political issue. They are confronted with two counteracting facts. First, older individuals typically make use of their suffrage very faithfully. Hence, as politicians want to be elected or re-elected, they have to focus on the olds as a powerful voter group. Second, the preferences for the level of intergenerational redistribution might differ between politicians, their parties and ideologies. There is also a huge necessity of reform which policy has to face. Responsible politicians must look for sustainable solutions to make sure the subsistence of the following generations. The attitudes and concepts how reforms could be done are again dependent on the parties' beliefs. In fact, this should be the case due to different party ideologies and the party competition in democratic systems. However, some decades ago when the debate about demographic change was not that popular, social security was no strong polarizing political issue. The political left and right seemed to consider the requirements of the pensioners in a similar way. They embellished a generous welfare state. These days, all politicians might be forced to claim more individual responsibility and contributions. This might contradict the preferences of the median voter, but policies would converge again.

This paper will ask for opportunistic political behaviour with respect to social security in Germany. In other words, a further question is if parties matter. Hence, the contribution of the paper is to transfer the approach of political business cycles and the partisan theory to social security empirically. In the existing literature, researchers have tested for political differences in the allocation of social expenditures. E. g. Iversen (2001) examines government transfers (including social security transfers) controlling for the impact of partisan politics in a panel of 15 OECD countries from 1961 to 1993. Regarding this kind of expenditure, he does not find that parties matter. Kittel and Obinger (2002) analyze social spending in a panel of 21 OECD countries from 1982 to 1997 and get weak evidence for the partisan approach. Potrafke (2007) tests the impact of five political variables on social expenditures in an OECD panel from 1980 to 2003, but does not find any political influence in this period. Considering Germany in particular, there are several studies testing for political effects on other fields like for instance fiscal policy (see e. g. Potrafke (2006)). Potrafke (2004) discusses partisan politics in the

German pension system using descriptive statistics. Furthermore, political scientists like Schmidt (2005) argue on differences in the German social security policy verbally, but do not provide empirical evidence. In particular, to the best of my knowledge, there is no paper testing for political effects with respect to social security policy in Germany. Therefore, the revenues from contributions, federal government subsidies to the social security system as well as the expenditures for pensions will be the objects of investigation in the current paper. This implementation proves to be the most appropriate due to theoretical implications, the actual political room of manoeuvre and data availability. I estimate three robust linear regression models. Regarding the tests of the political effects, this paper is related to Potrafke (2006) who examines the allocation of public expenditures in Germany.

The paper is organized as follows. In section 2, the institutional background is set up. In this manner, first theoretical aspects from the literature of political business cycles etc. as well as intergenerational redistribution are briefly reminded. A second paragraph describes the framework of the German pension system to illustrate the political room of manoeuvre and how the theory can be applied. The last subparagraph briefly introduces the political parties in Germany. Then section 3 presents the data. Section 4 provides the empirical models. In section 5 the results are presented and discussed, while section 6 concludes.

2 Institutional Background

2.1 Theoretical Background

The related literature illustrating the theoretical background stems from two fields. First, the political business cycle approaches and the partisan theory clarify how politicians try to influence economic outcome. One implication of the theories by Nordhaus (1975) and Rogoff and Sibert (1988) and others is that all the politicians will do the same policy. Ideology does not matter. Policies will converge. Thereby they imply a particular pattern between elections on the one hand and the impacts of economic policy on the other hand. Nordhaus (1975)' opportunistic school claims that politicians fool the public just to win elections. They will boost the economy right before elections. The rational political business cycle theory by Rogoff and Sibert (1988) and others criticizes the modelling by adaptive expectations and introduced rational expectations instead. In this approach, information asymmetries play a role as a source of the electoral cycles. The political incumbent tries to exploit his information

advantage by signalling his economic competence before the elections. Therefore, I will conclude from these approaches that election and pre-election years will affect the social security policy so that the preferences of the median voter are fulfilled. In contrast, the partisan approach focuses on the strong impact of party ideology. As a result, platforms and policies will not converge. Instead, right and left politicians will provide different policies by concentrating on the preferences of their partisans. The left party appeals more to the labor base and promotes expansionary policies, whereas the right party appeals more to capital owners and is therefore more concerned with keeping inflation down. This holds for both sub-approaches of the partisan theory - for the classical one developed by Hibbs (1977) as for the rational one developed by Alesina (1987). This theory implies that the party composition of the governments affect the economic outcome. We would expect higher redistribution under left than right governments.

