

Table 1: Frequency of claims in Brazilian automobile insurance: parameter estimates and inference for models of regression w/ binary outcomes and Poisson regression. Period: 1tr08, data type: cas

Variable	Coefficients				z stats			
	Logit	Probit	Binary Poisson	Poisson	Logit	Probit	Binary Poisson	Poisson
ONE	-2.1752	-1.2231	-2.2186	-1.8118	-77.1914	-101.0819	-80.2001	-71.5537
AGEV1	-0.0292	-0.0093	-0.0273	-0.0970	-3.4192	-2.4726	-3.2561	-12.9969
AGEV2	-0.0946	-0.0360	-0.0911	-0.1599	-10.0793	-8.8296	-9.8986	-19.4416
AGEV3	-0.1842	-0.0780	-0.1790	-0.3254	-18.8522	-18.5080	-18.6435	-36.9116
AGEV4	-0.2221	-0.0897	-0.2163	-0.3921	-20.7759	-19.6286	-20.5851	-40.0057
AGEV5	-0.2465	-0.1003	-0.2402	-0.4300	-22.0127	-21.0204	-21.8158	-41.5586
AGEV6	-0.3237	-0.1304	-0.3165	-0.5353	-38.3086	-36.1088	-38.0997	-68.8170
AGEV11	-0.4816	-0.1876	-0.4729	-0.6735	-35.8362	-34.1766	-35.6397	-52.9359
AGEV20	-0.8668	-0.2888	-0.8575	-1.0895	-5.5701	-5.1974	-5.5425	-7.1341
TYPEV11	-0.0670	-0.0322	-0.0653	-0.1658	-3.5355	-4.0764	-3.4917	-8.9939
TYPEV14A	0.0156	-0.0025	0.0163	-0.1401	1.1205	-0.4195	1.1912	-10.4743
TYPEV14B	-0.3444	-0.1357	-0.3390	-0.5305	-4.1866	-4.1261	-4.1682	-6.6386
TYPEV14C	0.2378	0.1051	0.2341	0.1137	6.8052	6.9024	6.8344	3.3735
TYPEV15	-0.1774	-0.0880	-0.1729	-0.3220	-3.1908	-3.8072	-3.1538	-5.9158
TYPEV16	0.0242	0.0279	0.0233	-0.0694	0.2322	0.6544	0.2270	-0.6897
TYPEV17	-0.2724	-0.1348	-0.2679	-0.3852	-1.6931	-2.1093	-1.6814	-2.4189
TYPEV18	-12.7306	-5.5108	-18.7671	-18.7667	-0.0173	-0.0001	-0.0012	-0.0013
TYPEV19	2.0440	0.9994	1.9620	1.7759	3.6706	3.2530	3.9174	3.5466
TYPEV20	0.1112	0.0263	0.1108	-0.0288	5.4140	2.9518	5.4962	-1.4657
TYPEV21	0.2503	0.0746	0.2473	0.0808	7.0975	4.7650	7.1666	2.3821
TYPEV22	-0.0854	-0.0363	-0.0820	-0.2374	-3.4187	-3.4450	-3.3344	-9.8560
TYPEV23	-0.2435	-0.1356	-0.2388	-0.2703	-7.4121	-9.9549	-7.3660	-8.8840
REGION1	-0.2538	-0.1333	-0.2496	-0.2574	-18.0178	-22.8458	-17.9666	-19.7708
REGION2	-0.2745	-0.1437	-0.2694	-0.2571	-15.1658	-19.1794	-15.0908	-15.3588
REGION3	-0.1829	-0.1091	-0.1798	-0.2061	-8.8391	-12.3784	-8.8339	-10.6595
REGION4	-0.2158	-0.1216	-0.2100	-0.2633	-6.3633	-8.4585	-6.2888	-8.1533
REGION5	-0.1852	-0.1041	-0.1814	-0.2193	-9.8954	-13.1462	-9.8436	-12.3790

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Variable	Coefficients				z stats			
	Logit	Probit	Binary Poisson	Poisson	Logit	Probit	Binary Poisson	Poisson
REGION6	-0.2647	-0.1379	-0.2595	-0.3075	-7.7180	-9.7230	-7.6672	-9.3384
REGION7	-0.2430	-0.1341	-0.2394	-0.2890	-15.7745	-20.7486	-15.7730	-19.9472
REGION8	-0.2206	-0.1151	-0.2163	-0.2093	-11.4740	-14.3374	-11.4153	-11.7222
REGION9	-0.0900	-0.0554	-0.0879	-0.1203	-5.2030	-7.6139	-5.1582	-7.5406
REGION10	0.0147	0.0029	0.0150	-0.0587	0.5469	0.2499	0.5652	-2.3393
REGION12	-0.1507	-0.0746	-0.1481	-0.1821	-9.4761	-11.3094	-9.4435	-12.3819
REGION13	-0.2489	-0.1222	-0.2443	-0.2199	-22.5254	-26.5724	-22.4319	-21.8277
REGION14	-0.0289	-0.0285	-0.0280	0.0035	-1.3415	-3.0775	-1.3222	0.1785
REGION15	-0.2434	-0.1314	-0.2383	-0.2825	-9.7222	-12.4823	-9.6597	-12.0377
REGION16	0.1161	0.0285	0.1147	0.1267	9.7418	5.5011	9.8042	11.7850
REGION17	0.0474	0.0064	0.0476	0.1088	1.4730	0.4568	1.5090	3.8598
REGION18	-0.0431	-0.0290	-0.0416	-0.0581	-4.0057	-6.4091	-3.9254	-5.9551
REGION19	-0.1376	-0.0741	-0.1340	-0.1875	-6.7975	-8.7463	-6.7224	-10.0146
REGION20	0.0032	-0.0209	0.0042	-0.0848	0.1695	-2.5602	0.2268	-4.8271
REGION21	0.1485	0.0711	0.1448	0.2520	11.2202	12.3885	11.1554	22.1636
REGION22	0.0958	0.0378	0.0942	0.2186	2.7925	2.5091	2.8045	7.5755
REGION23	-0.0767	-0.0548	-0.0744	-0.1446	-4.5760	-7.6676	-4.5145	-9.3204
REGION24	-0.0791	-0.0605	-0.0766	-0.1474	-2.8243	-4.9512	-2.7886	-5.7267
REGION25	0.0833	0.0251	0.0820	0.1267	3.3626	2.3140	3.3791	5.8858
REGION26	-0.0499	-0.0396	-0.0486	-0.0336	-1.6321	-3.0033	-1.6183	-1.2399
REGION27	0.1000	0.0310	0.0984	0.1019	5.5758	3.9197	5.6021	6.3855
REGION28	0.2423	0.0881	0.2372	0.1293	7.5277	5.9909	7.5625	4.3526
REGION29	0.2971	0.1287	0.2906	0.2064	11.0012	10.3812	11.0637	8.5236
REGION30	0.1567	0.0568	0.1540	0.2339	6.6609	5.3990	6.6955	11.7222
REGION31	0.3620	0.1782	0.3517	0.4990	11.7783	12.6009	11.7800	20.2017
REGION32	0.1151	0.0625	0.1138	0.1937	1.3334	1.6255	1.3503	2.6802
REGION33	0.3698	0.1619	0.3596	0.3729	8.9190	8.4314	8.9336	10.5079
REGION34	0.1093	0.0382	0.1082	0.1283	1.1596	0.8993	1.1752	1.5609
REGION35	0.5478	0.2420	0.5331	0.4182	8.6664	8.0046	8.7294	7.3457
REGION36	0.1618	0.0510	0.1593	0.2158	6.8603	4.8129	6.9158	10.7369
REGION37	0.0278	-0.0014	0.0281	0.1135	1.0676	-0.1203	1.1027	5.1033
REGION38	0.0057	-0.0322	0.0072	-0.0680	0.4052	-5.2565	0.5263	-5.2981

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Variable	Coefficients				z stats			
	Logit	Probit	Binary Poisson	Poisson	Logit	Probit	Binary Poisson	Poisson
<i>REGION39</i>	0.2881	0.1139	0.2821	0.2502	18.0453	16.0848	18.0659	17.8491
<i>REGION40</i>	0.3848	0.1625	0.3761	0.2903	10.0844	9.1891	10.1456	8.4746
<i>REGION41</i>	0.2174	0.0811	0.2131	0.0161	5.5352	4.6801	5.5361	0.4363
<i>SEXF</i>	-0.0879	-0.0420	-0.0864	-0.0910	-16.8996	-18.9189	-16.8970	-19.3236
<i>AGE</i>	-3.2334	-1.5311	-3.1678	-3.5887	-28.6148	-31.5351	-28.5522	-35.1459
<i>AGESQ</i>	2.5249	1.1575	2.4745	2.7327	21.4168	22.9255	21.3663	25.4727
<i>POLTYPE</i>	-0.2079	-0.0993	-0.2028	-0.0663	-19.6516	-22.1761	-19.4819	-7.1197
<i>BONUSC1</i>	0.0136	0.0128	0.0133	0.1607	1.6160	3.5233	1.6127	21.7698
<i>BONUSC2</i>	-0.0372	-0.0110	-0.0363	0.0715	-3.7047	-2.5540	-3.6859	8.0187
<i>BONUSC3</i>	-0.0893	-0.0355	-0.0874	-0.0217	-8.0595	-7.5499	-8.0196	-2.1538
<i>BONUSC4</i>	-0.1055	-0.0416	-0.1033	-0.0651	-9.2031	-8.5950	-9.1646	-6.1624
<i>BONUSC5</i>	-0.1929	-0.0853	-0.1893	-0.1747	-17.8717	-18.8573	-17.8051	-17.2486
<i>BONUSC6</i>	-0.1992	-0.0923	-0.1950	-0.1800	-16.1012	-17.7582	-16.0035	-15.6146
<i>BONUSC7</i>	-0.0826	-0.0358	-0.0807	-0.0451	-6.5145	-6.6467	-6.4767	-3.8518
<i>BONUSC8</i>	0.0576	0.0484	0.0559	0.2030	4.9248	9.6941	4.8645	19.7100
<i>BONUSC9</i>	-0.2380	-0.1097	-0.2333	-0.2770	-22.0467	-24.2610	-21.9245	-26.6785
<i>DEDUCT1</i>	0.2253	0.0993	0.2212	0.1843	30.7947	32.2798	30.7188	27.5459
<i>DEDUCT3</i>	-0.1013	-0.0258	-0.1002	-0.2475	-1.5042	-0.9611	-1.5044	-3.7512
<i>DEDUCT4</i>	0.0000	0.0000	0.0000	0.0000	nan	nan	nan	nan
<i>DEDUCT9</i>	-0.4512	-0.1871	-0.4453	-0.6089	-13.5351	-14.1698	-13.4963	-18.6262
<i>DEDUCTV</i>	-5.6576	-2.0197	-5.6143	-4.7476	-9.8648	-8.6247	-9.9240	-8.9129
<i>COVCAS</i>	0.0160	0.0051	0.0156	0.0015	4.1779	2.5359	4.2144	0.2431
<i>COVRCD</i>	-0.0755	-0.0395	-0.0737	-0.1536	-17.0145	-21.1243	-16.8534	-34.9695
<i>COVAPP</i>	0.1825	0.1015	0.1748	0.3139	30.0482	36.4216	29.9260	78.1530

