Economic Freedom and Government Ideology Across the German States

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Abstract

This paper examines whether government ideology influenced economic freedom across the German states. The results show that in former West Germany rightwing governments promoted economic freedom, whereas leftwing governments confined it. In former East Germany, however, rightwing governments have not been associated with propagating economic freedom. This finding appears to conflict with the common notion of policy convergence at the federal level. In fact, the observed variation in political preferences across states may indicate that politicians gratify the local electorate and, in return, offer moderate policies at the federal level.

Keywords: economic freedom, government and political ideology, institutions, panel data
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1. Introduction

An intriguing question in Political Economy is how government ideology influences economic policy-making. Leftwing and rightwing governments have different preferences as to the size and scope of government and, thus, on economic policy. Leftwing governments favor more state intervention, more income redistribution, and expansionary fiscal and monetary policies. In contrast, rightwing governments believe in the free market and thus favor less state intervention in the economy. This alignment of government ideology and economic policy-making has given rise to the partisan theories (Hibbs 1977, Alesina 1987). Political parties in office do, however, not always implement economic policies that are in line with the predictions of the partisan approach, maybe because of the large diversity of opinion prevailing in modern catch-all parties. In a similar vein, policy positions of an individual party sometimes conflict with each other. The political right, for example, needs to bridge the divide between market-oriented views in economic policy and social conservatism (see, for example, Chakravarty 2008). Governments sometimes even implement policies that appear to contradict their political ideology. In the United States, for example, the Reagan administration presided over a massive increase of the government deficit which the leftwing government under President Clinton subsequently tried to reverse. In the United Kingdom, contrary to public perception, Labour was not a party for the poor during the second post-war Labour period (Beckerman 1972), and Prime Minister Blair implemented market-oriented reforms. Cukierman and Tomassi (1998) have argued ("When does it take a Nixon go to China?") that leftwing governments may well have more political credibility to convince the electorate of market-oriented reforms in economic policy. It thus remains an empirical question as to how government ideology influences economic policy-making.

In order to investigate empirically how government ideology has influenced economic policy-making, scholars have used cross-country data as well as panel data and time series for individual countries (e.g., Alesina et al. 1997, Bjørnskov 2008, Broz 2011). A problem with

cross-country analysis is that institutional characteristics differ across countries. A country study avoids this problem. The inferences drawn from such a case study can then be transferred to other countries endowed with similar institutions.

Germany is a particularly interesting case for various reasons. First, many observers believe that party and policy polarization between the dominant parties in Germany, the leftwing Social Democratic Party (SPD) and the conservative Christian Democratic Party (CDU/CSU), have nearly disappeared. Some empirical studies suggest that government ideology has indeed not played a substantial role in German economic policy at the federal level (e.g, de Haan and Zelhorst 1993, Berger and Woitek 1997a, Koester 2009, Potrafke 2009, 2012).[2] In the German states (Laender), government ideology also does not appear to have systematically influenced overall government expenditures, public debt, and revenues; the empirical evidence is however rather mixed (e.g., Seitz 2000, Jochimsen and Nuscheler 2011, Berger and Holler 2007, Schneider 2007 and 2010, Rodden 2001). Government ideology has, on the other hand, influenced the composition of the government budget (e.g., Oberndorfer and Steiner 2007, Potrafke 2011). Rightwing governments spent somewhat more on universities than leftwing governments, whereas leftwing governments spent more on schooling.[3] This spending pattern appears to be in line with the preferences of the governing parties' constituencies. The clientele of leftist parties profit relatively little from public expenditures on higher education but more from public expenditures on lower education. In a similar vein, rightwing governments spent more on culture. This result reflects their constituencies´ appreciation of theatres, operas and art exhibitions, which contrast with the leisure preferences of the blue collar workers, the traditional constituency of the leftist parties

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[2] Belke (1996, 2000) examines partisan cycles on unemployment and inflation, Vaubel (1997a, 1997b) and Berger and Woitek (1997b, 2005) investigate monetary partisan cycles in Germany. Politicians do not directly have an influence on monetary policy aggregates, due to institutional restrictions, most notably central bank independence. In any event, government ideology has an influence on appointments to the council of the central bank. A political party may tend to nominate council members with political preferences similar to its own (Vaubel 1993, 1997a). The nominated council members, in turn, may be loyal to the party which has appointed them (Goehlmann and Vaubel 2007).

[3] Schulze's (2008) results suggest that conservative politicians tend to spend more on research in relative terms. His sample, however, contains only 16 observations.

(see, for example, Schulze and Rose 1998, Schulze and Ursprung 2000). These findings suggest that political preferences and policies do indeed vary across the German states. The question therefore arises as to how the pattern of political preferences and policies across the German states relate to the observed policy convergence at the federal level.

A second reason for employing German data is the German Unification in 1990. Because the German Unification was a momentous historical event, political economic analyses employing German data need to consider its consequences. It is conceivable that ideology-induced economic policy-making differs between East and West Germany. Previous studies on ideology-induced economic policy-making across the German Laender exclusively focused on the West German states. One of the most important reasons is the limited data availability for the former East German states. I will use the yet limited data for East Germany in order to investigate differences in economic policy and political ideology between East and West Germany.

Third, in contrast to several cross country and country studies, scholars have not examined whether government ideology has influenced economic freedom in Germany. Economic freedom indicators have been widely used in the political economy literature (e.g., Berggren 1999, Berggren and Jordahl 2005, de Haan 2003, de Haan et al. 2006). Economic freedom encompasses, for example, individual freedom to engage in voluntary transactions and property rights protection. Governments shape economic freedom; that is governments can invigorate economic freedom by, for example, enforcing contracts and diminish economic freedom by, for example, strictly regulating the economy or subsidizing particular industries. The most successful measure of economic freedom has been developed by the Fraser Institute.

Empirical evidence on government ideology and economic freedom in OECD countries shows that market-oriented governments have promoted overall economic liberalization (Pitlik 2007), privatization (e.g., Bortolotti and Pinotti 2008) and product market

deregulation (Potrafke 2010). In the Canadian provinces, rightwing governments have been more active in labor market liberalization (Bjørnskov and Potrafke 2011). Considering that ideology-induced policies tend to disappear at the federal level but preferences and policies differ across the German states, investigating the influence of government ideology on economic liberalization across the German states is a worthwhile endeavor.

In view of the related literature on ideology-induced policies and economic liberalization, the hypothesis to be investigated is:

Have rightwing governments been more active in promoting economic freedom than leftwing governments across the German states?

In order to test this hypothesis, I employ the dataset compiled by Fuest et al. (2009) on economic freedom across the German states. The results show that in former West Germany rightwing governments promoted economic freedom, whereas leftwing governments confined it. In former East Germany, however, rightwing governments have not been associated with propagating economic freedom. This finding indicates significant differences between political ideology and government behavior and thus conflicts with the commonly held notion of policy convergence at the federal level. In fact, the observed variation in political preferences across states may indicate that politicians gratify the local electorate and, in return, offer moderate policies at the federal level.

The paper is organized as follows: Section 2 describes the data and provides a short descriptive analysis of economic freedom and government ideology in the German states. Section 3 presents a panel data analysis: it specifies the empirical model and discusses the regression results. Section 4 concludes.