An application of the above mentioned hypotheses to social security policy generally needs to demonstrate the political room of manoeuvre in this field. It would be ruled out by definition if social security functions as an (actuarially fair) insurance system. In this case, every individual would get exactly its contributions plus interest out of the system during the retirement period. However, in pay-as-you-go systems, there is intergenerational redistribution. The political economy of intergenerational redistribution is overviewed by Breyer (1994) and Galasso and Profeta (2002). Going back to the fundamental work of Samuelson (1958) and Browning (1975), the interaction of young and old individuals can be mapped in an overlapping generation's model. Most important, the theory states that the old individuals will receive exactly the transfers paid by the young individuals – charged with the natural interest rate of the pay-as-you-go system respectively. The budget is balanced in every period and higher contributions will directly result in higher pension benefits. In the basic models, the transfer level is determined by the median voter and it lies above the economic efficient level because the decisive voter only considers a reduced time horizon. In representative democracies, pension benefits are determined by politicians and thereby the median voter affects it only implicitly. However, it is the relevant object of investigation. Furthermore, in contrast to the theory, contributions and benefits are not identical in practice. Hence, the next paragraph briefly describes the German pension system and illustrates the effective room of manoeuvre, the instruments and the practicable application for the current analysis.

2.2 The German pension system and the objects of investigation

The German pension system¹ was originally installed by Bismarck 120 years ago. But the current pay-as-you-go system exists since the huge pension reform in 1957. The German Pension Insurance provides pensions to all private and public sector employees. It is the core of the German public pension system and I will focus on it in the current paper. Recently, most of the revenues (roughly 70 percent) stem from contributions that are administered as a payroll tax. In 2003, contributions were 19.5 percent of the first 5100 Euro of monthly gross income. The remaining approximately 30 percent of the social security budget are mostly financed by a subsidy from the federal government (Bundeszuschuss). Moreover, there are asset returns, refunds, compensations from the miners' social security (Knappschaft) and miscellaneous (see also Figure 1 below). This illustrates the room of manoeuvre for politicians. They directly regulate the contribution level (it was 14 percent in 1957). Moreover, the federal government has to decide on the subsidies to the social security system ex ante because it is a single position of the federal government's budget. Hence, it is indeed a political issue. Furthermore, the asset returns relate to assets that function as a kind of cushion and are also politically motivated (Nachhaltigkeitsrücklage, Schwankungsreserve). It describes the amount of money that has to be stored for the case of sudden illiquidity.

The revenues must be spend somehow, mostly for pensions (see Figure 2 below). In particular, they are distinguished by old-age pensions, disability benefits and survivor benefits. The calculation of the pensions follows a specific formula. Börsch-Supan and Wilke (2003:11) describe it as product of four elements: "(1) the so called "earning points" that reflect the employee's relative earnings position, (2) the years of service life, (3) adjustment factors for pension type and (since the 1992 reform) retirement age, (4) a reference pension value – the "current pension value"". The fourth factor determines the income distribution between workers and pensioners in general. Politicians can affect the intergenerational redistribution directly via this factor. However, there is also room of manoeuvre with respect to the first three factors which make up the "personal pension base". For example, the

¹ For a detailed description of the German Pension system see e. g. Börsch-Supan and Wilke (2003).

legislator has to determine how employment breaks affect pension benefits.² Thus, politicians have different possibilities to influence the amount of pensions.

