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In an additional experiment based on the ruling in *Wachovia* on January 17, 2006, we look at banks with available stock returns in CRSP according to the CRSP-FRB link file made available by the Federal Reserve Bank of New York.<sup>18</sup> By means of this link file, we supplement the bank sample with the 2005 FDIC’s Summary of Deposits, which provides high-quality data on locations and deposits at the bank branch-level. To compute ARs, we follow the same procedure described above for the ruling in *Hertz* but with two differences. First, the one-year estimation window is adjusted to July 1, 2004 to June 30, 2005. Second, we use ARs based on the market model, as standard in the literature for banks (e.g., DeLong and DeYoung, 2007; Minnick, Unal, and Yang, 2011). We present summary statistics for the bank sample in Section 5.2.

#### 2.4 Econometric issues

In our empirical analysis, we assess stock price reactions to the U.S. Supreme Court ruling concerning corporate diversity of citizenship following a regulatory event study methodology (Schwert, 1981).

We test our hypotheses by estimating cross-sectional regressions of event-day ARs and CARs on several measures of state court characteristics and corporate geographic dispersion. We restrict the analysis to event-day ARs and two-day CARs to establish a sounder causal interpretation of our findings, as confounding events are likely to take place as we move away from the event-day. We also employ the Abadie and Imbens (2002) matching technique to estimate the average treatment effect of the treated (ATT) on CARs.

Our tests exploit a single event affecting the firms in the sample. As a consequence, we are faced with cross-correlation of stock returns. We account for cross-correlation

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<sup>18</sup>See [http://www.newyorkfed.org/research/banking\\_research/datasets.html](http://www.newyorkfed.org/research/banking_research/datasets.html).



















reduced the danger of being pinned into a state court, one would expect the positive effect to be larger for firms with operations in worse courts. Weighting operations by the U.S. Chamber of Commerce ranking (column 3), the academic ranking (column 4) and the business attitude measure (column 5) all result in negative and statistically insignificant coefficients of the geographic footprint on CARs. This result is robust to the exclusion of states located in the 7th Circuit (columns 6 and 7), with the difference that the measure weighted by the U.S. Chamber of Commerce ranking is negative and significant. Since Hypothesis 3 predicts a *positive* coefficient, the negative and insignificant point estimates are evidence against a general superiority of federal courts for firms. In columns 8 and 9, we only consider operations in the 9th and 7th Circuit, respectively. Firms with large operations in the 9th Circuit should be particularly positively affected since they were at risk of being found a citizen of multiple states. On the other hand, operations in the 7th Circuit should not have an impact since firms could not be found a citizen in those states pre-*Hertz*. Both coefficients are negative and insignificant.

Columns 1 to 5 in Panel B repeat the analyses from Panel A on two-day CARs. All coefficients remain negative and are generally statistically significant. Columns 6 to 9 add Fama-French 30-industry fixed effects. The estimated coefficients are negative and, with the exception of the business attitude measure, significant. From these results we conclude that there is no evidence that improved access to federal courts post-*Hertz* benefits shareholders. One potential explanation is that the loss in flexibility to forum shop outweighs any existing benefit.

## 5 Additional tests

### 5.1 Litigation risk and the impact of courts

In this section, we investigate cross-sectional differences in the impact of courts on firm value. Courts should be more relevant for firms in industries which face larger legal risk. There is no well-established method to measure a firm’s operational legal risk.<sup>29</sup> We are interested in litigation which is connected to a company’s operations. Areas of interest include employment, accident and injury lawsuits as well as product liability cases. To capture operational litigation risk, we use three different industry-level measures. As a first proxy for operational legal risk, we employ each industry’s occupational nonfatal injuries and illnesses rate by the BLS. We argue that job-related injuries and illnesses are

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<sup>29</sup>Past work has focused on securities lawsuits, either in the context of IPO underpricing or auditor liability (e.g., [Lowry and Shu, 2002](#); [Kim and Skinner, 2012](#)).

likely to lead to lawsuits by affected employees. Second, in the same spirit, we look at labor intensity in manufacturing industries, as measured by the total payroll to total value added ratio. This measure captures the exposure to employment-related lawsuits. Finally, we capture the exposure to product liability suits using industry customer orientation, i.e., we distinguish between industries catering to retail customers (business-to-customer) and those catering to other businesses (business-to-business). We conjecture that firms in business-to-customer industries are more likely to face product liability suits.

All firms headquartered outside the 7th Circuit could claim diversity of citizenship when sued in their headquarter state pre-*Hertz* if operations in that state were small enough. Hence, as in the baseline tests of Hypothesis 1 above, we limit the sample to firms for which operations in their headquarter state, as measured by the count of mentions of this state, constitute less than 15% of their nationwide operations.

Table 6 presents the results for industry tests, in which we interact the U.S. Chamber of Commerce ranking and the court business attitude of a firm’s headquarter state with our proxies for litigation risk. In columns 1 and 2, we find that the coefficient on the U.S. Chamber of Commerce ranking is significantly more negative for firms operating in industries with above-median occupational risk and labor intensity, respectively.<sup>30</sup> Interestingly, the effect of the U.S. Chamber of Commerce ranking on ARs seems to be mainly driven by firms from industries with high litigation risk. By contrast, in column 3, we find no significant difference between business-to-customer and business-to-business industries. The results presented above provide support to the channel we propose in Hypothesis 1. Firms in high litigation risk industries are particularly sensitive to the business attitude of courts.

## 5.2 A second quasi-natural experiment (*Wachovia v. Schmidt*)

We proceed to test our Hypothesis 2 (forum shopping) using a second quasi-natural experiment, similar to the ruling in *Hertz* but affecting different firms. In the case of *Wachovia v. Schmidt* (*Wachovia*), the U.S. Supreme Court had to decide on the citizenship of nationally-chartered banks. In the U.S., banks have the choice between being nationally- or state-chartered. In the past, nationally-chartered banks used to be exempt from state-level interest rate ceilings. Until today, nationally-chartered banks are being

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<sup>30</sup>There is a reduced number of observations in labor intensity specifications, as we are limited to manufacturing industries from the NBER-CES Manufacturing Database. When using the industry occupational nonfatal injuries and illnesses rate, we have less observations than in Table 3, because some SIC groups (SIC codes ending in zero) cannot be easily assigned to NAICS industries from BLS data, so we prefer to remove such observations to avoid confounding effects.

supervised by the Office of the Comptroller of the Currency rather than by the state regulatory authorities. Most notably, there is no one-to-one relationship between a bank's charter and its geographic footprint. For example, as of 2005, Regions Financial Corporation was state-chartered but operated in 15 states, whereas Texas Capital Bancshares Inc. was nationally-chartered but operated just in Texas.

In *Wachovia*, the question was whether nationally-chartered Wachovia Bank was to be considered a citizen of every U.S. state in which it operated a branch. For the purpose of claiming diversity of citizenship, that reading of the law meant that Wachovia would not be able to diversify any cases in states in which it operated at least one branch. On January 17, 2006, the U.S. Supreme Court ruled that a nationally-chartered bank would be treated like any other corporation, with citizenship either in the state that comprised its principal place of business or in which it was incorporated.<sup>31</sup> For additional details on the case as well as analysis of why it constitutes a valid experiment, see Appendix A.

The ruling in *Wachovia* allows us to independently recreate our test of Hypothesis 2. The ruling reduced banks' ability to choose between different forums on a case by case basis. This reduction mirrors that experienced by firms with strong exposure to the 9th Circuit in the *Hertz* case. Firms with exposure to the 9th Circuit and nationally-chartered banks lost part of their ability to forum-shop on the day of the rulings in *Hertz* and *Wachovia*, respectively. Therefore, we expect nationally-chartered banks with exposure to many states pre-*Wachovia* to experience negative ARs.

We present our findings in Table 7. Panel A provides summary statistics. Our sample consists of 434 banks registered with the FDIC. The 145 nationally-chartered banks (our treatment group) operate branches in on average 3.6 states and an average fraction of 23.4% of branches is located outside of the bank's headquarter state. On average, the 289 state-chartered banks (our control group) have offices in 1.6 states, with 14.9% of them outside of the bank's headquarter state. The average bank in this sample is therefore local in its branch network.