Table 2: Frequency of claims in Brazilian automobile insurance: parameter estimates and inference for models of regression w/ binary outcomes and Poisson regression. Period: 1tr08, data type: rcd

Variable	Coefficients				z stats			
	Logit	Probit	Binary Poisson	Poisson	Logit	Probit	Binary Poisson	Poisson
ONE	-2.7797	-1.5392	-2.8016	-2.5159	-74.2581	-104.1160	-75.5492	-71.4155
AGEV1	-0.0146	0.0024	-0.0137	-0.0786	-1.1509	0.4845	-1.0894	-6.8975
AGEV2	-0.0278	-0.0002	-0.0267	-0.0910	-2.0300	-0.0362	-1.9629	-7.3243
AGEV3	-0.1171	-0.0413	-0.1150	-0.2490	-8.2036	-7.4416	-8.1202	-18.7121
AGEV4	-0.1031	-0.0344	-0.1010	-0.2662	-6.7358	-5.7792	-6.6577	-18.2996
AGEV5	-0.1417	-0.0475	-0.1395	-0.3362	-8.7992	-7.6146	-8.7281	-21.5582
AGEV6	-0.1955	-0.0696	-0.1928	-0.4065	-15.8353	-14.3984	-15.7324	-32.6447
AGEV11	-0.2985	-0.1084	-0.2952	-0.4912	-15.9388	-15.1443	-15.8629	-25.7981
AGEV20	-0.4968	-0.1864	-0.4928	-0.7175	-2.7441	-2.8150	-2.7348	-3.9799
TYPEV11	-0.1130	-0.0499	-0.1116	-0.1797	-4.3076	-4.9601	-4.2812	-6.8370
TYPEV14A	0.0446	0.0031	0.0447	-0.0873	2.2097	0.3873	2.2357	-4.4290
TYPEV14B	-0.0062	-0.0240	-0.0051	-0.1890	-0.0607	-0.6024	-0.0497	-1.8673
TYPEV14C	0.0123	-0.0010	0.0124	-0.0803	0.2207	-0.0478	0.2236	-1.4652
TYPEV15	0.0783	0.0210	0.0781	-0.0168	1.1068	0.7604	1.1133	-0.2415
TYPEV16	-0.2145	-0.1008	-0.2124	-0.2748	-1.3310	-1.6575	-1.3255	-1.7368
TYPEV17	-0.8380	-0.3148	-0.8325	-0.8003	-3.1195	-3.3563	-3.1087	-3.0854
TYPEV18	-21.5776	-2.8717	-17.0005	-11.7853	-0.0003	-0.0341	-0.0021	-0.0196
TYPEV19	1.3480	0.6102	1.3211	1.2322	1.3142	1.3331	1.3136	1.2320
TYPEV20	0.1586	0.0407	0.1580	0.0482	5.6297	3.6395	5.6560	1.7060
TYPEV21	0.0920	0.0083	0.0920	-0.0484	1.7594	0.4007	1.7737	-0.9167
TYPEV22	0.2584	0.0964	0.2565	0.1282	8.5624	7.9369	8.5819	4.2292
TYPEV23	0.1832	0.0371	0.1811	0.1159	5.1846	2.5819	5.1734	3.2000
REGION1	-0.1422	-0.0817	-0.1410	-0.1433	-7.6738	-11.4112	-7.6678	-8.1510
REGION2	-0.2549	-0.1232	-0.2528	-0.2242	-10.3407	-13.0909	-10.3262	-9.6276
REGION3	-0.0933	-0.0661	-0.0928	-0.1158	-3.3813	-6.0810	-3.3902	-4.3703
REGION4	-0.2052	-0.1015	-0.2029	-0.2394	-4.3977	-5.6113	-4.3812	-5.2912
REGION5	-0.0472	-0.0397	-0.0467	-0.0710	-1.9377	-4.1376	-1.9343	-3.0159

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Table 2 – *Continued from previous page*

Variable	Coefficients				z stats			
	Logit	Probit	Binary Poisson	Poisson	Logit	Probit	Binary Poisson	Poisson
REGION6	-0.1184	-0.0701	-0.1170	-0.1543	-2.7267	-4.1470	-2.7174	-3.6361
REGION7	-0.0767	-0.0610	-0.0764	-0.1190	-3.8811	-7.8354	-3.8985	-6.2453
REGION8	-0.0233	-0.0265	-0.0232	-0.0252	-0.9600	-2.7866	-0.9630	-1.0875
REGION9	-0.2619	-0.1175	-0.2595	-0.2753	-10.2021	-12.0801	-10.1762	-11.3064
REGION10	-0.1967	-0.0815	-0.1948	-0.2071	-4.7754	-5.2141	-4.7632	-5.3577
REGION12	-0.0995	-0.0536	-0.0986	-0.0818	-4.6716	-6.5204	-4.6622	-4.1132
REGION13	-0.2167	-0.0964	-0.2148	-0.1941	-14.4139	-16.7353	-14.3970	-13.7181
REGION14	-0.1035	-0.0495	-0.1028	-0.0688	-3.3808	-4.1632	-3.3838	-2.3998
REGION15	-0.5577	-0.2354	-0.5533	-0.5813	-13.8335	-15.8031	-13.7987	-14.9810
REGION16	-0.1347	-0.0669	-0.1333	-0.0893	-7.5200	-9.6751	-7.5023	-5.3887
REGION17	-0.2593	-0.1084	-0.2566	-0.1620	-5.0108	-5.5237	-4.9945	-3.5009
REGION18	-0.5224	-0.2124	-0.5183	-0.4771	-29.8936	-32.9259	-29.8268	-29.6971
REGION19	-0.6266	-0.2540	-0.6217	-0.6214	-18.0790	-20.1545	-18.0267	-19.1588
REGION20	-0.1694	-0.0880	-0.1673	-0.2123	-6.0225	-8.0870	-5.9971	-7.9618
REGION21	0.0344	0.0281	0.0333	0.1811	1.7867	3.7668	1.7469	10.7359
REGION22	-0.1224	-0.0358	-0.1217	0.0950	-2.3026	-1.7691	-2.3086	2.1319
REGION23	-0.2787	-0.1252	-0.2761	-0.3090	-10.9915	-12.9815	-10.9653	-12.8879
REGION24	-0.1839	-0.0975	-0.1819	-0.2291	-4.4311	-6.0235	-4.4184	-5.8421
REGION25	-0.1087	-0.0472	-0.1077	-0.0256	-2.8846	-3.2434	-2.8814	-0.7631
REGION26	-0.1629	-0.0760	-0.1615	-0.1188	-3.6106	-4.3764	-3.6070	-2.9031
REGION27	0.0994	0.0298	0.0983	0.1118	3.9709	2.9858	3.9694	4.8494
REGION28	-0.1740	-0.0858	-0.1721	-0.2349	-3.1805	-4.0294	-3.1725	-4.5215
REGION29	0.0422	0.0123	0.0422	0.0098	0.9966	0.7245	1.0061	0.2522
REGION30	-0.2482	-0.1006	-0.2459	-0.0594	-6.3158	-6.7120	-6.3048	-1.7941
REGION31	0.1011	0.0751	0.0988	0.3518	2.0981	3.9753	2.0702	9.0855
REGION32	-0.3088	-0.0736	-0.3061	-0.1120	-2.0738	-1.3507	-2.0698	-0.9071
REGION33	-0.0126	-0.0112	-0.0123	0.0630	-0.1833	-0.4124	-0.1816	1.0508
REGION34	-0.5357	-0.2076	-0.5305	-0.2135	-3.0055	-3.1433	-2.9942	-1.5211
REGION35	-0.1505	-0.0797	-0.1480	-0.1897	-1.2353	-1.6566	-1.2250	-1.6802
REGION36	-0.0096	-0.0175	-0.0093	0.0571	-0.2735	-1.2560	-0.2686	1.8467
REGION37	-0.0052	-0.0115	-0.0050	0.0575	-0.1422	-0.8036	-0.1386	1.7628
REGION38	-0.0151	-0.0364	-0.0144	-0.0538	-0.7680	-4.6590	-0.7371	-2.9113

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Table 2 – *Continued from previous page*

Variable	Coefficients				z stats			
	Logit	Probit	Binary Poisson	Poisson	Logit	Probit	Binary Poisson	Poisson
<i>REGION39</i>	-0.0433	-0.0302	-0.0429	-0.0331	-1.7993	-3.1833	-1.7996	-1.5149
<i>REGION40</i>	-0.3839	-0.1510	-0.3801	-0.3686	-5.0859	-5.3336	-5.0701	-5.3833
<i>REGION41</i>	-0.0759	-0.0419	-0.0753	-0.1992	-1.3217	-1.8488	-1.3227	-3.6045
<i>SEXF</i>	0.0599	0.0182	0.0593	0.0501	8.0363	6.3338	8.0280	7.2296
<i>AGE</i>	-4.9352	-2.0427	-4.8901	-4.9160	-31.4037	-33.1355	-31.4010	-33.5284
<i>AGESQ</i>	4.4001	1.7655	4.3609	4.2758	26.9049	27.5629	26.9038	27.8733
<i>POLTYPE</i>	0.0061	-0.0001	0.0066	0.0897	0.4270	-0.0097	0.4639	6.8105
<i>BONUSC1</i>	0.0682	0.0418	0.0672	0.1823	5.6525	8.9230	5.6189	16.6373
<i>BONUSC2</i>	0.0263	0.0273	0.0257	0.1453	1.8417	4.9603	1.8186	11.2775
<i>BONUSC3</i>	-0.0182	0.0049	-0.0182	0.0316	-1.1581	0.8103	-1.1686	2.1620
<i>BONUSC4</i>	-0.0188	0.0028	-0.0187	-0.0084	-1.1673	0.4506	-1.1746	-0.5495
<i>BONUSC5</i>	-0.0554	-0.0209	-0.0550	-0.0616	-3.7059	-3.6236	-3.7026	-4.2844
<i>BONUSC6</i>	-0.1149	-0.0460	-0.1138	-0.1280	-6.5953	-6.8876	-6.5809	-7.6596
<i>BONUSC7</i>	-0.0814	-0.0244	-0.0809	-0.0712	-4.4114	-3.4495	-4.4136	-4.0551
<i>BONUSC8</i>	0.1486	0.0937	0.1464	0.2236	9.0433	14.8045	8.9869	14.7385
<i>BONUSC9</i>	-0.3613	-0.1476	-0.3584	-0.4024	-21.9742	-23.8466	-21.9317	-25.0050
<i>DEDUCT1</i>	0.1843	0.0783	0.1828	0.1394	21.6349	23.6250	21.6341	17.6969
<i>DEDUCT3</i>	-0.2758	-0.1049	-0.2736	-0.3756	-2.8931	-2.9639	-2.8854	-3.9649
<i>DEDUCT4</i>	0.0000	0.0000	0.0000	0.0000	nan	nan	nan	nan
<i>DEDUCT9</i>	-0.3160	-0.1355	-0.3138	-0.4256	-6.9953	-8.0757	-6.9834	-9.6199
<i>DEDUCTV</i>	0.3272	0.1540	0.3135	0.4024	1.7713	1.7009	1.7483	2.8833
<i>COVCAS</i>	-0.0112	-0.0081	-0.0114	-0.0611	-0.8710	-1.3481	-0.8818	-2.3413
<i>COVRCD</i>	-0.0323	-0.0215	-0.0317	-0.0892	-5.5498	-9.3897	-5.4939	-15.0218
<i>COVAPP</i>	0.1734	0.0942	0.1700	0.3008	19.7740	26.7153	19.7143	48.4877

