Internet Appendix accompanying

Regional Economic Activity and Stock Returns

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IA.A. Appendix: Variable Description and Construction

A. Orthogonalization of PREA

To rule out that PREA capture risk related to country-wide economic activity and common asset pricing factors, I orthogonalize PREA by regressing it on the return sensitivity to the growth rate of the national economic activity, and on the sensitivities to the common risk factors: $MKTRF$, SMB, and HML (Fama and French, 1993). For each month, I run a cross-sectional regression with PREA as dependent variable and the aforementioned exposures as the independent variables. Then, I define for each stock-month observation the orthogonalized regional activity, $\text{PREA}^{\perp}_{i,t}$, as the sum of the regression residual and constant.

$$\text{PREA}_{i,t} = a_t + b_1\hat{\beta}_{EA,t-1} + b_2\hat{\beta}_{MKTRF,t-1} + b_3\hat{\beta}_{SMB,t-1} + b_4\hat{\beta}_{HML,t-1} + \varepsilon_{i,t} \tag{6}$$

$$\text{PREA}^{\perp}_{i,t} := \hat{a}_t + \varepsilon_{i,t} \tag{7}$$

EA represents the growth rate of the U.S. coincident index and, consequently, $\hat{\beta}_{EA,t}$ is the exposure to the growth rate measured monthly using a one-year rolling window regression of returns on EA. Similarly, I obtain the time-varying exposures to Fama and French (1993) risk factors using daily data.

B. Decomposition of PREA

In the last specification of Table 3, I decompose PREA into a component that relates to economic activity of the headquarter state and another component that relates to all economically relevant state other than the headquarter state. The predicted regional economic activity of the headquarter state, $\text{PREA}^{HQ}_{i,t}$m is defined as:

$$\text{PREA}^{HQ}_{i,t} = \sum_{s=1}^{50} \mathbb{1}_{\{s=\mathbf{HQ}\}} \times \frac{\Delta\widehat{\text{SCI}_{s,t+6}}}{\text{SCI}_{s,t}}. \tag{8}$$

The predicted regional economic activity of all the relevant states other than the headquarter state, $\text{PREA}_{i,t}^{ExHQ}$, is calculated as:

$$\text{(9)} \qquad \text{PREA}_{i,t}^{ExHQ} = \frac{1}{\sum_{s=1}^{50} \mathbb{1}_{\{s \neq \mathbf{HQ}\}} \times n_{i,s,\tau-1}} \sum_{s=1}^{50} \mathbb{1}_{\{s \neq \mathbf{HQ}\}} \times n_{i,s,\tau-1} \times \frac{\widehat{\Delta \text{SCI}_{s,t+6}}}{\text{SCI}_{s,t}}$$

where $\mathbb{1}_{\{s=\mathbf{HQ}\}}$ ($\mathbb{1}_{\{s \neq \mathbf{HQ}\}}$) is an indicator function that takes the value of 1 if the state s is (is not) the headquarter state.

C. Standard Control Variables

Section B introduces a list of control variables employed throughout the analyses. This subsection provides details about these variables and their construction. In particular, I compute the market capitalization and the book-to-market ratio accounting for the size and value effect (Banz, 1981; Fama and French, 1992).[1] Furthermore, I include market beta and idiosyncratic volatility, as used by Ang et al. (2009). To obtain the two variables for each stock, I run rolling time-series regressions using the CAPM on six months' worth of daily data.[2] The stock-specific market beta is the loading on the market proxy, and idiosyncratic volatility is the standard deviation of the error term. Additionally, I control for the short-term reversal effect (Jegadeesh, 1990) and the momentum effect (Jegadeesh and Titman, 1993), including the past month's return and the cumulative return from month $t-12$ to $t-2$. Moskowitz and Grinblatt (1999) find a similar effect using past industry returns. I employ the past month's and the past years' return of the industries in the analysis to control for their finding. Similarly, Parsons et al. (2016) document that past month's regional return (as proxied by the return average across all companies headquartered in the same area) positively predict individual stock returns. To account for the influence of illiquidity on stock returns, I add the logarithmized bid–ask spread calculated as the average difference between the bid and ask price divided by the midquote, using daily data for the

[1]The variable construction and data matching is similar to Fama and French (1992).

[2]Variation of the asset pricing model (e.g., Fama and French, 1993) or the estimation window does not change the main findings of the study.

previous six months as in Amihud and Mendelson (1986).[3] Finally, I account for the implications of the demand of institutional investors for stock returns and use their ownership share as a proxy (Gompers and Metrick, 2001).

For the the analyses, I conduct important transformations of the variables. For instance, lagged monthly returns of around 8,000 percent could potentially inflate the estimation results. Therefore, for both lagged return and cumulative past return (independent variables), I assign to all outliers above the 99th percentile the value of the 99th percentile. Returns are *not* winsorized when employed as dependent variable. Furthermore, I take the logarithm of the market capitalization, book-to-market ratio, idiosyncratic volatility, and bid-ask spread, because the distribution of the aforementioned variables is considerably right-skewed.

IA.B. Appendix: Additional Empirical Results

A. Supporting Descriptive Statistics

1. Geographic Dispersion

Using the data extracted from the annual reports, I also construct two state-related variables that, as shown by García and Norli (2012), explain the cross section of expected stock returns. First, I compute the state dispersion (STATEDISP) for each firm defined as the number of distinct state names mentioned in the 10-K report. Figure IA.1 shows a histogram of distinct state names cited in the annual reports across all firms and years. Most firms mention three distinct states and, as expected, the distribution is right-skewed. Figure IA.2 displays the average number of distinct state names over the sample period. Note that prior to May 1996 online filing at EDGAR was not mandatory, and it was generally only large and geographically dispersed firms which reported their filing electronically. As expected, Delaware, New York and California are the most cited states in the 10-K filings. A geographic overview of the citation counts of all U.S. states is illustrated in Figure IA.3. Similar results on regional dispersion can be found in García and Norli

[3] Alternatively, I use the Amihud (2002) illiquidity measure and find similar results (not reported). The findings are robust to changes in the calculation period.

(2012) and Bernile, Kumar and Sulaeman (2015).

Table IA.1 reports the release dates of the regional economic activity forecasts since 2011. This Table supports the Section 2 of the main text. Moreover, Table IA.2 shows the correlation coefficients between my firm-level economic relevance measure for each state from EDGAR and the locations of firm's subsidiaries reported in the BvD Orbis database.

2. Portfolio Sorts

Figure IA.4a plots the average monthly returns of the PREA$^{\perp}$ long-short portfolio over the sample years. The equal-weighted long-short strategy using the state activity forecast yields a positive return in all years of the sample period except 1997. Specifically, the return is positive in 143 of the 228 months of the sample period. In particular, in 71 months the return is over 1.0 percent, while in only 32 months does the strategy yield a return lower than −1.0 percent. Figure IA.4b shows that the value-weighted strategy is more volatile and yields, on average, a slightly lower return. In the first two years, the sample consists mainly of large and dispersed firms. The low heterogeneity in this time period could therefore lead the trading strategies to perform poorly, particularly for the value-weighted portfolio.