2. Data and descriptive analysis

2.1 Economic freedom index for the German states

I use the dataset on economic freedom across the German states compiled by Fuest et al. (2009). The dataset contains two economic freedom indices. The L-index of economic freedom only refers to the West German states and covers the 1970-2007 period. The K-index of economic freedom refers to the West and East German states and covers the 1994-2007 period. The ten former West German Laender included are Baden-Wuerttemberg, Bavaria, Bremen, Hamburg, Hesse, Lower-Saxony, North Rhine-Westphalia, Rhineland-Palatine, Saarland and Schleswig-Holstein. Data for the new Laender are only available since 1994, after the German Unification in 1990. The new Laender included are Brandenburg, Mecklenburg-Western Pomerania, Saxony, Saxony-Anhalt, Thuringia and Berlin. I assign Berlin to the group of the new Laender, because it was divided before the German Unification.

The economic freedom indices by Fuest et al. (2009) are based on the economic freedom indices by Gwartney et al. (1996, 2009) and Karabegovic (2006). Gwartney and Lawson (2003: 406 f.) define economic freedom as follows: "The key ingredients of economic freedom are personal choice, voluntary exchange, freedom to compete, and protection of persons and property. When economic freedom is present, the choices of individuals will decide what and how goods and services are produced…

…economic freedom also requires governments to refrain from many activities. They must refrain from actions that interfere with personal choice, voluntary exchange, and the freedom to enter and compete in labor and product markets. Economic freedom is reduced when taxes, government expenditures, and regulations are substituted for personal choice, voluntary exchange, and market coordination. Restrictions that limit entry into occupations and business activities also retard economic freedom."

The economic freedom indices for the German states need to be adjusted to German institutional characteristics. The Laender governments have limited authority in economic policy-making (e.g., Blankart 2008: Chapter 28, Blankart 2007: Chapter 7). Considering fiscal policy the limited authority mainly affects the states' revenue side, because the German Laender are not autonomous in setting tax rates. The communities in the states possess, however, policy responsibility in shaping corporate taxation. Debt remains as the only discretionary source of financing the states' expenses. But on the expenditure side, the governments in the states have policy responsibility. Yet their authority does not extend to all policy areas (see Seitz 2008). Consequently, the economic freedom index for the German states includes fewer components than the world economic freedom indices (e.g., Gwartney et al. 2009) and resembles the economic freedom indices for the Canadian provinces and US states (Karabegovic et al. 2003). To be sure, the economic freedom index for the German states also includes the entire direct tax burden, although the German Laender are not autonomous in setting tax rates. The reason is that an economic freedom index excluding tax burden and taxes' distortionary effects appears to be less significant. Fuest et al. (2009: 10) therefore conclude that their index illustrates how economic freedom differs across states given the policy interaction of the federal and state level. Federal tax policies influence the Laender in the same manner. I will thus focus on the cross-state variation in my empirical analysis. In any event, in the robustness tests section I will also discuss results when the tax components (and public investment) are ignored.

The K-index is based on the following ten sub-indicators:

1. **Size of government**

   1a) Government consumption (as a share of GDP)

   1b) Public investment (as a share of total investment in the economy)

   1c) Public employment (as a share of total employment)

1d) Social expenditures (as a share of GDP)

1e) Subsidies (as a share of GDP)

2. **Taxes**

    2a) Weighted average tax rates of the business tax

    2b) Tax revenues from income and corporate income taxes before fiscal equalization

    (as a share of GDP)

3. **Mandatory social insurance and social welfare**

    3a) Mandatory social insured employees (as a share of total employees)

    3b) Social welfare receivers (as a share of total population)

    3c) Social welfare level

The L-index is based on eight out of these ten sub-indicators of economic activity. The subcategories 1e) Subsidies and 3c) Social welfare level are excluded because of limited data availability. Fuest et al. (2009) follow the weighting scheme of the Fraser Institute in order to aggregate the subcategories to the entire economic freedom indices. The indices take on values between 0 (minimum of economic freedom) and 10 (maximum of economic freedom).

The dataset contains data in five year intervals for the 1970-1990 period (L-Index) and every four years for the 1994-2006 period (L-Index and K-Index). Data are also available for 2004 and 2007 (L-index and K-index).

Figure 1 illustrates that West Germany enjoyed a great deal of economic freedom in 1970 (averages – L-Index). The economic freedom L-Index reached about 6 points on average. In the beginnings of the 1970s economic freedom dramatically decreased. The size of government increased, partially as a consequence of the first oil crisis. Keynesianism was en vogue. The social welfare state was extended. In the 1990s, economic liberalization has

become more popular. Public employment declined. Figure 1 also shows that the economic freedom index has been much higher in the former West than East German states. Fuest et al. (2009) provide more detailed examples for economic (de)liberalization across the German states.

Economic freedom has been highest in the southern Laender Bavaria and Baden-Wuerttemberg (Figure 2 and 3). Berlin, in which the Social Democrats and the Socialists have formed a coalition in 2001, is the least free state.

2.2 The German political party landscape

Two major political parties have dominated the political spectrum in Germany: the leftist Social Democratic Party (SPD) and the conservative Christian Democratic Union (CDU). In Bavaria, Germany's largest federal state by area, the conservatives are not represented by the CDU but by their sister party, the Christian Social Union (CSU). The CDU and the CSU do not compete against each other; they form one faction in the federal parliament (Bundestag). This is why I label both as CDU in the empirical analysis. All federal chancellors and Prime ministers in the states of the last decades were members of one of these two major blocs, SPD and CDU. Therefore, one can test for ideology-induced effects on this left-right dimension.

The much smaller Free Democratic Party (FDP) and Green party (GR) have played an important role as coalition partners in West Germany. While the SPD has formed coalitions with all the other three parties, the CDU never formed a coalition with the Greens on the federal or state level during the period analyzed in this paper. In the former Eastern states, the socialist party (former PDS, since 2007 "DIE LINKE") has played an important role. The Socialists have formed a coalition with the Social Democrats in Berlin and Mecklenburg-Western Pomerania. I will also consider the influence of the different coalition types, because the left-right dimension may neglect ideological differences between government parties within a "camp" (e.g. for the Left between SPD/FDP, SPD/GR and SPD/LINKE coalitions).

As minority governments and other government formations have played a negligible role, they will be subsumed under the coalition types mentioned above.

2.3 Correlation between economic freedom and government ideology

In order to illustrate the association between government ideology and economic freedom, I present correlations between the averaged economic freedom indices and averaged government ideology.

The differences between leftist and rightwing governments will be tested on the left-right scale using the variable "Left" as well as different coalition type variables respectively. These variables assume values between zero and one and describe the share of leftwing governments or the respective coalition type over five our four years. I relate the average of government ideology over the last five or four years before period t to the economic freedom indices in period t. For example, the economic freedom index in 1970 is assigned to the average share of leftwing governments in the years 1966, 1967, 1968, 1969 and 1970. As the availability of the economic freedom indices changes from a five year to a four year interval after 1990, the economic freedom index in 1994, for example, is assigned to the average share of leftwing governments in the years 1991, 1992, 1993 and 1994. In order to analyze consistently four year intervals from 1990 onwards, my sample ends in 2006. Inferences do not change when I consider the 2002-2007 interval as the last period. For simplicity, I focus on leftwing governments in this illustrative section and do not present figures for individual coalition types.

The annual data for government ideology in the West German states are taken from Potrafke (2011). For the East German states, I follow Potrafke's (2011) coding. The annual variable "Left" assumes the value of one in periods when a SPD Prime Minister was in office, the value zero when a CDU Prime Minister was in office and the value 0.5 when a grand

coalition (CDU/SPD government) was in office.[4] With respect to the grand coalitions, I do not distinguish which of the two parties appointed the Prime Minister.

