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Does political uncertainty influence firm owners' business perceptions?

Marina Riem

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Abstract

Using microdata that serve as the foundation of the ifo Business Climate Index, Germany's leading business cycle indicator, I examine whether political uncertainty influences how firm owners perceive their present state and future development of business. I use state election months as indicators of times of high political uncertainty. The results show that firm owners are optimistic regarding their expected business development before state elections. After state elections firms change their expectations and expect their business to develop worse. It is conceivable that firm owners are more optimistic prior to state elections because politicians promised individual policies to gratify the firms' needs during election times. Firms might be disappointed after elections as the promises made during election campaigns by politicians turn out to be empty words.

JEL Code: C23, D22, D72, H32, H70.

Keywords: Business perceptions, political uncertainty, elections, survey data, panel data.

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1. Introduction

Politics are a main source of uncertainty because politicians design the institutional environment of firms by, for example, setting taxes and labor market and infrastructure regulations. Uncertainties associated with possible changes in government policy influence the behavior of firms. Scholars have shown that political uncertainty influences real economic outcomes.² Cycles in corporate investment are correlated with election timing. Firms “wait and see” and rationally delay investment until the policy uncertainty is resolved before they decide on new costly investments (McDonald and Siegel 1986, Dixit and Pindyck 1994, Abel and Eberly 1994). Before national elections, firms reduced their investment by an average of 4.8% in election years (Julio and Yook 2012). Political uncertainty of gubernatorial elections in the U.S. gave rise to a 4.9% decline in the third quarter in the investment of firms headquartered in states with a gubernatorial election in the following quarter, relative to the investment of firms without an upcoming gubernatorial election (Jens 2013). Before German state elections, realized corporate investment also decreased compared to other years (Riem 2016). Firms however seem to anticipate electoral uncertainty already when making investment plans and hardly revise their plans.

Expectations of firm managers and market participants also take changes in government policy into account. Managers’ expectations relate policies and changes in government to real managerial decision-making. Through the channel of expectations of business development, political uncertainty may also affect stock markets. Country specific stock market volatility increases by 23.42% in the 51 days surrounding an election, whereas most of the stock market movement occurs around the election day (Bialkowski et al. 2008). Durnev (2010) shows in a cross-country study that electoral uncertainty influences how corporate investment is geared to stock market prices. Around elections managers’ decisions include stock market prices – as the market is distorted – to a lesser degree. Following Pastor and Veronesi (2012), policy changes influence stock market prices. In times of high political uncertainty stock market prices fall on average. When

² For example, Osterloh (2012) and Potrafke (2012) investigate how elections influence economic performance.

the probability of a rightwing coalition winning the 2002 German federal election increased, overall stock market volatility increased and stock performance of small firms was better (Füss and Bechtel 2008).

Stock prices reflect the market value of a firm. The market value of a firm incorporates the market participants' perceptions of the current state of business and their expectations about the future development of the firm. Firm owners can best assess the business situation of their corporation. Firm owners' business perceptions and expectations take many factors into account: for example, internal and prior economic conditions (e.g. demand, costs, and competitors), and external factors which include mainly political influences. Especially political elections cause uncertainty for corporations because a change in government can give rise to economic policy reforms. Similarly to the impact of elections to stock market prices, electoral uncertainty may hence influence firm owners' corporate assessment. Firm owners' business perceptions in turn influence their investment behavior.

There are several possible explanations for the change of firm owners' business perceptions around elections. Uncertainty increases because elections might go along with possible changes of government ideology and therefore in government policy. Further uncertainty arises because the value of personnel connections to decision-makers in politics is not clear after elections. Bertrand et al. (2006) describe that investment of firms with politically connected CEOs increases before municipal elections in France. Firms are willing to manipulate investment to influence re-election of their political connections.³ Firm owners' business perceptions would therefore be stronger influenced during election times, the more uncertain the election outcome is. The effect of political uncertainty on business perceptions would be stronger if the head of government changed after an election.

The political business cycle theories describe that incumbents pursue expansionary policies before elections to influence the level of economic activity prior to an election in

³ On the value of political connections for firms, see Faccio (2006).

order to maximize the probability of re-election. Election-motivated politicians may, for example, increase public spending, especially public spending that is visible for the voters, or decrease taxes (Nordhaus 1975, Rogoff and Sibert 1988). Firm owners' business perception may thus be better before elections when public spending is high and worse after elections compared to normal times.

I examine whether political uncertainty surrounding state elections influences how firm owners perceive their present state and future development of business. I employ a firm-level dataset that serves as the foundation of the ifo Business Climate Index, Germany's leading business cycle indicator. I combine survey answers on the current state of business and the expected development of business in the next six months with data on state elections. An advantage of focusing on state elections is that, in most instances, they are exogenously determined and the timing of state elections varies between states. I am thus able to disentangle the effect of elections from common trends. The results show that firm owners perceive their *current state* of business to be on average better in the year before and after state elections compared to the years further away from state elections. The findings also indicate that firms *expect* their business to develop better starting nine months prior to state elections. It is conceivable that firm owners are more optimistic because politicians promised individual policies to gratify the firms' needs during election times. After state elections firms change their expectations and are less optimistic as they expect the business to develop worse after state elections. Firms might be disappointed after elections as the promises made during election campaigns by politicians reveal to be empty words.