In addition, the German Pension Insurance affords special benefits like e. g. cures or rehabilitation. These benefits are also elements of the redistribution process and politically determined. For instance, in the second half of the 90ies this budget item was capped irrespective of the demand. Other positions are contribution refunds and costs for administration. Moreover, the German Pension Insurance provides money for the health insurance of pensioners. Like the revenues, also the expenditures are affected by the compensations from the miners' social security (Knappschaft). Lastly, miscellaneous expenditures complete the budget. However, as Figure 2 will show, the most important expenditure is for pensions themselves.

In conclusion, I expect the following effects on revenues and expenditure according to the theory: Most important, opportunistic politicians will increase the pension expenditures before elections to maximize their votes. Further, they might not disregard the interests of the young generation and hence reduce their contributions to the social security system before elections. These two effects are distinguishable in practice, because there is no unique transfer level as in the theoretical approaches. They might compensate potential financial gaps by subsidies from the government. Furthermore, I expect left governments to redistribute more than right governments: Higher contributions, federal government subsidies as well as pension expenditures.

2.3 Political Parties

There are two large parties in Germany, the left Social Democratic Party (SPD) and the right Christian Democratic Union (CDU). In Bavaria, Germany's federal state with the biggest area, the conservatives are not represented by the CDU but by their sister party Christian Social Party (CSU). However, there is no party competition between them and they form a single fraction in the federal parliament (Bundestag). That is why I will label both CDU. All the chancellors were members of one of these two big blocks, SPD and CDU. Therefore, one can test for partisan effects just on this left-right dimension.

² Potrafke and Steiner (2007) examine the impacts of employment breaks on pension benefits in Germany empirically.

In addition, the much smaller Free Democratic Party (FDP) and Green party (GR) have played an important role as coalition partners. While the SPD has formed coalitions with all the other three parties, the CDU did never form a coalition with the Greens. I will consider the impacts of the different coalition types because it might be that the simple left-right dimension may ignore ideological differences between government constellations in one camp (e. g. for the Left between SPD/FDP and SPD/GR coalitions). Lastly, social security only affects the responsibilities of the federal government so that Germany's federal structure must not be taken into account any further.

3 Data

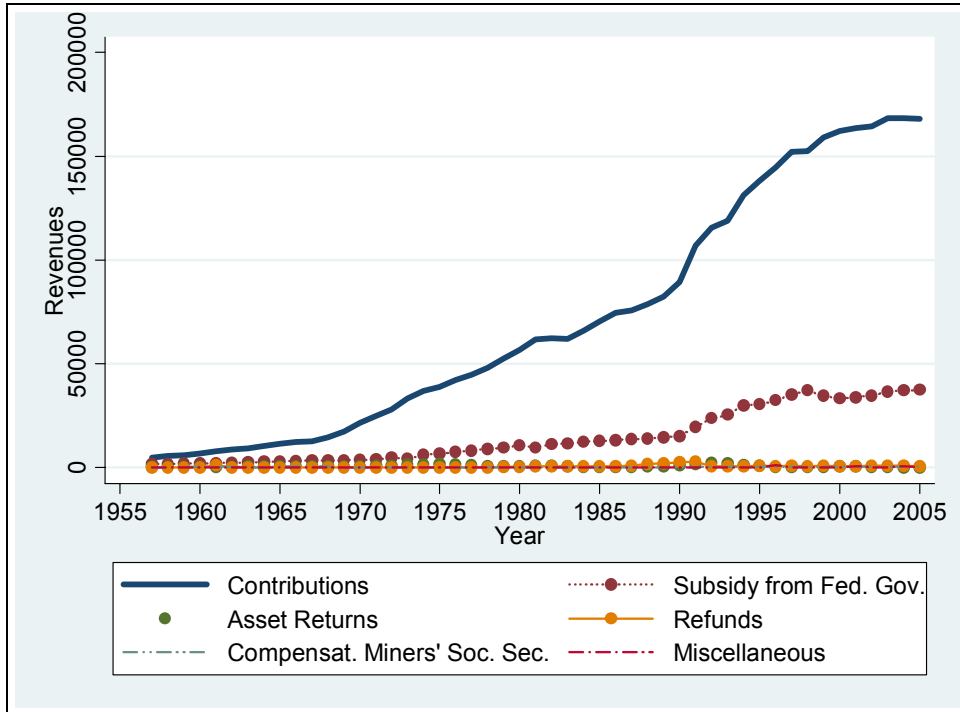
The data set contains yearly data from 1957 to 2005 for the revenues from contributions, federal government subsidies to the social security system as well as the expenditures for pensions of the general German social security (employees and workers). From 1957 to 1990 they refer to the former western part and, after the German unification in October 1990, from 1991 to 2005 to whole Germany. I will use the series as dependent variables, respectively. The data are provided by the German Pension Insurance (e. g. published in *Deutsche Rentenversicherung* (2005)).