In Panel B of Table 7, we present regressions of CARs on treatment measures. Columns 1 through 5 focus on event-day ARs. In column 1, we find an insignificant coefficient for our treatment indicator. In columns 2 through 4, we estimate regressions of event-day ARs on banks' number of non-headquarter state branches over the whole sample, the treated sample, and the control sample, respectively. We obtain a negative and statistically significant effect over the whole sample and the treatment group, while

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<sup>31</sup>Note that the U.S. Supreme Court did not clarify how to determine the principal place of business, something it did later in *Hertz*.



the coefficient is insignificant over the control group as we would expect, as such banks were not affected by the ruling. Given the coefficient of 0.039 in column 3, a treated bank in the top quartile in terms of states of operations experienced a drop in equity value of 0.16% compared to a bank in the bottom quartile. For the average treated bank in our sample the estimated coefficient implies a decrease in market capitalization of \$15.31 million, using stock prices at the end of 2005. However, when we interact the treatment indicator and the number of states of operations over the whole sample in column 5, we do not find a statistically significant coefficient. Columns 6 through 10 focus on two-day CARs. The results are in line with those for event-day ARs, except for the interaction of the treatment indicator and the number of states of operations, which is negative and significant in this case, as we would expect.

The results from the ruling in *Wachovia* confirm our findings on forum shopping from the ruling in *Hertz*. We find that banks that lose the ability to forum shop post-*Wachovia* experience negative abnormal returns, analogous to corporations in the 9th Circuit post-*Hertz*.

### 5.3 Real effects

If courts matter for firm value, they are likely to play a role in firms' choice of where to operate. We thus test whether firms indeed shifted their operations as a response to the ruling in *Hertz*. The most affected states by the ruling should lie in the 9th Circuit. The negative CARs exhibited upon the ruling in *Hertz* by firms with significant operations in the 9th Circuit (see Section could be a sign that they were well-suited to operate in that region. One potential explanation is that those firms had an edge in determining corporate citizenship, for example because they employed particularly skilled lawyers. At the same time, firms that chose not to operate in 9th Circuit pre-*Hertz* could have been facing especially high costs to deal with diversity of citizenship issues.

After the ruling in *Hertz*, the firms that originally kept out of the 9th Circuit may have been more inclined to increase operations there. In other words, these firms could have been interested in operating in the 9th Circuit previously, but held back out of fear to be stuck in state court. Therefore, in our baseline analysis, the treatment group consists of all firms that had no operations in 9th Circuit's states before 2010 (*Treated 1*). We also follow two alternative treatment definitions. *Treated 2* (*Treated 3*) assigns treatment to all firms that exhibit less than 15% (less than 15% but strictly positive) state counts in the 9th Circuit before 2010. The control group consists of all other firms. In each case,

we restrict the sample to firms not headquartered in the 9th Circuit, with available data both in the pre- and in the post-*Hertz* period.

Figure 4 plots the mean fraction of 9th Circuit’s operations for treatment and control firms. Under each treatment definition, treated firms significantly increase their operations in 9th Circuit’s states following the ruling in *Hertz*. Firms in our baseline treatment group increase their exposure from 0% in 2009 to an average of 4% in 2012. By contrast, firms with strictly positive exposure before 2010 slightly reduce their operations in the 9th Circuit. Importantly, visual inspection of the data confirms that there were parallel trends in the size of operations inside the 9th circuit for both treatment and control firms.

We also test whether these findings are statistically significant and survive after the inclusion of control variables. Table 8 reports results from a differences-in-differences design. The dependent variable is our measure of out-of-headquarter operations in the 9th Circuit. We include firm- and year-fixed effects. In columns 1 through 3, we cluster standard errors at the firm-level, whereas in columns 4 through 6 we cluster standard errors at the firm-year level. In each specification, the treatment indicator exhibits a positive and statistically significant coefficient, in line with the graphical analysis above. This is evidence that firms actively moved their operations into the 9th Circuit after the ruling in *Hertz* gave them a greater chance to diversify cases there.

## 6 Conclusion

We present an analysis of the relation between courts and firm value in the United States. The exact impact of court characteristics, and especially court efficiency, is an open question. Our identification strategy rests on three pillars. First, we exploit the special two-layer court structure in the U.S. that allows the same cases to be tried in different courts, but under the consideration of the exact same laws. Second, our analysis uses the U.S. Supreme Court decision in *Hertz v. Friend* as a shock to the access to different court systems. This exogenous shock allows us to resolve the issue of endogenous selection into courts. Finally, we introduce a novel method to exploit geographic heterogeneity in treatment from U.S. Supreme Court rulings based on so-called circuit splits.

Our first set of results confirms that exposure to courts that are more highly ranked by the U.S. Chamber of Commerce, a pro-business lobby organization, is associated with higher firm value. We find that the economic channel behind this result appears to be courts’ business attitude rather than their objective efficiency.

The estimated impact of favorable courts on firm value implies that rational firms and

plaintiffs should profit from steering cases into favorable courts. We test this conjecture and demonstrate that a reduction in corporations' flexibility to cherry-pick favorable courts (forum shopping) is associated with a negative impact on firm value. On the other hand, we find that in cases in which the ruling in *Hertz* reduced plaintiffs' ability to forum shop, firm value increased.

Our results point to a large impact of court quality on firm value. As court quality impacts firm value only indirectly by reducing existing legal uncertainty and expenses, this suggests that the original legal component of firm value is significant. Quantifying the absolute contribution of legal risk, and in particular legal operational risk, to firm value is an open question.

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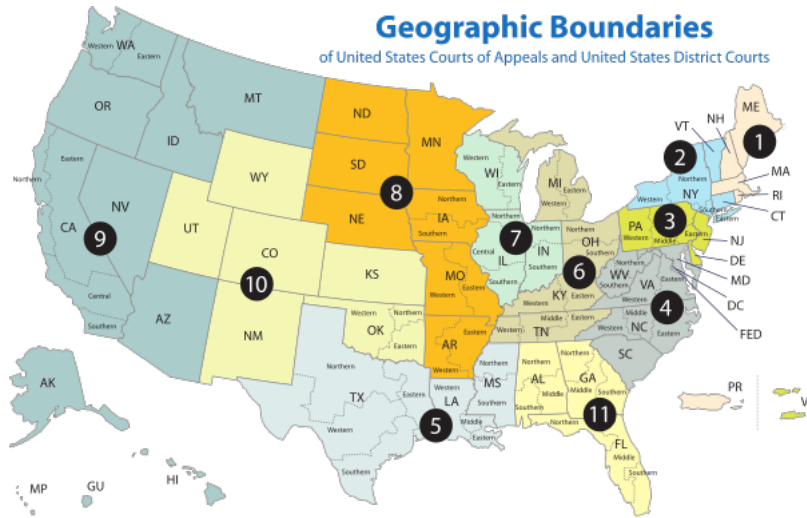


Figure 1: Map of U.S. federal circuits. Source: <http://www.uscourts.gov/uscourts/images/CircuitMap.pdf>

