

Table 1: Variable List, Definitions, and Expected Signs

Variable	Definition	Expected Sign
Total Insured Value	Total insured value in dollars	+
Year Built	Year in which home was built	-
Number of Stories	Number of stories in the home	+
Square Footage	Total square footage of home	+
Building Structure (Wood reference group):		
Steel Structure	Indicator variable equal to one for steel structures and zero otherwise	-
Masonry Structure	Indicator variable equal to one for masonry structures and zero otherwise	-
Shutters	Indicator variable equal to one if home has storm shutters and zero otherwise	+
Ln Distance to the Coast	Natural logarithm of distance to the coast in miles	-
Roof Shape Type (Hip Roof reference group):		
Gable Roof	Indicator variable equal to one for gable roof and zero otherwise	+
Flat Roof	Indicator variable equal to one for flat roof and zero otherwise	+
Roof Unknown	Indicator variable equal to one if roof type unknown and zero otherwise	+/-
Roof Covering Type (Metal Roof reference group):		
Concrete	Indicator variable equal to one for concrete roof covering and zero otherwise	+/-
Roof Shingle	Indicator variable equal to one for shingles and zero otherwise	+/-
Wind Rated Single	Indicator variable equal to one for wind-rated shingles and zero otherwise	+/-
Roof Covering Unknown	Indicator variable equal to one if roof covering unknown and zero otherwise	+/-

Table 2: Loss Costs Summary Statistics

Panel A: Loss Costs

	Mean	Std. Dev.	Min	Max
RMS 7.0	\$ 2,609.28	\$ 2,483.91	\$ 24.96	\$ 140,716.00
RMS 6.0	\$ 1,724.09	\$ 1,637.53	\$ 18.04	\$ 85,798.63
AIR 9.5	\$ 2,510.34	\$ 2,785.39	\$ 32.30	\$ 134,544.30
EQECAT 3.1	\$ 3,030.98	\$ 3,888.69	\$ 2.65	\$ 176,318.60

Panel B: Correlation Matrix

	RMS 7.0	RMS 6.0	AIR 9.5	EQECAT 3.1
RMS 7.0	1			
RMS 6.0	0.9948	1		
AIR 9.5	0.7861	0.7552	1	
EQECAT 3.1	0.5547	0.514	0.7618	1

Table 3: Summary Statistics

Variable	Mean	Std. Dev.	Min	Max
Total Insured Value	\$ 442,994.50	\$ 437,548.50	\$ 12,000.00	\$ 14,300,000.00
Year Build	1972	19	1800	2008
Number of Stories	1.2692	0.5169	1	5
Square Footage	1978	1085	1	15000
Wood Structure	0.1943	0.3956	0	1
Masonry Structure	0.7226	0.4477	0	1
Steel Structure	0.0831	0.2761	0	1
Concrete	0.0058	0.0758	0	1
Roof Shingle	0.7716	0.4198	0	1
Wind Rated Single	0.1327	0.3393	0	1
Roof Covering Unknown	0.0899	0.2860	0	1
Shutters	0.2290	0.4202	0	1
Roof Unknown	0.0000	0.0063	0	1
Hip Roof	0.3020	0.4591	0	1
Gable Roof	0.6218	0.4849	0	1
Flat Roof	0.0761	0.2652	0	1
Distance to the Coast	-1.4158	2.4171	-11.9894	3.2763

Table 4: Regression Results – Coefficient of Variation

	Coefficient	
	(SE)	
Constant	-2123	***
	(-9.01)	
Total Insured Value	0.00197	***
	(328)	
Year Built	1.374	***
	(12.3)	
Number of Stories	-87.49	***
	(-21.8)	
Square Footage	0.0160	***
	(6.42)	
Steel Structure	-959.4	***
	(-127)	
Masonry Structure	-408.7	***
	(-81.8)	
Shutters	209.1	***
	(46.0)	
Distance to the Coast	4.303	***
	(5.03)	
Gable Roof	-36.75	***
	(-9.94)	
Flat Roof	-22.13	***
	(-3.36)	
Roof Unknown	836.9	***
	(3.39)	
Roof Shingle	-42.86	**
	(-2.03)	
Wind Rated Single	-210.4	***
	(-9.84)	
Roof Covering Unknown	621.2	***
	(28.4)	
Territories Included	Yes	
Observations	251654	
Adjusted R-squared	0.6047	

Table 5: Regression Results – High Risk Account Base Model

	Coefficient (SE)	
Constant	13933 (50.9)	***
RMS 7.0 Indicator	885.2 (174)	***
AIR 9.5.0 Indicator	786.2 (155)	***
EQECAT 3.1 Indicator	1307 (257)	***
Total Insured Value	0.00415 (596)	***
Year Built	-7.345 (-56.7)	***
Number of Stories	102.2 (21.9)	***
Square Footage	0.0617 (21.4)	***
Steel Structure	-94.95 (-10.8)	***
Masonry Structure	349.7 (60.3)	***
Shutters	-583.2 (-110)	***
Distance to the Coast	-65.91 (-66.4)	***
Gable Roof	529.1 (123)	***
Flat Roof	544.2 (71.3)	***
Roof Unknown	-873.6 (-3.05)	***
Roof Shingle	1075 (43.8)	***
Wind Rated Single	1055 (42.5)	***
Roof Covering Unknown	-171.8 (-6.77)	***
Territories Included	Yes	
Observations	1006616	
Adjusted R-squared	0.6008	