Figure 1 and 2 illustrate the allocation of revenues and expenditures of the German Pension Insurance. They demonstrate the dominance of first the contributions and second the subsidies on the revenue side as well as the pensions on the expenditure side respectively.

Furthermore I have checked the time series properties of the single series. Common ADF-Tests indicate that the revenues from contributions and the federal government subsidies are $I(1)$ series. In contrast, the expenditures for pensions are $I(2)$. Hence I take first differences of the first two series and have to differentiate the third series twice. Thereby, I get stationary processes and avoid spurious regression.³

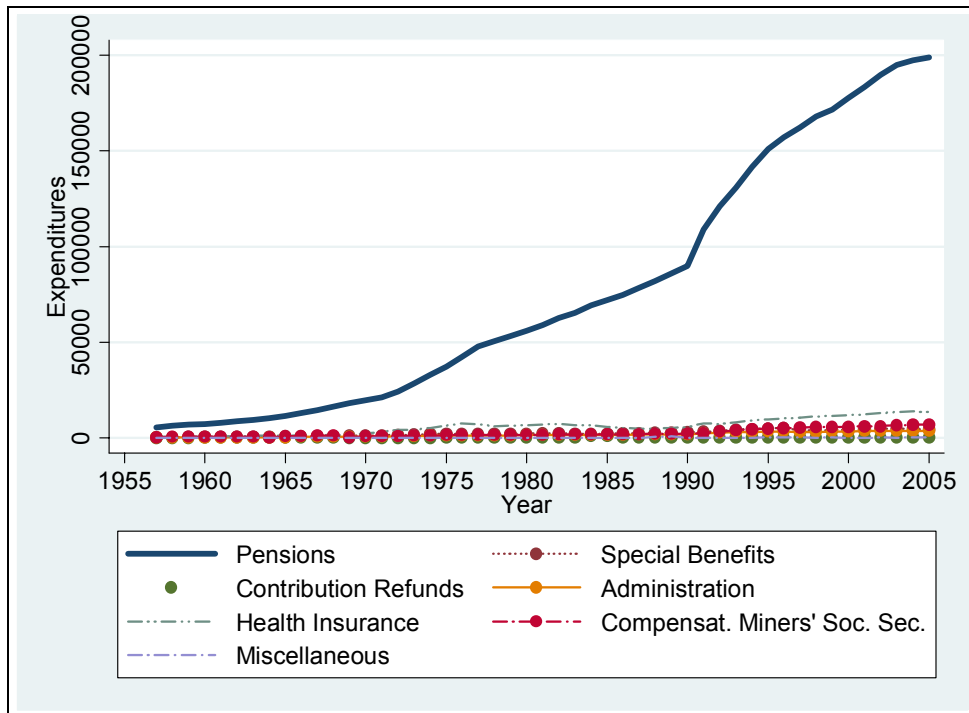
³ I was led into temptation to analyze the whole revenue and expenditure structure of the German Pension Insurance and proceed similar to Potrafke (2006). Examining further series would increase the sample and thus be more attractive from an econometric point of view. However, the remaining categories like compensations from the miners' social security system and miscellaneous revenues and expenditures are not that interesting theoretically as well as numerically. Farther, they have inconsistent time series properties, so that one would end up with a system of $I(0)$, $I(1)$ and $I(2)$ processes. Thus there is also a statistical reason to focus on the revenues from contributions, government subsidies and pension expenditures.