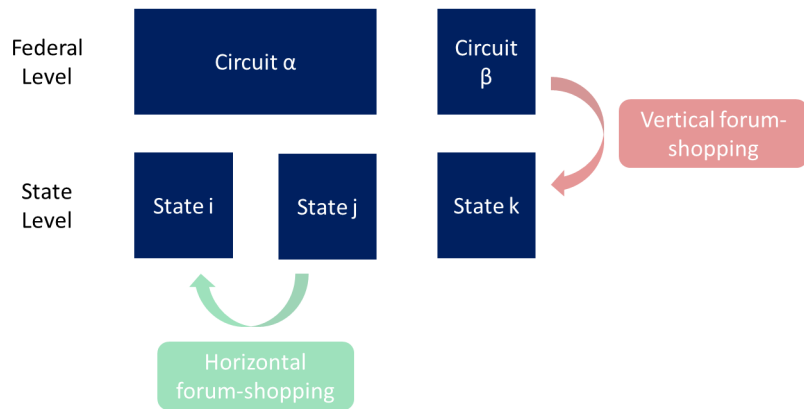
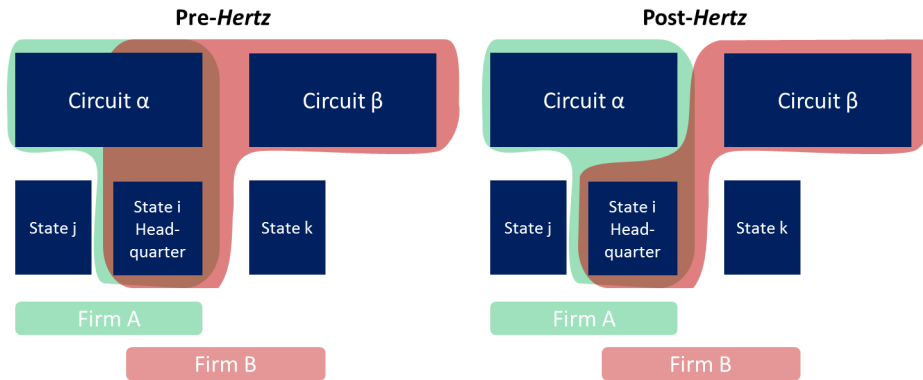
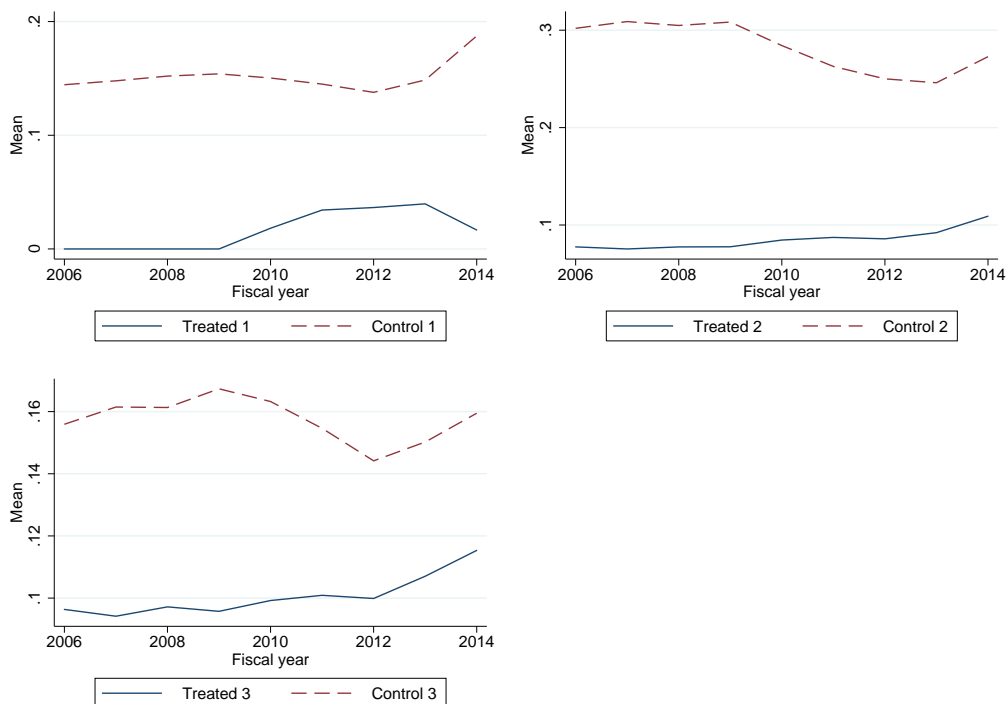


Figure 2: Two-layer structure of the U.S. court system. The U.S. court system features a federal and a state level. Switching between state courts is referred to as horizontal forum shopping. Vertical forum shopping describes the choice between federal and state courts.





**Figure 3:** Illustrative example of reduction of forums in which a firm can be sued post-*Hertz*. After the ruling in *Hertz*, plaintiffs trying to sue firm *B* are not able to sue in federal circuit  $\alpha$ , as firm *B*'s only exposure to this circuit is through its headquarter state *i*. Firm *A*, on the other hand, has exposure to circuit  $\alpha$  through its operations in *State<sub>j</sub>* both before and after the ruling in *Hertz*. Therefore plaintiffs suing firm *A* do not lose access to a forum.



**Figure 4:** Out-of-headquarter state operations in the 9th Circuit (%). *Treated 1* assigns treatment to firms that have no operations in the states comprising the 9th Circuit before 2010, based on *Out of HQ state operations in 9th Circuit (%)*. *Treated 2* assigns treatment to firms for which *Out of HQ state operations in 9th Circuit (%)* is below 15% before 2010. *Treated 3* assigns treatment to firms for which *Out of HQ state operations in 9th Circuit (%)* is below 15% but strictly positive before 2010.

**Table 1:** U.S. Supreme Court rulings involving circuit splits

This table reports several circuit splits resolved by the U.S. Supreme Court and the corresponding potential area of interest for researchers.

Ruling	Year	Area
388 U.S. 395	1967	Arbitration
421 U.S. 723	1975	Securities fraud
441 U.S. 677	1979	Title IX rights of action
480 U.S. 421	1987	Asylum
485 U.S. 224	1988	Fraud on the M&A market
499 U.S. 554	1991	Tax effect asset swap
501 U.S. 157	1991	Personal bankruptcy Chapter 11
503 U.S. 79	1992	M&A accounting
505 U.S. 88	1992	Health and safety regulation
506 U.S. 447	1993	Monopoly antitrust
509 U.S. 155	1993	Asylum
511 U.S. 93	1994	Out of state discrimination
517 U.S. 735	1996	Banking
526 U.S. 434	1999	Bankruptcy
543 U.S. 50	2004	Truth in lending maximum penalty
552 U.S. 148	2008	Securities fraud
568 U.S. ____	2013	Securities fraud

**Table 2:** Summary statistics

This table reports summary statistics of the variables employed in the analysis of the U.S. Supreme Court's ruling in *Hertz Corp. v. Melinda Friend* on February 23, 2010. The sample includes U.S. public firms with available stock price data on the event-day, excluding financial institutions and utilities. Accounting and daily stock return data are from the CRSP-Compustat merged database. Data on firms' headquarter and incorporation states are taken from CRSP's COMPHIST table. Panel A presents the mean of several corporate geographic dispersion measures by quartile. Panel B presents the mean of event-day ARs by quartile of the same corporate geographic dispersion measures. Panel C presents the summary statistics of the main variables used in our analysis as of the event-day. All variables are explained in Table D.1.

Panel A: Geographic dispersion measures						
	No. states		Out of HQ state op. (%)		Bus. att. (out of HQ state)	
	Mean	Obs.	Mean	Obs.	Mean	Obs.
Low	3.080	615	0.185	576	-0.262	577
2	5.911	628	0.471	580	-0.022	575
3	9.673	539	0.674	572	0.106	576
High	23.128	522	0.854	576	0.424	576

Panel B: Abnormal returns (event day)						
	No. states		Out of HQ state op. (%)		Bus. att. (out of HQ state)	
	Mean	Obs.	Mean	Obs.	Mean	Obs.
Low	-0.124	615	-0.308	576	-0.112	577
2	-0.266	628	-0.119	580	-0.335	575
3	-0.515	539	-0.388	572	-0.416	576
High	-0.627	522	-0.660	576	-0.610	576

*(Continued)*

**Table 2:** – *Continued*

Panel C: Summary statistics for main variables							
	Mean	Std.Dev.	Q1	Med.	Q3	Obs.	
CAR[−10, −5]	1.038	8.027	-3.426	0.461	5.219	2304	
CAR[−2, −1]	0.303	6.243	-1.485	0.024	1.577	2304	
CAR[0, 0]	-0.368	3.091	-1.689	-0.216	0.932	2304	
CAR[0, 1]	-0.387	4.463	-2.011	-0.232	1.054	2304	
CAR[−1, 1]	-0.136	6.900	-1.938	-0.229	1.286	2304	
CAR[−2, 2]	-0.084	8.044	-2.504	-0.203	1.774	2304	
CAR[−3, 0]	-0.268	8.895	-3.379	-0.283	2.452	2304	
Headquarter 7th Circuit	0.070	0.256	0.000	0.000	0.000	2304	
Headquarter 9th Circuit	0.248	0.432	0.000	0.000	0.000	2304	
Chamber of Commerce ranking (HQ state)	29.229	13.605	20.000	30.500	42.000	2304	
Academic ranking (HQ state)	20.142	15.887	6.000	14.000	35.000	2304	
Business attitude (HQ state)	0.258	0.939	-0.381	0.346	1.143	2304	
No. states	9.936	9.111	4.000	7.000	12.000	2304	
Out of HQ state operations (%)	0.546	0.260	0.337	0.579	0.761	2304	
Out of HQ state operations (HHI)	0.194	0.295	0.025	0.070	0.183	2269	
Chamber of Commerce ranking (out of HQ state)	14.804	8.411	7.932	14.714	21.314	2304	
Academic ranking (out of HQ state)	12.735	7.460	6.924	12.649	18.456	2304	
Business attitude (out of HQ state)	0.061	0.279	-0.087	0.022	0.207	2304	
Size	5.674	1.875	4.220	5.545	6.942	2304	

**Table 3:** Tests of Hypothesis 1

This table analyzes the relation between firm value and measures of court efficiency and business attitude by estimating cross-sectional regressions of CARs on several measures of court system quality in firms' headquarter state. CARs are from an event study of the U.S. Supreme Court's ruling in *Hertz Corp. v. Melinda Friend* of February 23, 2010. Panel A presents the baseline results using event-day ARs,  $CAR[0, 0]$ , as dependent variable. The sample is restricted to firms headquartered outside the 7th Circuit and with a fraction of out-of-headquarter state operations above 85%, according to our measure of geographic dispersion, *Out of HQ state operations (%)*. Panel B presents additional results. Columns 1 through 3 restrict the sample to firms headquartered outside the 7th Circuit and with a fraction of out-of-headquarter state operations above 80%, according to our measure of geographic dispersion, *Out of HQ state operations (%)*. Columns 4 through 6 include Fama-French 30-industry fixed effects. Columns 7 through 9 use two-day CARs,  $CAR[0, 1]$ , as dependent variable.  $t$ -statistics calculated with robust standard errors clustered by Fama-French 30-industry are reported in ( ). Significance at the 10%, 5%, and 1% level is indicated by \*, \*\*, \*\*\*, respectively. Refer to Table D.1 for variable definitions.