Table 3: Frequency of claims in Brazilian automobile insurance: parameter estimates and inference for models of regression w/ binary outcomes and Poisson regression. Period: 1tr09, data type: cas

Variable	Coefficients				z stats			
	Logit	Probit	Binary Poisson	Poisson	Logit	Probit	Binary Poisson	Poisson
ONE	-2.1119	-1.2287	-2.1518	-1.8870	-76.8283	-104.2816	-79.6767	-73.1762
AGEV1	0.0051	0.0120	0.0058	0.0010	0.6293	3.3793	0.7301	0.1336
AGEV2	-0.0540	-0.0113	-0.0522	-0.0609	-5.9389	-2.8853	-5.8453	-7.1653
AGEV3	-0.1205	-0.0426	-0.1174	-0.1248	-11.7083	-9.6644	-11.6005	-13.0053
AGEV4	-0.1672	-0.0680	-0.1632	-0.2206	-15.4731	-14.7552	-15.3499	-21.5706
AGEV5	-0.2248	-0.0930	-0.2200	-0.3032	-18.3749	-17.9955	-18.2613	-25.9695
AGEV6	-0.2980	-0.1292	-0.2923	-0.4118	-30.4858	-31.0745	-30.3807	-43.9905
AGEV11	-0.4979	-0.2084	-0.4907	-0.6290	-33.0749	-33.9077	-32.9983	-43.0934
AGEV20	-1.0152	-0.3931	-1.0060	-0.9925	-7.1789	-7.7253	-7.1495	-7.6535
TYPEV11	-0.0619	-0.0212	-0.0604	-0.0680	-3.2945	-2.6994	-3.2624	-3.7254
TYPEV14A	0.0330	0.0088	0.0330	-0.0178	2.4526	1.5147	2.4974	-1.3752
TYPEV14B	-0.5215	-0.1959	-0.5156	-0.5883	-5.4853	-5.3358	-5.4689	-6.3015
TYPEV14C	0.2068	0.0886	0.2032	0.1508	5.2683	5.2525	5.2707	3.9747
TYPEV15	-0.2212	-0.0934	-0.2163	-0.2306	-4.3955	-4.4723	-4.3569	-4.7285
TYPEV16	-0.0559	-0.0282	-0.0546	-0.0474	-0.4738	-0.5787	-0.4691	-0.4157
TYPEV17	0.0895	0.1073	0.0885	0.1953	0.6413	1.9713	0.6412	1.4576
TYPEV18	-18.8219	-3.0907	-12.5577	-12.5383	-0.0010	-0.0238	-0.0152	-0.0149
TYPEV19	-11.0490	-4.1943	-17.8594	-17.8594	-0.0179	-0.0010	-0.0010	-0.0010
TYPEV20	0.0556	0.0197	0.0562	0.0570	2.3483	1.9604	2.4146	2.4870
TYPEV21	0.1959	0.0820	0.1935	0.2256	5.4140	5.1919	5.4532	6.4921
TYPEV22	-0.0715	-0.0107	-0.0691	-0.0681	-3.1035	-1.1104	-3.0459	-3.0426
TYPEV23	-0.1319	-0.0544	-0.1299	-0.0879	-4.8405	-4.7647	-4.8339	-3.3140
REGION1	-0.1824	-0.1029	-0.1791	-0.2381	-14.0877	-18.7822	-14.0472	-19.2469
REGION2	-0.4058	-0.1896	-0.3994	-0.4436	-21.8269	-24.8291	-21.7500	-24.8764
REGION3	-0.1681	-0.0856	-0.1650	-0.2297	-8.4292	-10.0291	-8.4054	-12.0263
REGION4	-0.3365	-0.1556	-0.3302	-0.4028	-10.2430	-11.3454	-10.1890	-12.6538
REGION5	-0.2436	-0.1157	-0.2390	-0.3042	-13.2501	-14.9234	-13.1958	-17.2450

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Table 3 – *Continued from previous page*

Variable	Coefficients				z stats			
	Logit	Probit	Binary Poisson	Poisson	Logit	Probit	Binary Poisson	Poisson
REGION6	-0.3136	-0.1494	-0.3077	-0.3629	-9.1853	-10.5618	-9.1291	-11.0280
REGION7	-0.3610	-0.1756	-0.3556	-0.3995	-23.3810	-27.2478	-23.3531	-27.1878
REGION8	-0.2878	-0.1333	-0.2831	-0.3083	-15.2586	-16.9377	-15.2234	-17.2531
REGION9	-0.1343	-0.0636	-0.1319	-0.1868	-8.2649	-9.3321	-8.2408	-12.0771
REGION10	-0.1361	-0.0534	-0.1339	-0.1698	-4.5551	-4.2711	-4.5485	-6.0350
REGION12	-0.2167	-0.0924	-0.2131	-0.2283	-14.1192	-14.5793	-14.0713	-15.8796
REGION13	-0.2456	-0.1087	-0.2414	-0.2773	-23.4718	-24.8333	-23.4120	-28.0455
REGION14	-0.1339	-0.0624	-0.1314	-0.1672	-6.1895	-6.7684	-6.1711	-8.1731
REGION15	-0.2831	-0.1332	-0.2784	-0.3318	-11.1408	-12.5666	-11.1092	-13.6563
REGION16	-0.1450	-0.0743	-0.1423	-0.1857	-11.7049	-14.0911	-11.6672	-15.8816
REGION17	-0.0915	-0.0415	-0.0896	-0.1142	-2.7327	-2.8893	-2.7200	-3.6422
REGION18	-0.2114	-0.0975	-0.2076	-0.2699	-18.7692	-20.7970	-18.6885	-25.1914
REGION19	-0.3364	-0.1511	-0.3309	-0.3937	-15.2367	-16.6509	-15.1773	-18.5476
REGION20	-0.0308	-0.0200	-0.0305	-0.0966	-1.6585	-2.4895	-1.6709	-5.4602
REGION21	0.0446	0.0273	0.0435	0.0403	3.5161	4.9847	3.4933	3.4593
REGION22	0.0006	-0.0069	0.0006	-0.0716	0.0179	-0.4952	0.0197	-2.3734
REGION23	-0.1584	-0.0770	-0.1554	-0.2000	-9.6301	-11.0571	-9.5992	-12.9307
REGION24	-0.1061	-0.0601	-0.1034	-0.1497	-4.0398	-5.2550	-4.0089	-6.1007
REGION25	0.0044	-0.0034	0.0045	-0.0501	0.1849	-0.3227	0.1918	-2.2389
REGION26	-0.0216	-0.0115	-0.0211	-0.0794	-0.7718	-0.9510	-0.7680	-3.0147
REGION27	0.0105	0.0007	0.0102	-0.0189	0.5953	0.0865	0.5886	-1.1512
REGION28	0.1756	0.0664	0.1718	0.0788	5.7801	4.8257	5.7916	2.7392
REGION29	0.1975	0.0944	0.1928	0.1450	7.2901	7.7329	7.2912	5.7961
REGION30	0.0987	0.0429	0.0968	0.0374	4.1723	4.0898	4.1849	1.6866
REGION31	0.2010	0.0957	0.1958	0.1669	6.3895	6.6879	6.3866	5.8166
REGION32	0.0779	0.0456	0.0759	-0.0236	0.9470	1.2419	0.9434	-0.2989
REGION33	0.4450	0.2238	0.4312	0.3993	9.1283	9.7889	9.1325	8.9969
REGION34	0.0673	0.0383	0.0663	-0.0474	0.7391	0.9414	0.7440	-0.5392
REGION35	0.2220	0.1044	0.2158	0.1687	3.2004	3.2829	3.1948	2.6160
REGION36	0.0879	0.0313	0.0864	0.0142	3.7978	3.0426	3.8126	0.6556
REGION37	-0.1172	-0.0601	-0.1145	-0.1133	-4.2906	-5.1279	-4.2654	-4.5288
REGION38	-0.0428	-0.0350	-0.0412	-0.1100	-3.0847	-5.7944	-3.0306	-8.4047

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Table 3 – Continued from previous page

Variable	Coefficients				z stats			
	Logit	Probit	Binary Poisson	Poisson	Logit	Probit	Binary Poisson	Poisson
<i>REGION39</i>	0.2921	0.1286	0.2847	0.2368	18.8750	18.8670	18.7992	16.3705
<i>REGION40</i>	0.2543	0.1129	0.2487	0.2016	6.7987	6.6222	6.8219	5.8431
<i>REGION41</i>	0.2879	0.1276	0.2823	0.2043	6.6925	6.7230	6.6980	4.9610
<i>SEXF</i>	-0.0880	-0.0401	-0.0866	-0.0805	-17.2729	-18.5365	-17.2819	-16.7924
<i>AGE</i>	-3.4264	-1.5483	-3.3637	-3.7905	-31.0045	-32.7355	-30.9702	-36.5159
<i>AGESQ</i>	2.7362	1.2017	2.6861	2.9786	23.7731	24.4867	23.7348	27.4321
<i>POLTYPE</i>	-0.3417	-0.1575	-0.3348	-0.3452	-31.0623	-34.2833	-30.8874	-32.7356
<i>BONUSC1</i>	-0.0169	-0.0103	-0.0168	-0.0030	-2.1365	-3.0366	-2.1688	-0.3992
<i>BONUSC2</i>	-0.0225	-0.0068	-0.0226	0.0069	-2.3481	-1.6695	-2.4006	0.7640
<i>BONUSC3</i>	-0.0435	-0.0155	-0.0433	0.0085	-3.9682	-3.3257	-4.0133	0.8288
<i>BONUSC4</i>	-0.0865	-0.0339	-0.0856	-0.0347	-7.3761	-6.8424	-7.4084	-3.1540
<i>BONUSC5</i>	-0.1396	-0.0578	-0.1375	-0.1000	-11.6086	-11.4151	-11.6129	-8.7920
<i>BONUSC6</i>	-0.2913	-0.1234	-0.2871	-0.2364	-23.1237	-23.7395	-23.0952	-19.9069
<i>BONUSC7</i>	-0.0950	-0.0350	-0.0939	-0.0483	-7.0988	-6.1886	-7.1227	-3.8254
<i>BONUSC8</i>	0.0137	0.0357	0.0118	0.1744	1.1852	7.2937	1.0385	16.7664
<i>BONUSC9</i>	-0.1926	-0.0823	-0.1897	-0.1870	-19.4840	-19.8046	-19.4661	-19.5720
<i>DEDUCT1</i>	0.1479	0.0771	0.1450	0.2109	18.9511	23.4755	18.8616	28.3169
<i>DEDUCT3</i>	0.1014	0.0341	0.1008	0.0027	1.6799	1.3886	1.6904	0.0463
<i>DEDUCT4</i>	0.0000	0.0000	0.0000	0.0000	nan	nan	nan	nan
<i>DEDUCT9</i>	0.0137	0.0091	0.0133	0.0010	0.4932	0.7861	0.4834	0.0368
<i>DEDUCTV</i>	-14.0183	-4.3264	-13.8679	-8.9490	-21.1413	-15.7896	-21.2097	-14.0642
<i>COVCAS</i>	0.3015	0.0356	0.2957	-0.0333	12.2150	3.3257	12.1959	-1.3727
<i>COVRCD</i>	-0.0551	-0.0261	-0.0541	-0.0824	-13.3409	-15.1322	-13.2945	-20.2559
<i>COVAPP</i>	0.1040	0.0612	0.1012	0.1669	14.2140	19.2372	14.1393	26.6118