Figure 1
Revenues of the German Pension Insurance from 1957 to 2005
 (in 1000 Euros)



Source: German Pension Insurance

Figure 2
Expenditures of the German Pension Insurance from 1957 to 2005
 (in 1000 Euros)



Source: German Pension Insurance

4 The empirical models

The following three linear regression models are estimated to test for the impacts of the political effects.

$$\begin{aligned} \Delta \log \text{Revenues from Contributions}_t &= \beta_0 + \beta_1 \Delta \log \text{Gross Domestic Product}_t \\ &+ \beta_2 \Delta \log \text{Unemployment Rate}_t + \beta_3 \Delta \log \text{Other Revenues to the Social Security System}_t \\ &+ \beta_4 \text{Unification}_t + \delta_i \text{Political Variable}_{it} + u_t \end{aligned} \quad (1)$$

$$\begin{aligned} \Delta \log \text{Federal Government Subsidies}_t &= \beta_0 + \beta_1 \Delta \log \text{Gross Domestic Product}_t \\ &+ \beta_2 \Delta \log \text{Unemployment Rate}_t + \beta_3 \Delta \log \text{Other Revenues to the Social Security System}_t \\ &+ \beta_4 \text{Unification}_t + \delta_i \text{Political Variable}_{it} + u_t \end{aligned} \quad (2)$$

$$\begin{aligned} \Delta^2 \log \text{Pension Expenditures}_t &= \beta_0 + \beta_1 \Delta \log \text{Gross Domestic Product}_t \\ &+ \beta_2 \Delta^2 \log \text{Average Compensation of Employees}_t + \beta_3 \Delta^2 \log \text{Standard Pension}_t + \beta_4 \Delta \log \text{Number of} \\ &\text{Pensions Paid}_t + \beta_5 \Delta \log \text{Other Expenditures of the Social Security System}_t \\ &+ \beta_6 \text{Unification}_t + \delta_i \text{Political Variable}_{it} + u_t \end{aligned} \quad (3)$$

where $u_t = \rho u_{t-1} + \varepsilon_t$ in each equation.

Equation (1) describes the variation of the revenues from contributions to the social security system. For control purposes I include as explanatory variables: The first differences of the change in GDP and the change of the unemployment rate. The inclusion of the macro variables refers to the idea of the “dynamic pension” installed with the pension reform 1957. It states that pensioners should directly participate on the economic development and progress. Furthermore, the change of the sum of the other revenue categories like subsidies from the federal government, asset returns etc. is included as explanatory variable. The revenues from the contributions themselves must be excluded from the sum to avoid endogeneity problems. Hence, the model controls for the general revenue situation and implied allocation effects. A simple dummy variable takes the structural break due to the German Unification into account. The set up of equation (2) refers to the first one except that

the other revenues to the social security system differ, of course.⁴ The policy variables will be presented in more detail below.

Equation (3) refers to the pension expenditures which function as independent variable. The series is I(2), so that I differentiate it twice. The control variables differ somewhat to the ones of equation (1) and (2). I include the change in the average compensation of employees, the standard pension level (after 45 years of active employment)⁵ and the number of pensions paid. For this reason, the financial situations of a representative employee and a representative pensioner as well as the demographic development are taken into account. The average compensation of employees and the standard pension are also I(2) processes so that they must be differentiated twice to avoid spurious regression. The GDP, the interaction with the other expenditure categories and the Unification Dummy complete the control variable set for the same reasons named above.