The transition matrix in Table IA.3 reports the fraction of stocks moving from one quintile to other quintiles in two subsequent months. Over 70% of stocks that are sorted into the highest or lowest quintile remain in the same portfolio in the next month, indicating some degree of persistence in predicted regional economic activity.

B. Further Robustness Tests

1. Sample Selection

My original sample consists of all stocks with a share code of 10 or 11 that are listed on at least one of the three major stock exchanges. However, to assure that the effect of regional economic activity is not solely driven by microcaps or penny stocks, in Columns 1 and 2 of Table IA.4 I exclude stocks with a price of below one dollar or five dollars, respectively. Then, I run the same regressions with the limited sample and find that the PREA-associated regression coefficient decreases slightly compared to the main results. Bearing in mind the modest decrease in returns from the equal-weighted to the value-weighted portfolio as described above, this finding in the robustness test is not surprising. All in all, after excluding penny stocks, the PREA effect remains highly significant in both economic and statistical terms.

Excluding financial industry stocks from the sample is a well-established procedure in the asset pricing literature. When I limit the data in this way, I again find in Column 3 that the effect of regional economic activity remains statistically and economically significant.

Another issue that could lead to confounding results is the definition of the State of Washington and the popularity of the State of Delaware among U.S. companies. That is, the parsing algorithm could mistake the U.S. capital, Washington D.C., for the State of Washington. To avoid this confusion, I simply exclude all counts of Washington. I also exclude Delaware, given that its business-friendly corporation laws result in more than 50 percent of U.S. companies are incorporated in this state overestimating the state's importance for firms' cashflows. Therefore, I construct a new proxy PREA^{EXDeWa} with the same formula as in equation 2 but ignoring references to Washington and Delaware. Running regression 3 with the new proxy, I observe in Column 4 a slightly lower coefficient than in the main results. Nevertheless, the estimate remains highly significant.

2. Alternative Proxies

In all my regression specifications of the main text I use the orthogonalized predicted regional economic activity proxy to predict stock returns in the cross section. In Column 5, I employ the raw, unorthogonalized proxy PREA and find that the coefficient changes only marginally compared to the orthogonalized one.

To construct the firm-specific proxy of regional economic activity in the main analysis, I weight the state economic forecasts according to the citation share of the corresponding states. However, this assumes that the citation share is a reasonable proxy for the economic relevance of a state. Alternatively, I construct a proxy by equal-weighting the forecasts of all states mentioned at least once in the annual report:

$$\text{PREA}^{EW}_{i,t} = \frac{1}{\text{STATEDISP}_{i,t}} \sum_{s=1}^{50} \mathbb{1}_{\{n_{i,s,\tau-1}>0\}} \times \frac{\Delta\widehat{\text{SCI}_{s,t+6}}}{\text{SCI}_{s,t}} \tag{10}$$

From the estimation results in Column 6, I find that the alternative measure of regional activity yields similar findings to the original measure in the previous section. The coefficient associated with $\text{PREA}^{EW}_{i,t-3}$ is positive and significant. This finding shows the robustness of the results with respect to the weighting choice.

The original citation shares of the PREA proxy are extracted by dropping sentences in which production-related words are mentioned. However, this exclusion is not crucial for the effects. Namely, I alternatively consider the entire annual report without excluding any sentences and count the number of states mentioned. Then I use these weights to construct the alternative proxy PREA^{All}. Additionally, I take the other extreme: Instead of just excluding citations relating to production facilities, I assign a citation share of 0 to a state where it is mentioned at least once in a production sentence. This measure is very conservative, not least because it completely ignores very important "sales states" in which the company has also production facilities. I name this proxy PREA^{ExProd}. Employing the two new weighting schemes changes the effect of my main variable only slightly as is evident in Columns 7 and 8. If anything, the effect of PREA^{All} is even stronger.[4]

3. A Placebo Test

In my final regression robustness check, I conduct a placebo test to ensure that the effect of $\text{PREA}^{\perp}$ is not driven mechanically or by countrywide shocks that have not been taken into account. I assign state citation shares randomly across firm-year observations and construct the corresponding placebo regional activity proxies, $\text{PREA}^{\perp,Placebo}$. If the citation shares truly capture the link between the firm and the regions, I would expect that the randomly generated regional activity proxy will not significantly predict stock returns. To test this conjecture, I run 500 Fama and MacBeth (1973) regressions with the placebo proxies as the dependent variable. Figure IA.5 displays the kernel density estimation of the estimated regression coefficients and clearly shows that

[4] The distributions of PREA^{All} and PREA are virtually identical.

the economic conditions of randomly assigned U.S. states do not drive stock returns. The average estimate associated with $\text{PREA}^{\perp,Placebo}$ is essentially zero, while less than one percent of the estimates are significantly positive. As may be recalled from Section A that the estimated regression coefficient for $\text{PREA}^{\perp}$ is 0.457 and differs substantially from even the 99th percentile placebo coefficient of 0.033. In short, the placebo test confirms the importance of the link between U.S. firms and the economic relevance of U.S. states.

4. Portfolio Tests

In additional portfolio tests, I conduct time-series regressions using only stocks with a price higher than five USD. The magnitude of the alpha decreases for the equal-weighted portfolios. Nevertheless, as evident from Table IA.5, the risk-adjusted returns remain economically and statistically significant. Also, I add the factors profitability and investment (Fama and French, 2015), and two mispricing factors related to firm's performance and managerial decisions as proposed by Stambaugh and Yuan (2017). The results are reported in Table IA.6. If anything, the risk-adjusted returns are even larger due to the negative exposure of the PREA portfolio to the profitability factor.

5. Profitability regression

Table IA.7 reports the Fama and MacBeth (1973) regression coefficients as a robustness check to the two-way fixed effect estimation of Table 7. Most importantly, the alternative Fama and MacBeth (1973) estimation method yields similar results for the $\text{PREA}^{\perp}$ coefficients.

IA.C. Appendix: Additional Figures and Tables

Figure IA.1: Histogram of Distinct Number of State Names

This figure plots the histogram of state dispersion (number of distinct U.S. states mentioned in the 10-K filings) across all firm-year observations. 10-K filings that do not mention any state are excluded. The sample period is July 1995 through June 2014.