Table 4: Frequency of claims in Brazilian automobile insurance: parameter estimates and inference for models of regression w/ binary outcomes and Poisson regression. Period: 1tr09, data type: rcd

Variable	Coefficients				z stats			
	Logit	Probit	Binary Poisson	Poisson	Logit	Probit	Binary Poisson	Poisson
<i>ONE</i>	-2.8435	-1.5918	-2.8396	-2.6372	-74.4468	-106.0318	0.0000	-72.7503
<i>AGEV1</i>	0.0751	0.0408	0.0760	0.0706	6.0570	8.4583	0.0000	5.9376
<i>AGEV2</i>	0.0592	0.0361	0.0619	0.0567	4.3389	6.8177	0.0000	4.3468
<i>AGEV3</i>	-0.0061	0.0101	-0.0013	0.0047	-0.4037	1.7226	0.0000	0.3226
<i>AGEV4</i>	-0.0518	-0.0115	-0.0455	-0.0763	-3.2621	-1.8833	0.0000	-5.0064
<i>AGEV5</i>	-0.1047	-0.0343	-0.0972	-0.1415	-5.9144	-5.0313	0.0000	-8.2923
<i>AGEV6</i>	-0.1730	-0.0647	-0.1621	-0.2326	-12.1442	-11.7436	0.0000	-17.0519
<i>AGEV11</i>	-0.3912	-0.1532	-0.3762	-0.4547	-18.5017	-19.1436	0.0000	-22.2256
<i>AGEV20</i>	-0.2226	-0.0886	-0.2087	-0.3015	-1.7226	-1.8132	0.0000	-2.3506
<i>TYPEV11</i>	-0.0902	-0.0269	-0.0821	-0.0829	-3.2647	-2.5773	0.0000	-3.0550
<i>TYPEV14A</i>	0.0713	0.0209	0.0717	0.0275	3.5969	2.7170	0.0000	1.4109
<i>TYPEV14B</i>	-0.2634	-0.1078	-0.2617	-0.3197	-2.0773	-2.2942	0.0000	-2.5545
<i>TYPEV14C</i>	0.0881	0.0217	0.0909	0.0512	1.4646	0.9306	0.0000	0.8645
<i>TYPEV15</i>	0.0872	0.0354	0.0951	0.0926	1.3209	1.3787	0.0000	1.4346
<i>TYPEV16</i>	-0.0628	-0.0285	-0.0585	-0.0766	-0.3740	-0.4485	0.0000	-0.4593
<i>TYPEV17</i>	-0.9024	-0.2797	-0.7284	-0.6376	-3.2013	-2.9200	0.0000	-2.3728
<i>TYPEV18</i>	-24.0597	-3.4162	-38.3638	-38.3638	-0.0001	-0.0072	0.0000	-0.0000
<i>TYPEV19</i>	2.3976	1.0456	2.3773	2.3499	2.2832	1.9567	0.0000	2.3491
<i>TYPEV20</i>	0.2213	0.0887	0.2273	0.2226	6.7148	6.9247	0.0000	6.8718
<i>TYPEV21</i>	0.0324	0.0143	0.0473	0.0705	0.5512	0.6338	0.0000	1.2260
<i>TYPEV22</i>	0.3977	0.1737	0.4015	0.4142	13.9350	15.2914	0.0000	14.8571
<i>TYPEV23</i>	0.3377	0.1339	0.3522	0.3900	9.9151	9.8962	0.0000	11.7757
<i>REGION1</i>	-0.1194	-0.0630	-0.1172	-0.1505	-6.6953	-9.0885	0.0000	-8.6892
<i>REGION2</i>	-0.3706	-0.1523	-0.3676	-0.3809	-14.4348	-15.7262	0.0000	-15.3195
<i>REGION3</i>	-0.0621	-0.0307	-0.0624	-0.1085	-2.3011	-2.8840	0.0000	-4.1245
<i>REGION4</i>	-0.2278	-0.0911	-0.2264	-0.2765	-5.1856	-5.3810	0.0000	-6.4166
<i>REGION5</i>	-0.0388	-0.0213	-0.0378	-0.0777	-1.6343	-2.2744	0.0000	-3.3646

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Table 4 – *Continued from previous page*

Variable	Coefficients				z stats			
	Logit	Probit	Binary Poisson	Poisson	Logit	Probit	Binary Poisson	Poisson
REGION6	-0.1012	-0.0449	-0.0990	-0.1406	-2.3731	-2.6960	0.0000	-3.3690
REGION7	-0.1339	-0.0670	-0.1323	-0.1590	-6.7627	-8.6591	0.0000	-8.2904
REGION8	-0.1092	-0.0479	-0.1078	-0.1298	-4.4818	-5.0336	0.0000	-5.4982
REGION9	-0.3670	-0.1451	-0.3644	-0.3908	-14.3716	-15.1981	0.0000	-15.7802
REGION10	-0.2686	-0.0985	-0.2661	-0.2876	-5.9161	-5.7723	0.0000	-6.5645
REGION12	-0.1481	-0.0573	-0.1461	-0.1588	-7.0523	-7.1392	0.0000	-7.8634
REGION13	-0.2431	-0.0957	-0.2418	-0.2647	-16.4356	-16.8936	0.0000	-18.5253
REGION14	-0.2626	-0.0995	-0.2606	-0.2713	-8.1985	-8.1264	0.0000	-8.7904
REGION15	-0.6393	-0.2533	-0.6351	-0.6724	-15.1180	-16.3507	0.0000	-16.2457
REGION16	-0.2110	-0.0885	-0.2087	-0.2217	-11.7263	-12.7571	0.0000	-12.8176
REGION17	-0.3324	-0.1258	-0.3295	-0.3466	-6.2328	-6.2561	0.0000	-6.7462
REGION18	-0.6979	-0.2697	-0.6927	-0.7247	-36.0496	-38.3292	0.0000	-38.5888
REGION19	-0.7546	-0.2858	-0.7500	-0.7694	-19.8980	-21.0577	0.0000	-20.9304
REGION20	-0.1793	-0.0742	-0.1817	-0.2221	-6.2804	-6.7512	0.0000	-8.0250
REGION21	-0.1481	-0.0465	-0.1460	-0.1181	-7.5968	-6.2139	0.0000	-6.4445
REGION22	-0.2722	-0.1040	-0.2709	-0.2846	-5.2169	-5.2252	0.0000	-5.7031
REGION23	-0.3422	-0.1333	-0.3386	-0.3418	-13.4915	-13.9478	0.0000	-14.1138
REGION24	-0.1998	-0.0806	-0.1980	-0.2151	-5.0211	-5.2371	0.0000	-5.6589
REGION25	-0.2259	-0.0913	-0.2235	-0.2567	-5.9489	-6.2564	0.0000	-7.0156
REGION26	-0.1277	-0.0493	-0.1251	-0.1574	-3.0355	-3.0248	0.0000	-3.8792
REGION27	0.0227	0.0119	0.0230	0.0151	0.9023	1.2021	0.0000	0.6314
REGION28	-0.2470	-0.1033	-0.2451	-0.2993	-4.6363	-5.0250	0.0000	-5.7681
REGION29	-0.1428	-0.0440	-0.1415	-0.1628	-3.1432	-2.5041	0.0000	-3.7524
REGION30	-0.3675	-0.1419	-0.3650	-0.3815	-8.7852	-8.9567	0.0000	-9.5212
REGION31	-0.1717	-0.0629	-0.1718	-0.1806	-3.1530	-2.9750	0.0000	-3.5086
REGION32	-0.4333	-0.1485	-0.4327	-0.4770	-2.8179	-2.5936	0.0000	-3.1935
REGION33	-0.0206	0.0146	-0.0214	0.0193	-0.2375	0.4285	0.0000	0.2406
REGION34	-0.3842	-0.1310	-0.3844	-0.4495	-2.3474	-2.1332	0.0000	-2.8019
REGION35	-0.2916	-0.1167	-0.2940	-0.3189	-2.2358	-2.3259	0.0000	-2.5435
REGION36	-0.1927	-0.0776	-0.1903	-0.2352	-5.1746	-5.3678	0.0000	-6.5582
REGION37	-0.1660	-0.0679	-0.1644	-0.1295	-4.1842	-4.4149	0.0000	-3.5037
REGION38	-0.0041	-0.0110	-0.0054	-0.0510	-0.2061	-1.4190	0.0000	-2.6854

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Table 4 – *Continued from previous page*

Variable	Coefficients				z stats			
	Logit	Probit	Binary Poisson	Poisson	Logit	Probit	Binary Poisson	Poisson
<i>REGION39</i>	-0.0097	-0.0042	-0.0097	-0.0395	-0.4077	-0.4503	0.0000	-1.7226
<i>REGION40</i>	-0.3891	-0.1486	-0.3854	-0.4084	-5.3942	-5.4539	0.0000	-5.9116
<i>REGION41</i>	-0.3094	-0.1157	-0.3071	-0.3643	-4.1064	-4.0619	0.0000	-4.8957
<i>SEXF</i>	0.0552	0.0204	0.0543	0.0563	7.4244	7.1368	0.0000	7.8610
<i>AGE</i>	-4.9279	-1.9840	-4.9018	-5.1462	-31.5113	-32.4911	0.0000	-34.2543
<i>AGESQ</i>	4.4617	1.7571	4.4363	4.5948	27.5021	27.7910	0.0000	29.4063
<i>POLTYPE</i>	-0.1484	-0.0641	-0.1484	-0.1658	-9.8152	-11.0856	0.0000	-11.2383
<i>BONUSC1</i>	-0.0416	-0.0196	-0.0399	-0.0364	-3.6412	-4.4265	0.0000	-3.2933
<i>BONUSC2</i>	-0.0426	-0.0143	-0.0412	-0.0219	-3.0719	-2.6700	0.0000	-1.6448
<i>BONUSC3</i>	-0.0566	-0.0167	-0.0572	-0.0167	-3.5578	-2.7368	0.0000	-1.1029
<i>BONUSC4</i>	-0.0855	-0.0300	-0.0869	-0.0598	-5.0534	-4.6371	0.0000	-3.6866
<i>BONUSC5</i>	-0.1508	-0.0553	-0.1546	-0.1353	-8.4688	-8.1764	0.0000	-7.9137
<i>BONUSC6</i>	-0.2699	-0.1048	-0.2726	-0.2537	-14.8028	-15.2959	0.0000	-14.4590
<i>BONUSC7</i>	-0.0773	-0.0261	-0.0823	-0.0678	-4.0024	-3.5267	0.0000	-3.6427
<i>BONUSC8</i>	0.0773	0.0538	0.0717	0.1576	4.6924	8.4769	0.0000	10.2418
<i>BONUSC9</i>	-0.3136	-0.1251	-0.3202	-0.3414	-20.9857	-22.0910	0.0000	-23.5284
<i>DEDUCT1</i>	0.2245	0.0994	0.2030	0.2173	22.1591	24.9300	0.0000	26.1182
<i>DEDUCT3</i>	-0.1343	-0.0601	-0.0704	-0.1038	-1.6293	-1.9109	0.0000	-1.3099
<i>DEDUCT4</i>	0.0000	0.0000	0.0000	0.0000	nan	nan	0.0000	nan
<i>DEDUCT9</i>	0.3186	0.1177	0.3001	0.2668	9.0602	8.4792	0.0000	7.7776
<i>DEDUCTV</i>	5.2603	2.8853	2.8561	3.1205	7.8404	10.2614	0.0000	14.6236
<i>COVCAS</i>	-0.4162	-0.2478	-0.3519	-0.5063	-11.7731	-17.7076	0.0000	-16.3627
<i>COVRCD</i>	0.0145	0.0030	0.0138	-0.0050	2.8233	1.5001	0.0000	-0.9664
<i>COVAPP</i>	0.0738	0.0462	0.0726	0.1333	6.6331	10.8474	0.0000	13.4591