Panel A: Baseline regressions					
	(1)	(2)	(3)	(4)	(5)
Chamber of Commerce ranking (HQ state)		-0.029*** (-2.91)			
Academic ranking (HQ state)			0.011 (1.01)		
Business attitude (HQ state)				-0.409*** (-3.05)	-0.416*** (-3.08)
Ort. academic ranking (HQ state)					0.199 (1.15)
Constant	-0.646*** (-2.92)	0.125 (0.43)	-0.943** (-2.60)	-0.623*** (-2.86)	-0.647*** (-2.97)
Observations	267	267	267	267	267
$R^2$	0.00	0.02	0.00	0.02	0.03

*(Continued)*

**Table 3:** – *Continued*

Panel B: Additional tests									
	Out. 7th Circ. & Out of st. op.> 80%			Outside 7th Circuit & Out of state op.> 85%					
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
							CAR[0, +1]		
Chamber of Commerce ranking (HQ state)	-0.023** (-2.60)			-0.030** (-2.42)			-0.056** (-2.72)		
Academic ranking (HQ state)		0.002 (0.19)			0.009 (0.80)			-0.003 (-0.18)	
Business attitude (HQ state)			-0.320** (-2.67)			-0.418** (-2.49)			-0.779** (-2.67)
Constant	-0.035 (-0.14)	-0.687*** (-2.86)	-0.617*** (-3.51)	0.077 (0.20)	-1.095*** (-3.31)	-0.705*** (-14.25)	0.442 (0.80)	-0.937** (-2.10)	-0.978*** (-3.14)
Industry F.E.	No	No	No	Yes	Yes	Yes	No	No	No
Observations	430	430	430	267	267	267	267	267	267
$R^2$	0.01	0.00	0.01	0.18	0.16	0.17	0.04	0.00	0.03

**Table 4:** Tests of Hypothesis 2

This table analyzes the relation between firm value and forum shopping by using the [Abadie and Imbens \(2002\)](#) matching technique. The outcomes variables are CARs from an event study of the U.S. Supreme Court's ruling in *Hertz Corp. v. Melinda Friend* of February 23, 2010. Panel A estimates the bias-adjusted ATT on CARs of the negative shock to plaintiffs' ability to forum shop provided by *Hertz* by matching treated firms to control firms. Treatment is assigned to firms whose headquarter state is the only state in the corresponding circuit. The control group is comprised of firms operating in at least a second state in the same circuit as the firm's headquarter state. Matching is performed on a set of continuous covariates including *No. states*, *Out of HQ state operations (%)* and *Size*. In addition, exact matching is imposed on the headquarter state. *Matching 1* excludes firms with headquarter state in the 7th Circuit. *Matching 2* excludes firms with headquarter state in the 7th Circuit and imposes exact matching also on the incorporation state. *Matching 3* excludes firms with headquarter state in the 7th Circuit or the 9th Circuit. *Matching 4* does not impose restrictions on the sample. Panel B estimates the bias-adjusted ATT on CARs of the negative shock to firms' ability to forum shop provided by *Hertz* by matching treated firms to control firms. *Matching 1* assigns treatment to firms with an above median *Out of HQ state operations in 9th Circuit (HHI)*, while considering the other firms as part of the control group. Matching is performed on a set of continuous covariates including *Out of HQ state operations (%)*, *Out of HQ state operations (HHI)*, and *Size*. In addition, exact matching is imposed at the 2-digit SIC industry-level. *Matching 2* and *Matching 3* assign treatment to firms with an above median *Out of HQ state operations (HHI)*, while considering the other firms as part of the control group. *Matching 2* (*Matching 3*) imposes exact matching at the 2-digit SIC (Fama-French 30-) industry-level. In both panels, odd columns use event-day ARs,  $CAR[0, 0]$ , as outcome variable, whereas even columns use two-day CARs,  $CAR[0, 1]$ , as outcome variable. The significance of ATTs is computed using heteroskedasticity-consistent standard errors. Significance at the 10%, 5%, and 1% level is indicated by \*, \*\*, \*\*\*, respectively. Refer to Table [D.1](#) for variable definitions.

Panel A: Plaintiffs' flexibility								
	Matching 1		Matching 2		Matching 3		Matching 4	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
ATT	0.724*	0.810*	1.018**	1.108**	1.188**	0.810*	0.681*	0.727*
	(1.67)	(1.86)	(2.27)	(2.55)	(2.23)	(1.86)	(1.69)	(1.79)
No. treated firms	1804	1804	1804	1804	1337	1337	1951	1951
Panel B: Firms' flexibility								
	Matching 1		Matching 2		Matching 3			
	(1)	(2)	(3)	(4)	(5)	(6)		
ATT	-0.319*	-0.500**	-0.241	-0.459*	-0.307*	-0.444*		
	(-1.72)	(-2.18)	(-1.39)	(-1.95)	(-1.89)	(-1.87)		
No. treated firms	1134	1134	1134	1134	1134	1134		

**Table 5:** Tests of Hypothesis 3

This table analyzes the relation between firm value and exposure to state vs. federal courts by estimating cross-sectional regressions of CARs on several measures of corporate geographic dispersion (also weighted by state court system quality). CARs are from an event study of the U.S. Supreme Court's ruling in *Hertz Corp. v. Melinda Friend* on February 23, 2010. Panel A presents the baseline results using event-day ARs,  $CAR[0, 0]$ , as dependent variable. Panel B presents additional results. Columns 1 through 5 use two-day CARs,  $CAR[0, 1]$ , as dependent variable. Columns 6 through 9 include Fama-French 30-industry fixed effects. Columns 7 through 9 use two-day CARs,  $CAR[0, 1]$ , as dependent variable.  $t$ -statistics calculated with robust standard errors clustered by Fama-French 30-industry are reported in ( ). Significance at the 10%, 5%, and 1% level is indicated by \*, \*\*, \*\*\*, respectively. Refer to Table D.1 for variable definitions.

Panel A: Baseline regressions									
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Out of state operations (%)	-0.545 (-1.39)	-0.812 (-1.58)							
Out of state operations (HHI)		-0.507 (-1.54)							
Chamber of Commerce ranking (out of state)			-0.021 (-1.61)						
Academic ranking (out of state)				-0.016 (-1.62)					
Business attitude (out of state)					-0.512 (-1.62)				
Ch. of Comm. rank. (out of state, 7th Circ. excluded)						-0.024* (-1.71)			
Academic rank. (out of state, 7th Circ. excluded)							-0.015 (-1.48)		
Out of state operations in 9th Circuit (%)								-0.382 (-0.68)	
Out of state operations in 7th Circuit (%)									-0.474 (-0.45)
Constant	-0.073 (-0.24)	0.175 (0.42)	-0.054 (-0.19)	-0.171 (-0.89)	-0.339* (-2.00)	-0.041 (-0.15)	-0.190 (-1.02)	-0.324 (-1.43)	-0.355* (-1.95)
Observations	2273	2238	2273	2273	2273	2273	2273	2273	2273
$R^2$	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