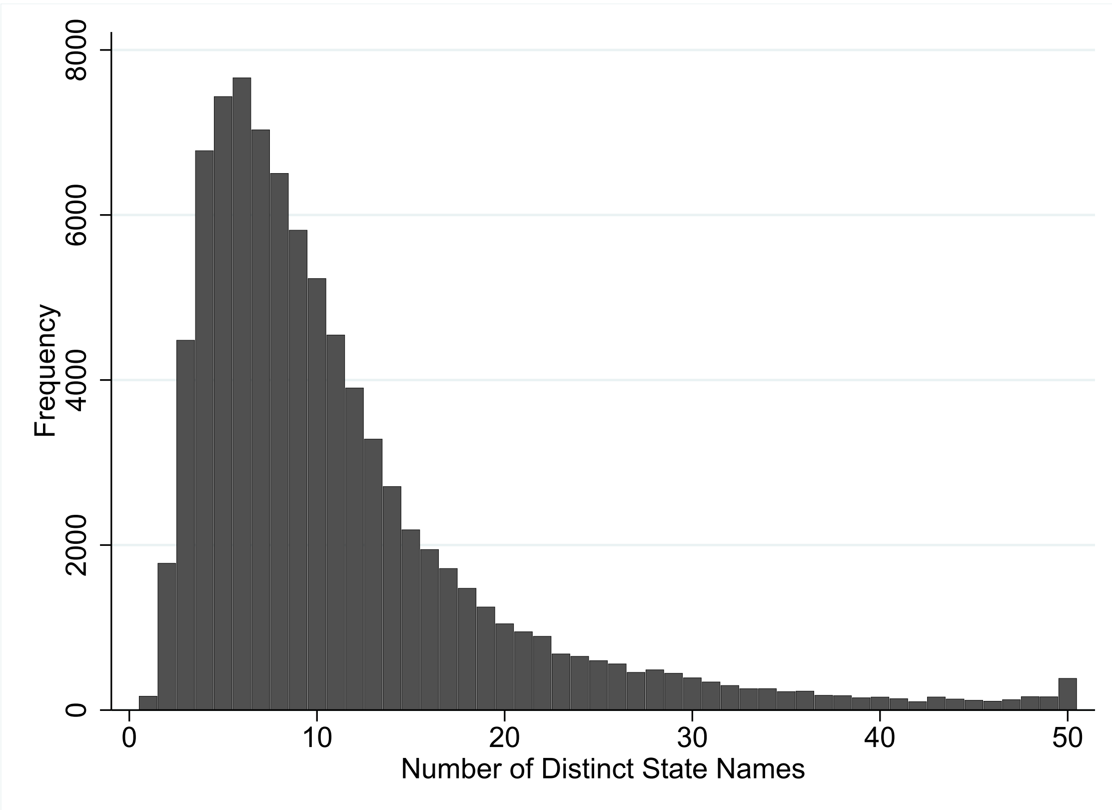


Figure IA.2: Average Number of States over the Sample Period

This figure plots the cross-sectional average of state dispersion (number of distinct U.S. states mentioned in the 10-K filings) on monthly frequency. Observations from July of year τ to June of year $\tau + 1$ are assigned to the annual reports (state dispersion) of year $\tau - 1$. The sample period is July 1995 through June 2014.

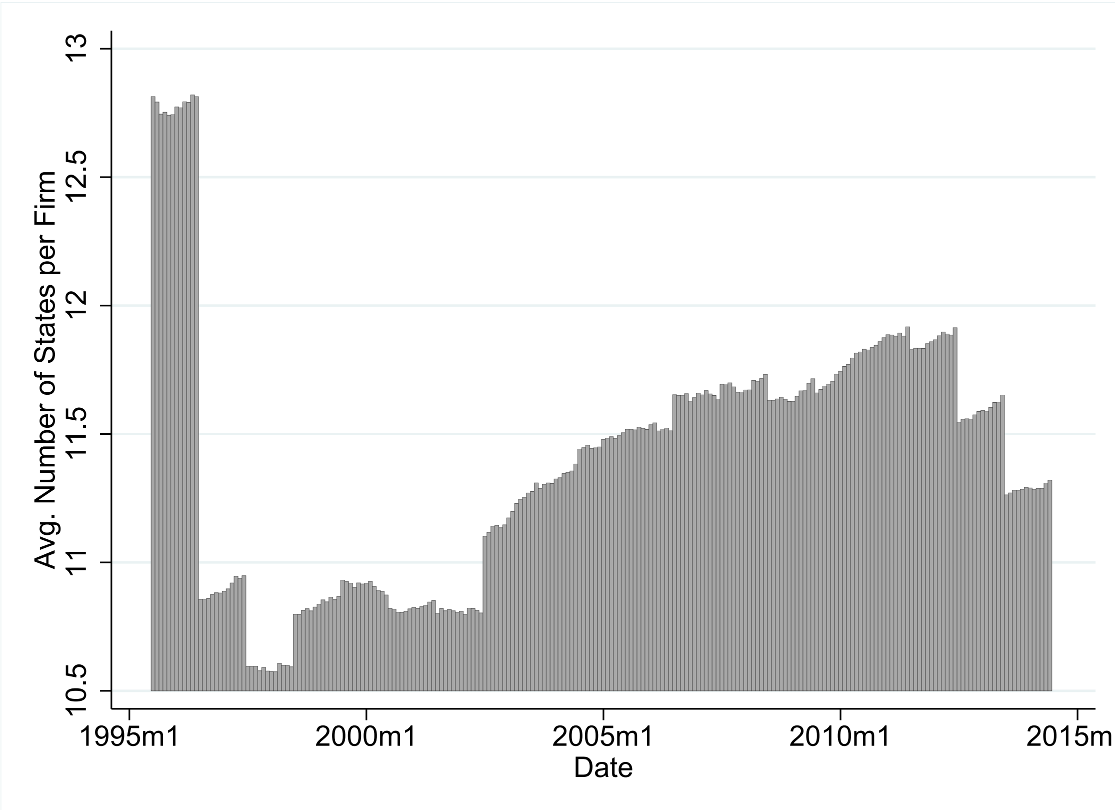


Figure IA.3: The U.S. State Citation Counts

This figure graphically illustrates the economic relevance of U.S. states proxied by the the number of state citations (in thousands) across all 10-K filings reported by publicly traded firms. Darker states have a higher number of citations across all firm-year observations than lighter states. The top three regions according to citations are Delaware, New York, and California while North Dakota, South Dakota, and Maine are the least cited states. The sample period is July 1995 through June 2014.