Table 5: Frequency of claims in Brazilian automobile insurance: parameter estimates and inference for models of regression w/ binary outcomes and Poisson regression. Period: 1tr10, data type: cas

Variable	Coefficients				z stats				
	Logit	Probit	Binary Poisson	Poisson	Logit	Probit	Binary Poisson	Poisson	
ONE	-2.3996	-1.3364	-2.4351	-1.9474	-96.0804	-123.1886	-99.3609	-85.1150	
AGEV1	-0.0533	-0.0237	-0.0518	-0.0550	-7.0096	-7.0890	-6.9592	-7.8785	
AGEV2	-0.1099	-0.0460	-0.1072	-0.1589	-14.3193	-13.7127	-14.2297	-22.3117	
AGEV3	-0.1927	-0.0833	-0.1885	-0.2507	-21.5916	-21.5704	-21.5067	-30.1957	
AGEV4	-0.2272	-0.0986	-0.2224	-0.2808	-22.0157	-22.2217	-21.9190	-29.2746	
AGEV5	-0.2844	-0.1262	-0.2786	-0.3650	-25.9930	-27.0108	-25.8825	-35.4888	
AGEV6	-0.3753	-0.1670	-0.3683	-0.4819	-42.4704	-44.1204	-42.3708	-57.7180	
AGEV11	-0.6031	-0.2590	-0.5940	-0.7498	-42.9969	-45.0874	-42.8712	-55.3242	
AGEV20	-0.9916	-0.4072	-0.9808	-1.1613	-8.1582	-9.0254	-8.1169	-9.6852	
TYPEV11	0.3203	0.1992	0.3114	0.6646	41.2578	59.4344	40.8981	102.2244	
TYPEV14A	0.0123	0.0073	0.0123	-0.0070	0.9697	1.3292	0.9880	-0.5720	
TYPEV14B	-0.2920	-0.1219	-0.2882	-0.3603	-3.1557	-3.2102	-3.1522	-3.9592	
TYPEV14C	0.1951	0.0848	0.1917	0.1674	4.9568	4.9367	4.9686	4.4139	
TYPEV15	-0.0943	-0.0272	-0.0919	-0.0483	-2.6787	-1.8021	-2.6531	-1.4137	
TYPEV16	0.0717	0.0822	0.0689	0.1433	0.5043	1.4304	0.4909	1.0424	
TYPEV17	-0.0198	0.0517	-0.0186	0.1845	-0.1961	1.2349	-0.1865	1.8767	
TYPEV18	0.0261	0.0701	0.0158	0.0524	0.0257	0.1706	0.0157	0.0523	
TYPEV19	0.5743	0.2462	0.5638	0.5933	0.5648	0.5627	0.5630	0.5933	
TYPEV20	0.1010	0.0624	0.0996	0.1993	5.1956	7.4031	5.2184	10.6544	
TYPEV21	0.1763	0.1020	0.1737	0.3421	6.4847	8.4914	6.5215	13.0953	
TYPEV22	-0.1563	-0.0347	-0.1533	-0.0744	-7.5754	-4.0000	-7.5376	-3.7148	
TYPEV23	-0.2504	-0.0742	-0.2468	-0.0924	-10.2588	-7.3128	-10.2488	-3.8899	
REGION1	-0.1727	-0.0855	-0.1699	-0.1763	-12.4078	-14.5789	-12.3881	-13.4614	
REGION2	-0.2382	-0.1096	-0.2341	-0.2596	-15.0751	-16.5383	-15.0226	-17.2258	
REGION3	-0.0809	-0.0412	-0.0795	-0.1216	-4.3814	-5.1755	-4.3766	-6.9282	
REGION4	-0.1477	-0.0683	-0.1446	-0.1756	-5.2260	-5.6625	-5.1976	-6.5092	
REGION5	-0.1445	-0.0626	-0.1421	-0.1558	-8.5154	-8.6790	-8.5043	-9.7360	

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Table 5 – *Continued from previous page*

Variable	Coefficients				z stats			
	Logit	Probit	Binary Poisson	Poisson	Logit	Probit	Binary Poisson	Poisson
REGION6	-0.2284	-0.0964	-0.2242	-0.2357	-7.0259	-7.1363	-6.9902	-7.5950
REGION7	-0.2045	-0.0964	-0.2019	-0.2114	-14.4882	-16.1429	-14.5207	-15.8846
REGION8	-0.1884	-0.0804	-0.1855	-0.1583	-10.7609	-10.9074	-10.7473	-9.6871
REGION9	-0.0513	-0.0267	-0.0501	-0.1159	-3.5823	-4.3794	-3.5599	-8.5959
REGION10	-0.0457	-0.0251	-0.0445	-0.1069	-1.7248	-2.2048	-1.7079	-4.3346
REGION12	-0.2294	-0.1084	-0.2251	-0.3115	-16.0387	-18.1404	-15.9635	-23.3464
REGION13	-0.1255	-0.0570	-0.1230	-0.1557	-13.4623	-14.4049	-13.3994	-17.9829
REGION14	0.0580	0.0198	0.0574	0.0064	3.0579	2.3777	3.0842	0.3612
REGION15	-0.1000	-0.0475	-0.0981	-0.1422	-4.3321	-4.8401	-4.3153	-6.5406
REGION16	-0.0350	-0.0236	-0.0339	-0.1019	-3.0550	-4.7669	-3.0105	-9.4569
REGION17	-0.0020	-0.0068	-0.0016	-0.0708	-0.0648	-0.4994	-0.0514	-2.4284
REGION18	-0.1230	-0.0579	-0.1204	-0.1943	-12.3596	-13.7413	-12.2973	-20.8166
REGION19	-0.1327	-0.0672	-0.1299	-0.2143	-7.0445	-8.3892	-7.0005	-11.9254
REGION20	0.0885	0.0385	0.0864	0.0272	5.0112	4.9981	4.9892	1.6323
REGION21	0.0483	0.0317	0.0474	0.1171	3.9644	6.0346	3.9616	10.6463
REGION22	0.0583	0.0228	0.0575	-0.0044	1.9283	1.7147	1.9388	-0.1539
REGION23	-0.0757	-0.0337	-0.0742	-0.0761	-5.0400	-5.2577	-5.0215	-5.4341
REGION24	0.0071	0.0019	0.0076	-0.0232	0.2888	0.1776	0.3156	-1.0173
REGION25	0.0433	0.0170	0.0427	0.0196	1.8550	1.6699	1.8631	0.8975
REGION26	-0.0874	-0.0357	-0.0857	-0.0956	-3.1433	-3.0020	-3.1318	-3.6797
REGION27	0.0652	0.0327	0.0640	0.0866	3.9056	4.4816	3.9110	5.6970
REGION28	0.2881	0.1286	0.2818	0.2557	10.2594	10.0392	10.2900	9.8647
REGION29	0.2608	0.1294	0.2549	0.2642	10.3546	11.3256	10.3710	11.6269
REGION30	0.1728	0.0780	0.1702	0.1365	7.7329	7.8165	7.7835	6.5288
REGION31	0.2054	0.0968	0.2007	0.2532	6.5621	6.8187	6.5682	9.1753
REGION32	0.0945	0.0460	0.0930	0.0543	1.0921	1.1920	1.0969	0.6682
REGION33	0.4449	0.2175	0.4345	0.3607	4.5826	4.8125	4.6055	3.8939
REGION34	0.2620	0.1344	0.2551	0.2987	3.0958	3.5039	3.0899	3.9619
REGION35	0.4689	0.2212	0.4566	0.3797	7.9459	7.9439	7.9821	6.8456
REGION36	0.2849	0.1309	0.2794	0.2477	13.6547	13.8580	13.7166	12.8770
REGION37	0.0815	0.0393	0.0803	0.1057	3.2957	3.6185	3.3111	4.6890
REGION38	0.0659	0.0187	0.0652	-0.0083	5.3095	3.4241	5.3525	-0.7126

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Table 5 – *Continued from previous page*

Variable	Coefficients				z stats			
	Logit	Probit	Binary Poisson	Poisson	Logit	Probit	Binary Poisson	Poisson
<i>REGION39</i>	0.4168	0.1890	0.4078	0.3661	30.3956	30.8621	30.4343	28.7133
<i>REGION40</i>	0.3117	0.1427	0.3049	0.3402	8.9890	9.0077	9.0195	10.9850
<i>REGION41</i>	0.3378	0.1575	0.3314	0.3168	8.3397	8.8337	8.3479	8.4289
<i>SEXF</i>	-0.0847	-0.0379	-0.0833	-0.0761	-18.0016	-18.7622	-18.0167	-17.3860
<i>AGE</i>	-2.8292	-1.3166	-2.7757	-3.8129	-27.3307	-29.4704	-27.3026	-40.0070
<i>AGESQ</i>	2.1526	0.9775	2.1119	2.9234	20.0885	21.2177	20.0566	29.4503
<i>POLTYPE</i>	-0.3490	-0.1549	-0.3423	-0.3270	-32.2820	-33.9942	-32.1610	-31.7904
<i>BONUSC1</i>	0.0159	0.0077	0.0152	0.0339	2.1729	2.4165	2.1071	4.9718
<i>BONUSC2</i>	-0.1094	-0.0513	-0.1081	-0.0860	-14.4166	-15.8014	-14.4861	-12.0687
<i>BONUSC3</i>	-0.0160	-0.0029	-0.0164	0.0353	-1.5830	-0.6638	-1.6506	3.7988
<i>BONUSC4</i>	-0.0245	-0.0046	-0.0249	0.0208	-2.2000	-0.9605	-2.2734	2.0088
<i>BONUSC5</i>	-0.0131	0.0004	-0.0135	0.0397	-1.0740	0.0851	-1.1227	3.5040
<i>BONUSC6</i>	-0.0926	-0.0368	-0.0917	-0.0335	-7.6559	-7.1646	-7.6998	-2.9724
<i>BONUSC7</i>	0.0018	0.0053	0.0011	0.0626	0.1423	0.9695	0.0890	5.2809
<i>BONUSC8</i>	0.0415	0.0441	0.0391	0.2212	3.7785	9.3894	3.6169	23.2854
<i>BONUSC9</i>	-0.1087	-0.0426	-0.1076	-0.0965	-12.2831	-11.3641	-12.3448	-11.2901
<i>DEDUCT1</i>	0.2687	0.1210	0.2640	0.3215	50.8494	53.7780	50.7772	64.6732
<i>DEDUCT3</i>	-0.2832	-0.1124	-0.2792	-0.2914	-4.9581	-4.8731	-4.9456	-5.4669
<i>DEDUCT4</i>	0.0000	0.0000	0.0000	0.0000	nan	nan	nan	nan
<i>DEDUCT9</i>	-0.8575	-0.3616	-0.8488	-0.8741	-20.6293	-22.8923	-20.5525	-21.3015
<i>DEDUCTV</i>	-0.6307	-0.1834	-0.6293	-0.7006	-6.2304	-5.5502	-6.2315	-6.7247
<i>COVCAS</i>	-0.0943	-0.1097	-0.0939	-0.4751	-5.1421	-13.7508	-5.2094	-26.0224
<i>COVRCD</i>	-0.0397	-0.0205	-0.0390	-0.0844	-10.7027	-12.9618	-10.6573	-23.1571
<i>COVAPP</i>	0.0811	0.0417	0.0789	0.1601	12.7294	14.7036	12.6825	31.3792