One can see with the naked eye that leftwing governments have been negatively associated with economic freedom in the West German states, and rightwing governments have been positively associated with economic freedom in West Germany (Figure 4 and 5). In the former East German states, however, this association is not valid (Figure 6). The correlation coefficient between the averaged economic freedom indices and the average share of leftwing governments for the 1970-2006 period in the West German states is -0.76 (L-Index). The correlation coefficient between the averaged economic freedom indices and the average share of leftwing governments for the 1994-2006 period in the West German states is -0.44 (K-Index) and 0.21 in the former Eastern states (K-Index).

The finding that leftwing governments are negatively associated with economic freedom is much more pronounced when I exclude grand coalitions which may not be coded on a left-right scale (e.g., Potrafke 2011). In particular, grand coalitions were in power in Baden-Wuerttemberg over the 1967-1971 and 1992-1995 period and in Bremen over the 1995-2007. When grand coalitions are excluded, high economic freedom in Baden-Wuerttemberg is exclusively associated with rightwing governments and low economic freedom in Bremen is exclusively associated with leftwing governments.

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[4] Potrafke (2011) employs annual data and does not consider grand coalitions when coding the variable "Left". In order to avoid missing values I code grand coaltions as 0.5 on a left-right scale.

3. Econometric analysis

3.1 Econometric model

The baseline panel data model has the following form:

'Economic Freedom index'$_{ijt}$ = Σ_k α_k 'Ideology'$_{ikt}$ + γ 'Economic Freedom index'$_{ijt-1}$

$$+ \eta_i + \varepsilon_t + u_{ijt}$$

with i= 1,…, 16; j = 1, 2; k = 1,…,6[5]   (2)

where the dependent variable 'Economic Freedom index'$_{ijt}$ denotes the economic freedom index j (L-Index and K-Index) in period t. Σ_k α_k 'Ideology'$_{ikt}$ describes the ideological orientation of the respective government over the last five or four years. In the next paragraph I describe these variables and their coding in more detail. 'Economic Freedom index'$_{ijt-1}$ describes the lagged dependent variable in order to control for the persistence of economic liberalization. Lastly, η_i represents a fixed state effect, ε_t is a fixed period effect and u_{ijt} describes an error term.

I include the averaged government ideology variables as described in Section 2.3 and distinguish between leftwing governments and the individual coalition types. The annual coalition type dummies assume the value of one when the considered coalition type was in power and zero otherwise. I distinguish between six different coalition types that governed in the former West German states: CDU, CDU/FDP, CDU/SPD, SPD/FDP, SPD/GR, and SPD. For the East German states, I also consider a SPD/LINKE dummy variable. To avoid perfect collinearity between the coalition type dummies, one of the coalition type dummies must function as the reference category (here SPD). The estimated effects of the other coalition type dummies must then be interpreted as deviations from the reference category. In fact,

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[5] The number of k again depends on the specification (see below).

regressing the economic freedom indices in period t on averaged government ideology over the last five or four years avoids any potential endogeneity concerns of the government ideology variables. This specification also considers that governments need time in order to implement their preferred policies and influence economic liberalization.[6]

I now turn to my choice of the estimation procedure. In the context of dynamic estimation, the common fixed-effect estimator is biased. The estimators that take into account the resulting bias can be broadly grouped into a class of instrumental estimators and a class of direct bias corrected estimators (see Behr 2003, for example, for a discussion). In accordance with large sample properties of the GMM methods, e.g., the estimator proposed by Arellano and Bond (1991) will be biased in my econometric model with N=10 or N=16. For this reason, bias corrected estimators are more appropriate. I apply Bruno´s (2005a, 2005b) bias corrected least squares dummy variable estimator for dynamic panel data models with small N.[7] Alternatively, I estimate the model without lagged dependent variable employing feasible generalized least squares (FGLS) with fixed state and fixed period effects.

3.2 Basic Results

Table 1 illustrates the regression results when the L-Index is used. The lagged dependent variable displays the expected positive sign and is statistically significant at the 1% level in

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[6] The empirical approach differs from Bjørnskov and Potrafke (2011) for two important reasons. First, there are no annual data available for economic freedom across the German states. Second, Fuest et al. (2009) have included tax revenues from income and corporate income taxes although the state governments have no authority in setting tax rates. Fuest et al. (2009) point out that their index therefore tackles differences in economic freedom across states. The variation across states is, however, eliminated when growth rates of the economic freedom indicators are examined, so that employing levels in five to four year intervals is more appropriate.

[7] I choose the Blundell-Bond (1998) estimator as the initial estimator in which the instruments are collapsed as suggested by Roodman (2006). This procedure makes sure to avoid using invalid and too many instruments (see Roodman 2006 and 2009 for further details). Following Bloom et al. (2007) I undertake 50 repetitions of the procedure to bootstrap the estimated standard errors. Bootstrapping the standard errors is common practice applying this estimator. The reason is that Monte Carlo simulations demonstrated that the analytical variance estimator performs poorly for large coefficients of the lagged dependent variable (see Bruno 2005b for further details). The results do not qualitatively change with more repetitions such as 100, 200 or 500 or when the Arellano-Bond (1991) estimator is chosen as initial estimator. However, the ideology-induced effects are much more pronounced when the Arellano-Bond (1991) estimator is chosen as initial estimator and the t-statistics of the ideology variables somewhat decrease with more repetitions of the bootstrapped standard errors.

columns (1) and (2). The fixed state and fixed period effects turn out to be jointly significant at the 1% level.

The results in Table 1 show that rightwing governments have been more active in promoting economic freedom: the coefficient of the variable "Left" has a negative sign and is statistically significant at the 10% level in column (1) and at the 5% level in column (3). The numerical meaning of the coefficient in column (1) is that a corresponding increase of the variable 'Left' by one point – from 0 (rightwing government) to 1 (leftwing government) – would decrease the L-Index of economic freedom by about 0.1 points per period. The long-run effect of government ideology can be calculated by dividing the coefficient of the ideology variable by one minus the coefficient of the lagged dependent variable. The results suggest that the economic freedom index was by about 0.3 points lower under a leftwing than under a rightwing government in the long-run. The numerical impact suggested by the coefficient of the ideology variable in column (3) is somewhat smaller. These differences may well arise due to the different sample sizes and potential omitted variable bias due to the exclusion of the lagged dependent variable. Columns (2) and (4) report the regression results when the ideology-induced effects are evaluated by individual coalition type dummies. The findings suggest that the influence of leftist governments on economic freedom can be identified by CDU and CDU/FDP coalitions. The coefficients of the CDU and CDU/FDP coalition type dummies have positive signs. They do not, however, turn out to be statistically significant at conventional levels in column (2), but are statistically significant at the 10% level in column (4). An F-Test indicates that the coalition dummy variables do not turn out to be jointly significant. Overall, the inclusion of the fixed state and fixed period effects strongly mitigates the influence of the government ideology variables.

