

Online Appendix

Supplementary Figures and Tables

Figure A.1: General Terms of Trade for the Austrian Hotel Industry

This figure depicts paragraph 5 of the general terms of trade of the Austrian hotel industry in the last year of our sample period (2006). Paragraph 5 defines the cancellation policy in accommodation agreements.

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	3 months or more	3 months to 1 month	1 month to 1 week	up to 1 week
no cancellation fee		40%	70%	90%

...

§ 5 Cancellation of the Accommodation Agreement – Cancellation fee

Cancellation by the Proprietor

5.1 If the Accommodation Agreement provides for a down payment and such down payment has not been made by the Party in time, the Proprietor may rescind the Accommodation Agreement without granting any grace period.

5.2 If the Guest fails to arrive by 6.00 p.m. on the agreed date of arrival, the Proprietor shall not be obliged to accommodate them unless a later time of arrival has been agreed upon.

5.3 If the Party has made a down payment (see 3.3), the rooms shall be deemed reserved until 12.00 noon on the day following the date of arrival at the latest. If a down payment to the amount of more than four days has been made, the obligation to accommodate the Guest shall end on 6.00 p.m. on the fourth day, the date of arrival being deemed the first day, unless the Guest informs the Proprietor of a later date of arrival.

5.4 Unless otherwise agreed upon, the Proprietor may rescind the Accommodation Agreement for objectively justified reasons by means of a unilateral declaration by 3 months before the agreed date of arrival of the Party.

Cancellation by the Party – Cancellation fee

5.5 The Party may rescind the Accommodation Agreement by means of a unilateral declaration by 3 months before the agreed date of arrival of the Guest without being liable to pay a cancellation fee.

5.6 Outside the period specified in § 5.5., the Party may only rescind the Accommodation Agreement by means of a unilateral declaration subject to the following cancellation fees:

- 40% of the total agreed price by 1 month before the date of arrival;
- 70% of the total agreed price by 1 week before the date of arrival;
- 90% of the total agreed price within the last week preceding the date of arrival.

2 3

(a) Cancellation policy

(b) Cancellation fee schedule

Figure A.2: Snow Shocks in Austrian Ski Tourism cont.

These bar charts report summary statistics for growth rates of balance sheet variables of customers of the Austrian Tourism Bank in 70 Austrian ski resort municipalities during the years 2000-2006. Observations are averages across all customers in a given municipality-year (MY). The reported number of observations is the total number of firms behind the MY-level averages. We distinguish between MYs with positive/negative Unexpected Snow (UES) and below/above-median Bank Equity (BE, measured in terms of BE^{all} defined in expression (7)). This results in four groups for which we present group level averages of wage bill growth (top left), wage bill divided by operating revenue (OR) growth (top right), growth rates for bank deposits (bottom left) and again how these growth rates deviate from operating revenue growth (bottom right). For formal definitions of the variables, see Section 4.2.