Table 6: Frequency of claims in Brazilian automobile insurance: parameter estimates and inference for models of regression w/ binary outcomes and Poisson regression. Period: 1tr10, data type: rcd

Variable	Coefficients				z stats			
	Logit	Probit	Binary Poisson	Poisson	Logit	Probit	Binary Poisson	Poisson
ONE	-2.8797	-1.5891	-2.8990	-2.4842	-80.8217	-113.1446	-82.1098	-74.2720
AGEV1	-0.0084	-0.0007	-0.0081	-0.0328	-0.7161	-0.1521	-0.6959	-3.0061
AGEV2	-0.0395	-0.0116	-0.0388	-0.1268	-3.3907	-2.5634	-3.3613	-11.4968
AGEV3	-0.0374	-0.0114	-0.0368	-0.1291	-2.8425	-2.2258	-2.8203	-10.3337
AGEV4	-0.0771	-0.0287	-0.0761	-0.1622	-5.1253	-4.9065	-5.0967	-11.3601
AGEV5	-0.1198	-0.0469	-0.1185	-0.2002	-7.5769	-7.6492	-7.5517	-13.3379
AGEV6	-0.2031	-0.0845	-0.2011	-0.3077	-15.6625	-16.8019	-15.6239	-24.9234
AGEV11	-0.4136	-0.1691	-0.4103	-0.5680	-21.1516	-22.7933	-21.1167	-29.8009
AGEV20	-0.3591	-0.1651	-0.3557	-0.4946	-3.0008	-3.6221	-2.9916	-4.2457
TYPEV11	0.5780	0.2865	0.5709	0.8254	54.8113	68.6687	54.6996	88.2630
TYPEV14A	0.0586	0.0233	0.0582	0.0380	3.0718	3.1617	3.0748	2.0284
TYPEV14B	-0.1708	-0.0696	-0.1699	-0.2198	-1.3032	-1.4132	-1.3031	-1.7004
TYPEV14C	-0.1513	-0.0634	-0.1503	-0.1816	-2.1846	-2.4324	-2.1816	-2.6499
TYPEV15	0.1109	0.0598	0.1102	0.1384	2.1138	2.9634	2.1167	2.6851
TYPEV16	0.3078	0.1332	0.3056	0.3355	1.6984	1.8765	1.7000	1.8665
TYPEV17	0.2757	0.1603	0.2734	0.4302	1.9425	2.9421	1.9397	3.1148
TYPEV18	1.6652	0.7263	1.6319	1.6242	2.2883	2.1859	2.2954	2.2959
TYPEV19	-10.1863	-4.0651	-19.8604	-19.8604	-0.0359	-0.0014	-0.0006	-0.0005
TYPEV20	0.3676	0.1644	0.3648	0.4211	13.2982	15.1468	13.3055	15.5322
TYPEV21	0.2589	0.1289	0.2572	0.3712	5.9025	7.5908	5.9061	8.6400
TYPEV22	0.4707	0.2141	0.4671	0.5236	18.6149	21.2448	18.6438	21.1633
TYPEV23	0.4260	0.1951	0.4223	0.5410	14.0124	16.2759	14.0113	18.2347
REGION1	0.0207	0.0021	0.0202	0.0101	1.1335	0.2893	1.1173	0.5734
REGION2	-0.2022	-0.0795	-0.2008	-0.2150	-9.1068	-9.3587	-9.1067	-10.0053
REGION3	0.0033	0.0020	0.0030	-0.0299	0.1279	0.1988	0.1178	-1.2086
REGION4	-0.1197	-0.0443	-0.1188	-0.1323	-2.9854	-2.8559	-2.9866	-3.4197
REGION5	0.0318	0.0165	0.0313	0.0176	1.4131	1.8649	1.4039	0.8138

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Table 6 – *Continued from previous page*

Variable	Coefficients				z stats			
	Logit	Probit	Binary Poisson	Poisson	Logit	Probit	Binary Poisson	Poisson
REGION6	0.0141	0.0074	0.0141	0.0012	0.3472	0.4625	0.3493	0.0304
REGION7	0.0021	-0.0046	0.0014	-0.0102	0.1131	-0.6261	0.0764	-0.5701
REGION8	0.0402	0.0211	0.0395	0.0506	1.7835	2.3800	1.7669	2.3449
REGION9	-0.2349	-0.0939	-0.2331	-0.2705	-10.8494	-11.3414	-10.8375	-13.0304
REGION10	-0.2132	-0.0889	-0.2112	-0.2573	-5.3127	-5.7453	-5.3012	-6.7205
REGION12	-0.1432	-0.0641	-0.1419	-0.2076	-7.5597	-8.6923	-7.5555	-11.5069
REGION13	-0.1493	-0.0570	-0.1480	-0.1692	-11.3462	-11.1884	-11.3389	-13.5330
REGION14	-0.0886	-0.0344	-0.0879	-0.1234	-3.1067	-3.0877	-3.1080	-4.5142
REGION15	-0.4792	-0.1845	-0.4758	-0.4774	-12.3585	-12.8549	-12.3362	-12.9638
REGION16	-0.1247	-0.0528	-0.1236	-0.1703	-7.4266	-8.0943	-7.4216	-10.5768
REGION17	-0.3189	-0.1216	-0.3166	-0.3480	-6.1968	-6.2569	-6.1921	-7.1064
REGION18	-0.5534	-0.2161	-0.5494	-0.5921	-33.5585	-35.2651	-33.5019	-37.5441
REGION19	-0.5469	-0.2131	-0.5430	-0.6075	-17.0346	-17.9889	-17.0009	-19.4462
REGION20	-0.1536	-0.0608	-0.1525	-0.1904	-5.5622	-5.7045	-5.5631	-7.1676
REGION21	-0.0755	-0.0116	-0.0751	-0.0128	-4.0937	-1.6370	-4.1036	-0.7484
REGION22	-0.1773	-0.0685	-0.1759	-0.2232	-3.6021	-3.6199	-3.5979	-4.6685
REGION23	-0.3046	-0.1090	-0.3026	-0.2779	-12.7745	-12.1781	-12.7670	-12.3050
REGION24	-0.1044	-0.0330	-0.1036	-0.1060	-2.7656	-2.2623	-2.7656	-2.9620
REGION25	-0.1867	-0.0642	-0.1854	-0.1784	-4.9558	-4.4772	-4.9548	-4.9845
REGION26	-0.1289	-0.0428	-0.1279	-0.1092	-3.1200	-2.7025	-3.1182	-2.7924
REGION27	0.0820	0.0463	0.0808	0.0962	3.4126	4.9054	3.3965	4.2650
REGION28	-0.2032	-0.0734	-0.2018	-0.1542	-3.9237	-3.7108	-3.9226	-3.2139
REGION29	-0.0462	-0.0010	-0.0460	-0.0155	-1.0900	-0.0635	-1.0945	-0.3953
REGION30	-0.2661	-0.0940	-0.2641	-0.2648	-6.7257	-6.2735	-6.7170	-7.0324
REGION31	-0.1601	-0.0461	-0.1592	-0.0457	-2.9147	-2.1983	-2.9185	-0.9387
REGION32	-0.2228	-0.0841	-0.2206	-0.2074	-1.4984	-1.4692	-1.4935	-1.4789
REGION33	-0.2710	-0.1033	-0.2686	-0.3047	-1.3712	-1.3601	-1.3681	-1.5814
REGION34	-0.1886	-0.0328	-0.1880	-0.0632	-1.2395	-0.5767	-1.2438	-0.4678
REGION35	-0.4102	-0.1477	-0.4070	-0.4835	-3.0982	-2.9909	-3.0920	-3.7059
REGION36	-0.0342	-0.0021	-0.0341	-0.0192	-0.9966	-0.1574	-1.0011	-0.5982
REGION37	0.0451	0.0291	0.0444	0.0684	1.2489	2.0486	1.2415	2.0240
REGION38	0.0898	0.0288	0.0891	0.0255	5.0633	4.0864	5.0722	1.4861

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Table 6 – *Continued from previous page*

Variable	Coefficients				z stats			
	Logit	Probit	Binary Poisson	Poisson	Logit	Probit	Binary Poisson	Poisson
<i>REGION39</i>	0.0741	0.0355	0.0733	0.0548	3.4671	4.2261	3.4581	2.6895
<i>REGION40</i>	-0.3888	-0.1393	-0.3860	-0.2945	-5.5823	-5.3636	-5.5738	-4.6792
<i>REGION41</i>	-0.0834	-0.0169	-0.0830	-0.0605	-1.2897	-0.6815	-1.2917	-0.9955
<i>SEXF</i>	0.0691	0.0256	0.0685	0.0594	10.0393	9.6013	10.0269	9.0823
<i>AGE</i>	-4.5355	-1.8690	-4.4951	-5.2654	-30.8407	-32.4001	-30.8347	-37.9637
<i>AGESQ</i>	3.9506	1.5908	3.9156	4.4931	25.9771	26.7409	25.9669	31.1755
<i>POLTYPE</i>	-0.0776	-0.0302	-0.0769	-0.0680	-5.2749	-5.3285	-5.2675	-4.7733
<i>BONUSC1</i>	-0.0030	-0.0007	-0.0032	-0.0036	-0.2762	-0.1591	-0.2950	-0.3525
<i>BONUSC2</i>	0.0233	0.0059	0.0228	0.0122	2.1664	1.4081	2.1387	1.1839
<i>BONUSC3</i>	-0.0268	-0.0059	-0.0269	-0.0040	-1.8159	-1.0416	-1.8341	-0.2870
<i>BONUSC4</i>	-0.0295	-0.0069	-0.0296	-0.0164	-1.8141	-1.1013	-1.8311	-1.0561
<i>BONUSC5</i>	-0.0249	-0.0020	-0.0251	-0.0053	-1.3759	-0.2877	-1.3951	-0.3083
<i>BONUSC6</i>	-0.0313	-0.0084	-0.0314	-0.0050	-1.8088	-1.2589	-1.8245	-0.3042
<i>BONUSC7</i>	-0.0178	-0.0005	-0.0180	0.0098	-0.9444	-0.0756	-0.9615	0.5441
<i>BONUSC8</i>	0.1467	0.0879	0.1443	0.2568	9.5925	14.7948	9.5175	18.5683
<i>BONUSC9</i>	-0.2269	-0.0868	-0.2255	-0.2290	-16.6821	-16.8052	-16.6868	-17.1679
<i>DEDUCT1</i>	0.1527	0.0686	0.1515	0.2064	19.8762	23.1021	19.8677	28.0600
<i>DEDUCT3</i>	-0.2011	-0.0897	-0.1993	-0.2136	-2.6595	-3.0848	-2.6547	-2.9713
<i>DEDUCT4</i>	0.0000	0.0000	0.0000	0.0000	nan	nan	nan	nan
<i>DEDUCT9</i>	0.0943	0.0236	0.0935	0.0756	2.5391	1.6208	2.5386	2.0746
<i>DEDUCTV</i>	-0.0830	-0.0282	-0.0822	-0.1116	-0.9188	-0.8469	-0.9150	-1.2258
<i>COVCAS</i>	-0.4632	-0.2579	-0.4599	-0.7653	-16.5403	-23.6193	-16.5490	-27.4952
<i>COVRCD</i>	-0.0014	-0.0049	-0.0012	-0.0390	-0.2731	-2.5011	-0.2515	-7.7734
<i>COVAPP</i>	0.0452	0.0280	0.0446	0.1327	4.5648	7.3136	4.5405	16.2034