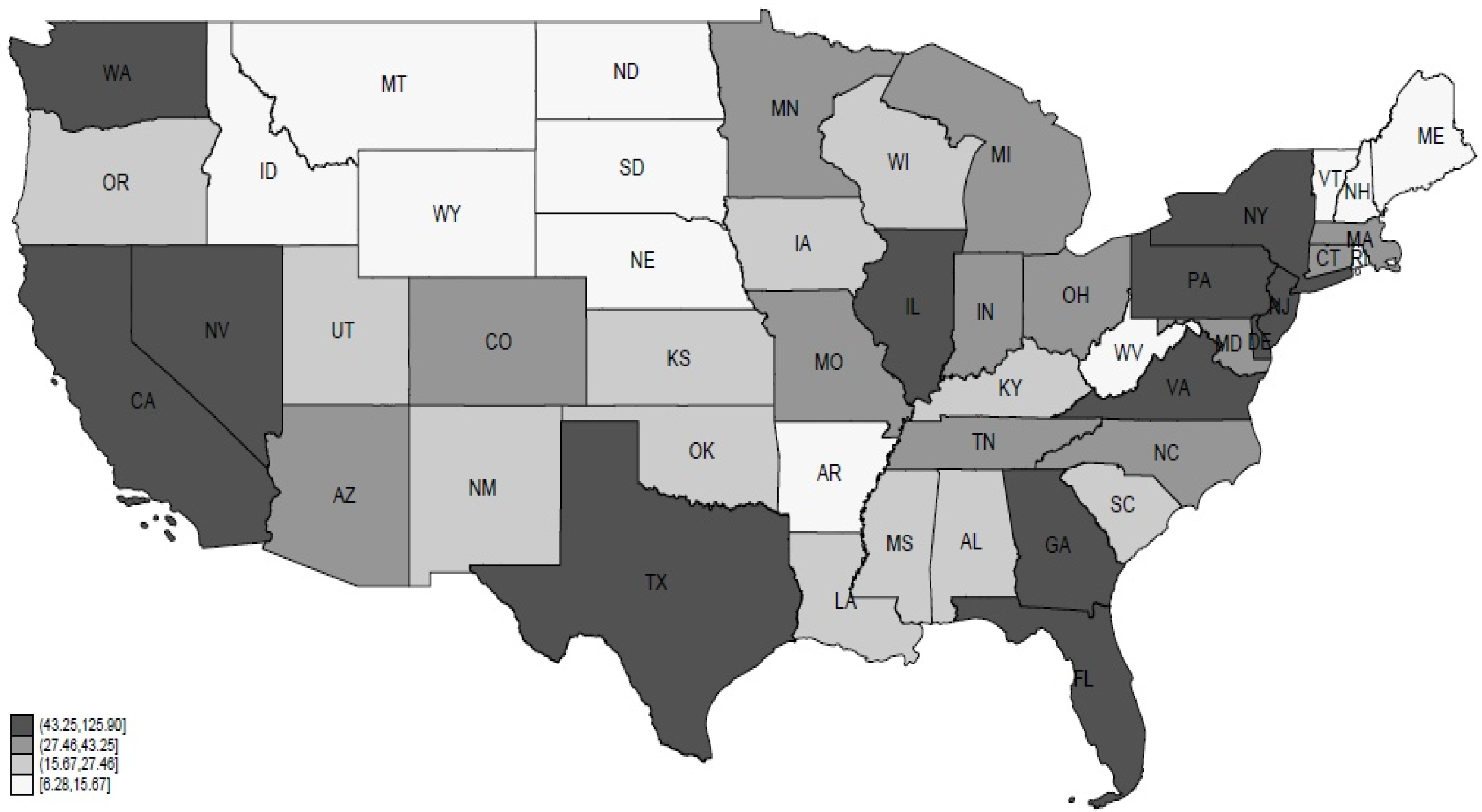
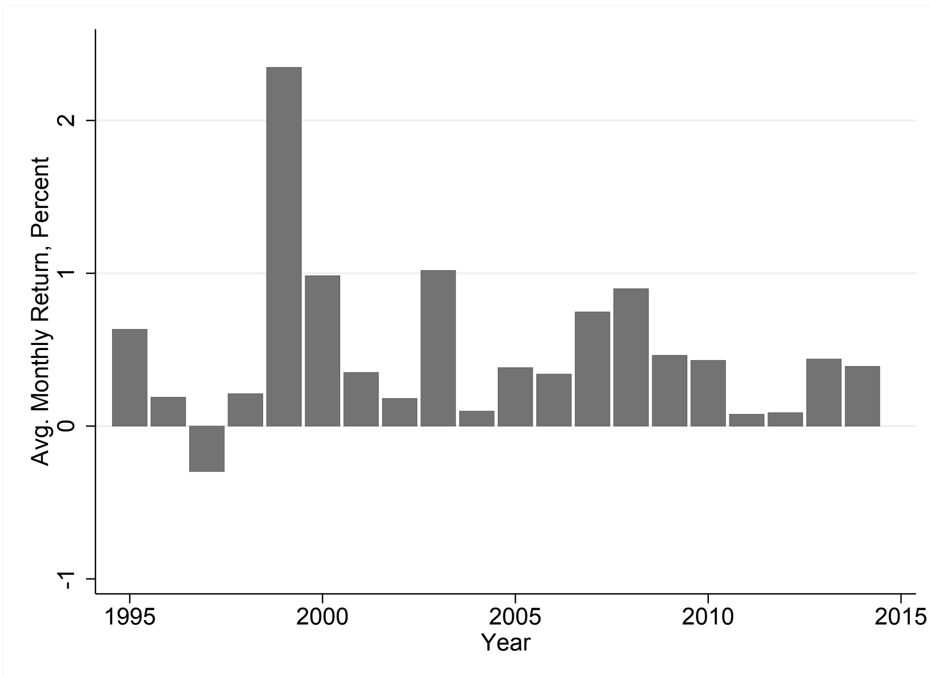


Figure IA.4: Performance of the Predicted Regional Activity-Based Portfolio over the Sample Period

This figure shows for each year of the sample period the average monthly five-factor, risk-adjusted return of the regional economic activity long–short (LS) portfolio. The LS portfolio is constructed each month by going long in the highest quintile and short in the lowest quintile according to $\text{PREA}^{\perp}_{t-3}$. The Figure in (a) plots the results of the equal-weighted LS portfolio and Figure (b) plots the value-weighted LS portfolio returns. The sample period is July 1995 through June 2014.

(a) Equal-weighted Portfolio



(b) Value-weighted Portfolio

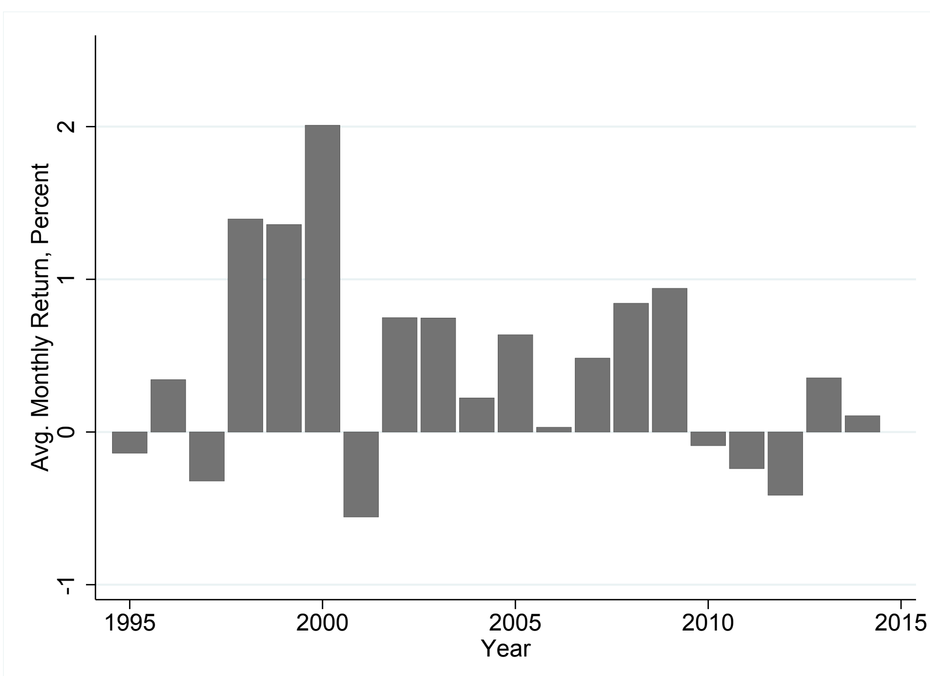


Figure IA.5: Kernel Density Estimation of the Placebo Regression Coefficients

This figure shows the kernel density estimation (black solid line) of the regression coefficients to the 500 $\text{PREA}_{t-3}^{\perp}$ placebo proxies. The gray dashed line displays the corresponding normal density. The sample period is July 1995 through June 2014.