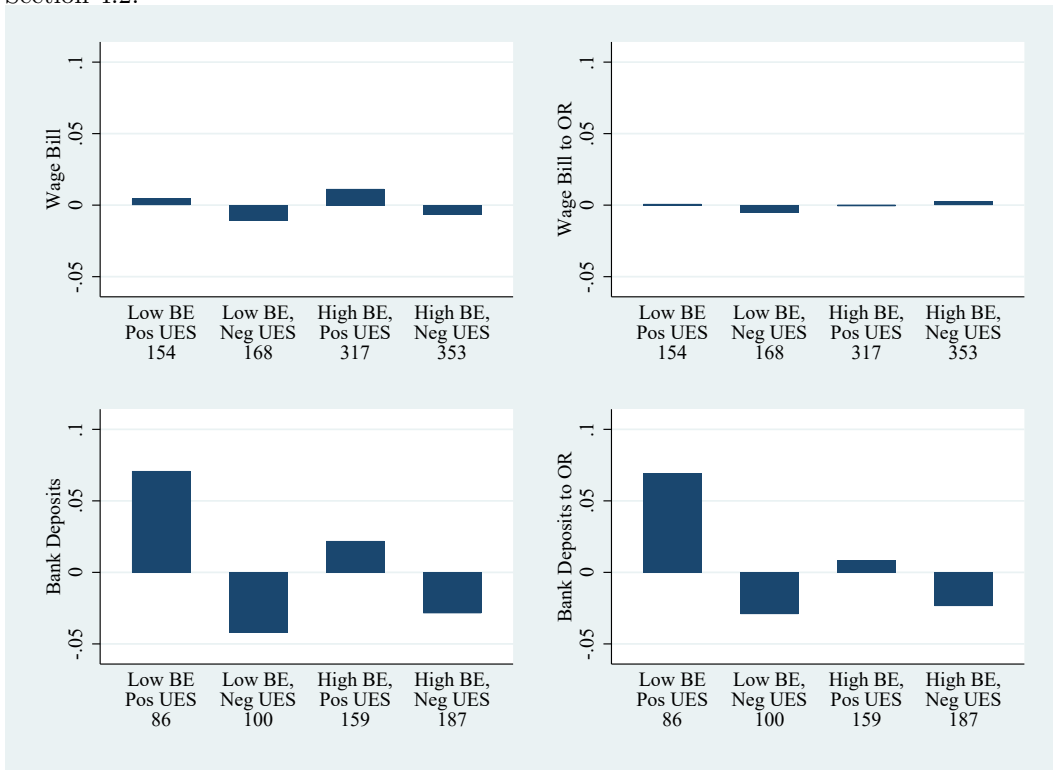
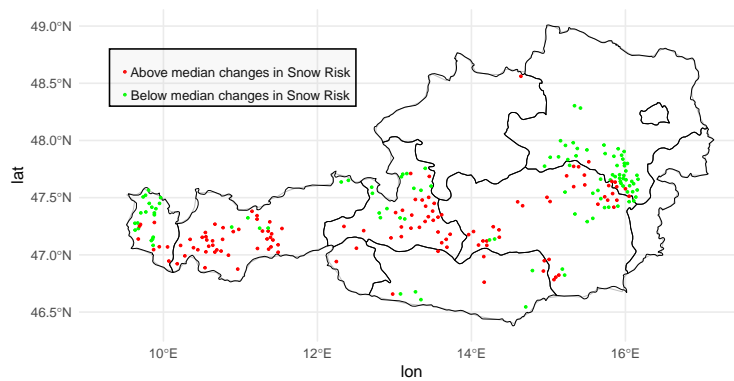
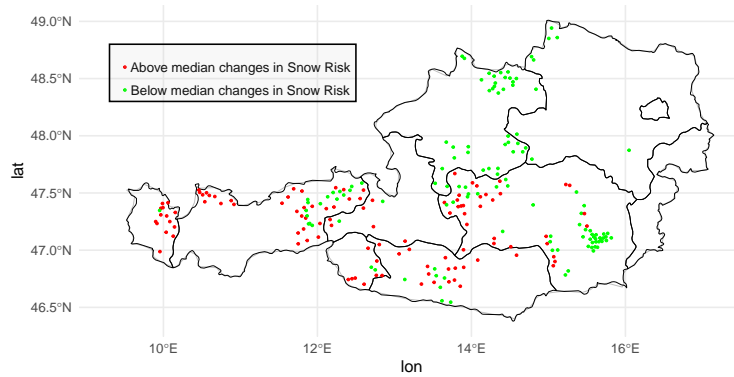


Figure A.3: Trends in Snow Risk

These maps show changes in Snow Risk in Austrian ski resorts during the years 1998-2006. Changes in Snow Risk are calculated using the regression for the starting weeks of the ski season reported in column 7 of table A.1. We show separate maps for regions with below- and above median Bank Equity (BE, measured in terms of BE^{all} defined in expression (7)). Each map shows ski resorts color-coded to mark resorts with below- and above median changes in Snow Risk. For formal definitions of the variables, see Section 4.2.



(a) Ski Resorts with Low Bank Equity



(b) Ski Resorts with High Bank Equity

Figure A.4: Matching Snow Data and Municipalities

This figure illustrates the matching of snow data to municipalities in Austrian ski resorts. The grid of points shows the locations for which we have snow data. For each ski lift, we use the data for the grid point closest to the center of the line representing the ski lift. We first collect the coordinates of all ski lifts within a radius of 10 km for each municipality's center. Next, we determine the closest data grid point to the center of each ski lift. In this figure, we demonstrate our mapping of ski lifts to municipalities for the municipality of Lech am Arlberg, a well known resort in the Austrian state of Vorarlberg. The dashed circle is at a radius of 10 kilometers around the center of Lech. To measure the snow conditions around Lech, we consider all ski lifts marked by red lines. Coordinates of ski lifts were retrieved from OpenStreetMap, the 1×1 km grid data on snow depth was provided by the Austrian Meteorological Office.