*(Continued)*



**Table 5:** – *Continued*

Panel B: Additional tests									
	CAR[0, 1]					CAR[0, 0]			
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Out of state operations (%)	-1.167*					-0.473*	-0.698**		
Chamber of Commerce ranking (out of state)	(-2.04)	-0.040**				(-1.72)	(-2.05)	-0.018*	
Business attitude (out of state)		(-2.22)	-0.716*					(-1.92)	-0.375
Out of state operations in 9th Circuit (%)			(-1.86)	-1.130					(-1.46)
Out of state operations in 7th Circuit (%)				(-1.56)	-0.624				(-0.48)
Out of state operations (HHI)							-0.414		(-1.31)
Constant	0.247	0.199	-0.346**	-0.253	-0.369**	0.394**	0.586**	0.415**	0.155***
	(0.64)	(0.57)	(-2.43)	(-1.21)	(-2.45)	(2.39)	(2.51)	(2.63)	(5.20)
Industry F.E.	No	No	No	No	No	Yes	Yes	Yes	Yes
Observations	2273	2273	2273	2273	2273	2273	2238	2273	2273
$R^2$	0.00	0.01	0.00	0.00	0.00	0.05	0.05	0.05	0.05

**Table 6:** Industry tests of Hypothesis 1

This table analyzes the relation between firm value, court system quality and litigation risk by estimating cross-sectional regressions of CARs on several measures of court system quality in firms' headquarter state and their interaction with litigation risk measures. CARs are from an event study of the U.S. Supreme Court's ruling in *Hertz Corp. v. Melinda Friend* on February 23, 2010. The sample is restricted to firms headquartered outside the 7th Circuit and with a fraction of out-of-headquarter state operations above 85%, according to our measure of geographic dispersion, *Out of HQ state operations (%)*. Columns 1 through 3 (4 through 6) interact the Chamber of Commerce ranking (court business attitude) with an indicator variable equal to one for industries with above-median occupational risk, an indicator variable equal to one for industries with above-median labor intensity (only manufacturing firms), and an indicator variable equal to one for business-to-customer industries. *t*-statistics calculated with robust standard errors clustered by Fama-French 30-industry are reported in (). Significance at the 10%, 5%, and 1% level is indicated by \*, \*\*, \*\*\*, respectively. Refer to Table D.1 for variable definitions.

	Outside 7th Circuit & Out of state op.> 85%					
	(1)	(2)	(3)	(4)	(5)	(6)
Ch. of Comm. rank (HQ state) × High occup. risk	-0.064** (-2.47)					
Ch. of Comm. rank (HQ state) × High lab. int.		-0.224*** (-3.43)				
Ch. of Comm. rank (HQ state) × Custom. or.			-0.002 (-0.10)			
Bus. att. (HQ state) × High occup. risk				-0.979** (-2.45)		
Bus. att. (HQ state) × High lab. int.					-3.278*** (-3.39)	
Bus. att. (HQ state) × Custom. or.						0.064 (0.20)
High occupational risk	2.096*** (3.65)			0.455 (1.02)		
High labor intensity		3.687 (1.58)			-2.136 (-1.72)	
Customer orientation			0.655 (1.13)			0.605 (1.56)
Chamber of Commerce ranking (HQ state)	-0.010 (-0.80)	0.005 (0.23)	-0.029** (-2.28)			
Business attitude (HQ state)				-0.087 (-0.50)	0.076 (0.23)	-0.469** (-2.71)
Constant	-0.492 (-1.55)	-0.762* (-1.96)	-0.188 (-0.45)	-0.735** (-2.13)	-0.629* (-1.81)	-0.941** (-2.70)
Observations	192	44	267	192	44	267
$R^2$	0.03	0.25	0.04	0.03	0.24	0.04

**Table 7:** Alternative tests of Hypotheses 2

This table analyzes the relation between firm value and forum shopping in the banking sector. CARs are from an event study of the U.S. Supreme Court's ruling in *Wachovia v. Schmidt* on January 17, 2006. Panel A reports summary statistics of the variables employed in this analysis distinguishing between nationally- and state-chartered banks. The sample includes U.S. banks with available stock price data on the event-day, based on the CRSP-FRB link file made available by the Federal Reserve Bank of New York. Accounting and daily stock return data are from the CRSP-Compustat merged database. Branch-level data on banks' locations and deposits are taken from the 2005 FDIC's Summary of Deposits. Panel B estimates cross-sectional regressions of CARs on a treatment indicator variable and measure of corporate geographic dispersion, *No. states (FDIC)*. Treatment is assigned to nationally-chartered banks operating in at least one state outside of their headquarter state. Columns 1 through 5 use event-day CARs,  $CAR[0, 0]$ , as dependent variable. Columns 6 through 10 use two-day CARs,  $CAR[0, 1]$ , as dependent variable. Columns 3 and 8 (4 and 9) restrict the sample to treated (control) banks. Firm- and year-fixed effects are included in all specifications. *t*-statistics calculated with robust standard errors are reported in ( ). Significance at the 10%, 5%, and 1% level is indicated by \*, \*\*, \*\*\*, respectively. Refer to Table D.1 for variable definitions.

Panel A: Summary statistics										
	Nationally-chartered banks					State-chartered banks				
	Mean	Std.Dev.	Q1	Q3	Obs.	Mean	Std.Dev.	Q1	Q3	
CAR[0, 0]	-0.103	1.406	-0.830	0.370	145	-0.138	1.357	-0.843	0.542	289
CAR[0, 1]	0.214	1.827	-0.655	0.785	145	0.018	1.682	-0.804	0.967	289
No. states (FDIC)	3.559	4.863	1.000	4.000	145	1.571	1.512	1.000	2.000	289
Out of HQ state offices (% , FDIC)	0.234	0.304	0.000	0.399	145	0.149	0.290	0.000	0.176	289
Out of HQ deposits (% , FDIC)	0.198	0.277	0.000	0.328	145	0.135	0.284	0.000	0.092	289
Out of HQ state offices (HHI, FDIC)	0.591	0.331	0.338	1.000	78	0.808	0.302	0.641	1.000	96
Out of HQ deposits (HHI, FDIC)	0.620	0.311	0.365	1.000	78	0.848	0.265	0.761	1.000	96
Size	7.816	1.923	6.389	8.962	145	6.707	1.252	5.857	7.358	289

Panel B: Regression analysis										
	CAR[0, 0]					CAR[0, 1]				
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
			Treated	Control				Treated	Control	
Treated	0.054 (0.34)				0.246 (1.08)	-0.028 (-0.12)				0.338 (1.04)
No. states (FDIC)		-0.023** (-2.05)	-0.039** (-2.39)	-0.026 (-1.03)	-0.026 (-1.03)		-0.029* (-1.68)	-0.055** (-2.13)	0.029 (0.73)	0.029 (0.73)
Treated × No. states (FDIC)					-0.013 (-0.43)					-0.084* (-1.77)
Constant	-0.136* (-1.83)	-0.075 (-0.94)	0.148 (0.71)	-0.098 (-1.01)	-0.098 (-1.01)	0.088 (0.97)	0.148 (1.49)	0.383 (1.27)	0.046 (0.38)	0.046 (0.38)
Observations	434	434	76	358	434	434	434	76	358	434
$R^2$	0.00	0.00	0.03	0.00	0.01	0.00	0.00	0.03	0.00	0.01

**Table 8:** Real effects

This table estimates panel regression of the fraction of out-of-headquarter state operations in the 9th Circuit, *Out of HQ state operations in 9th Circuit (%)*, on several treatment indicators identifying firms with low exposure to the 9th Circuit before the U.S. Supreme Court's ruling in *Hertz Corp. v. Melinda Friend* on February 23, 2010. The sample is restricted to firms which are not headquartered in the 9th Circuit and with data available both before and after the ruling. The sample covers the period from 2006 to 2014. In columns 1 and 4, the treatment group (*Treated 1*) consists of all firms that have no operations in states comprising the 9th Circuit before 2010, based on our measure of geographic dispersion, *Out of HQ state operations in 9th Circuit (%)*. In columns 2 and 5, the treatment group (*Treated 2*) consists of all firms for which *Out of HQ state operations in 9th Circuit (%)* is below 15% before 2010. In columns 3 and 6, the treatment group (*Treated 2*) consists of all firms for which *Out of HQ state operations in 9th Circuit (%)* is below 15% but strictly positive before 2010. *t*-statistics calculated with robust standard errors clustered by firm are reported in ( ) in columns 1 through 3. *t*-statistics calculated with robust standard errors clustered by firm-year are reported in ( ) in columns 4 through 6. Significance at the 10%, 5%, and 1% level is indicated by \*, \*\*, \*\*\*, respectively. Refer to Table D.1 for variable definitions.