Table 6: Regression Results – High Risk Account Individual Models

	RMS 6.0		RMS 7.0		AIR 9.5		EQECAT 3.1	
Model Indicator	1307	***	16045	***	32745	***	8611	***
	(3.38)		(41.4)		(84.6)		(22.2)	
Total Insured Value	0.00242	***	0.00374	***	0.00389	***	0.00656	***
	(219)		(340)		(353)		(595)	
Year Built	0.390	**	-7.139	***	-16.01	***	-6.620	***
	(2.03)		(-37.2)		(-83.4)		(-34.5)	
Number of Stories	333.6	***	495.4	***	-47.81	***	-372.4	***
	(46.3)		(68.8)		(-6.64)		(-51.7)	
Square Footage	-0.175	***	-0.196	***	0.370	***	0.248	***
	(-39.2)		(-43.9)		(82.9)		(55.6)	
Steel Structure	-1057	***	-982.8	***	206.9	***	1453	***
	(-79.3)		(-73.7)		(15.5)		(109)	
Masonry Structure	-598.6	***	-584.5	***	-219.1	***	2801	***
	(-70.5)		(-68.9)		(-25.8)		(330)	
Shutters	-910.9	***	-1040	***	-303.4	***	-78.83	***
	(-112)		(-128)		(-37.4)		(-9.72)	
Ln Distance to the Coast	-90.30	***	-144.7	***	-19.45	***	-9.224	***
	(-66.9)		(-107)		(-14.4)		(-6.83)	
Gable Roof	603.6	***	900.0	***	327.3	***	285.5	***
	(88.7)		(132)		(48.1)		(42.0)	
Flat Roof	555.5	***	915.8	***	306.6	***	399.1	***
	(45.7)		(75.4)		(25.2)		(32.8)	
Roof Unknown	-1808	***	-2638	***	6.364	***	945.3	***
	(-3.95)		(-5.76)		(0.014)		(2.06)	
Roof Shingle	151.7	***	149.1	***	395.6	***	3605	***
	(3.89)		(3.83)		(10.2)		(92.5)	
Wind Rated Single	63.80	***	199.9	***	530.0	***	3428	***
	(1.61)		(5.06)		(13.4)		(86.7)	
Roof Covering Unknown	-1061	***	-1617	***	-1490	***	3481	***
	(-26.4)		(-40.2)		(-37.0)		(86.5)	
Territories Included	Yes							
Observations	1006616							
Adjusted R-squared	0.8536							

Appendix

A1: Regression Results – Personal Lines Account Base Model

	Coefficient (SE)	
Constant	7146 (122)	***
RMS 7.0 Indicator	375.1 (342)	***
AIR 9.5.0 Indicator	98.50 (89.9)	***
EQECAT 3.1 Indicator	580.7 (530)	***
Total Insured Value	0.00311 (585)	***
Year Built	-4.312 (-148)	***
Number of Stories	-12.12 (-10.3)	***
Square Footage	-0.0354 (-28.9)	***
Masonry Structure	131.8 (97.5)	***
Shutters	-367.6 (-256)	***
Distance to the Coast	-77.89 (-251)	***
Gable Roof	295.1 (267)	***
Flat Roof	329.1 (126)	***
Roof Unknown	455.8 (199)	***
Roof Shingle	582.8 (46.4)	***
Wind Rated Single	528.5 (42.0)	***
Roof Covering Unknown	335.5 (26.5)	***
Territories Included	Yes	
Observations	1765888	
Adjusted R-squared	0.6378	

A2: Regression Results – Personal Lines Account Individual Models

	RMS 6.0		RMS 7.0		AIR 9.5		EQECAT 3.1	
Model Indicator	-1117	***	2269	***	20465	***	8021	***
	(-12.5)		(25.3)		(228)		(89.5)	
Total Insured Value	0.00242	***	0.00336	***	0.00206	***	0.00461	***
	(278)		(386)		(237)		(530)	
Year Built	0.404	***	-1.386	***	-10.60	***	-5.666	***
	(9.06)		(-31.1)		(-238)		(-127)	
Number of Stories	10.63	***	67.14	***	-93.86	***	-32.41	***
	(5.47)		(34.6)		(-48.3)		(-16.7)	
Square Footage	-0.199	***	-0.196	***	0.209	***	0.0443	***
	(-99.6)		(-97.7)		(105)		(22.1)	
Masonry Structure	-215.5	***	-125.1	***	-84.62	***	952.4	***
	(-102)		(-59.3)		(-40.1)		(451)	
Shutters	-524.9	***	-626.7	***	-277.0	***	-41.71	***
	(-225)		(-268)		(-119)		(-17.8)	
Distance to the Coast	-93.44	***	-111.0	***	-73.95	***	-33.15	***
	(-213)		(-252)		(-168)		(-75.4)	
Gable Roof	372.4	***	566.4	***	114.6	***	127.2	***
	(204)		(311)		(62.9)		(69.8)	
Flat Roof	335.1	***	562.0	***	176.3	***	242.8	***
	(77.2)		(129)		(40.6)		(55.9)	
Roof Unknown	471.6	***	871.9	***	273.3	***	206.1	***
	(126)		(233)		(73.1)		(55.1)	
Roof Shingle	273.7	***	251.1	***	86.52	***	1720	***
	(13.1)		(12.0)		(4.14)		(82.3)	
Wind Rated Single	119.3	***	210.0	***	20.22	***	1765	***
	(5.70)		(10.0)		(0.97)		(84.3)	
Roof Covering Unknown	22.08		-229.5	***	-77.19	***	1636	***
	(1.05)		(-10.9)		(-3.66)		(77.2)	

Territories Included Yes
 Observations 1765888
 R-squared 0.8995