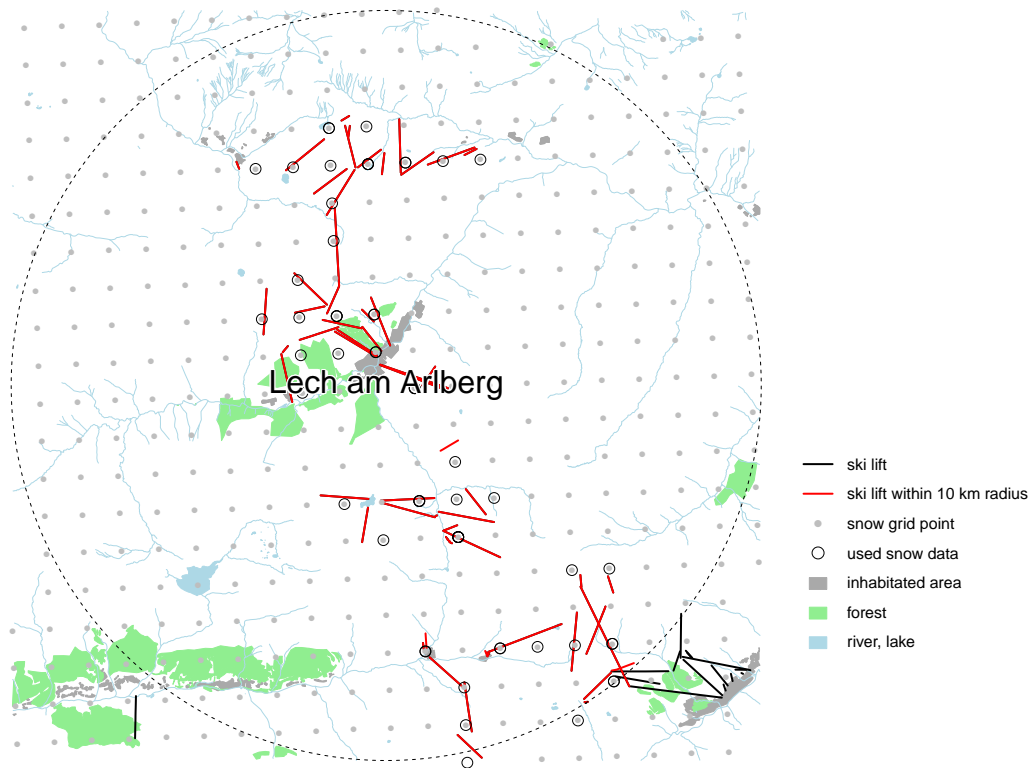


Figure A.5: Year-on-Year Changes in Aggregate Bank Equity Capitalization

This figure plots means of year-on-year changes in our instrument for Bank Equity (BE, measured in terms of BE^{grp} defined in expression (9)) in basis points across the years 1998 (- the first year in our bank balance sheet data) and 2006 (- the last year of our snow data). The dashed line marks the overall mean (across the years). The shaded area shows a one-standard-deviation interval of the yearly means around the overall mean. For formal definitions of the variables, see Section 4.2.