Table 7: Frequency of claims in Brazilian automobile insurance: parameter estimates and inference for models of regression w/ binary outcomes and Poisson regression. Period: 1tr11, data type: cas

Variable	Coefficients				z stats			
	Logit	Probit	Binary Poisson	Poisson	Logit	Probit	Binary Poisson	Poisson
ONE	-2.6518	-1.4765	-2.6797	-2.2127	-95.6996	-126.6337	0.0000	-86.1140
AGEV1	-0.0293	-0.0084	-0.0286	-0.0338	-3.5819	-2.3960	0.0000	-4.4055
AGEV2	-0.0825	-0.0279	-0.0808	-0.0386	-9.2928	-7.3940	0.0000	-4.6951
AGEV3	-0.1189	-0.0439	-0.1167	-0.1470	-13.1033	-11.4380	0.0000	-17.2438
AGEV4	-0.1652	-0.0635	-0.1623	-0.1941	-15.3969	-14.1025	0.0000	-19.2594
AGEV5	-0.2028	-0.0815	-0.1994	-0.2328	-16.0217	-15.4666	0.0000	-19.5671
AGEV6	-0.2982	-0.1246	-0.2937	-0.3903	-29.9085	-29.8662	0.0000	-40.6231
AGEV11	-0.5771	-0.2376	-0.5707	-0.7253	-36.0592	-37.2431	0.0000	-46.0633
AGEV20	-0.8932	-0.3456	-0.8852	-1.0538	-7.6091	-8.1190	0.0000	-9.0283
TYPEV11	0.6340	0.3350	0.6201	0.9825	95.3301	117.2296	0.0000	170.6481
TYPEV14A	-0.0220	-0.0044	-0.0219	0.0057	-1.4948	-0.7203	0.0000	0.3918
TYPEV14B	-0.5408	-0.2174	-0.5353	-0.5253	-3.4789	-3.6427	0.0000	-3.4430
TYPEV14C	0.2259	0.0883	0.2222	0.2352	5.4964	5.0151	0.0000	5.8620
TYPEV15	-0.2885	-0.0999	-0.2856	-0.1748	-3.6561	-3.2608	0.0000	-2.2602
TYPEV16	0.2808	0.1501	0.2761	0.3623	1.6858	2.2477	0.0000	2.2321
TYPEV17	0.6379	0.3526	0.6247	0.7925	15.8838	20.1632	0.0000	20.9753
TYPEV18	-12.8835	-3.7705	-36.6442	-36.6442	-0.0111	-0.0042	0.0000	-0.0000
TYPEV19	-17.6782	-2.9588	-98.1742	-98.1742	-0.0007	-0.0109	0.0000	-0.0000
TYPEV20	-0.0070	0.0238	-0.0065	0.2034	-0.3169	2.6564	0.0000	9.4720
TYPEV21	-0.0802	-0.0145	-0.0783	0.1490	-2.9665	-1.3147	0.0000	5.6422
TYPEV22	-0.0686	0.0018	-0.0675	0.0862	-2.9930	0.1967	0.0000	3.8185
TYPEV23	-0.0817	-0.0056	-0.0807	0.1442	-2.9293	-0.5069	0.0000	5.2692
REGION1	-0.1010	-0.0545	-0.0995	-0.1985	-6.9690	-9.1120	0.0000	-14.4703
REGION2	-0.1716	-0.0811	-0.1692	-0.2455	-10.4881	-12.0683	0.0000	-15.7897
REGION3	-0.0700	-0.0336	-0.0688	-0.1484	-3.5925	-4.1208	0.0000	-8.0236
REGION4	-0.1341	-0.0632	-0.1317	-0.2267	-4.6141	-5.2260	0.0000	-8.1427
REGION5	-0.0739	-0.0364	-0.0727	-0.1769	-4.2318	-4.9883	0.0000	-10.6753

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Table 7 – *Continued from previous page*

Variable	Coefficients				z stats			
	Logit	Probit	Binary Poisson	Poisson	Logit	Probit	Binary Poisson	Poisson
REGION6	-0.1593	-0.0768	-0.1564	-0.3003	-4.8955	-5.7306	0.0000	-9.5037
REGION7	-0.0627	-0.0397	-0.0619	-0.1496	-4.3897	-6.6607	0.0000	-11.0233
REGION8	-0.0440	-0.0246	-0.0433	-0.1023	-2.5198	-3.3766	0.0000	-6.2204
REGION9	-0.0065	-0.0069	-0.0063	-0.0692	-0.4107	-1.0556	0.0000	-4.6225
REGION10	-0.1146	-0.0491	-0.1127	-0.1763	-3.7121	-3.8905	0.0000	-6.0224
REGION12	-0.0676	-0.0256	-0.0666	-0.1360	-4.4503	-4.1394	0.0000	-9.5339
REGION13	-0.0471	-0.0188	-0.0464	-0.0788	-4.7164	-4.5684	0.0000	-8.4715
REGION14	0.1033	0.0440	0.1020	0.0586	5.3031	5.3132	0.0000	3.2062
REGION15	-0.1358	-0.0608	-0.1336	-0.1670	-5.4551	-5.9363	0.0000	-7.0868
REGION16	0.0658	0.0211	0.0650	0.0059	5.5539	4.2335	0.0000	0.5298
REGION17	0.0250	0.0070	0.0245	-0.0398	0.7739	0.5161	0.0000	-1.3006
REGION18	-0.1260	-0.0555	-0.1242	-0.1782	-11.1031	-11.9961	0.0000	-16.6986
REGION19	-0.1342	-0.0565	-0.1325	-0.1962	-6.4292	-6.6432	0.0000	-9.7777
REGION20	0.0224	0.0001	0.0219	-0.0508	1.1204	0.0084	0.0000	-2.6369
REGION21	0.0076	0.0054	0.0076	-0.0066	0.5783	0.9730	0.0000	-0.5563
REGION22	-0.0391	-0.0196	-0.0387	-0.1572	-1.1672	-1.3805	0.0000	-4.9040
REGION23	-0.0681	-0.0325	-0.0667	-0.1195	-4.2388	-4.8584	0.0000	-8.0084
REGION24	-0.0462	-0.0206	-0.0456	-0.1234	-1.7356	-1.8254	0.0000	-4.9601
REGION25	-0.1540	-0.0752	-0.1514	-0.2808	-5.6967	-6.6642	0.0000	-11.0206
REGION26	-0.0993	-0.0535	-0.0973	-0.2251	-3.4294	-4.3830	0.0000	-8.3823
REGION27	-0.0154	-0.0128	-0.0154	-0.1522	-0.8861	-1.7140	0.0000	-9.5007
REGION28	0.1769	0.0670	0.1733	0.0201	5.7677	4.9331	0.0000	0.6947
REGION29	0.0853	0.0378	0.0832	-0.0427	3.1060	3.1427	0.0000	-1.6955
REGION30	0.1112	0.0515	0.1094	0.0357	4.4700	4.8361	0.0000	1.5105
REGION31	0.1940	0.0810	0.1892	0.1301	5.9584	5.5917	0.0000	4.4497
REGION32	-0.0401	-0.0070	-0.0389	-0.0861	-0.3946	-0.1628	0.0000	-0.8934
REGION33	0.2530	0.1161	0.2481	0.1996	1.7848	1.8678	0.0000	1.4920
REGION34	0.1532	0.0782	0.1495	0.0052	1.4927	1.7719	0.0000	0.0512
REGION35	0.3201	0.1462	0.3137	0.2364	4.7143	4.8478	0.0000	3.6221
REGION36	0.1681	0.0740	0.1656	0.0967	7.2298	7.3651	0.0000	4.4599
REGION37	0.1370	0.0578	0.1350	0.0915	5.3432	5.2536	0.0000	3.8544
REGION38	0.1048	0.0330	0.1031	-0.0294	7.7918	5.7241	0.0000	-2.3042

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Table 7 – *Continued from previous page*

Variable	Coefficients				z stats			
	Logit	Probit	Binary Poisson	Poisson	Logit	Probit	Binary Poisson	Poisson
<i>REGION39</i>	0.2457	0.1027	0.2412	0.1144	17.0473	16.5142	0.0000	8.3710
<i>REGION40</i>	0.1043	0.0445	0.1020	-0.0191	2.5705	2.5271	0.0000	-0.5060
<i>REGION41</i>	0.2278	0.1050	0.2238	0.1580	5.5289	5.9095	0.0000	4.0433
<i>SEXF</i>	-0.0425	-0.0200	-0.0419	-0.0194	-8.4133	-9.4560	0.0000	-4.0976
<i>AGE</i>	-3.0369	-1.3703	-2.9885	-3.9888	-27.4885	-29.5113	0.0000	-39.0121
<i>AGESQ</i>	2.3672	1.0460	2.3297	3.1078	20.7178	21.8723	0.0000	29.2158
<i>POLTYPE</i>	-0.0987	-0.0460	-0.0968	-0.1022	-10.1371	-11.2609	0.0000	-10.8300
<i>BONUSC1</i>	-0.0106	-0.0066	-0.0108	-0.0066	-1.3733	-2.0050	0.0000	-0.9044
<i>BONUSC2</i>	-0.0340	-0.0176	-0.0338	-0.0404	-4.0438	-4.9795	0.0000	-5.0944
<i>BONUSC3</i>	-0.0974	-0.0387	-0.0963	-0.0777	-9.2916	-8.8790	0.0000	-7.9308
<i>BONUSC4</i>	-0.0968	-0.0362	-0.0959	-0.0761	-8.3237	-7.5106	0.0000	-6.9580
<i>BONUSC5</i>	-0.1052	-0.0374	-0.1041	-0.0612	-7.6106	-6.5445	0.0000	-4.7595
<i>BONUSC6</i>	-0.1261	-0.0467	-0.1248	-0.0771	-8.9378	-8.0347	0.0000	-5.8510
<i>BONUSC7</i>	-0.1067	-0.0380	-0.1057	-0.0707	-7.4841	-6.4539	0.0000	-5.2623
<i>BONUSC8</i>	0.0287	0.0362	0.0272	0.1564	2.4061	7.2354	0.0000	15.0794
<i>BONUSC9</i>	-0.3746	-0.1498	-0.3706	-0.3671	-37.5636	-37.3684	0.0000	-37.6391
<i>DEDUCT1</i>	0.2558	0.1136	0.2518	0.2564	32.1181	34.5616	0.0000	33.0723
<i>DEDUCT3</i>	0.0248	-0.0235	0.0234	0.0036	0.3469	-0.8186	0.0000	0.0525
<i>DEDUCT4</i>	0.0000	0.0000	0.0000	0.0000	nan	nan	0.0000	nan
<i>DEDUCT9</i>	0.0725	0.0563	0.0711	0.0803	2.5595	4.8557	0.0000	2.9124
<i>DEDUCTV</i>	-11.3588	-4.0546	-11.2335	-12.2246	-19.2004	-16.7669	0.0000	-20.4537
<i>COVCAS</i>	-0.0026	-0.0765	-0.0040	-0.4789	-0.1117	-7.7635	0.0000	-20.3329
<i>COVRCD</i>	0.0044	0.0025	0.0044	0.0165	1.2552	1.6845	0.0000	5.0892
<i>COVAPP</i>	0.0732	0.0358	0.0716	0.1165	10.9173	12.3869	0.0000	20.2158