Most important, Political Variable_{it} describes the political variables, on which this study focuses listed in Table 1.

Table 1
Political variables

Political-Variable
Election _t
Pre-Election _t
CDU/FDP _t (reference category)
CDU/SPD _t
SPD/FDP _t
SPD/GR _t

The variables Election_t and Pre-Election_t take the exact timing of the elections into account. Following Franzese (2000), they are calculated as

⁴ I tested other specifications like also considering government expenditure as indicator for the general government size to avoid omitted variable bias. Finally, the presented version is the most appropriate, so that I do not discuss it further.

⁵ The German Pension Insurance only provides the average compensation of employees and the standard pension for Germany's former western part because the respective series are not seriously to determine empirically for the eastern part after the Unification in 1990.

$$\text{Election}_t = [(M-1) + d/D]/12$$

where M is the month of the election, d is the day of the election and D is the number of days in that month. In pre-election years the variable is calculated as

$$\text{Pre-Election}_t = [12 - (M-1) - d/D]/12$$

In all other years, their values are set to zero. Therefore, I directly control for fluctuations and the fact, that the election dates differ in Germany. The election dates are reported in Appendix A.

The coalition type dummies take on the value “1” when the considered coalition type was in power and “0” otherwise. In election years, this type of government receives the value “1” which was in office for the longer subperiod of this particular year. For example, when the SPD/GR government followed the CDU/FDP government in the fall of 1998, this year was counted for the CDU/FDP etc. As Table 1 points out, I distinguish between four different coalition types ruled in Germany since 1957 on the federal level: CDU/FDP, CDU/SPD, SPD/FDP and SPD/GR. Appendix A. also gives a detailed description of the governments’ succession in time elapsed. To avoid multicollinearity between these dummies, one of them must function as reference category. The estimated effects of the other dummies must then be interpreted as deviations from this reference category. I choose the CDU/FDP government as reference because it was in power for the longest period. Alternatively, one could test for a dummy variable “LEFT” which only distinguishes between a SPD and a CDU chancellor. However, this variable is not defined in the period from 1966 to 1969 when the grand coalition ruled. Thus, three observation points would be lost, but two degrees of freedom gained in comparison to the current set up. I discuss the respective results using a variable “LEFT” below. Testing for the impact of these political variables, I include all of them in one regression. Running separate regressions with each political variable would contradict the theory that they all have an effect and cause omitted variable bias.

5 Results

Table 2 reports the regression results and demonstrates that politicians indeed affected the German social security policy.

Table 2
Regression Results

	(1) $\Delta \log$ Revenues from Contributions _t	(2) $\Delta \log$ Federal Government Subsidies _t	(3) $\Delta^2 \log$ Pension Expenditures _t
Constant	0.010 (0.67)	0.018 (0.75)	-0.002 (-0.12)
$\Delta \log$ Gross Domestic Product _t	0.950*** (3.90)	1.027** (2.40)	-0.091 (-0.55)
$\Delta \log$ Unemployment Rate _t	-0.033 (-1.61)	0.141*** (3.21)	
$\Delta \log$ Other Revenues to the Social Security System _t (1)	0.058 (1.61)		
$\Delta \log$ Other Revenues to the Social Security System _t (2)		-0.252 (-1.10)	
Unification _t	-0.022 (-0.74)	0.106 (1.39)	0.258** (2.48)
$\Delta^2 \log$ Average Compensation of Employees _t			0.329 (1.13)
$\Delta^2 \log$ Standard Pension _t			0.352 (1.12)
$\Delta \log$ Number of Pensions Paid _t			-0.390 (-0.81)
$\Delta \log$ Other Expenditures of the Social Security System _t			0.019 (0.55)
Election _t	-0.019 (-1.60)	0.030 (1.09)	0.019** (2.17)
Pre-Election _t	-0.054** (-2.29)	0.016 (0.34)	0.013 (0.88)
CDU/SPD _t	0.046** (2.14)	-0.057*** (-3.00)	0.014 (0.89)
SPD/FDP _t	0.026* (1.67)	-0.015 (-0.73)	0.009 (0.88)
SPD/GR _t	-0.003 (-0.22)	-0.039* (-2.01)	-0.00005 (-0.01)
R ²	0.7672	0.5741	0.7199
T	48	48	47

t-statistics in parentheses: */**/***: significant at the 0.10/0.05/0.01 level.