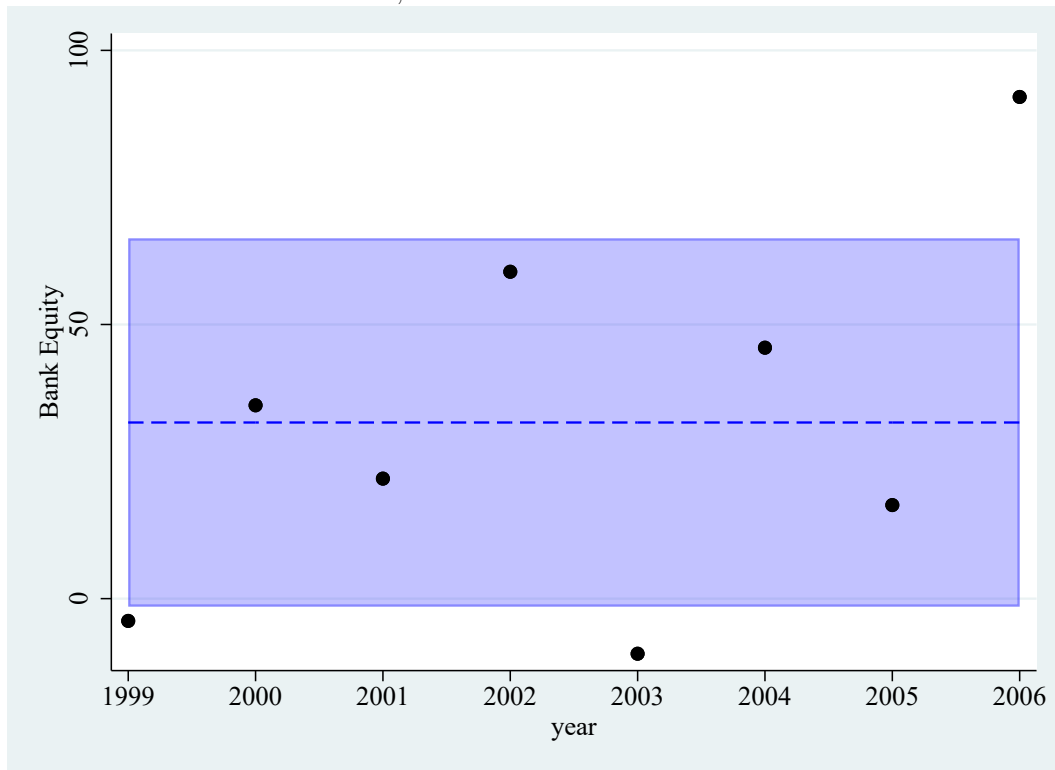


Table A.1: Long run Trends in Snow Conditions in Austrian Ski Resorts

This table reports regressions measuring long-run trends in our measures of Expected Snow and Snow Risk in Austrian ski resorts during the years 1983-2007. While our snow data start in 1978, we need the first five years of data to compute the value of the dependent variables of our regressions for the year 1983. We measure linear time trends and allow for the trends to differ across a number of dimensions. *Altitude* is a ski resort's altitude, and *High* is a dummy variable indicating ski resorts at above-median altitude. *Start* (*End*) are dummy variables indicating the starting (ending) weeks of the year. In parentheses, we report standard errors clustered at the level of ski resorts. *, **, *** indicate statistical significance at the 10%, 5% and 1% levels respectively.

	Expected Snow				Snow Risk			
<i>Year</i>	-0.00538*** (0.000172)	-0.00591*** (0.000236)	-0.00543*** (0.000184)	-0.00605*** (0.000259)	0.00142*** (0.0000921)	0.00110*** (0.000130)	0.00208*** (0.000113)	0.00204*** (0.000160)
<i>Year</i> × <i>Altitude</i>	0.000938*** (0.000161)		0.000962*** (0.000173)		0.000166* (0.0000899)		-0.000159 (0.000103)	
<i>Year</i> × <i>High</i>		0.00147*** (0.000335)		0.00166*** (0.000355)		0.000705*** (0.000176)		0.0000243 (0.000214)
<i>Year</i> × <i>Start</i>			0.00640*** (0.000241)	0.00599*** (0.000332)			-0.00210*** (0.000144)	-0.00253*** (0.000200)
<i>Year</i> × <i>End</i>			-0.00491*** (0.000239)	-0.00420*** (0.000308)			-0.00111*** (0.000149)	-0.00189*** (0.000205)
<i>Year</i> × <i>Altitude</i> × <i>Start</i>			0.000323 (0.000247)			0.000454*** (0.000140)		
<i>Year</i> × <i>Altitude</i> × <i>End</i>			-0.000361 (0.000245)			0.00100*** (0.000123)		
<i>Year</i> × <i>High</i> × <i>Start</i>				0.000960** (0.000474)				0.00106*** (0.000277)
<i>Year</i> × <i>High</i> × <i>End</i>				-0.00157*** (0.000482)				0.00201*** (0.000285)
<i>N</i>	473550	473550	473550	473550	473550	473550	473550	473550
<i>R</i> ²	0.051	0.051	0.077	0.077	0.012	0.013	0.017	0.017
Resort-Week FE	YES	YES	YES	YES	YES	YES	YES	YES

Table A.2: **Bank Equity, Risk and Employment: Sample Splits by Labor Market Tightness**