	St. err. clustered by firm			St. err. clustered by firm-year		
	(1)	(2)	(3)	(4)	(5)	(6)
Treated 1×Post-2010	0.038*** (9.12)			0.038*** (5.42)		
Treated 2×Post-2010		0.054*** (8.70)			0.054*** (4.50)	
Treated 3×Post-2010			0.016*** (3.75)			0.016*** (3.36)
Size	0.012*** (2.66)	0.010** (2.34)	0.011** (2.56)	0.012** (2.49)	0.010** (2.23)	0.011** (2.40)
Market-to-book	0.000 (0.15)	0.001 (0.34)	0.001 (0.31)	0.000 (0.13)	0.001 (0.29)	0.001 (0.26)
Cash flow	-0.024** (-2.08)	-0.025** (-2.20)	-0.026** (-2.24)	-0.024* (-1.84)	-0.025* (-1.89)	-0.026** (-1.96)
Firm F.E.	Yes	Yes	Yes	Yes	Yes	Yes
Year F.E.	Yes	Yes	Yes	Yes	Yes	Yes
Observations	8992	8992	8992	8992	8992	8992

# Appendix for

## “Do Courts Matter for Firm Value? Evidence from the U.S. Court System”

### A Background and description of the U.S. Supreme Court rulings

#### A.1 *Hertz Corp. v. Friend*

In the ruling of the case *Hertz Corp. v. Friend* (*Hertz*) on February 23, 2010, the U.S. Supreme Court ruled on how to determine the citizenship of a corporation for the purpose of establishing diversity of citizenship. Whereas citizenship is easily determined for a “natural person” (i.e., a human being), it is less clear for a legal person such as a corporation.<sup>32</sup> The law reads that a firm is a citizen in both the state it is incorporated in and the state where its “principal place of business” lies.<sup>33</sup> Before the ruling in *Hertz* there was no unanimous interpretation as to what “principal place of business” meant. Some courts interpreted the principal place of business to mean a corporation’s nerve center, the (physical) place in which the firm’s executives steer its day to day activities. Proponents of this interpretation understood the nerve center to generally be located at the firm’s headquarters, and hence corporations were found to be citizens of the state in which their headquarter was located. Throughout the paper, we refer to this as the “nerve center test”. The nerve center test was adopted by the courts of the 7th Circuit of the federal court system.

Other courts interpreted “principal place of business” to mean the state in which a firm conducts a significant fraction of its operations. Throughout the paper, we refer to this interpretation of the law as the “operations test”. Among the courts which applied the operations test there was again no consensus as to how to measure the size of “operations”. Different courts used different indicators such as assets, sales or employees. Both the choice of indicators and their relative weighting varied between courts. Finally, there was no consensus as to what fraction of either indicator would cross the threshold of making a state a corporation’s “principal” place of business.

In *Hertz v. Friend*, the car rental operator Hertz Corporation was sued by employees in California state court over an alleged breach of labor law. Hertz tried to claim diversity of jurisdiction and move the case to the federal level. But the 9th circuit court found Hertz to be a citizen of California. The decision was based on the fact that between 16% and 20% of Hertz’s locations, employees, revenue and transactions were located in California.<sup>34</sup> The court therefore denied federal jurisdiction to Hertz.

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<sup>32</sup> The details for the case are filed as Case 559 U.S. 77.

<sup>33</sup> “A corporation shall be deemed to be a citizen of every State and foreign state by which it has been incorporated and of the State or foreign state where it has its principal place of business” (see 28 U.S. Code 1332).

<sup>34</sup> <https://www.law.cornell.edu/supct/pdf/04-1186P.ZS>, retrieved on April 19, 2015.

Shortly thereafter, in a similar case, the same court ruled that the retailer Best Buy was not a citizen of California, despite the state contributing 11% of its locations and 13% of both its revenues and employees.<sup>35</sup> This arbitrary interpretation of the law caused significant uncertainty as to the applicability of federal jurisdiction. Hertz appealed the decision to deny its removal to the federal court. The U.S. Supreme Court decided to accept the case and, on February 23, 2010, decided in favor of Hertz: Since the corporation's headquarter was located in New Jersey rather than California, Hertz was found not to be a citizen of California and therefore had the right to remove the case to federal court.

With the ruling in *Hertz*, the U.S. Supreme Court came down on the side of the nerve center interpretation and ruled that, in most cases, a corporation's principal place of business was to be found in its headquarter state.<sup>36</sup> The U.S. Supreme Court's ruling established binding precedent for all lower courts. The decision opened the doors to federal courts for corporations under some circumstances and closed it under others. After the ruling, firms would (almost) always be able to claim diversity of citizenship and move cases to federal court when sued in a state which was neither their headquarter nor their incorporation state. At the same time, firms with few assets or revenues in their headquarter state lost the ability to move cases into federal court. Before *Hertz*, those firms were able to claim diversity when sued in their headquarter state under the majority of operations rule.

What makes the decision in *Hertz* a powerful natural experiment to assess the relevancy of court quality is that it affected firms differently based on their geographic footprint. The reason is that the nerve center test and the operations test were consistently favored by different U.S. circuits. Circuits are the geographic regions of organization for the federal judiciary (see Figure 1 for a map of circuits and corresponding states). There are 11 circuits in the U.S., each containing multiple federal states.<sup>37</sup> The issue of corporate citizenship constituted a so-called "circuit split" in which different circuits interpret the law consistently in different ways. Importantly, a corporation sued in a state can only remove the case to the circuit of that state. Hence for any lawsuit brought in a specific state, only a single circuit's interpretation was binding. The 9th Circuit, covering the West Coast of the U.S., was most extreme in applying the operations test. Its interpretation allowed a firm to be found a citizen of not just one but multiple states each contained significant operations. On the opposite side of the split stood the 7th Circuit containing Illinois, Indiana and Wisconsin. The 7th Circuit's courts were proponents of the nerve center rule. The remaining circuits fell somewhere between those two extremes. Most applied either the nerve center or the operations test on a case by case basis, although none would consider a firm a citizen of more than two states like the 9th Circuit did. Because of this split, the U.S. Supreme Court's ruling had no effect for lawsuits brought

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<sup>35</sup>See [http://www.jonesday.com/hertz\\_v\\_friend/](http://www.jonesday.com/hertz_v_friend/), retrieved on April 19, 2015

<sup>36</sup>"The phrase 'principal place of business' in 1332(c)(1) refers to the place where a corporation's high level officers direct, control, and coordinate the corporation's activities, i.e., its 'nerve center', which will typically be found at its corporate headquarters."

<sup>37</sup>Washington, D.C. is a stand-alone circuit.

in the 7th Circuit, a large effect for lawsuits in the 9th Circuit, and an intermediate effect for all other circuits. Throughout our analysis we exploit this geographic variation in treatment.

We now turn to the question whether this ruling constitutes a valid experiment for an event study. To qualify as a valid experiment, the ruling may not have been fully anticipated prior to its announcement. At the same time, the actual decision should have been widely disseminated by the press upon announcement. The ruling in *Hertz* was unanimous, which might prompt fears that the ruling was anticipated. U.S. Supreme court cases proceed in multiple steps, with an oral argument as the last stage before the actual ruling is made and announced. The oral argument is the last time the supreme court judges publicly discuss a case. Hence, if the public anticipates the ruling, this is the time it would be reported. If the oral argument revealed that the court was leaning towards the nerve center test, the actual announcement of the ruling might have been anticipated. We therefore conduct a news search in the week following the oral argument.<sup>38</sup> We find only one mention of the case on the day of the oral argument from a law blog article describing the case. This blog entry features no indication whether the court is leaning one way or another.<sup>39</sup> The lack of media mentions does not rule out that the decision was at least somewhat anticipated, but, to the degree that this attenuates the market reaction on the announcement day, it will bias us against finding an effect.

We then repeat the news search for the day of the announcement to test whether it was noticed by the market. We limit the search to the day of the announcement and the following day since those are the days we focus on in our event study. We find 209 articles on Google News mentioning the decision in *Hertz*, including reports on Reuters and in the Wall Street Journal. Hence, we conclude that the U.S. Supreme Court's ruling in *Hertz* was not anticipated by market participants *ex ante* and had significant recognition on announcement. It therefore constitutes a valid setting for an event study.

Finally, we check whether there were any other big announcements on the day of the ruling. There was a report of a drop in U.S. consumer confidence.<sup>40</sup> As a result, the aggregate stock market declined by roughly 1%. To reduce concerns about this confounding event, we estimate regressions controlling for industry-fixed effects, as different industries arguably have heterogeneous exposure to consumer confidence shocks. Moreover, in unreported tests, we rule out that the consumer confidence shock was worse in the 9th Circuit by estimating regression of ARs on an indicator for firms headquartered or incorporated in the 9th Circuit. We find insignificant results, which suggests that the shock was not worse in the 9th Circuit than elsewhere and is not responsible for our finding of negative abnormal returns for firms present in the 9th Circuit.