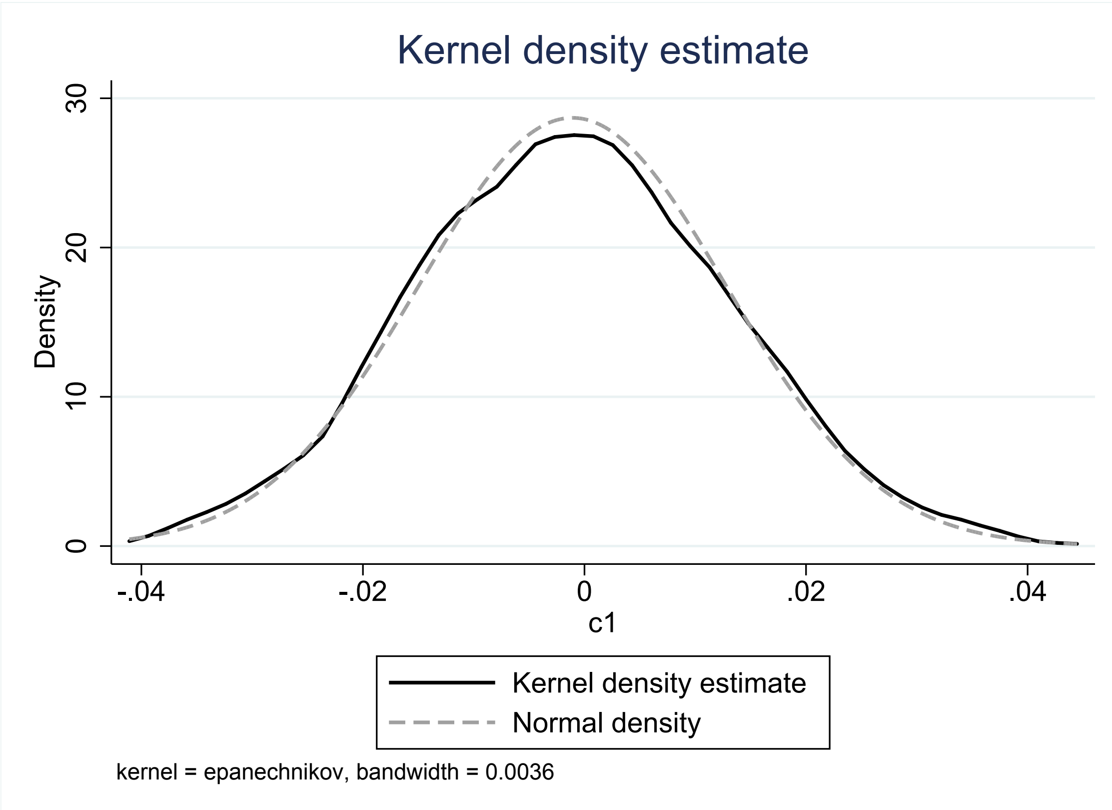


Table IA.1: Release Dates of State Leading Indexes

This table reports release dates of the State Leading Indexes provided by the Federal Reserve Bank of Philadelphia for the 50 U.S. states since 2011 on a monthly frequency. The gray column represents releases beyond the sample period covered by this study. Observations highlighted in red are those months for which a lag of $t-3$ would not be sufficient to ensure public availability of the indexes when portfolios were formed. Source of the past release dates of the indexes: https://alfred.stlouisfed.org/series/downloaddata?seid=USSLIND

Table IA.1 - *Continued from previous page*

Report Date	Release Date	Report Date	Release Date
2011-01-01	2011-03-22	2014-07-01	2014-08-29
2011-02-01	2011-03-31	2014-08-01	2014-09-29
2011-03-01	2011-04-28	2014-09-01	2014-10-29
2011-04-01	2011-05-31	2014-10-01	2014-12-02
2011-05-01	2011-06-28	2014-11-01	2014-12-30
2011-06-01	2011-08-02	2014-12-01	2015-02-02
2011-07-01	2011-08-30	2015-01-01	2015-04-20
2011-08-01	2011-09-29	2015-02-01	2015-04-21
2011-09-01	2011-11-01	2015-03-01	2015-04-28
2011-10-01	2011-12-01	2015-04-01	2015-06-02
2011-11-01	2011-12-29	2015-05-01	2015-06-26
2011-12-01	2012-02-02	2015-06-01	2015-07-31
2012-01-01	2012-03-20	2015-07-01	2015-08-28
2012-02-01	2012-04-03	2015-08-01	2015-09-30
2012-03-01	2012-04-27	2015-09-01	2015-10-29
2012-04-01	2012-05-29	2015-10-01	2015-11-30
2012-05-01	2012-06-28	2015-11-01	2015-12-28
2012-06-01	2012-07-31	2015-12-01	2016-02-03
2012-07-01	2012-08-28	2016-01-01	2016-04-08
2012-08-01	2012-10-02	2016-02-01	2016-04-13
2012-09-01	2012-10-30	2016-03-01	2016-04-29
2012-10-01	2012-12-04	2016-04-01	2016-05-31
2012-11-01	2013-01-03	2016-05-01	2016-06-29
2012-12-01	2013-01-31	2016-06-01	2016-08-01
2013-01-01	2013-03-26	2016-07-01	2016-08-29
2013-02-01	2013-04-04	2016-08-01	2016-09-30
2013-03-01	2013-04-30	2016-09-01	2016-11-01
2013-04-01	2013-05-28	2016-10-01	2016-11-28
2013-05-01	2013-07-02	2016-11-01	2016-12-28
2013-06-01	2013-07-30	2016-12-01	2017-02-01
2013-07-01	2013-08-29	2017-01-01	2017-04-14
2013-08-01	2013-10-01	2017-02-01	2017-04-21
2013-09-01	2013-12-04	2017-03-01	2017-05-01
2013-10-01	2013-12-04	2017-04-01	2017-05-30
2013-11-01	2014-01-02	2017-05-01	2017-06-30
2013-12-01	2014-02-04	2017-06-01	2017-08-01
2014-01-01	2014-03-24	2017-07-01	2017-08-29
2014-02-01	2014-04-03	2017-08-01	2017-10-05
2014-03-01	2014-04-28	2017-09-01	2017-11-02
2014-04-01	2014-05-29	2017-10-01	2017-12-05
2014-05-01	2014-06-27	2017-11-01	2018-01-03
2014-06-01	2014-07-29	2017-12-01	TBA

Table IA.2: Correlation Coefficient of U.S. State Relevance Indicators from EDGAR 10-K and Orbis

This table reports correlation coefficient between the U.S. State relevance indicators extracted from the 10-K filings and the U.S. State relevance indicators extracted from the BvD Orbis database. The U.S. State relevance indicator from the 10-K filing for a given state and firm is equal to one if the state is mentioned at least once in the 10-K filling of the specific company. The U.S. State relevance indicator from the Orbis database for a given state and firm is equal to one if the firm reports a subsidiary in that state according to Orbis.