Table 2 illustrates the regression results when the K-Index is used. The lagged dependent variable again displays the expected positive sign and is statistically significant at the 1% level in columns (1) and (2). Similar to the model in which the L-Index is used, the

fixed state and fixed period effects turn out to be jointly significant at the 1% level. The findings suggest that leftist governments have not changed economic freedom across East and West German states over the 1994-2006 period. The coefficients of the variable "Left" do not turn out to be statistically significant in columns (1) and (3). The individual coalition type dummies lack statistical significance in column (2). By contrast, the coefficients of CDU and SPD/FDP coalition type dummies have a positive sign and are statistically significant at the 5% level in column (4). This finding indicates that pure CDU and SPD/FDP coalitions were associated with more economic freedom than pure SPD governments. In particular, economic freedom has been pronounced in Rhineland-Palatine under the SPD/FDP governments and in Bavaria under the pure CDU governments. These two effects also explain convincingly why the variable "Left" does not turn out to be statistically significant. The different results in columns (2) and (4) display the sensitivity of the results to the fairly small sample and the reduced sample due to the inclusion of the lagged dependent variable.

3.3 Robustness Checks

I checked the robustness of the results in several ways. The results presented in Tables 1 and 2 may suffer from omitted variable bias. I have therefore included further (economic) control variables.

A typical feature of Germany's fiscal federalism is the fiscal equalization system, which harmonizes revenues across states. Transfer payments circulate from the federal level to the states (vertical) as well as between the states (horizontal). Since 1995, the New German Laender have participated in the system, so that the volume of payments has increased. Moreover, the German states are of two different types: the budgets of city-states cover additional expenditures and revenues which are administered by local authorities in non-city states. Fuest et al. (2009: 10) discuss that the horizontal fiscal equalization is likely to influence economic freedom across the German states. When states spend transfers, economic

freedom will decrease because states need to increase revenues in order to finance the transfers. When states receive transfers, economic freedom will decrease because governments can give more subsidies and intervene the market.

I have included two variables that address the horizontal fiscal equalization system and consider the real amount of money, which the individual state received or spent. In accordance with the coding of the ideology variables I have aggregated the annual transfer payment to five and four year averages. Table 3 shows that transfers received have negatively influenced economic freedom (L-Index). The variable "Fiscal equalization (transfers received)" is statistically significant at the 5% level in columns (3) and (4) but does not turn out to be statistically significant in columns (1) and (2). The variable "Fiscal equalization (transfers spent)" does not turn out to be statistically significant in any equation. In any event, including these variables does not change the inferences regarding the ideology variables at all. The inferences regarding the K-Index of economic freedom also do not change compared to Table 2 when the fiscal equalization variables are included (results not shown).

Including economic control variables such as GDP per capita, GDP growth or unemployment is, however, likely to cause endogeneity problems. The causality between economic freedom, GDP per capita, GDP growth or unemployment is not clear (e.g., Compton et al. 2011, Justesen 2008, Dawson 2003, de Haan et al. 2006, de Haan and Sturm 2000). Fuest et al. (2009) show that the economic freedom indices are positively associated with GDP per capita and economic growth and negatively associated with unemployment. In order to avoid endogeneity problems, I instrument GDP per capita, GDP growth and unemployment by their lagged values respectively.[8] I employ a panel instrumental variable estimator (IV) and do not employ GMM because the GMM estimators are biased for small N.

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[8] Data for GDP are available from 1970 onwards. In order to achieve real GDP per capita, I divide these data by total population and deflate the data by the German consumer price index at the federal level. The reason is that consumer price indices are not available for all German states for the entire time period. Including averaged GDP per capita and GDP per capita growth in the econometric model thus results in a smaller sample that starts in 1975. Data for unemployment rates are available from 1968 onwards for all former West German states. In

Table 4 shows the regression results using the IV estimator. Applying this estimator, results are similar to the ones in Tables 1, 2 and 3. The effect of the variable "Left" on the L-index is negative and statistically significant at the 1% level in column (1) and at the 5% level in columns (3) and (7). The coefficients of the unemployment rate in columns (1) and (2) have the expected negative signs but do not turn out statistically significant. The coefficients of GDP per capita growth in columns (3) and (4) have negative signs but also do not turn out to be statistically significant. The coefficients of GDP per capita in columns (5) to (8) have positive signs and are statistically significant at the 1% level. The numerical meaning of the coefficients is that the L-index increases by about 4×10^{-5} points when GDP per capita increases by 1 Euro. Against the background of a mean of 17.805 Euros and standard deviation of about 9.624 Euros of the GDP per capita in the sample, the estimated effect is plausible. The results in column (5) illustrate that the variable "Left" lacks statistical significance when GDP per capita is included. The reason is that GDP per capita is strongly correlated with the fixed period effects. Statistical significance of the fixed period effects strongly decreases when GDP per capita is included. Columns (7) and (8) therefore show regressions in which the fixed period effects are excluded. This turns the ideology variables statistically significant as in the previous specifications. Including GDP per capita also turns the CDU/SPD variable statistically significant at the 1% level with a negative coefficient. Including further economic control variables does not change the inferences regarding the ideology variables. Inferences also do not change when the fiscal equalization variables are included in the IV-regressions.

Economic liberalization in an individual state could also be influenced by economic liberalization in the neighboring states.[9] I have therefore included a spatially lagged dependent

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order to use the L-index in 1970 I regress it on the average of the unemployment rates in 1968, 1969 and 1970. From 1975 onwards I regress the L-index on averaged unemployment rates over the last five or four years.
[9] Spatial dependencies also influence voting patterns. See, for example, Cutts and Webber (2010).

variable that considers geographical neighbors.[10] The spatial weight matrix is row-normalized. I have estimated a spatial lag model using 2SLS and regressed the spatially weighted dependent variable on the explanatory and spatially weighted explanatory variables in the first stage. The spatially lagged dependent variables do not turn out to be statistically significant. Including them does not change the inferences regarding the coalition type ideology variables, yet the leftwing ideology variable lacks statistical significance when the spatially lagged dependent variable is included.

It is conceivable that including the initial level of economic freedom influences the inferences. For example, in the East the initial level of economic freedom is much lower than in the West (see Figure 3). In a similar vein, with a low initial level of economic freedom, also leftwing governments may feel the need to increase economic freedom, less so when the level of economic freedom is already high. To test this conjecture, I have followed Sturm and de Haan (2003), and estimated the models including the initial level of economic freedom for 1970 (L-Index) and for 1994 (K-index). Because the initial levels of economic freedom do not vary over time, I cannot include fixed state effects in these regressions and have estimated the model including fixed period effects using OLS with robust standard errors. Including the initial level of economic freedom is very similar to running a fixed effects panel data model because the initial level of economic freedom is fixed for every individual state. The initial level of economic freedom has the expected positive influence and is statistically significant when no lagged dependent variable is included. The lagged dependent variable thus explains a great deal of the variation in the dependent variable. In any event, inferences regarding the ideology-induced effects do not change. By contrast, the ideology-induced effects on economic freedom in the West German states also remain statistically significant in the IV regressions when GDP per capita is included.

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[10] See, for example, Anselin (1988) on the basic econometric models to describe spatial interaction and Allers and Elhorst (2005) on applications with cross-sectional data.

The German Laender governments have limited responsibility in economic policy-making. The economic freedom indices compiled by Fuest et al. (2009) contain economic characteristics that are in the domain of the federal government's responsibility or the responsibility of the communities. For example, category 2a) of the economic freedom index refers to the weighted average of the business tax rates. Setting business tax rates is the responsibility of the communities not the Laender.[11] Category 2b) refers to tax revenues from income and corporate income taxes before fiscal equalization for which the federal government (and the second parliamentary chamber) are responsible. Moreover, one might also argue that higher public investment (category 1b) does not diminish economic freedom. The reason is that also advocates of market-oriented policies favor spending government expenditures for public investment such as for roads instead of income redistribution. I have therefore excluded the categories 1b, 2a and 2b of the overall economic freedom indices and calculated the average of the remaining five categories for the K-Index and the remaining seven categories for the L-Index. Inferences overall do not change: the ideology variables lack statistical significance when the dynamic bias corrected estimator is used (L-Index), but are statistically significant with the FGLS and also IV-estimators (L-Index). Again, government ideology did not have an influence on the now modified K-Index which also includes the new German Laender.