2. Institutional Backdrop

Elections in the German states take place every five years. The only exceptions are Hamburg and Bremen, where elections take place every four years. In the past, even more states held elections every four years. Parliaments may also call early elections. As election years are not synchronized across states, I can disentangle the effect of elections from common trends. In most states, voters cast two votes in a personalized proportional representation system. The first vote determines which candidate is to obtain

the direct mandate in one of the electoral districts with a relative majority. With the second vote, voters select an individual party. The parties obtain a number of the seats in parliament that corresponds to the party's second vote share. Candidates voted into the parliament with the first vote (direct mandate) obtain their seats first. Candidates from party lists obtain the remaining seats. Two major political parties characterize the political spectrum in Germany: the Social Democratic Party (SPD) and the Christian Democratic Union (CDU; in Bavaria: CSU). The much smaller Free Democratic Party (FDP), the Greens (Bündnis 90/Die Grünen) and the Left Party (Die Linke) have played an important role as coalition partners. There are some other smaller parties, such as for example the SSW in Schleswig-Holstein, but these parties usually play a minor role in government policies.

The German system of fiscal federalism can be described as co-operative and unitary federalism (Auel 2014). Little institutional competition exists between states. State governments have little discretionary power regarding their tax revenues. The financially most important taxes are shared by the federal, states and local level. States have no possibility unilaterally to alter taxes, so that there is no tax competition between states. The fiscal equalization scheme weakens incentives for state governments to generate additional revenue. The competencies of state governments in legislation and finances rather declined in the last decades. The federal government and the European Union nowadays have a say in many areas. Around 10-20 % of state expenditures are predetermined by federal legislation (Seitz 2008). Especially educational and cultural policies are in the competence of state governments. State governments decide on state and municipal administration and the police. State governments often set the course in structural policy and infrastructure. In the state of Baden-Württemberg, for example, the newly elected coalition of the SPD and the Greens that followed the rightwing CDU government declared the phase out of nuclear energy. The change in energy policy resulted in uncertainty about energy costs for firms. State governments can influence economic policy by initiating state support programs. A state government can, for example, apply for money from the federal government or the EU to promote regional business development. State governments send their representatives to the second chamber of legisla-

tive power (*Bundesrat*). Representatives of the states can start legislative initiatives in any policy area. If the representatives win the majority of other states, such initiatives can become federal law. The states thus jointly can influence the legislative process through the *Bundesrat*. Even though state governments have relatively little room to influence policy making, the public debate pays attention to state elections. How political parties perform in state elections and which party coalitions are formed, has a signaling effect for the upcoming federal election.

3. Data and Descriptive Statistics

I use Germany's most important business cycle and firm survey data that serves as the foundation of the Ifo Business Climate Index, Germany's leading business cycle indicator.⁴ The Ifo business survey is conducted every month among 7,000 German firms of the construction, retail, manufacturing, and services industry sector. The business climate is the mean of the balances of the business situation and expectations of survey respondents and serves as an early indicator for economic development in Germany. Firm owners are asked to assess the current state of business and their expectations of business development for the next six months. Firms can characterize their business situation as "bad", "satisfiable" or "good" and their expectations of business development for the next six months as "more unfavorable", "not changing" or "more favorable". Both variables are measured on a scale from one to three, where higher values indicate more optimistic business perceptions. During the sample period the current state of business has a mean of 1.97 and a standard deviation of 0.68. The expected development of business has a mean of 1.99 and a standard deviation of 0.61. On average I observe answers from a firm owner for 132 months. Out of those 132 months, firms switch their perceived state of business from one month to the other 33.42 times and their expectations of business development change from one month to the other 40.07 times. Figure 1 shows how the average state of business and expected business development evolved over the time period 1992 to 2015. Business perceptions were most pessimistic during the financial crisis in 2008/2009. I use the survey answers of the current state of

⁴ Business survey data are provided by the Economics & Business Data Center at the University of Munich and the Ifo Institute, Munich. For more information on the data, see Seiler (2012).

business and expected business development to measure firm owners' business perceptions.

I investigate the impact of political uncertainty arising from the electoral process. I use state election months as indicators of times of high political uncertainty. The timing of state elections is predetermined by the constitution and should be independent of fiscal policy. The dates of state elections vary between the German states. My sample includes 84 state elections across 16 German states over the 1992 to 2015 period, i.e. between four and seven elections occurred in each state. I first examine the unconditional correlation between firm owners' perception of their state of business and electoral uncertainty. Figure 2 shows the average current state of business in the months surrounding state elections. Firm owners seem to perceive their state of business to be better starting three months prior to the election month. The difference in means of state of business between three months prior to state elections (1.956) and state election months (1.969) is statistically significant at the 5% level (see Table 2 column (5)). The average state of business remains to be more optimistic until three months after state elections. The difference in means of state of business between three months prior (1.956) and three months after state elections (1.969) is statistically significant at the 1% level (see Table 2 column (7)). Figure 3 shows the average expected development of business in the months surrounding state elections. Expectations seem to be high already eight months before state elections take place. In the three months after state elections expectations of business development however drop. The differences in means of expected business development between three months after state elections (1.964) and state election months (1.997) and three months prior (2.003) and three months after state elections (1.964) are statistically significant at the 1% level (see Table 2 columns (6) and (7)). The analysis of variance in Table 2 column (4) shows that the means of the current state of business and the expected development of business in the three months prior to, in state election months, and in the three months after state elections significantly differ at the 1% level.