U.S. State	Correlation Coefficient	t-Statistic
ALABAMA	0.338	(19.405)
ALASKA	0.252	(14.075)
ARIZONA	0.316	(17.969)
ARKANSAS	0.281	(15.77)
CALIFORNIA	0.425	(25.292)
COLORADO	0.313	(17.762)
CONNECTICUT	0.292	(16.469)
DELAWARE	0.06	(3.238)
FLORIDA	0.364	(21.08)
GEORGIA	0.344	(19.735)
HAWAII	0.243	(13.541)
IDAHO	0.213	(11.742)
ILLINOIS	0.327	(18.676)
INDIANA	0.339	(19.407)
IOWA	0.337	(19.284)
KANSAS	0.282	(15.868)
KENTUCKY	0.324	(18.466)
LOUISIANA	0.342	(19.636)
MAINE	0.284	(15.958)
MARYLAND	0.293	(16.548)
MASSACHUSETTS	0.347	(19.945)
MICHIGAN	0.324	(18.448)
MINNESOTA	0.349	(20.078)
MISSISSIPPI	0.275	(15.432)
MISSOURI	0.338	(19.357)
MONTANA	0.251	(13.965)
NEBRASKA	0.268	(14.981)
NEVADA	0.258	(14.388)
NEW HAMPSHIRE	0.249	(13.843)
NEW JERSEY	0.349	(20.06)
NEW MEXICO	0.231	(12.8)
NEW YORK	0.298	(16.819)
NORTH CAROLINA	0.322	(18.33)
NORTH DAKOTA	0.22	(12.137)

Table IA.2- *Continued from previous page*

U.S. State	Correlation Coefficient	t-Statistic
OHIO	0.38	(22.17)
OKLAHOMA	0.334	(19.122)
OREGON	0.289	(16.313)
PENNSYLVANIA	0.333	(19.026)
RHODE ISLAND	0.203	(11.179)
SOUTH CAROLINA	0.343	(19.682)
SOUTH DAKOTA	0.196	(10.777)
TENNESSEE	0.319	(18.141)
TEXAS	0.325	(18.543)
UTAH	0.288	(16.209)
VERMONT	0.22	(12.193)
VIRGINIA	0.297	(16.798)
WASHINGTON	0.027	(1.442)
WEST VIRGINIA	0.321	(18.262)
WISCONSIN	0.334	(19.087)
WYOMING	0.249	(13.888)

Table IA.3: Transition Matrix of Regional Economic Activity

This table reports the transition probabilities, i.e. the estimated probability that a stock moves from one quintile (in month t) to another quintile (in month $t+1$). The stocks are sorted in quintiles according to the orthogonalized predicted regional economic activity. The probabilities are in percent.

	Low $PREA^{\perp}$	2	3	4	High $PREA^{\perp}$
Low $PREA^{\perp}$	70.90	20.53	5.54	2.12	0.91
2	20.95	46.62	23.74	7.00	1.69
3	5.31	23.98	42.48	23.70	4.53
4	2.04	7.25	23.79	47.85	19.07
High $PREA^{\perp}$	0.82	1.71	4.48	19.26	73.73

Table IA.4: Further Robustness Tests

This table reports the average cross-sectional regression coefficients using the Fama and MacBeth (1973) framework analyzing alternative specifications in the robustness checks:

$$Ret_{i,t} - Rf_t = \alpha_t + \beta_t PREA^{\perp}_{i,t-3} + \mathbf{x}'_{\mathbf{i,t-1}}\mathbf{b_t} + \varepsilon_{i,t},$$

where $PREA^{EXDeWe}_{i,t-e}$ is the sum of expected growth rates of regional economic activity across U.S. states weighted by the corresponding citation shares of the states extracted from firms' 10-K reports excluding Delaware and Washington. $PREA^{EW}_{i,t-3}$ is the sum of growth rates of regional economic activity across all relevant U.S. states weighted equally. $PREA^{All}_{i,t-3}$ is the proxy with weights constructed using all sentences of the annual reports. $PREA^{ExProd}_{i,t-3}$ is the alternative proxy with weights set to 0 for states that are related to production facilities. In specification 1, 2, and 3 I exclude stocks priced less than \$1, \$5, and financial firms, respectively. Specification 4, 5, 6, 7 and 8 use the alternative $PREA$ proxies mentioned above. All other variables are defined in Table 3 and 1. The t-statistics computed with Newey and West (1987) standard errors are reported in parentheses. The sample period is July 1995 through June 2014.

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
PREA$^{\perp}_{t-3}$	0.320	0.273	0.344					
	(5.85)	(4.58)	(4.98)					
PREA$^{ExDeWa}_{t-3}$				0.287				
				(5.79)				
PREA$_{t-3}$					0.329			
					(5.82)			
PREA$^{EW}_{t-3}$						0.408		
						(4.22)		
PREA$^{All}_{t-3}$							0.362	
							(6.18)	
PREA$^{ExProd}_{t-3}$								0.198
								(3.50)
Avg. R^2	0.065	0.077	0.059	0.063	0.063	0.063	0.063	0.062
Nobs	841,251	669,138	777,071	877,543	878,509	878,509	874,072	870,613

Table IA.5: PREA$^{\perp}$ Portfolio Time-Series Regression

This table reports estimation results of time-series regressions similar to Table 5. In contrast to Table 5, stocks with a price lower than USD 5 are dropped before the sorts. The portfolio is updated monthly. The Table reports the coefficient estimates (Jensen's alpha and regression coefficients) of the following regression model:

$$LS_{PREA^{\perp},t} = \alpha + \mathbf{X_t'}\beta + \varepsilon$$

where LS is the long-short portfolio formed according to PREA$^{\perp}_{t-3}$, and $\mathbf{X_t'}$ is a set of the five tradable common risk factors $MKTRF$, SMB, HML, UMD, and LIQ (Fama and French, 1993; Carhart, 1997; Pástor and Stambaugh, 2003). Panel A shows the results for the equal-weighted long-short portfolio, $LS^{EW}_{PREA^{\perp},t}$, and Panel B shows the results for the value-weighted counterpart, $LS^{VW}_{PREA^{\perp},t}$. The t-statistics are reported in the parentheses. The sample period is July 1995 through June 2014.