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<sup>38</sup>We carry out the news search on Google News, Financial Times, and Wall Street Journal on the day of the argument, November 10, 2009, and the following week. In particular, we search for the following expressions: "Supreme Court", "Hertz", and "Hertz v. Friend".

<sup>39</sup>See <https://www.law.cornell.edu/supct/cert/08-1107>, retrieved on April 19, 2015.

<sup>40</sup>See, e.g., [http://money.cnn.com/2010/02/23/markets/markets\\_newyork/](http://money.cnn.com/2010/02/23/markets/markets_newyork/).

## A.2 *Wachovia v. Schmidt*

*Hertz* was not the only U.S. Supreme Court decision concerning diversity of citizenship. In *Wachovia v. Schmidt* (*Wachovia*), the U.S. Supreme Court had to decide about a similar case concerning the banking industry. The U.S. banking system comprises two types of banking corporations: Nationally- and state-chartered banks. Nationally-chartered banks are under the supervision of the federal Office of the Comptroller of the Currency. State-chartered banks are registered with the local state authorities. This dual system was established through the National Bank Act in 1863. The main advantage of nationally-chartered banks was that they were exempt from state level caps on interest rates in the past.

For the purpose of this second experiment, it is crucial that national-chartering is not identical to national presence. Not all nationally-chartered banks have operations in all states, and there exist state-chartered banks with a presence in multiple states. The level of charter is a formal and regulatory issue. Whereas state chartered banks were considered citizens of their state of incorporation and the state in which their main office was located, some courts had ruled that nationally chartered banks should be considered citizens of every state in which they operated a physical branch. In *Wachovia*, the question was whether national banks were to be treated the same way as state-chartered banks. Courts in the 2nd Circuit had considered national banks to be citizens of any state in which they had a physical presence. This interpretation of the law effectively banned nationally-chartered banks from federal courts.

On January 17, 2006, the U.S. Supreme Court decided in an unanimous vote to treat nationally-chartered bank the same as state-chartered banks for the purpose of establishing citizenship.<sup>41</sup> This ruling had an effect on nationally-chartered banks similar to that of *Hertz* on non-bank corporations with significant operations in the 9th Circuit. It made removal to federal courts easier in all states but the headquarter state. It had no effect on state-chartered banks or other corporations.

As in the *Hertz* case, it is necessary to establish that the ruling was both unanticipated and received the market's attention upon announcement. The oral argument of the case took place on November 28, 2005. As in *Hertz*, we fail to find any mainstream or financial news media picking up the argument.<sup>42</sup> Contrary to the oral argument, the actual ruling caught attention in financial markets and was mentioned, among others, in the Wall Street Journal.<sup>43</sup>

Importantly, there is a confounding event that overlaps with our estimation window:

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<sup>41</sup>This is different from the *Hertz* ruling regarding the nerve center test. The U.S. Supreme Court explicitly mentions in its decision that nationally-chartered banks will be treated like ordinary corporations with respect to their principal place of business, but abstains from a decision about how to determine that ruling: "While corporations ordinarily rank as citizens of at most 2 States, Wachovia, under the Court of Appeals' novel citizenship rule, would be a citizen of 16 States" (see <https://www.law.cornell.edu/supct/pdf/04-1186P.ZO>, retrieved on April 19, 2015).

<sup>42</sup>Again, the only mention is in a law blog without an indication of the court's expected decision. See <https://www.law.cornell.edu/supct/cert/04-1186>, retrieved on April 19, 2015.

<sup>43</sup><http://blogs.wsj.com/law/2006/01/17/supreme-court-issues-wachovia-decision-banking-industry-breathes-sigh-of-relief/>, retrieved on April 19, 2015.



One day after the ruling in *Wachovia*, the U.S. Supreme Court heard oral arguments in the case of *Merrill Lynch v. Dabit*. Since *Merrill* also concerned banks, this event might confound any estimates for the *Wachovia* case. As a consequence, the decision in *Wachovia* provides us with a second valid experiment as long as we focus on the announcement day, whereas returns in the following days may potentially reflect the market's assessment of the argument in *Merril* as well.

## B Measures of corporate geographic dispersion

Our measure of geographic dispersion is built on corporate filings with the Securities and Exchange Commission (SEC). The Securities Exchange Act of 1934 mandates U.S. corporations with publicly traded securities to file an annual form containing information on both the business itself and its financial situation.<sup>44</sup> We use this information to determine the geographical scope of the firm. As [Garcia and Norli \(2012\)](#) and [Bernile, Kumar, and Sulaeman \(2015\)](#), we use text search to count the number of occurrences of each U.S. state's name in critical items of discussion in the report. In our analysis we focus on the information provided in Items 1,2,3,6 and 7, which detail general information on the firm's business, property and financial situation.

Item 1 contains reports on the corporation's business activities as well as those of any subsidiaries. Item 2 contains information on the location of the corporations most important physical properties, such as plants. In an important deviation from [Garcia and Norli \(2012\)](#) and [Bernile, Kumar, and Sulaeman \(2015\)](#), we also use information from Item 3, which details legal proceedings. Since our paper deals specifically with legal risk and exposure to different court systems, this section is relevant for our measure. Item 3 provides information on legal proceedings which exceed the firm's normal scope, including the name of the court in which the action is pending. Item 6 covers financial information of the firm. Item 7 contains the management's discussion and analysis of the company's performance.<sup>45</sup>

A firm can file more than one type of annual report. Small businesses submit Form 10-KSB which is a reduced version of Form 10-K. Otherwise firms can submit amended versions of their annual reports. We use only a single filing for each firm and year. As [Garcia and Norli \(2012\)](#) we use the standard form 10-K whenever it is available. When no such filing is available, we search for an amended filing 10-K/A. Only if neither a normal nor an amended form is present we search for small business reports 10-KSB and 10-KSB/A.

As an example for the mention of states in Item 3, consider the following excerpt from Ford Motor Co.'s 10-K filing for the year 2014. State names are underlined.

### **Excerpt from Item 3 of Ford Motor Co's 10-K 2014**

"[...] Medium/Heavy Truck Sales Procedure Class Action. This action pending in the Ohio state court system alleges that Ford breached its Sales and Service Agreement

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<sup>44</sup>Available at <https://www.sec.gov>.

<sup>45</sup>For a detailed description of each item, see Regulation S-K <http://www.ecfr.gov>.

with Ford truck dealers by failing to publish to all Ford dealers all price concessions that were approved for any dealer. The trial court certified a nationwide class consisting of all Ford dealers who purchased from Ford any 600-series or higher truck from 1987 to 1997, and granted plaintiffs motion for summary judgment on liability. During 2011, a jury awarded \$4.5 million in damages to the named plaintiff dealer and the trial court applied the jurys findings with regard to the named plaintiff to all dealers in the class, entering a judgment of approximately \$2 billion in damages. We appealed, and on May 3, 2012, the Ohio Court of Appeals reversed the trial courts grant of summary judgment to plaintiffs, vacated the damages award, and remanded the matter for a new trial. The retrial in September 2013 resulted in a verdict in Fords favor. On February 7, 2014, the trial court granted plaintiffs motion for a new trial, but on December 11, 2014, the Ohio Court of Appeals reversed the order granting a new trial and reinstated the verdict in Fords favor. Plaintiffs have sought further review in the Ohio Supreme Court. [...]"

We verify our measure of state exposure in several ways. First, we find that on average, the corporation’s headquarter state accounts for 45% of all states mentioned in the report. This makes it the most mentioned state for almost all corporations. The second most mentioned state on average accounts for 41% of all state mentions. Finally, we find a strong positive and statistically correlation between a state’s population and the firm-level mentions of that state in form 10-Ks.

For our second experiment in the ruling of *Wachovia*, we obtain high-quality data on geographic dispersion of commercial banks’ branches from the Federal Deposit Insurance Corporation (FDIC). In Table B.1, we validate our text-based measures against the 2005 FDIC data on bank branches we use for the *Wachovia* experiment. In Panel A, we find that both the fraction of non-headquarter state offices and deposits of banks exhibits a roughly 50% correlation with our *Out of HQ state operations (%)* measure based on banks’ annual reports. Panel B repeats the same analysis for the Herfindahl index of non-hoemstate operations as a measure of concentration (rather than spread) .The results are similar with a roughly 40% correlation between the bank branch data and our measure constructed from annual reports.