The reported effects could be driven or mitigated by idiosyncratic circumstances in the individual states. For this reason, I tested whether the results are sensitive to the inclusion/exclusion of particular states. The results are somewhat sensitive to the inclusion of Bavaria, Baden-Wuerttemberg and Hamburg. The negative effect of leftist governments on

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[11] Consequently, business taxes appear to be a less qualified indicator of state governments' economic policy-making. The predominance of a political party has, however, not only affected policies in the states but also the communities. The Christian Social Union (rightwing party) in Bavaria is a prime example. A great share of the mayors in the Bavarian communities has been members of the Christian Social Union. Leading party members such as mayors in communities often have leading positions in party committees at the state level and significantly influence a party's political ideology. State governments and prime ministers are, in turn, obliged to the political ideology of their party committees and vice versa. For this reason, state governments and leading party members at the state level are also likely to influence business tax rates.

economic freedom becomes somewhat weaker when excluding Bavaria, Baden-Wuerttemberg and Hamburg. In contrast, the negative effect of leftist governments on economic freedom becomes stronger when excluding Bremen.

4. Conclusion

The ideology of state governments influenced economic freedom across the West German states: rightwing governments have been more active in promoting economic liberalization than leftwing governments. Against the background of policy convergence at the federal level, this is a significant finding. Government ideology has not, however, influenced economic freedom across the East German states.

Overall, one needs to interpret the results with care because of the limited economic policy-making authority of the Laender. The inferences do not, however, appear to be a statistical coincidence but clearly reflect the true association between economic freedom and government ideology and political preferences in Germany. Voters in the southern Laender such as Bavaria and Baden-Wuerttemberg are much more conservative and market-oriented than the voters in the former Eastern German states. Political polarization is particularly strong in states such as Hesse.

The results support previous research that the observed variation in political preferences across and within the German states may well have influenced policy convergence at the federal level. The reason is that politicians are not only ideology-induced but also election-motivated and will thus offer moderate policy platforms to gratify the entire German electorate. My results therefore open an avenue for future research on political economic analysis in federal states: a more encompassing theory is required to portray how diversified political preferences in federal states may lead to policy convergence at the federal level. Such an approach could complement or even change the divided government theory by Alesina and Rosenthal (1996) and influence theories on bicameralism (e.g., Testa 2010).

My results suggest that government ideology has not been associated with economic freedom in East Germany. Several reasons spring to mind and some require further investigations. First, reconstructing the economy after communism collapsed has been a difficult task. Parties did not have and could not build on established traditions in the former East German states. Future research may analyze more deeply why the different historical experiences of those who live in the East and West German parts have come to view what comprises Right and Left in Politics differently. Second, East Germany may be economically less free because of migration. Young and highly qualified citizens have left the Eastern states, whereas old and less qualified citizens have stayed (e.g., Hunt 2006, Burda 2006).[12] Unemployment is higher in the Eastern states (e.g., Arntz and Wilke 2009). Consequently, the number of transfer receivers is quite high in East Germany and economic freedom is low. Third, the revival of the Socialists (DIE LINKE) requires further research. The Socialists have been very successful in several state elections in the 2007-2009 period. In fact, the Socialists received many more votes than the Social Democrats. In the 2009 federal election, the Socialists won electoral districts outside Berlin for the first time. I expect the ideological cleavage between East and South Germany to persist.

Scholars may also want to investigate whether differences between party positions across the states influence economic policy-making. For example, the CDU in Baden-Wuerttemberg appears to be more conservative than the CDU in Hamburg. Studies on political ideology in the United States deal with regional party characteristics. The DW NOMINATE data on political positions in the US Congress by Poole and Rosenthal (1996) relax the assumption that members of specific parties hold the same ideological positions across the US states. An alternative to measure partisanship and political ideology is to use exit poll data (e.g., Larcinese et al. 2010), which also allow taking into account ideological

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[12] On labor mobility and regional disparities in unemployment between East and West Germany see Niebuhr et al. (2011).

differences across states and over time. Collecting similar data for Germany would be a worthwhile endeavor.