This table reports results for regressions explaining the log of Employment Days (ED, at firm-week level) of service personnel in Austrian ski tourism businesses during the years 1998-2006. We focus on the *starting weeks* of the ski season, leading up to the start of the high season, i.e., the Christmas holidays. The explanatory variables measure Expected Snow and Snow Risk in ski resorts for different weeks of the ski season. Bank Equity^{reg} measures the average equity ratio of all regional banks within a 20 kilometer radius around a firm's municipality. The instrument for this measure, Bank Equity^{grp}, is similarly defined, but replaces each bank's equity ratio by the average in the bank's group outside the bank's state. For formal definitions of the variables, see Section 4.2. All Bank Equity measures are de-meanned and defined in terms of basis points. We split the sample of firms' based on the degree of labor market tightness (LMT) observed in ski resort counties, and report separate estimates for counties with below and above-median LMT. LMT is defined as $(1 - \text{unemployment rate}_{c(i),t})$ in county $c(i)$ and year t . The results are reported in two panels. The left (right) panel reports results for firms in counties with low (high) LMT. In each panel, the first column reports OLS estimates, columns 2 and 3 report first stage estimates, and, column 4 reports IV estimates. In parentheses, we report standard errors clustered at the municipality-year level. *, **, *** indicate statistical significance at the 10%, 5% and 1% levels respectively.

	Low LMT			High LMT				
	OLS	1 st stage results		IV 2 nd stage	OLS	1 st stage results		IV 2 nd stage
	Log(ED)	Bank Equity ^{reg} × Exp. Snow _τ × Snow Risk _τ		Log(ED)	Log(ED)	Bank Equity ^{reg} × Exp. Snow _τ × Snow Risk _τ		Log(ED)
Exp. Snow _τ	0.198*** (0.0757)	11.94** (5.547)	-5.559** (2.591)	0.210*** (0.0763)	0.241*** (0.0547)	-12.81* (6.666)	-7.927*** (1.786)	0.338*** (0.0794)
Snow Risk _τ	-0.298*** (0.0877)	-30.74*** (7.624)	9.653* (5.336)	-0.316*** (0.109)	-0.140 (0.0947)	-49.55*** (8.072)	-27.16*** (4.980)	0.0816 (0.147)
Bank Equity ^{reg} × Exp. Snow _τ	-0.00186*** (0.000491)			-0.00195* (0.00117)	0.000508 (0.000356)			0.00463** (0.00207)
Bank Equity ^{reg} × Snow Risk _τ	0.00199*** (0.000700)			0.00355** (0.00161)	-0.000239 (0.000712)			0.000651 (0.00262)
Bank Equity ^{grp} × Exp. Snow _τ		0.679*** (0.0696)	-0.0103 (0.0434)			0.442*** (0.0806)	-0.0206 (0.0239)	
Bank Equity ^{grp} × Snow Risk _τ		0.0358 (0.124)	0.616*** (0.0950)			-0.0756 (0.108)	0.435*** (0.0615)	
<i>N</i>	154456	154456	154456	154456	166824	166824	166824	166824
Firm-Year FE	YES	YES	YES	YES	YES	YES	YES	YES
Week FE	YES	YES	YES	YES	YES	YES	YES	YES
F-Test of excluded instruments		80.44	45.08			26.75	28.52	
Angrist-Pischke F-Test		98.90	40.73			32.46	52.30	

Table A.3: Bank Equity, Snow Shocks and Bank Interest Income Growth: Sample Splits by Labor Market Tightness

This table reports results for regressions explaining the growth of interest income (I, at bank-year level) of regional banks in Austrian ski resorts during the years 1998-2006.. The explanatory variables are the sum of Unexpected Snow across the starting weeks of the ski season (Unexpected Snow^{start}), Bank Equity (BE), and an interaction term. Bank Equity^{reg} measures the average equity ratio of all regional banks within a 20 kilometer radius around a firm's municipality. The instrument for this measure, Bank Equity^{grp}, is similarly defined, but replaces each bank's equity ratio by the average in the bank's group outside the bank's state. For formal definitions of the variables, see Section 4.2. All Bank Equity measures are de-meaned and defined in terms of basis points. We split the sample of firms' based on the degree of labor market tightness (LMT) observed in ski resort counties, and report separate estimates for counties with below and above-median LMT. LMT is defined as $(1 - \text{unemployment rate}_{c(i),t})$ in county $c(i)$ and year t . The results are reported in two panels. The left (right) panel reports results for firms in counties with low (high) LMT. In each panel, the first column reports OLS estimates, columns 2 and 3 report first stage estimates, and, column 4 reports IV estimates. In parentheses, we report standard errors clustered at the municipal level. *,**,*** indicate statistical significance at the 10%, 5% and 1% levels respectively.