Table IA.5 - *Continued from previous page*

	Low	High	High-Low	Low	High	High-Low	Low	High	High-Low	Low	High	High-Low
Panel A: Equal-weighted Portfolio												
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
α	0.102	0.466	0.364	-0.110	0.293	0.404	-0.036	0.291	0.328	-0.055	0.259	0.314
	(0.70)	(2.80)	(3.47)	(-1.45)	(3.64)	(4.48)	(-0.52)	(3.56)	(3.88)	(-0.79)	(3.20)	(3.69)
MKTRF	0.912	0.964	0.053	0.883	0.879	-0.004	0.843	0.881	0.038	0.841	0.876	0.036
	(28.89)	(26.75)	(2.32)	(51.70)	(48.67)	(-0.18)	(51.44)	(45.74)	(1.89)	(51.47)	(46.14)	(1.79)
SMB				0.518	0.675	0.158	0.533	0.675	0.142	0.533	0.675	0.142
				(22.32)	(27.52)	(5.75)	(25.32)	(27.31)	(5.56)	(25.48)	(27.75)	(5.56)
HML				0.430	0.278	-0.153	0.399	0.278	-0.120	0.402	0.284	-0.118
				(17.59)	(10.73)	(-5.28)	(17.73)	(10.54)	(-4.41)	(17.95)	(10.91)	(-4.31)
UMD							-0.097	0.003	0.100	-0.098	0.001	0.099
							(-7.22)	(0.17)	(6.11)	(-7.33)	(0.07)	(6.07)
LIQ										0.033	0.056	0.023
										(1.99)	(2.92)	(1.16)
Panel B: Value-weighted Portfolio												
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
α	-0.100	0.320	0.420	-0.168	0.319	0.487	-0.107	0.297	0.404	-0.142	0.267	0.409
	(-1.01)	(2.41)	(2.71)	(-1.78)	(2.52)	(3.37)	(-1.17)	(2.32)	(2.85)	(-1.56)	(2.08)	(2.86)
MKTRF	1.002	1.022	0.021	1.018	0.979	-0.039	0.985	0.991	0.006	0.980	0.987	0.007
	(46.65)	(35.59)	(0.62)	(48.03)	(34.49)	(-1.20)	(45.55)	(32.87)	(0.19)	(45.92)	(32.78)	(0.21)
SMB				0.060	0.179	0.119	0.072	0.174	0.102	0.072	0.174	0.102
				(2.08)	(4.63)	(2.70)	(2.59)	(4.50)	(2.38)	(2.63)	(4.51)	(2.38)
HML				0.166	-0.049	-0.216	0.140	-0.040	-0.180	0.147	-0.034	-0.181
				(5.48)	(-1.21)	(-4.65)	(4.73)	(-0.96)	(-3.94)	(5.01)	(-0.83)	(-3.94)
UMD							-0.080	0.029	0.109	-0.082	0.028	0.109
							(-4.50)	(1.18)	(3.99)	(-4.67)	(1.12)	(3.98)
LIQ										0.062	0.053	-0.009
										(2.87)	(1.73)	(-0.27)

Table IA.6: PREA$^{\perp}$ Portfolio Time-Series Regression with additional factors

This table reports estimation results of time-series regressions similar to Table 5 using additional factors. The first specification (Column 1–3) adds the two factors RMW and CMA (Fama and French, 2015) to the five factors from Table 5. The second specification (Column 4–6) adds the two mispricing factors MGMT and PERF (Stambaugh and Yuan, 2017) to the first specification.

	Low	High	High-Low	Low	High	High-Low
Panel A: Equal-weighted Portfolio						
	(1)	(2)	(3)	(4)	(5)	(6)
α	0.21	0.74	0.53	0.25	0.76	0.51
	(2.06)	(5.14)	(5.43)	(2.39)	(5.19)	(5.25)
MKTRF	0.84	0.82	-0.02	0.82	0.82	-0.00
	(32.24)	(22.71)	(-0.63)	(30.23)	(21.68)	(-0.03)
SMB	0.66	0.73	0.07	0.66	0.71	0.05
	(19.06)	(15.08)	(2.08)	(18.66)	(14.51)	(1.69)
HML	0.32	0.17	-0.15	0.30	0.22	-0.08
	(6.85)	(2.66)	(-3.34)	(5.77)	(3.02)	(-1.70)
UMD	-0.24	-0.18	0.06	-0.20	-0.20	0.00
	(-12.60)	(-6.74)	(3.42)	(-6.93)	(-4.86)	(0.18)
LIQ	0.05	0.08	0.03	0.05	0.06	0.01
	(2.06)	(2.42)	(1.40)	(2.09)	(1.89)	(0.59)
RMW	-0.00	-0.18	-0.17	0.06	-0.17	-0.23
	(-0.06)	(-2.51)	(-3.66)	(0.97)	(-2.08)	(-4.21)
CMA	-0.04	0.01	0.05	0.02	0.10	0.07
	(-0.68)	(0.09)	(0.85)	(0.28)	(0.89)	(1.04)
MGMT				-0.05	-0.14	-0.08
				(-0.96)	(-1.71)	(-1.55)
PERF				-0.07	0.04	0.11
				(-1.74)	(0.73)	(2.99)

Table IA.6 - *Continued from previous page*

Panel B: Value-weighted Portfolio						
	(1)	(2)	(3)	(4)	(5)	(6)
α	-0.20	0.38	0.57	-0.13	0.46	0.59
	(-2.18)	(2.86)	(3.97)	(-1.46)	(3.61)	(4.08)
MKTRF	1.00	0.95	-0.05	0.98	0.94	-0.05
	(44.17)	(28.74)	(-1.43)	(42.17)	(28.58)	(-1.23)
SMB	0.09	0.14	0.04	0.08	0.09	0.02
	(3.13)	(3.14)	(0.90)	(2.60)	(2.23)	(0.34)
HML	0.10	0.05	-0.05	0.09	0.12	0.03
	(2.47)	(0.81)	(-0.81)	(2.11)	(1.99)	(0.43)
UMD	-0.09	0.01	0.11	-0.05	0.01	0.06
	(-5.39)	(0.59)	(3.92)	(-1.95)	(0.19)	(1.39)
LIQ	0.06	0.05	-0.01	0.05	0.01	-0.04
	(3.03)	(1.68)	(-0.37)	(2.65)	(0.51)	(-1.21)
RMW	0.07	-0.20	-0.27	0.15	-0.14	-0.30
	(1.57)	(-3.13)	(-3.84)	(2.98)	(-2.00)	(-3.61)
CMA	0.06	-0.05	-0.11	0.20	0.21	0.01
	(1.04)	(-0.66)	(-1.25)	(2.98)	(2.21)	(0.09)
MGMT				-0.16	-0.36	-0.20
				(-3.24)	(-5.27)	(-2.61)
PERF				-0.07	0.04	0.11
				(-1.94)	(0.79)	(1.91)

Table IA.7: Regional Economic Activity and Firm Profitability

This table reports the regression coefficients using the Fama and MacBeth (1973) estimation procedure with the following specification:

$$\text{PROFIT}_{i,q} = \alpha_q + \beta_1 \text{PROFIT}_{i,q-1} + \beta_2 \text{PREA}^{\perp}_{i,q-1} + \mathbf{y'_{i,q-1}b} + \varepsilon_{i,q}$$

where firm profitability is measured by sales scaled by assets (SOA), earnings per share (EPS), and operating income before depreciation scaled by assets (ROA). All variables and other details are described in Table 7.