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Figure 1: L-Index and K-Kindex of Economic Freedom
Averages for the German Laender from. 1970-2007.
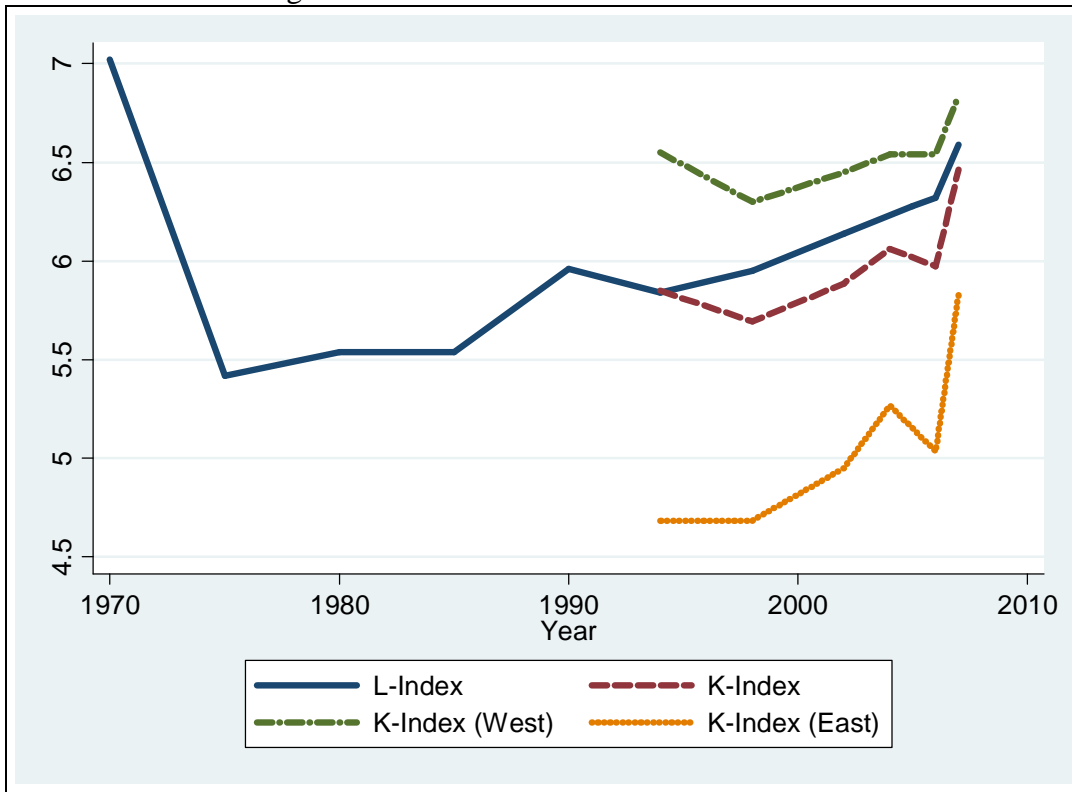
Figure 2: L-Index of Economic Freedom
Individual West German Laender. 1970-2007.
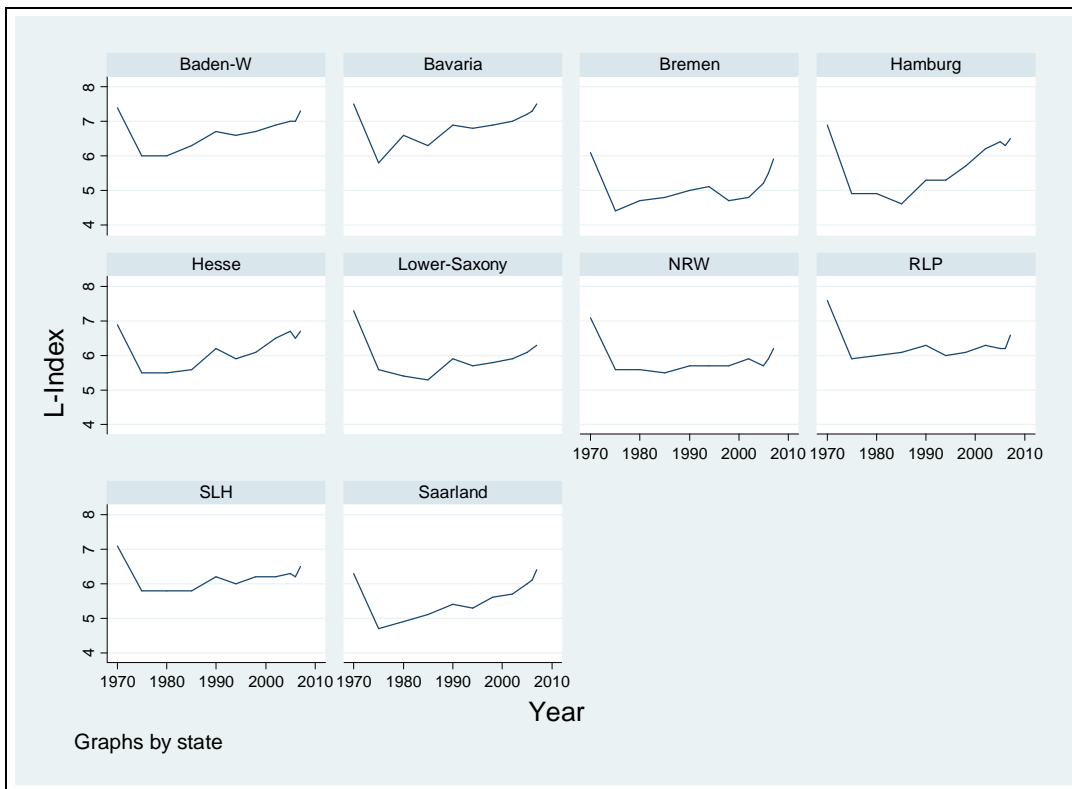
Figure 3: K-Index of Economic Freedom
Individual East and West German Laender. 1994-2007.
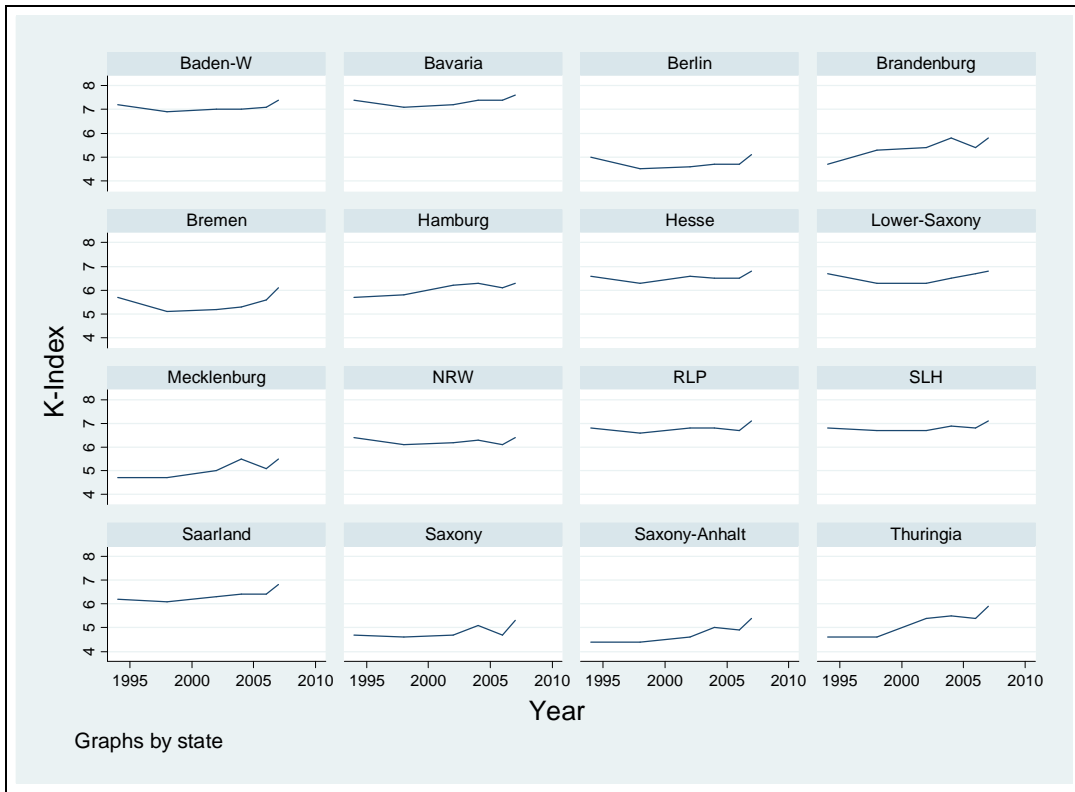
Source: Fuest et al. (2009)

Figure 4: Correlation between averaged Economic Freedom (L-Index) and the share of leftwing governments. West German Laender. 1970-2006.
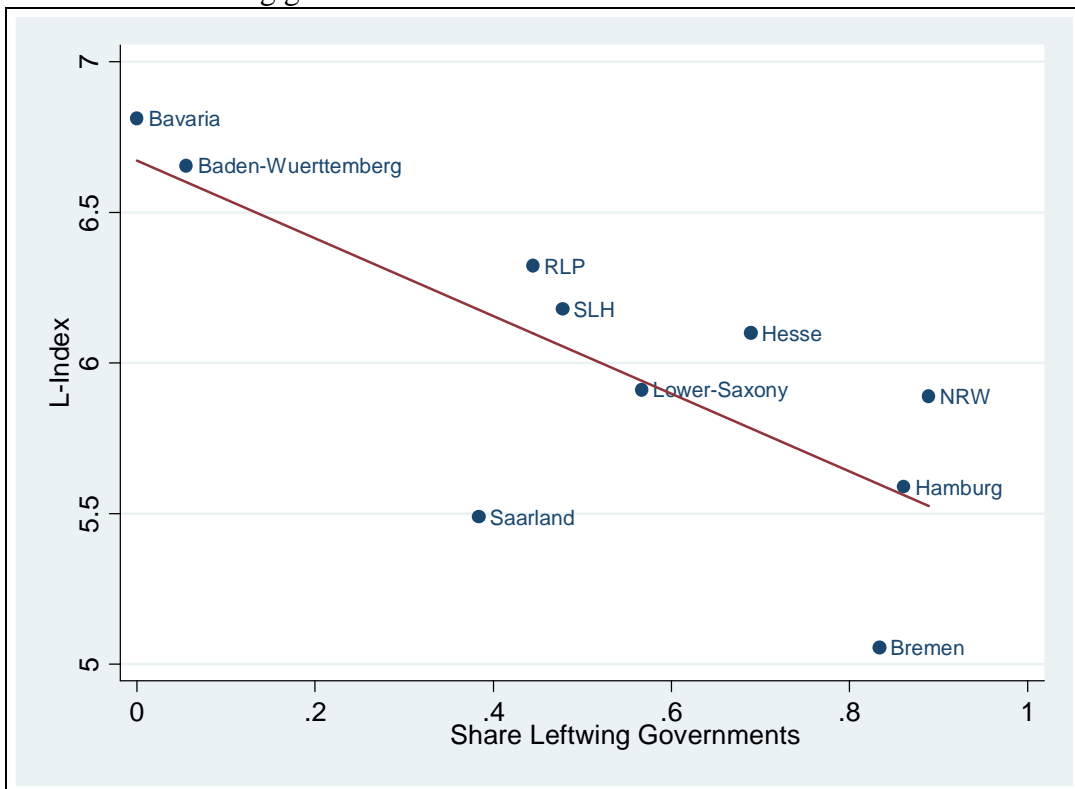
Correlation coefficient: -0.76. Source: Fuest et al. (2009), own calculations