4. Empirical Analysis

4.1. Empirical Strategy

The basic empirical model has the following form:

$$\begin{aligned} Business\ perception_{it} = & \alpha State\ election_{st} + \beta Pre\ state\ election\ months_{st} + \gamma Post\ state \\ & election\ months_{st} + \delta Orders_{it} + \sum_j \varepsilon Industry_{ij} + \sum_k \eta Employees_{ikt} + \lambda Public\ spending_{sm} \\ & + \kappa State\ government\ ideology_{st} + \sum_l \rho State_{il} + \sum_m \tau Year_m + v_i + u_{it} \end{aligned}$$

$$\begin{aligned} \text{with } i=1, \dots, 20138; s=1, \dots, 16; j=1, \dots, 4; k=1, \dots, 6; l=1, \dots, 16; m=1, \dots, 23; \\ t=1992m1, \dots, 2015m12 \end{aligned}$$

where $Business\ perception_{i,t}$ describes either (1) firm i 's perception of the current state of business in month t or (2) firm i 's perception of the expected business development in the next six months in month t . The current state of business is measured on a scale between one (bad) and three (good). The expected business development in the next six months is measured on a scale between one (more unfavorable) and three (more favorable). The variable $State\ election_{st}$ assumes the value 1 if a state election takes place in state s a firm is headquartered in in month t and 0 otherwise. The variables $Pre\ state\ election\ months_{st}$ and $Post\ state\ election\ months_{st}$ assume the value 1 in the months before/after state elections occurred and 0 otherwise. I test different time frames surrounding state elections: I include $Pre\ state\ election\ months_{st}$ and $Post\ state\ election\ months_{st}$ variables for three, six, nine and twelve months before and after state elections.

I control for how firm owners of firm i appraise their order status in month t . The appraisal of the status of $Orders_{i,t}$ is measured on a scale between one (too small) and three (relatively high). Control variables also include dummy variables for firm size measured by the number of employees ($Employees_{ikt}$), and $Industry_{ij}$ indicating the industry a firm operates in (construction, retail, manufacturing, and services industry). According to the political business cycle theory, public spending increases before elections. When government spending is high, firm owners might perceive their business to

run better (in the short-run).⁵ I therefore control for the level of public spending of state governments. The variable *Public spending*_{sm} measures the log of government spending of state *s* in year *m*. The degree of electoral uncertainty may well depend on the ideology of the current and newly elected government.⁶ I include the ideology of the respective government as an additional control variable. The variable *State government ideology*_{st} capturing political orientation assumes the value 1 when a left-wing government, 0.5 when a mixed coalition government, and 0 when a right-wing government was in office (Potrafke et al. 2016).⁷ ρ describes fixed state effects, τ is a fixed year effect, and v is a fixed firm effect. u_{it} denotes the error term.

I estimate linear fixed-effects models with standard errors robust to heteroskedasticity (Huber/White/sandwich standard errors – see Huber 1967 and White 1980).⁸ Table 1 shows summary statistics of the main variables.

4.2. Results

Table 3 shows the regression results for the baseline panel data model where *state of business* is the dependent variable. Column (1) shows the coefficient estimates for re-

⁵ The Ricardian equivalence proposition describes that firm owners are forward looking and internalize the government's budget constraint. Firm owners know that higher government spending must be financed by raising taxes at some point in the future.

⁶ On ideology-induced policy-making in the German states, see, for example, Oberndorfer and Steiner (2007), Potrafke (2011), Tepe and Vanhuyse (2009), Kauder and Potrafke (2013), Mechtel and Potrafke (2013), Tepe and Vanhuyse (2013), and Potrafke (2013).

⁷ As a leftwing government I consider SPD, SPD/Greens, SPD/Greens/SSW or SPD/Die Linke. A mixed coalition government is between SPD and CDU/CSU, CDU and Greens or CDU/FDP/Greens. A rightwing government is CDU/CSU or CDU/CSU/FDP.

⁸ Since the dependent variables are categorical, the estimation of non-linear models would be appropriate. Generally there is unobserved time-invariant heterogeneity among firms so rejecting fixed effects is unlikely as otherwise I do not obtain consistent estimates. Fixed effects estimation of nonlinear panel data is possible for the logit model, but not for the probit model. Given the properties of the data, a fixed effects ordered logit estimator would be appropriate. Available options are the so called "Blow-Up and Cluster" (BUC) estimator developed in Baetschmann et al. (2015) or the FCF estimator by Ferrer-i-Carbonell and Frijters (2004). The other choice is to use a binary recoding scheme and employ a fixed effects logit estimator. Unfortunately, all fixed effects logit estimations proved to be computationally too extensive and did not converge for my sample. I therefore also tested random-effects ordered logit estimations. The results did not change qualitatively. I believe that linear fixed effects are the best choice. (See Riedl and Geishecker (2014) for a discussion under which conditions it is better to choose linear fixed effects, binary recoding schemes, the estimator by Baetschmann et al. (2015) or the estimator by Ferrer-i-Carbonell and Frijters (2004) and which of those alternatives have good properties in small and large samples.)

gressions including the variables *Pre state election* and *Post state election* for three months before and after state elections. Column (2) shows estimates for six months before and after state elections, column (3) for nine months before and after state elections, and column (4) for twelve months before and after state elections.

The coefficient of the variable *State election* is positive and statistically significant at the 1% level in columns (1) to (4). The numerical meaning of the coefficient in column (1) is that in the month of state elections, the perceived state of business is 0.011 points higher on the one-to-three scale than in months without state elections. The average perceived current state of business in the whole sample is 1.97 and increases to 1.98 in months of state elections. Compared to a standard deviation of 0.68, the effect of state elections is thus quite small in magnitude. The coefficient of the variable *Pre state election* is also positive and statistically significant at the 1% level for all time frames, i.e. three, six, nine, and twelve months before state elections (columns (1)-(4)). The coefficient of the variable *Post state election* is also positive and statistically significant for all time frames. The results indicate that firm owners perceive their state of business to be on average somewhat better in the year before and after state elections compared to the years further away from state elections.

The coefficient of the variable *Orders* is positive and statistically significant at the 1% level in all specifications. When firms appraise their orders to be higher, the current state of business is perceived to be better. Larger firms and firms in the retail sector perceive their state of business to be lower. The coefficient of the control variable *Public spending* does not turn out to be statistically significant.⁹ The coefficient of *State government ideology* has a negative sign but does not turn out to be statistically significant.