We conclude that our measures of geographic dispersion obtained from annual reports work reasonably well. The reason why the correlation with the FDIC branch data is not higher could be that FDIC data only covers retail branches. Since most loans in the U.S. are in fact syndicated (e.g., [Armstrong, 2003](#); [Gadanecz, 2004](#)), a bank can gain significant exposure to states of the U.S. without operating a brick and mortar branch in that state.

## C Court rankings

Table C.1 reports ordinal rankings of state court systems according to the 2010 edition of the U.S. Chamber of Commerce ranking and the academic ranking proposed by [Choi, Gulati, and Posner \(2009\)](#) in their Table 8.

## D Variable definitions

See Table [D.1](#).

**Table B.1: Validation of measures of corporate geographic dispersion**

This table validates the text-based measures of corporate geographic dispersion obtained from Form 10-Ks filed with the SEC's EDGAR database against similar measures based on data from the 2005 FDIC's Summary of Deposits. The bank sample includes U.S. banks with available stock price data on the event-day, based on the CRSP-FRB link file made available by the Federal Reserve Bank of New York. Pairwise correlation among the different measures are estimated. Panel A focuses on measures describing a bank's fraction of operations outside its main office state. Panel B focuses on measures of concentration (Herfindahl index) of operations outside a bank's main office state. Refer to Table D.1 for variable definitions.

Panel A: Fraction of operations			
	(1)	(2)	(3)
(1) Out of HQ state operations (%)	1		
(2) Out of HQ state offices (% , FDIC)	0.5129	1	
(3) Out of HQ state deposits (% , FDIC)	0.4754	0.9745	1

Panel B: Herfindahl index			
	(1)	(2)	(3)
(1) Out of HQ state operations (HHI)	1		
(2) Out of HQ state offices (HHI, FDIC)	0.4261	1	
(3) Out of HQ state deposits (HHI, FDIC)	0.4006	0.9033	1

**Table C.1:** State court system rankings

This table ordinal rankings of state court systems based on the 2010 Chamber of Commerce ranking (see <http://www.instituteforlegalreform.com/states>) and the academic ranking in Table 8 of [Choi, Gulati, and Posner \(2009\)](#).

U.S. state	Abbreviation	Chamber of Commerce ranking (2010)	Academic ranking
Alabama	AL	47	17
Alaska	AK	33	29
Arizona	AZ	13	36
Arkansas	AR	44	2
California	CA	46	1
Colorado	CO	8	34
Connecticut	CT	24	31
Delaware	DE	1	32
Florida	FL	42	20
Georgia	GA	27	6
Hawaii	HI	35	46
Idaho	ID	18	42
Illinois	IL	45	11
Indiana	IN	4	30
Iowa	IA	5	23
Kansas	KS	14	16
Kentucky	KY	40	44
Louisiana	LA	49	40
Maine	ME	12	37
Maryland	MD	20	14
Massachusetts	MA	9	9
Michigan	MI	30	50
Minnesota	MN	11	35
Mississippi	MS	48	7
Missouri	MO	37	49
Montana	MT	43	4
Nebraska	NE	3	10
Nevada	NV	28	45
New Hampshire	NH	16	18
New Jersey	NJ	32	28
New Mexico	NM	41	43
New York	NY	23	12
North Carolina	NC	17	48
North Dakota	ND	2	3
Ohio	OH	29	5
Oklahoma	OK	31	38
Oregon	OR	21	33
Pennsylvania	PA	34	8
Rhode Island	RI	38	15
South Carolina	SC	39	24
South Dakota	SD	10	26
Tennessee	TN	19	19
Texas	TX	36	39
Utah	UT	7	22
Vermont	VT	25	27
Virginia	VA	6	41
Washington	WA	26	13
West Virginia	WV	50	21
Wisconsin	WI	22	47
Wyoming	WY	15	25

**Table D.1: Definition of variables**

Variable	Definition
CAR[ $n1, n2$ ]	Cumulative abnormal returns $n1$ days to $n2$ days around the event-day. Abnormal returns are obtained by computing the residuals of separate regressions of individual CRSP daily stock returns on the three <a href="#">Fama and French (1993)</a> risk factors and a momentum factor, with the factor loadings estimated in the pre-event period. For the bank sample, the market model is used to obtain such residuals.
Headquarter 7th Circuit	Indicator equal to one if a firm is headquartered in the 7th Circuit.
Headquarter 9th Circuit	Indicator equal to one if a firm is headquartered in the 9th Circuit.
Chamber of Commerce ranking (HQ state)	Chamber of Commerce ranking of a firm's headquarter state.
Academic ranking (HQ state)	Academic ranking of a firm's headquarter state.
Business attitude (HQ state)	State court system's business friendliness of a firm's headquarter state. Obtained by orthogonalizing the Chamber of Commerce and the academic ranking.
No. states	The number of unique U.S. states for which state count is at least one for a firm.
Out of HQ state operations (%)	A firm's sum of non-headquarter state counts divided by the total sum of state counts.
Out of HQ state operations (HHI)	A firm's Herfindahl index of non-headquarter state counts.
Chamber of Commerce ranking (out of HQ state)	Average Chamber of Commerce ranking of states a firm operates in, weighted by state counts.
Academic ranking (out of HQ state)	Average academic ranking of states a firm operates in, weighted by state counts.
Business attitude (out of HQ state)	Average state court systems' business friendliness of states a firm operates in, weighted by state counts.
Chamber of Commerce ranking (out of HQ state, 7th Circuit excluded)	Defined same as <i>Chamber of Commerce ranking (out of HQ state)</i> but excluding firms headquartered or incorporated in the 7th Circuit's states.
Academic ranking (out of HQ state, 7th Circuit excluded)	Defined as <i>Academic ranking (out of HQ state)</i> but excluding firms headquartered or incorporated in the 7th Circuit's states.
Out of HQ state operations in 9th Circuit (%)	Defined as <i>Out of HQ state operations (%)</i> but based just on 9th Circuit's states.
Out of HQ state operations in 7th Circuit (%)	Defined as <i>Out of HQ state operations (%)</i> but based just on 7th Circuit's states.
High labor intensity	Indicator variable equal to one if a firm belongs to an industry with above-median labor intensity. We define industry labor intensity as the 2009 total payroll to total value added ratio from the NBER-CES Manufacturing Industry Database.
High occupational risk	Indicator variable equal to one if a firm belongs to an industry with an above-median nonfatal occupational injuries and illnesses rate. Nonfatal occupational injuries and illnesses rate data are from the 2008 issue of the Injuries, Illnesses, and Fatalities (IIF) program of the Bureau of Labor Statistics (BLS). 2008 BLS data follow the 2002 North American Industry Classification System NAICS, so we use the 2002 NAICS to 1987 SIC concordance table from the U.S. Census Bureau, and the concordance table for SIC groups from the BLS.
Customer orientation	Indicator equal to one if a firm belongs to an industry oriented to customers (business-to-customer) rather than other businesses (business-to-business), following the classification of Table 1 of <a href="#">Lev, Petrovits, and Radhakrishnan (2010)</a> .
No. states (FDIC)	Number of states a bank operates offices in according to the 2005 FDIC's Summary of Deposits.
Out of HQ state offices (% , FDIC)	A bank's fraction of offices outside the main office state according to the 2005 FDIC's Summary of Deposits.
Out of HQ state deposits (% , FDIC)	A bank's fraction of deposits outside the main office state according to the 2005 FDIC's Summary of Deposits.

(Continued)

**Table D.1:** – *Continued*

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Out of HQ state offices (HHI, FDIC)	A bank's state-level Herfindahl index of offices outside the main office state according to the 2005 FDIC's Summary of Deposits.
Out of HQ state deposits (HHI, FDIC)	A bank's state-level Herfindahl index of deposits outside the main office state according to the 2005 FDIC's Summary of Deposits.
Treated 1	Indicator equal to one for firms for which <i>Out of HQ state operations in 9th Circuit (%)</i> is equal to 0% before 2010.
Treated 2	Indicator equal to one for firms for which <i>Out of HQ state operations in 9th Circuit (%)</i> is below 15% before 2010.
Treated 3	Indicator equal to one for firms for which <i>Out of HQ state operations in 9th Circuit (%)</i> is below 15% but strictly positive before 2010.
Size	Firm size defined as the natural logarithm of <i>at</i> in Compustat.
Market-to-book	Market-to-book ratio defined as $(at-ceq+prccf \times csho) / at$ in Compustat.
Cash flow	Internal cash flow defined as $(oibdp) / at$ in Compustat.

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