Figure 5: Correlation between averaged Economic Freedom (K-Index) and the share of leftwing governments. West German Laender. 1994-2006.
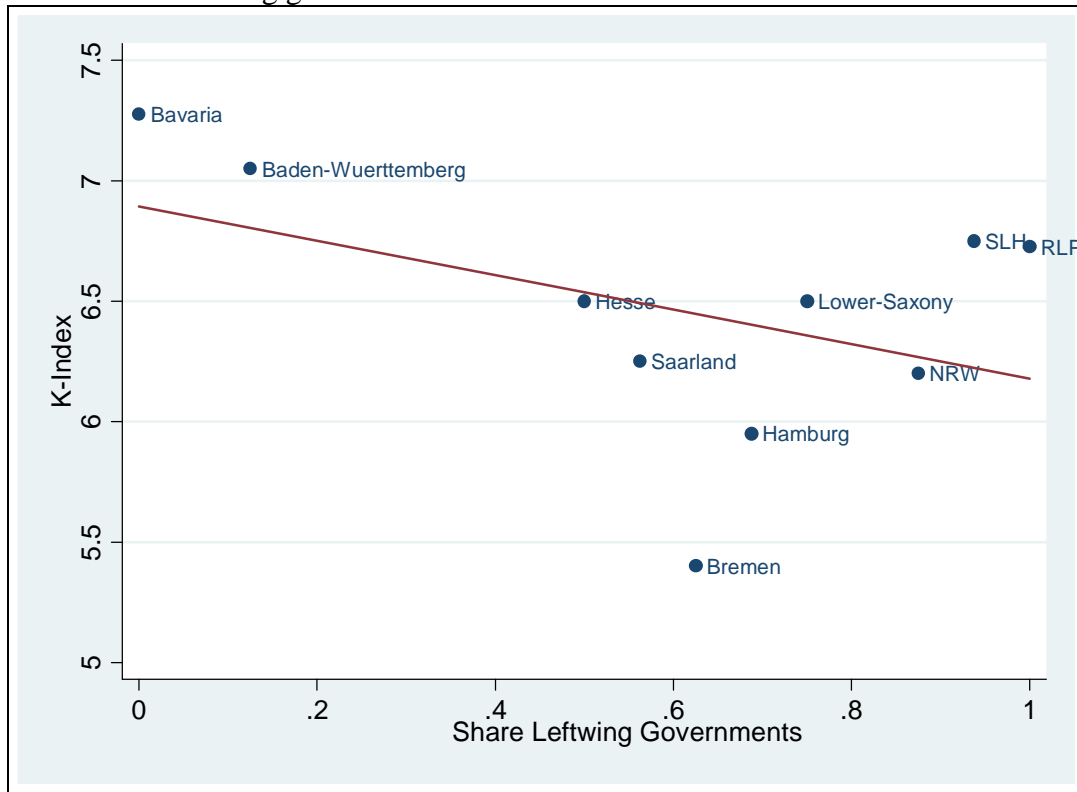
Correlation coefficient: -0.44. Source: Fuest et al. (2009), own calculations

Figure 6: Correlation between averaged Economic Freedom (K-Index) and the share of leftwing governments. East German Laender. 1994-2006.

Correlation coefficient: 0.21. Source: Fuest et al. (2009), own calculations

Table 1: Regression Results. Dependent variable: L-Index of economic freedom.
West German states. 1970-2006.

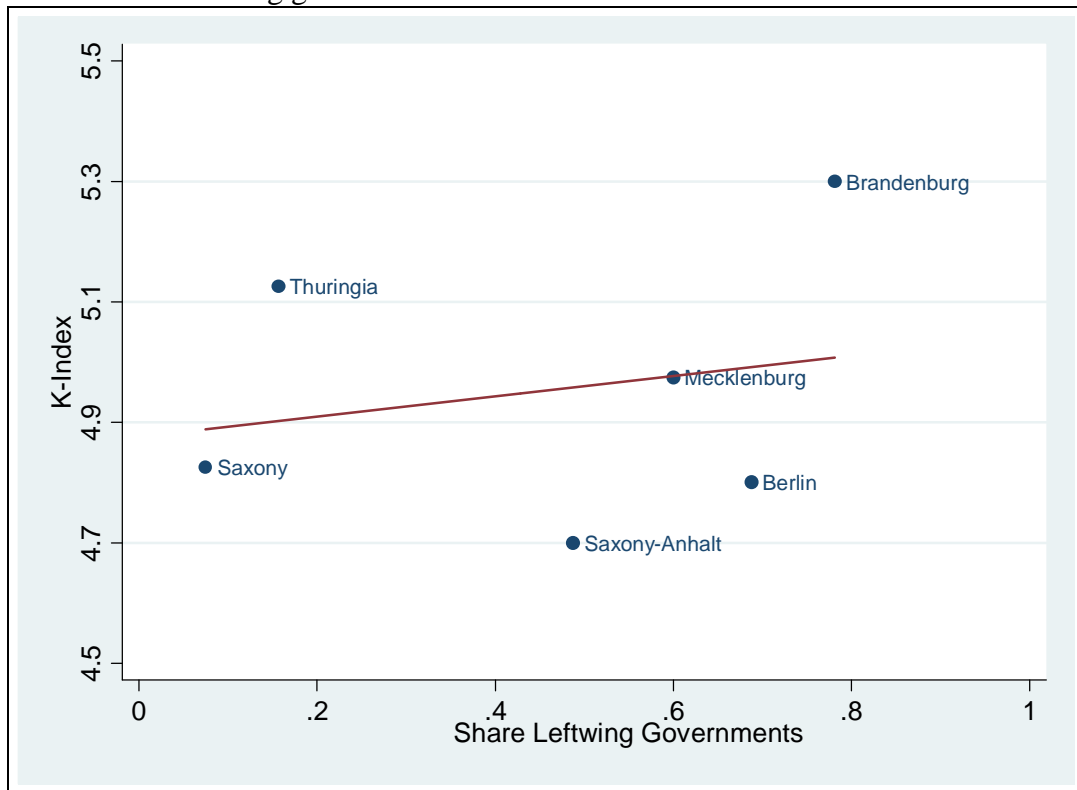|	(1) Dynamic	(2) Dynamic	(3) FGLS	(4) FGLS
Left	-0.1118*		-0.1702**	
	[1.90]		[2.33]	
CDU		0.1571		0.1953*
		[1.51]		[1.86]
CDU/FDP		0.1355		0.1615*
		[1.32]		[1.68]
CDU/SPD		-0.1889		-0.0737
		[1.41]		[0.62]
SPD/FDP		0.0174		-0.0238
		[0.15]		[0.23]
SPD/GR		0.009		-0.0466
		[0.08]		[0.41]
Lagged dependent variable	0.7073***	0.6469***		
	[7.33]	[5.88]		
Fixed State Effects	Yes	Yes	Yes	Yes
Fixed Period Effects	Yes	Yes	Yes	Yes
Observations	80	80	90	90
Number of n	10	10	10	10
R-squared (overall)			0.50	0.52

Absolute value of t statistics in brackets; * significant at 10%; ** significant at 5%; *** significant at 1%

Table 2: Regression Results. Dependent variable: K-Index of economic freedom.
West and East German states. 1994-2006.