Table 4 shows the regression results where *expected business development* is the dependent variable. Column (1) shows coefficient estimates for three months before and after state elections, column (2) shows coefficient estimates for six months before and

⁹ When I include *Public spending* in percent of GDP instead of the log of *Public spending*, the coefficient of *Public spending* in percent of GDP has a positive sign and is statistically significant at the 10% percent level. Inferences regarding the other variables do not change.

after state elections, column (3) for nine months before and after state elections, and column (4) for twelve months before and after state elections.

The coefficient of the variable *State election* is positive and statistically significant at the 5% level in columns (1) to (4). The numerical meaning of the coefficient is that in the month of state elections, the expected business development is 0.008 points higher on the one-to-three scale than in months without state elections. The average expected business development in the whole sample is 1.99 and increases to 2.00 in months of state elections. Compared to a standard deviation of 0.61, the effect of state elections is thus quite small in magnitude. The coefficient of the variable *Pre state election* is positive and statistically significant for three months before state elections (column (1)), for six months before state elections (column (2)), and for nine months before state elections (column (3)). The coefficient however does not turn out to be statistically significant for twelve months prior to state elections (column (4)). The result indicates that firms expect their business to develop better starting nine months prior to state elections. It is conceivable that firm owners are more optimistic prior to state elections because politicians promised individual policies to gratify the firms' needs during election times. The coefficient of the variable *Post state election* is negative and statistically significant at the 1% level until nine months after state elections (columns (1)-(3)). The results indicate that after state elections firms change their expectations and are less optimistic as they expect the business to develop worse after state elections. Firms might be disappointed after elections as the promises made during election campaigns by politicians turn out to be empty words.

The coefficient of the variable *Orders* is positive and statistically significant at the 1% level in all specifications. When the order status is higher, firms also expect their business to develop better. Larger firms perceive their business development to be lower. The coefficient of the variable *Public spending* has a positive sign and is statistically significant at the 1% level.¹⁰ Firms expect their business to develop better when state

¹⁰ When I include *Public spending* in percent of GDP instead of the log of *Public spending*, inferences do not change.

governments spending is high. The coefficient of the variable *State government ideology* is negative and statistically significant at the 1% level. The result indicates that when a left-wing state government is in office, firm owners expect their business to develop less good. The finding is in line with Budge et al. (2001) who find that right-wing governments tend to implement economic policies that are more favorable to firm profits than left-wing governments.¹¹

4.3. Robustness Tests

I submitted all of my results to rigorous robustness tests. None of these robustness tests indicates any severe fragility of my results.

I include dummy variables for the *Pre state election months* and *Post state election months* for three, six, nine and twelve months all in one regression. I include in total eight dummy variables: four dummies for the months one to three, four to six, seven to nine and ten to twelve months before state elections and also four dummies for the same time frames after state elections. The results corroborate that the current state of business is better around state elections. The variable *State election* is positive and statistically significant. The dummy variables for the one to three and four to six months prior to state elections and the dummy variable for the one to three months after state elections are positive and statistically significant. The results also corroborate that the expected business development is better in the one to three months prior to state elections, but lower in the one to three months after state elections.

Elections may not be exogenous to fiscal policy because events such as crises can influence the timing of elections (Shi and Svensson 2006). The timing of regular elections is predetermined by the constitution and should be independent of fiscal policy. Therefore

¹¹ Various studies have however cast doubt on the common notion that firms typically benefit more from and hence are more supportive of right-wing governments compared to left-wing governments, due to the former's supposedly more business-friendly policies. Camyar and Ulupinar (2013), for example, find that left-wing governments have a positive impact on firm valuation. Firms do not uniformly benefit from economic policies, but political parties even target favorable policies to different industries (Bechtel and Füss 2010).

it is reasonable to distinguish between regular and early state elections.¹² Out of 84 state elections in my sample, 12 state elections were early elections. I replace the variable *State election* and re-estimate the regressions including separate variables for regular and early state elections. When I use the *state of business* and the *expected business development* as dependent variable the coefficient of regular state election has a positive sign and is statistically significant and the coefficient of early state elections does not turn out to be statistically significant.

The impact on business perceptions surrounding an election should be related to the uncertainty created by an election. Not after all state elections the composition of the government changes. I examine only those state elections where the government changed. Therefore I replace the variable *State election* with a variable including only those state elections where a change in government occurred. I consider only state elections that included switches between left-wing, center, and right-wing governments, i.e. changes of the variable *State government ideology*.¹³ Out of the 84 state elections in my sample, there were 36 state elections that were followed by a change in *State government ideology*. When I exclude state elections without government changes in the estimations, standard errors of coefficients increase. I re-estimated the models for my measure of state elections with government changes. The coefficients of state elections with government changes do not turn out to be statistically significant when I use the *state of business* as the dependent variable. The coefficients of the months prior to state elections with government changes have a negative sign, but lack statistical significance. The coefficients of the months after state elections with government changes are positive and statistically significant. The coefficients of state elections with government changes have a positive sign and are statistically significant when I use the *expected*

¹² For studies on election cycles that distinguish between regular and early elections, see e.g. Potrafke (2010), Julio and Yook (2012), Mechtel and Potrafke (2013), Kauder et al. (2016), Reischmann (2016), Riem (2016).