Equation (1) refers to the revenues from contributions. As expected, they are affected by an electoral cycle and decreased in pre-election years. Regarding the coefficients of the coalition dummies one can conclude that left governments charged more intergenerational redistribution due to higher revenues from contributions. Revenues in this category were higher under the CDU/SPD and the SPD/FDP governments in comparison to the right CDU/FDP government. In contrast, the results reported in equation (2) are somewhat counterintuitive. They indicate that the CDU/FDP governments provided higher federal

government subsidies to the social security system than the more left-wing coalition types. But in accordance with the partisan approach, we would have expected higher federal government subsidies under left governments. Hence, there does not seem to be a clear cut pattern of left and right governments financing the system, so that left coalitions increased all the revenues. Finally, the output of equation (3) fortifies the prospects that politicians behaved opportunistically with respect to social security. They increased pension expenditures in election years. Thereby they tried to catch the votes of the olds, a very faithful voter group. Moreover, the party composition of the governments did not affect the pension expenditures.

The alternative specifications using a variable “LEFT” instead of the single coalition coefficients strongly support the current findings. The decrease of revenues from contributions in pre-election years is even significant at the 1 percent level. Then, left governments definitely decreased the federal government subsidies to the social security system and also the effect of election years on pension expenditures fortifies.

Several statistical tests assure the robustness of the empirical results. Beginning with OLS regressions of equations (1) to (3), standard tests have shown that the residuals were not totally free of first order autocorrelation in each case. Consequently, the results reported in Table 4 stem from regressions with robust standard errors as well as autocorrelated of order one.⁶ However, the presented results must be handled somewhat carefully because of the relatively small sample sizes as it is usual for macro-data studies. In addition, the numerical effects of the political variables are small.

6 Conclusion

The current paper asks for political effects on social security policy in Germany from 1957 to 2005. It shows that politicians have acted opportunistically in the sense, that they increased pension expenditures in election years and revenues from contributions decreased in pre-election years. Moreover, no clear cut partisan effects between left and right governments could be identified. However, this study is a starting point examining the effects of political determinants in a special field of social policy empirically. Further analyses might be an

⁶ See e. g. Greene (2003:273 ff.) for the respective econometric background of the Prais-Winsten-Estimation.

interesting issue for future research – in pooled as well as in single country studies. For the case of Germany, a comprehensive study examining fiscal and social policy will be provided by Potrafke (2008).

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Appendix

A. Election dates and party composition of the governments

Elections were held in: 15-Sep-1957, 17-Sep-1961, 19-Sep-1965, 28-Sep-1969, 19-Nov-1972, 03-Oct-1976, 05-Oct-1980, 06-March-1983, 25-June-1987, 02-Dec-1990, 16-Oct-1994, 27-Sep-1998, 22-Sep-2002 and 18-Sep-2005.

The second federal government of the Federal Republic of Germany in the period from 1953 to 1957 consisted of members from five different parties: CDU, FDP, DP (Deutsche Partei), BHE (Gesamtdeutscher Block/Bund der Heimatvertriebenen und Entrechteten) and the FVP (Freie Volkspartei). Since this coalition was a result of the young democracy in Germany after the Second World War, I label the year 1957 as CDU/FDP. This government was in accord with the period from 1958 to 1966 in which a pure CDU/FDP government was in power. During the next three years, a grand coalition (CDU/SPD) reigned. Then a SPD/FDP government took over up to 1982. From 1983 to 1998 a CDU/FDP government was in office, while a SPD/GR government ruled from 1999 to 2005.