	(1) Dynamic	(2) Dynamic	(3) FGLS	(4) FGLS
Left	-0.0386		0.0194	
	[0.27]		[0.21]	
CDU		0.0164		0.3616**
		[0.07]		[2.12]
CDU/FDP		0.1407		-0.115
		[0.54]		[1.00]
CDU/SPD		-0.3301		0.0618
		[1.36]		[0.48]
SPD/FDP		0.4981		0.6347**
		[0.49]		[2.18]
SPD/GR		0.1036		-0.1105
		[0.37]		[1.14]
SPD/LINKE		-0.2406		0.0231
		[0.73]		[0.11]
Lagged dependent variable	0.5933***	0.5912***		
	[3.64]	[3.46]		
Fixed State Effects	Yes	Yes	Yes	Yes
Fixed Period Effects	Yes	Yes	Yes	Yes
Observations	48	48	64	64
Number of n	16	16	16	16
R-squared (overall)			0.01	0.03

Absolute value of t statistics in brackets; * significant at 10%; ** significant at 5%; *** significant at 1%

Table 3: Regression Results. Fiscal Equalization System.
Dependent variable: L-Index of economic freedom.
West German states. 1970-2006.

	(1) Dynamic	(2) Dynamic	(3) FGLS	(4) FGLS
Left	-0.1285**		-0.1445**	
	[2.18]		[2.00]	
CDU		0.1752		0.1978*
		[1.59]		[1.95]
CDU/FDP		0.1761		0.1466
		[1.58]		[1.52]
CDU/SPD		-0.2207		0.0091
		[1.29]		[0.08]
SPD/FDP		0.0136		0.0474
		[0.12]		[0.46]
SPD/GR		0.0062		-0.057
		[0.05]		[0.52]
Fiscal Equalization (transfers received)	-0.0004	-0.0002	-0.0008**	-0.0008**
	[1.08]	[0.47]	[2.52]	[2.46]
Fiscal Equalization (transfers spent)	-0.0001	-0.0001	0.0001	5×10^{-5}
	[0.68]	[1.00]	[0.96]	[0.75]
Lagged dependent variable	0.6815***	0.6634***		
	[6.70]	[5.50]		
Fixed State Effects	Yes	Yes	Yes	Yes
Fixed Period Effects	Yes	Yes	Yes	Yes
Observations	80	80	90	90
Number of n	10	10	10	10
R-squared (overall)			0.55	0.57

Absolute value of t statistics in brackets; * significant at 10%; ** significant at 5%; *** significant at 1%

Table 4: Regression Results. Instrumental Variable regressions including: GDP per capita growth, unemployment rate, GDP per capita
Dependent variable: L-Index of economic freedom. West German states. 1970-2006.

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Left	-0.1882***		-0.2728**		-0.0473		-0.1362**	
	[2.58]		[2.10]		[0.61]		[2.14]	
CDU		0.2078**		0.3302*		0.0725		0.1271
		[2.06]		[1.94]		[0.79]		[1.49]
CDU/FDP		0.2015*		0.2460**		0.0482		0.1544*
		[1.93]		[2.08]		[0.54]		[1.79]
CDU/SPD		-0.1992		-0.2629*		-0.3765***		-0.3650***
		[1.24]		[1.86]		[3.43]		[2.96]
SPD/FDP		-0.0007		-0.0678		-0.0316		-0.0163
		[0.01]		[0.55]		[0.34]		[0.16]
SPD/GR		-0.039		0.0261		-0.0179		-0.0511
		[0.36]		[0.23]		[0.21]		[0.54]
Unemployment rate	-0.0336	-0.016						
	[0.99]	[0.42]						
GDP per capita growth			-20.9872	-18.2481				
			[0.66]	[0.69]				
GDP per capita					4×10^{-5}***	5×10^{-5}***	3×10^{-5}***	3×10^{-5}***
					[3.74]	[4.47]	[11.64]	[11.26]
Fixed State Effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Fixed Period Effects	Yes	Yes	Yes	Yes	Yes	Yes	No	No
Observations	80	80	70	70	70	70	70	70
Number of n	10	10	10	10	10	10	10	10
R-squared (overall)	0.51	0.48	0.33	0.45	0.08	0.13	0.15	0.20

Absolute value of t statistics in brackets; * significant at 10%; ** significant at 5%; *** significant at 1%

Table A1: Descriptive Statistics.

Variable	Obs.	Mean	Std. Dev.	Min	Max	Source
L-Index of Economic Freedom	90	5.97	0.72	4.4	7.6	Fuest et al. (2009)
K-Index of Economic Freedom	64	5.85	0.92	4.4	7.4	Fuest et al. (2009)
Left	114	0.51	0.45	0	1	Own calculations
SPD	114	0.21	0.38	0	1	Own calculations
CDU	114	0.26	0.43	0	1	Own calculations
CDU/FDP	114	0.17	0.35	0	1	Own calculations
CDU/SPD	114	0.12	0.30	0	1	Own calculations
SPD/FDP	114	0.11	0.28	0	1	Own calculations
SPD/GR	114	0.10	0.27	0	1	Own calculations
SPD/LINKE	114	0.03	0.17	0	1	Own calculations
Fiscal Equalization (transfers received)	114	232.48	458.72	0	2815.50	German Federal Statistical Office
Fiscal Equalization (transfers spent)	114	232.47	554.52	0	2447.46	German Federal Statistical Office
Unemployment	114	9.46	5.68	0.27	21.68	Federal Employment Office
GDP per captia growth, real	104	0.07	0.04	0.02	0.20	Research Group *"Volkswirtschaftliche Gesamtrechnung der Länder"*, deflated by myself
GDP per captia, real	104	17804.83	9623.98	3220.07	49606.76	Research Group *"Volkswirtschaftliche Gesamtrechnung der Länder"*, deflated by myself

Table A2: Data description

Variable	Description	Source
Economic Freedom indices	*See above*	Fuest et al. (2009)
Fiscal Equalization (transfers received)	Horizontal fiscal equalization, transfers received, at constant prices, million EUROS	German Federal Statistical Office
Fiscal Equalization (transfers spent)	Horizontal fiscal equalization, transfers received, at constant prices, million EUROS	German Federal Statistical Office
Unemployment Rate	Referring to the dependent civilian labor force	Federal Employment Office
GDP per capita growth	at constant prices	Research Group *"Volkswirtschaftliche Gesamtrechnung der Länder"*
GDP per capita	at constant prices	Research Group *"Volkswirtschaftliche Gesamtrechnung der Länder"*