¹³ I also tested a different specification of state elections where a change in government occurred: I only include state elections where the composition of parties in the government changed. For example, before the state election the SPD governed alone, but after the state election the SPD formed a coalition with the Greens. Out of the 84 state elections in my sample, there were 52 state elections that were followed by a change of government parties. The regression results corroborate the findings including only state elections with changes of state government ideology.

business development as the dependent variable. The coefficients of the months prior to state elections with government changes have a positive sign, but lack statistical significance. The coefficients of three and six months after state elections with government changes do not turn out to be statistically significant. The coefficients of nine and twelve months after state elections with government changes are positive and statistically significant. The findings corroborate the hypothesis that firm owners react to the promises made during election times.

As a placebo test I re-estimated my baseline regressions with random state election months. I moved the state election months forward and backward in three months intervals. I generated placebo state elections that took place between three and 24 months earlier and later than the true state election date. I re-estimated my baseline regressions for the *state of business* and *expected business development* including the placebo state election months and the placebo pre and post state election months dummies. Out of 64 regressions with placebo state elections for the dependent variable *state of business*, none of the regressions shows a similar pattern as I found in my results: in none of the regressions the coefficients of the placebo state election, pre and post placebo state election months are all positive and statistically significant. In only one out of 64 regressions with placebo state election for the dependent variable *expected business development* I found a similar pattern as in my baseline results: in only one of the regressions the coefficients of the placebo state election, and pre placebo state election months are positive and statistically significant and the coefficient of post placebo state election months is negative and statistically significant.

There may well be seasonal effects in firm owners' business perceptions. I include season dummy variables (winter, spring, fall, summer) as further controls in the regressions.¹⁴ The results do not change qualitatively when I use the *state of business* as dependent variable. When I use the *expected business development* as dependent variable,

¹⁴ Instead of season dummy variables, I include month dummy variables. The results do not change qualitatively when I use the *state of business* as dependent variable. When I use the *expected business development* as dependent variable, the results are weaker but corroborate that the *expected business development* is less optimistic after state elections.

the results corroborate that expectations are better in state election months and worse after state elections. The coefficients of the pre state election months however do not turn out to be statistically significant.

It is conceivable that the effect of public spending takes time to influence the behavior of firms. I therefore include a one year lag of public spending instead of the current level of government spending. Controlling for *public spending* in the previous year, the regression coefficient still does not turn out to be statistically significant for the models where the dependent variable is the current *state of business*. The coefficient estimate of the variable *public spending* in the previous year is positive and statistically significant when I use the *expected business development* as dependent variable. The results regarding the election effects do not change qualitatively. An optimal level of public spending might exist. Governments might raise taxes to a high degree, if public spending is very high. I therefore control for squared public spending. When I use the *state of business* as dependent variable, public spending and public spending squared do not turn out to be statistically significant. When I use the *expected business development* as dependent variable, public spending and public spending squared are statistically significant. The results regarding the election effects do not change qualitatively.

State governments have little discretionary power regarding their spending as many spending categories are predetermined by federal laws. Competencies of state governments include education and culture.¹⁵ Education spending is available for the years 1995 until 2015 (2013-2015 are estimates). Therefore I include education spending (in logs or in percent of GDP) instead of total public spending as a control variable. The results do not change qualitatively.

I control for federal elections. Six federal elections occurred during the sample period. The results do not change qualitatively when I use the *state of business* and the *expected business development* as dependent variables. The coefficient of federal election has a

¹⁵ I do not estimate regressions with spending on culture as a control variable because data is not available for the same sample. Data on culture spending is only available for the years 1995, 2000, and 2005-2012 (2012 is an estimate).

positive sign and is statistically significant when I use the *state of business* as dependent variable, but lacks statistical significance when I use the *expected business development* as dependent variable.

I control for the macroeconomic environment by including either state GDP growth or net lending in percent of GDP in the regressions. The results do not change qualitatively when I use the *state of business* and the *expected business development* as dependent variables. The coefficient of state GDP growth has a positive sign and is statistically significant. The coefficient of net lending in percent of GDP has a negative sign and is statistically significant.

Scholars describe differences between East and West Germans regarding individual preferences for social policies and redistribution (Corneo 2004, Alesina and Fuchs-Schündeln 2007). Previous studies have shown that ideology-induced policies differed in East and West German states (Tepe and Vanhuyse 2014, Kauder and Potrafke 2013, Potrafke 2013). I test whether firm owners in East and West Germany adopt their business perceptions differently to state elections. When I split the sample for East and West Germany, the results do not change qualitatively for West Germany. The results are somewhat weaker for East Germany. When I use the *state of business* as dependent variable, the results corroborate that the current state of business is better in and after state election months. When I use the *expected business development* as dependent variable, the results corroborate that firms expect their business to develop better prior to state elections. I observe fewer firms in East than in West Germany.

Jackknife tests in which I exclude an individual state, one at a time, corroborate that the main findings generalize to most states. The results hold for all states when I use the *state of business* as dependent variable. When I use the *expected business development* as dependent variable and exclude the states North Rhine-Westphalia, Rhineland-Palatinate, Baden-Wuerttemberg, Bavaria, or Saxony-Anhalt, the coefficients of state election and/or pre state election months lack statistical significance in some specifications.

It may well be that firm owners perceive their business differently during crisis times. I therefore split the sample in before the financial crisis (1992-2007), the crisis period (2007-2010), and after the financial crisis (2010-2015). I estimate my baseline regressions separately for each sample. When I use the *state of business* as dependent variable, results do not change qualitatively for the period before the financial crisis. During and after the financial crisis the results are somewhat weaker. When I use the *expected business development* as dependent variable, the results corroborate that expectations are better in state election months and worse after state elections before and during the financial crisis. After the financial crisis the results are somewhat weaker.