	Low LMT				High LMT			
	OLS	1 st stage results		IV 2 nd stage	OLS	1 st stage results		IV 2 nd stage
	$\Delta \text{Log}(I)$	Bank Equity ^{reg} × 1	× UE Snow	$\Delta \text{Log}(I)$	$\Delta \text{Log}(I)$	Bank Equity ^{reg} × 1	× UE Snow	$\Delta \text{Log}(I)$
Unexpected Snow ^{start}	0.00214 (0.00434)	3.085 (3.317)	2.995 (29.84)	-0.00311 (0.0113)	0.0127*** (0.00297)	-0.772 (2.189)	9.804 (19.91)	0.0122** (0.00479)
Bank Equity ^{reg}	0.0000770 (0.0000462)			-0.0000136 (0.000138)	0.000142* (0.0000718)			0.000220 (0.000154)
Bank Equity ^{reg} × Unexpected Snow ^{start}	0.0000655*** (0.0000198)			0.000275*** (0.0000802)	0.0000432 (0.0000424)			0.000159 (0.000100)
Bank Equity ^{grp}		0.666*** (0.0905)	0.269 (0.197)			0.652*** (0.104)	0.0919 (0.0775)	
Bank Equity ^{grp} × Unexpected Snow ^{start}		0.0548 (0.0378)	0.816*** (0.188)			0.0138 (0.0268)	0.602*** (0.122)	
<i>N</i>	1388	1365	1365	1365	1480	1461	1461	1461
Municipality FE	YES	YES	YES	YES	YES	YES	YES	YES
F-Test of excluded instruments		28.00	11.59			20.60	12.17	
Angrist-Pischke F-Test		55.86	20.05			38.60	24.23	

Table A.4: **Bank Equity, Risk and Employment: Robustness checks**

This table reports robustness checks, showing IV estimates explaining the log of Employment Days (ED, at firm-week level) of service personnel in Austrian ski tourism businesses during the years 1998-2006. We focus on the *starting weeks* of the ski season, leading up to the start of the high season, i.e., the Christmas holidays. The explanatory variables measure Expected Snow and Snow Risk in ski resorts for different weeks of the ski season. Columns 1 and 2 vary the look-back period we use to measure these variables by extending or shortening this period by one year (relative to the baseline specification of 5 years). Bank Equity^{reg} measures the average equity ratio of all regional banks within a certain radius around a firm's municipality, set to 20km in columns 1 and 2 and 15 or 25 km in columns 3 and 4. The instrument for this measure, Bank Equity^{grp}, is similarly defined, but replaces each bank's equity ratio by the average in the bank's group outside the bank's state. For formal definitions of the variables, see Section 4.2. All Bank Equity measures are de-meaned and defined in terms of basis points. In parentheses, we report standard errors clustered at the municipality-year level. *, **, *** indicate statistical significance at the 10%, 5% and 1% levels respectively.

	Log(ED)			
	Look-Back Period		Banking Market Radius	
	4 Years	6 Years	15 KM	25 KM
Exp. Snow _τ	0.171*** (0.0440)	0.374*** (0.0531)	0.261*** (0.0490)	0.230*** (0.0498)
Snow Risk _τ	-0.147*** (0.0553)	-0.333*** (0.0876)	-0.230*** (0.0767)	-0.241*** (0.0673)
Bank Equity ^{reg} × Exp. Snow _τ	-0.00101 (0.000864)	0.0000613 (0.00103)	-0.000518 (0.00102)	-0.000539 (0.000660)
Bank Equity ^{reg} × Snow Risk _τ	0.00340*** (0.00104)	0.00503*** (0.00149)	0.00301** (0.00118)	0.00173** (0.000773)
<i>N</i>	325096	325096	325096	311128
<i>R</i> ²	0.165	0.164	0.165	0.166
Firm-Year FE	YES	YES	YES	YES
Week FE	YES	YES	YES	YES