	(1)	(2)	(3)
	SOA	EPS	ROA
SOA	0.955		
	(215.03)		
EPS		0.480	
		(29.20)	
ROA			0.795
			(49.82)
$\text{PREA}^{\perp}$	1.241	0.454	3.193
	(2.37)	(2.42)	(2.68)
SOA^{reg}	0.034		
	(16.46)		
EPS^{reg}		0.158	
		(4.57)	
ROA^{reg}			0.174
			(22.94)
ln(SIZE)	0.006	0.035	0.122
	(1.36)	(7.95)	(18.79)
ln(BEME)	0.010	-0.010	0.021
	(0.86)	(-2.27)	(0.72)
DNOA	0.557	-0.120	-0.717
	(2.67)	(-5.78)	(-3.00)
LOSS	0.475	-0.094	-0.140
	(11.99)	(-15.46)	(-3.15)
DIV	-0.041	0.325	-0.116
	(-1.02)	(4.99)	(-1.21)
RET	-0.063	0.045	0.180
	(-3.86)	(5.30)	(3.41)
INDRET	0.421	0.149	0.500
	(1.93)	(4.10)	(2.58)
Constant	-0.012	-0.441	-1.353
	(-0.12)	(-7.65)	(-7.90)
Avg. R^2	0.911	0.427	0.685

IA.D. Appendix: Excerpts from Forms 10-K

In this section I present some examples of Form 10-K excerpts with emphasized U.S. state names. These excerpts nicely display how simple counting of U.S. states in the firm's Form 10-K might provide additional information on the geographic dispersion compared to the mere information on the headquarter location. The below presented excerpts are from annual reports filed for the fiscal year 2015.

Industrial Services of America, Inc. (...) is a Louisville, **Kentucky**-based company that buys, processes and markets ferrous and non-ferrous metals and other recyclable commodities and buys, dismantles and sells used auto parts. Prior to December 4, 2015, we were also a provider of waste services through our Waste Services Segment. Our only remaining segment is our Recycling Segment. (...) On February 27, 2015, the Company closed on the sale of its Seymour, **Indiana** property. During 2014, ISA made the decision to move its Seymour, **Indiana** facility from a company-owned property to a leased property. In conjunction with this decision, the Company signed an agreement to sell its Seymour facility in 2014 (...) ISA was incorporated in October 1953 in **Florida** under the name Alson Manufacturing, Inc. (...) We have operating locations in Louisville, **Kentucky**, and Seymour and New Albany, **Indiana**. We do not have operating locations outside the United States. Seymour is used interchangeably with North Vernon herein.

Monotype Imaging Holdings Inc. is a leading provider of type, technology and expertise for creative applications and consumer devices. Our vision is that our fonts and technology empower every word and experience. We help creative professionals, consumer device manufacturers and independent software vendors connect their brands, content, products and services to consumers and businesses everywhere. (...) Our principal office is located in Woburn, **Massachusetts**, with regional offices in Los Altos, **California**; Boulder, **Colorado**; Elk Grove Village, and Chicago, **Illinois**; New York, **New York**; Belfast, Northern Ireland; Penarth, Salfords, and London, United Kingdom; Bad Homburg, and Berlin, Germany; Noida, India; Hong Kong, China; Seoul, South Korea; and Tokyo, Japan.

EverBank Financial Corp, a **Delaware** corporation, is a unitary savings and loan holding company headquartered in Jacksonville, **Florida**. (...) We are a diversified financial services company that provides a wide range of financial products and services to individuals as well as small and mid-size business clients nationwide through scalable, low-cost distribution channels that are connected by technology-driven, centralized platforms which provide operating leverage throughout our business. We market and distribute our banking products and services primarily through our integrated online and mobile financial portal, high-volume financial centers in targeted **Florida** markets and other national business relationships. Our consumer and commercial lending businesses are nationwide and target clients through retail and commercial lending offices in major metropolitan markets throughout the country. (...) Our principal executive offices are located at 501 Riverside Avenue, Jacksonville, **Florida** 32202. We lease approximately 47,500 square feet at this location under a lease that expires on June 30, 2017. We operate one of our four Jacksonville financial centers at this location, occupying approximately 3,300 square feet under a separate lease that expires on June 30, 2017. We also occupy approximately 5,700 square feet of space at this location, which is under a lease that expires on May 31, 2016. In addition to our headquarters, we conduct a majority of our mortgage operations and all of our mortgage servicing activities in Jacksonville, **Florida**. We conduct the banking functions associated with our consumer direct channel in St. Louis, **Missouri**, our deposit operations are in Islandia, **New York**, our commercial finance activities are in Parsippany, **New Jersey**, our warehouse finance activities are in Boston, **Massachusetts** and Jacksonville, **Florida** and our commercial lending activities are conducted in Redmond, **Washington** and St. Louis, **Missouri**.

The Medicines Company We are a global biopharmaceutical company focused on saving lives, alleviating suffering and contributing to the economics of healthcare by focusing on leading acute/intensive care hospitals worldwide.(...) We lease our principal offices in Parsippany, **New Jersey**, U.S., which we refer to as Global Center-1. (...) We also lease small offices and other facilities in Redwood City and San Diego, **California**, U.S.; Seattle, **Washington**, U.S.; Montreal, Canada; Milton Park, Abingdon, United Kingdom; Hong Kong; Paris, France; Rome, Italy; Vienna, Austria; Brussels, Belgium; Amsterdam, Netherlands; Madrid, Spain; Helsinki, Finland; Copenhagen, Denmark; Stockholm, Sweden; Auckland, New Zealand; and New Delhi, India. We believe that all of our facilities are in good condition and are well maintained and that our current arrangements will be sufficient to meet our needs for the foreseeable future and that any required additional space will be available on commercially reasonable terms to meet space requirements if they arise.

Booz Allen Hamilton [Holding Corporation] is a leading provider of management and technology, consulting, and engineering services to the U.S. and international governments, major corporations, and not-for-profit organizations. A steadfast organization in a constantly evolving market, we remain focused on the long term with investments in capabilities, markets, and talent to ensure our ability to provide clients with solutions to their ever changing challenges. (...) We do not own any facilities or real estate. Our corporate headquarters is located at 8283 Greensboro Drive, McLean, **Virginia** 22102. We lease other operating offices and facilities throughout North America, and a limited number of overseas locations. Our principal offices outside of McLean, **Virginia** include: Annapolis Junction, **Maryland**; Rockville, **Maryland**; San Diego, **California**; Herndon, **Virginia** and **Washington, D.C.** We have a number of Sensitive Compartmented Information Facilities, which are enclosed areas within buildings that are used to perform classified work for the U.S. Intelligence Community. Many of our employees are located in facilities provided by the U.S. government. The total square footage of our leased offices and facilities is approximately 2.45 million square feet. We believe our facilities meet our current needs.

EMCORE Corporation and its subsidiaries (...), established in 1984 as a **New Jersey** corporation, designs and manufactures Indium Phosphide (InP) optical chips, components, subsystems and systems for the broadband and specialty fiber optics market. EMCORE was the pioneer in linear fiber optic transmission technology, and today, is a leader in optical components, as well as a provider of complete end-to-end solutions for high-speed communications network infrastructures, enabling systems and service providers to meet growing demand for bandwidth and connectivity. (...) Certain facility leases in Alhambra, **California** which have expired are being maintained on a month-to-month basis. (...) Newark, **California** lease expires in May 2016.