5. Conclusion

I use encompassing firm data on business perceptions and expectations to examine whether firms hold different views on business perceptions before and after state elections. Firm owners' business perceptions and expectations take many factors into account: for example, internal and prior economic conditions (e.g. demand, costs, and competitors), and external factors which include mainly political influences. Especially political elections cause uncertainty for corporations because a change in government can give rise to economic policy reforms. Changes in economic policies influence managerial decision making and thus influence how firm owners assess their business development. I examine whether political uncertainty surrounding state elections in Germany influences how firm owners perceive their present state and future development of business. I use state election months as indicators of times of high political uncertainty. The results show that firm owners perceive their *current state* of business to be on average somewhat better in the year before and after state elections compared to the years further away from state elections. The results also indicate that firms *expect* their business to develop better starting nine months prior to state elections. It is conceivable that firm owners are more optimistic prior to state elections because politicians promised individual policies to gratify the firms' needs during election times. After state elections firms change their expectations and are less optimistic as they expect the business to develop worse after state elections. Firms might be disappointed after elections as the promises made during election campaigns by politicians turn out to be empty words.

Firm owners learn about which policies are likely to be implemented during coalition negotiations. It took between 17 and 118 days, on average 47.7 days, until a coalition government was formed after state elections. It is conceivable that it takes some time until information on economic policies is processed and until the media evaluates the plans of the new government.

The magnitude of the effects of state elections on the current state of business and the expected development of business are however small. The German fiscal federalism leaves the state governments little leeway in decision-making. Firm owners can thus not expect large changes in economic policy following a state election. Nevertheless firm owners pay attention to state elections and adopt their business perceptions accordingly. Municipalities have discretionary power over the local business tax. Future research may well examine whether firm owners' business perceptions are influenced by municipal elections.

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Appendix

Figure 1: State of business and expected business development over time

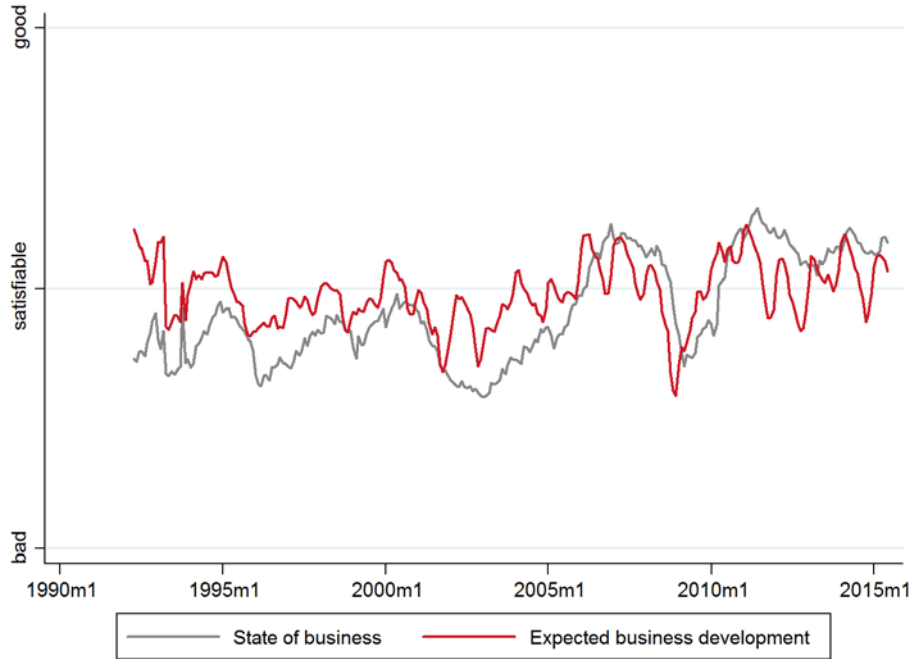


Figure 2: State of business surrounding state elections

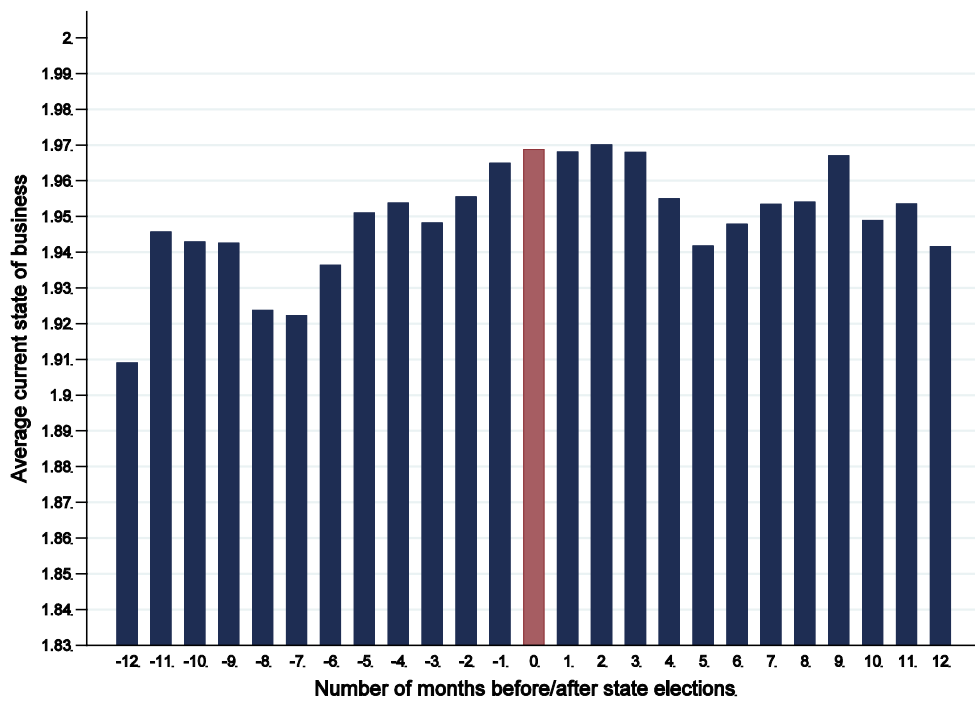


Figure 3: Expected business development surrounding state elections

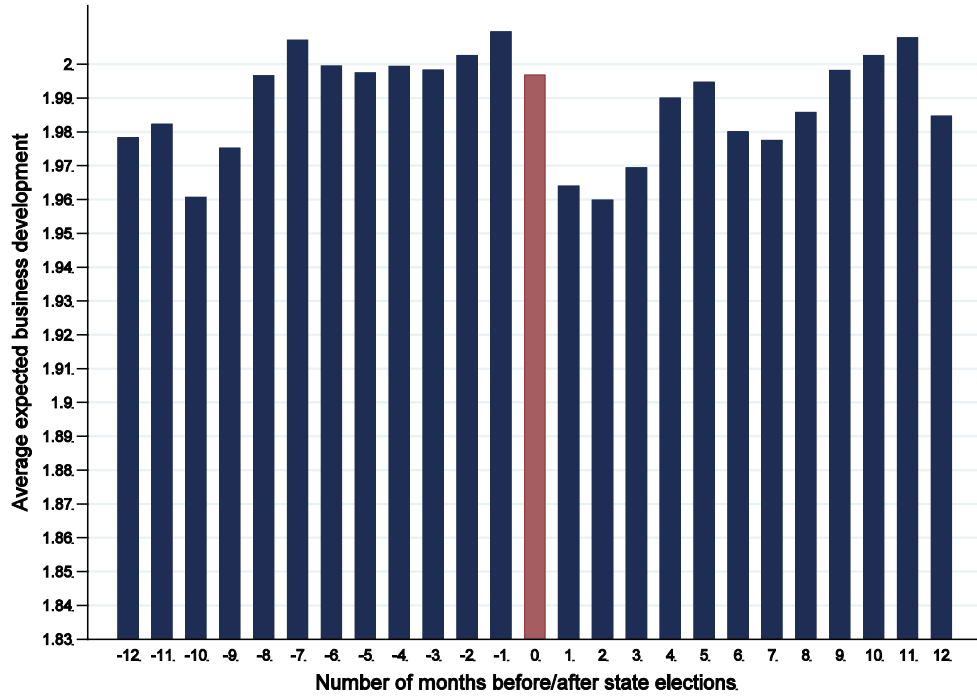


Table 1: Descriptive statistics

	Obs.	Mean	Std. Dev.	Min.	Max.
State of business	1074070	1.97	0.68	1	3
Expected business development	1070982	1.99	0.61	1	3
Orders	1074070	1.75	0.63	1	3
State election	1074070	0.02	0.13	0	1
Number of months before/after state election	1074070	-0.56	17.85	-32	35
State government ideology (left)	1074070	0.41	0.46	0	1
Construction	1074070	0.05	0.22	0	1
Retail	1074070	0.16	0.37	0	1
Manufacturing	1074070	0.73	0.44	0	1
Services	1074070	0.06	0.23	0	1
Berlin	1074070	0.01	0.11	0	1
Schleswig-Holstein	1074070	0.02	0.13	0	1
Hamburg	1074070	0.02	0.13	0	1
Bremen	1074070	0.01	0.08	0	1
Lower Saxony	1074070	0.08	0.26	0	1
North Rhine-Westphalia	1074070	0.21	0.40	0	1
Rhineland-Palatinate	1074070	0.03	0.18	0	1
Hesse	1074070	0.06	0.24	0	1
Baden-Wuerttemberg	1074070	0.16	0.36	0	1
Bavaria	1074070	0.21	0.41	0	1
Saarland	1074070	0.01	0.07	0	1
Mecklenburg-Western Pomerania	1074070	0.01	0.11	0	1
Brandenburg	1074070	0.03	0.16	0	1
Saxony-Anhalt	1074070	0.03	0.17	0	1
Saxony	1074070	0.08	0.27	0	1
Thuringia	1074070	0.05	0.22	0	1
Employees: 0-19	1074070	0.16	0.37	0	1
Employees: 20-49	1074070	0.18	0.38	0	1
Employees: 50-249	1074070	0.37	0.48	0	1
Employees: 250-999	1074070	0.20	0.40	0	1
Employees: 1000-4999	1074070	0.08	0.27	0	1
Employees: >5000	1074070	0.02	0.12	0	1
Public spending	1074070	10.16	0.64	8	11

Note: The variable *state of business* is measured on a scale between one (bad) and three (good). The *expected business development* in the next six months is also measured on a scale between one (more unfavorable) and three (more favorable). *Orders* is measured on a scale between one (too small) and three (relatively high). The variable *state election* assumes the value 1 if a state election takes place in state s a firm is headquartered in in month t and 0 otherwise. The variable *state government ideology* capturing political orientation assumes the value 1 when a leftwing government, 0.5 when a mixed coalition government and 0 when a rightwing government was in office. The variable *public spending* measures the log of government spending of state s in year m .

Table 2: Analysis of variance

	Mean			Analysis of vari- ance	Multiple comparison tests		
	Pre state election: 3 months	State election	Post state election: 3 months	F-Test	Pre state election: 3 months – State election	Post state election: 3 months – State elec- tion	Pre state election: 3 months – Post state election: 3 months
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
State of busi- ness	1.956	1.969	1.969	8.91*** (0.000)	-0.013** (0.019)	-0.001 (1.000)	0.125*** (0.000)
Expected business development	2.003	1.997	1.964	98.34*** (0.000)	0.007 (0.258)	-0.032*** (0.000)	-0.040*** (0.000)

Note: p-values in parentheses, * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$. Column (4) shows F statistics and p-values in parentheses. Columns (5) to (7) show differences in means and p-values in parentheses. The p-values in columns (5) to (7) refer to multiple comparison tests of Scheffé (1953).

Table 3: Regression results: State of business

Dependent variable: State of business				
	(1)	(2)	(3)	(4)
State election	0.011 ^{***} (0.001)	0.012 ^{***} (0.000)	0.012 ^{***} (0.000)	0.012 ^{***} (0.001)
Pre state election: 3 months	0.007 ^{***} (0.005)			
Pre state election: 6 months		0.010 ^{***} (0.000)		
Pre state election: 9 months			0.008 ^{***} (0.000)	
Pre state election: 12 months				0.006 ^{***} (0.003)
Post state election: 3 months	0.016 ^{***} (0.000)			
Post state election: 6 months		0.007 ^{***} (0.002)		
Post state election: 9 months			0.006 ^{**} (0.013)	
Post state election: 12 months				0.004 ^{**} (0.042)
Orders	0.539 ^{***} (0.000)	0.539 ^{***} (0.000)	0.539 ^{***} (0.000)	0.539 ^{***} (0.000)
Retail	-0.795 ^{***} (0.010)	-0.799 ^{***} (0.009)	-0.798 ^{***} (0.009)	-0.797 ^{***} (0.009)
Employees: 20-49	0.005 (0.661)	0.005 (0.660)	0.005 (0.659)	0.005 (0.658)
Employees: 50-249	0.003 (0.793)	0.003 (0.794)	0.003 (0.794)	0.003 (0.791)
Employees: 250-999	-0.016 (0.288)	-0.016 (0.285)	-0.016 (0.285)	-0.016 (0.288)
Employees: 1000-4999	-0.042 ^{**} (0.025)	-0.042 ^{**} (0.025)	-0.042 ^{**} (0.025)	-0.042 ^{**} (0.025)
Employees: >5000	-0.130 ^{***} (0.000)	-0.130 ^{***} (0.000)	-0.130 ^{***} (0.000)	-0.130 ^{***} (0.000)
Public spending	0.003 (0.797)	0.002 (0.874)	0.002 (0.888)	0.002 (0.859)
State government ideology (left)	-0.008 (0.135)	-0.007 (0.165)	-0.007 (0.163)	-0.008 (0.163)
Constant	1.237 ^{***} (0.000)	1.250 ^{***} (0.000)	1.252 ^{***} (0.000)	1.247 ^{***} (0.000)
Time effects	Yes	Yes	Yes	Yes
State effects	Yes	Yes	Yes	Yes
Firm effects	Yes	Yes	Yes	Yes
Observations	1074070	1074070	1074070	1074070
Firms	20138	20138	20138	20138
R ² overall	0.251	0.250	0.250	0.251
R ² within	0.310	0.310	0.309	0.309

Note: Fixed-effects panel OLS regressions with robust standard errors. p -values in parentheses, * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$. Reference category for industry is construction, for employment size is 0-19 employees and for state is Berlin. Manufacturing and services industry omitted due to collinearity.

Table 4: Regression results: Expected business development

Dependent variable: Expected business development				
	(1)	(2)	(3)	(4)
State election	0.008** (0.041)	0.008* (0.051)	0.008** (0.047)	0.008** (0.047)
Pre state election: 3 months	0.014*** (0.000)			
Pre state election: 6 months		0.007*** (0.008)		
Pre state election: 9 months			0.006** (0.015)	
Pre state election: 12 months				0.002 (0.360)
Post state election: 3 months	-0.019*** (0.000)			
Post state election: 6 months		-0.012*** (0.000)		
Post state election: 9 months			-0.009*** (0.000)	
Post state election: 12 months				-0.003 (0.140)
Orders	0.184*** (0.000)	0.184*** (0.000)	0.184*** (0.000)	0.184*** (0.000)
Retail	-0.206 (0.531)	-0.209 (0.527)	-0.209 (0.528)	-0.207 (0.530)
Employees: 20-49	-0.018* (0.055)	-0.018* (0.055)	-0.018* (0.055)	-0.018* (0.054)
Employees: 50-249	-0.045*** (0.000)	-0.045*** (0.000)	-0.045*** (0.000)	-0.045*** (0.000)
Employees: 250-999	-0.060*** (0.000)	-0.060*** (0.000)	-0.060*** (0.000)	-0.060*** (0.000)
Employees: 1000-4999	-0.081*** (0.000)	-0.081*** (0.000)	-0.081*** (0.000)	-0.081*** (0.000)
Employees: >5000	-0.078*** (0.004)	-0.078*** (0.004)	-0.078*** (0.004)	-0.078*** (0.004)
Public spending	0.051*** (0.000)	0.052*** (0.000)	0.052*** (0.000)	0.051*** (0.000)
State government ideology (left)	-0.026*** (0.000)	-0.026*** (0.000)	-0.026*** (0.000)	-0.027*** (0.000)
Constant	1.187*** (0.000)	1.177*** (0.000)	1.177*** (0.000)	1.183*** (0.000)
Time effects	Yes	Yes	Yes	Yes
State effects	Yes	Yes	Yes	Yes
Firm effects	Yes	Yes	Yes	Yes
Observations	1071533	1071533	1071533	1071533
Firms	20123	20123	20123	20123
R ² overall	0.048	0.048	0.048	0.048
R ² within	0.055	0.055	0.055	0.055

Note: Fixed-effects panel OLS regressions with robust standard errors. p -values in parentheses, * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$. Reference category for industry is construction, for employment size is 0-19 employees and for state is Berlin. Manufacturing and services industry omitted due to collinearity.

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