Table 8: Frequency of claims in Brazilian automobile insurance: parameter estimates and inference for models of regression w/ binary outcomes and Poisson regression. Period: 1tr11, data type: red

Variable	Coefficients				z stats			
	Logit	Probit	Binary Poisson	Poisson	Logit	Probit	Binary Poisson	Poisson
<i>ONE</i>	-3.4169	-1.8216	-3.4308	-3.1708	-88.7032	-122.4059	-89.7868	-86.4679
<i>AGEV1</i>	0.0689	0.0342	0.0684	0.0688	5.5383	7.1632	5.5331	5.7651
<i>AGEV2</i>	0.0783	0.0432	0.0777	0.0955	5.9211	8.5195	5.9171	7.5713
<i>AGEV3</i>	0.0802	0.0423	0.0795	0.0635	6.0052	8.2684	6.0006	4.9651
<i>AGEV4</i>	0.0757	0.0416	0.0751	0.0571	4.9174	7.0511	4.9112	3.8724
<i>AGEV5</i>	0.0827	0.0425	0.0820	0.0653	4.6799	6.2886	4.6732	3.8593
<i>AGEV6</i>	-0.0125	-0.0004	-0.0125	-0.0593	-0.8753	-0.0743	-0.8794	-4.2705
<i>AGEV11</i>	-0.2344	-0.0906	-0.2333	-0.3328	-10.9156	-11.2609	-10.9282	-15.7391
<i>AGEV20</i>	-0.4002	-0.1597	-0.3977	-0.5096	-3.0606	-3.3416	-3.0570	-3.9180
<i>TYPEV11</i>	0.8177	0.3806	0.8090	1.0448	89.4462	106.2101	89.3562	125.2963
<i>TYPEV14A</i>	0.0497	0.0207	0.0492	0.0657	2.2967	2.5451	2.2848	3.0712
<i>TYPEV14B</i>	-0.7839	-0.2769	-0.7815	-0.7982	-2.9256	-3.0388	-2.9233	-2.9855
<i>TYPEV14C</i>	-0.1070	-0.0484	-0.1070	-0.1022	-1.4673	-1.7947	-1.4738	-1.4116
<i>TYPEV15</i>	0.2015	0.0914	0.2000	0.2660	2.1878	2.6384	2.1842	2.9417
<i>TYPEV16</i>	-0.2047	-0.0772	-0.2030	-0.1001	-0.7347	-0.7581	-0.7319	-0.3744
<i>TYPEV17</i>	0.8405	0.4122	0.8324	0.9442	15.5736	19.2858	15.5949	18.2723
<i>TYPEV18</i>	-14.1664	-2.9668	-20.5232	-20.5232	-0.0048	-0.0143	-0.0003	-0.0003
<i>TYPEV19</i>	-10.7410	-2.6901	-19.0176	-19.0176	-0.0119	-0.0140	-0.0003	-0.0003
<i>TYPEV20</i>	0.4776	0.2147	0.4743	0.5964	17.6605	20.6585	17.6692	22.5730
<i>TYPEV21</i>	-0.0456	0.0078	-0.0454	0.0755	-1.0935	0.5105	-1.0950	1.8350
<i>TYPEV22</i>	0.5039	0.2172	0.5006	0.5971	19.2032	21.1734	19.2360	23.1862
<i>TYPEV23</i>	0.3471	0.1591	0.3449	0.4919	10.2530	12.2988	10.2586	14.8653
<i>REGION1</i>	0.0551	0.0124	0.0544	-0.0149	2.8850	1.6868	2.8727	-0.8133
<i>REGION2</i>	-0.1229	-0.0495	-0.1224	-0.1740	-5.4027	-5.7680	-5.4158	-7.9338
<i>REGION3</i>	0.0832	0.0344	0.0822	0.0098	3.1604	3.3835	3.1475	0.3815
<i>REGION4</i>	0.0302	0.0138	0.0296	-0.0368	0.7740	0.9199	0.7659	-0.9744
<i>REGION5</i>	0.1415	0.0546	0.1399	0.0561	6.2434	6.1716	6.2210	2.5623

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Table 8 – *Continued from previous page*

Variable	Coefficients				z stats			
	Logit	Probit	Binary Poisson	Poisson	Logit	Probit	Binary Poisson	Poisson
REGION6	0.1035	0.0366	0.1025	0.0058	2.5917	2.3449	2.5870	0.1481
REGION7	0.1527	0.0510	0.1510	0.0774	8.2051	7.0474	8.1811	4.2945
REGION8	0.2529	0.1019	0.2504	0.1996	11.5146	11.8332	11.4978	9.4588
REGION9	-0.1438	-0.0562	-0.1429	-0.1894	-6.0797	-6.3443	-6.0769	-8.2990
REGION10	-0.0850	-0.0306	-0.0845	-0.1358	-1.9555	-1.8735	-1.9570	-3.2279
REGION12	-0.0739	-0.0256	-0.0735	-0.1279	-3.5106	-3.2263	-3.5154	-6.3283
REGION13	0.0032	0.0055	0.0030	-0.0237	0.2346	1.0548	0.2219	-1.8004
REGION14	0.0101	0.0092	0.0099	-0.0083	0.3473	0.8297	0.3420	-0.2991
REGION15	-0.3846	-0.1444	-0.3824	-0.3921	-9.6100	-9.8876	-9.5998	-10.2076
REGION16	0.0146	0.0055	0.0142	-0.0287	0.8483	0.8298	0.8305	-1.7287
REGION17	-0.1257	-0.0452	-0.1251	-0.1655	-2.4847	-2.3844	-2.4879	-3.3887
REGION18	-0.5389	-0.1987	-0.5362	-0.5400	-28.5648	-29.3331	-28.5442	-30.1775
REGION19	-0.4823	-0.1714	-0.4799	-0.5160	-13.7810	-13.7300	-13.7704	-15.1675
REGION20	-0.2525	-0.1000	-0.2510	-0.2875	-8.0059	-8.4679	-8.0070	-9.3867
REGION21	-0.0241	-0.0014	-0.0243	-0.0381	-1.2801	-0.1882	-1.2976	-2.1699
REGION22	-0.0862	-0.0319	-0.0858	-0.1559	-1.7121	-1.6675	-1.7165	-3.2047
REGION23	-0.2776	-0.1039	-0.2757	-0.2997	-11.0565	-11.1558	-11.0446	-12.5787
REGION24	-0.0950	-0.0313	-0.0944	-0.1449	-2.3579	-2.0481	-2.3610	-3.7659
REGION25	-0.1764	-0.0746	-0.1751	-0.2628	-4.4863	-4.9986	-4.4815	-6.9483
REGION26	-0.1409	-0.0623	-0.1396	-0.2358	-3.3736	-3.8934	-3.3674	-5.9087
REGION27	0.0468	0.0156	0.0461	-0.0515	1.9308	1.6452	1.9177	-2.2357
REGION28	-0.1863	-0.0804	-0.1849	-0.2692	-3.5174	-3.9732	-3.5140	-5.2834
REGION29	-0.0803	-0.0267	-0.0796	-0.1295	-1.8589	-1.6008	-1.8588	-3.2139
REGION30	-0.1797	-0.0572	-0.1786	-0.1863	-4.3493	-3.7115	-4.3497	-4.7369
REGION31	-0.0849	-0.0370	-0.0842	-0.1241	-1.5396	-1.7398	-1.5394	-2.4061
REGION32	-0.4567	-0.1623	-0.4545	-0.5393	-2.4452	-2.3987	-2.4436	-2.9010
REGION33	-0.1066	-0.0418	-0.1064	-0.1911	-0.4233	-0.4392	-0.4252	-0.7638
REGION34	-0.2606	-0.1012	-0.2585	-0.3264	-1.4172	-1.4701	-1.4138	-1.8150
REGION35	-0.4583	-0.1580	-0.4560	-0.5093	-3.0880	-2.9601	-3.0852	-3.4848
REGION36	0.0535	0.0269	0.0529	-0.0045	1.5150	1.9796	1.5089	-0.1321
REGION37	0.2427	0.1029	0.2403	0.1826	6.8553	7.4157	6.8456	5.3733
REGION38	0.2473	0.0910	0.2449	0.1502	13.5100	12.6165	13.4956	8.4870

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Table 8 – *Continued from previous page*

Variable	Coefficients				z stats			
	Logit	Probit	Binary Poisson	Poisson	Logit	Probit	Binary Poisson	Poisson
<i>REGION39</i>	-0.0065	-0.0026	-0.0068	-0.0893	-0.3020	-0.3123	-0.3162	-4.2859
<i>REGION40</i>	-0.2979	-0.1130	-0.2956	-0.3440	-4.2216	-4.2855	-4.2147	-5.1717
<i>REGION41</i>	-0.0792	-0.0218	-0.0789	-0.1157	-1.2513	-0.8960	-1.2555	-1.8997
<i>SEXF</i>	0.0931	0.0339	0.0924	0.0981	12.8873	12.3174	12.8777	14.2110
<i>AGE</i>	-4.2590	-1.7525	-4.2230	-4.7371	-27.4453	-29.3399	-27.4311	-32.1056
<i>AGESQ</i>	3.5736	1.4450	3.5431	3.9005	22.2591	23.4671	22.2400	25.4583
<i>POLTYPE</i>	0.1789	0.0693	0.1776	0.1745	13.6946	13.7051	13.6969	13.6232
<i>BONUSC1</i>	-0.0093	-0.0052	-0.0094	-0.0099	-0.8325	-1.2205	-0.8506	-0.9244
<i>BONUSC2</i>	0.0282	0.0091	0.0277	0.0168	2.3814	1.9903	2.3531	1.4673
<i>BONUSC3</i>	-0.0940	-0.0333	-0.0935	-0.0806	-6.2884	-5.8758	-6.2995	-5.6474
<i>BONUSC4</i>	-0.1213	-0.0418	-0.1207	-0.1049	-7.2491	-6.6179	-7.2622	-6.5355
<i>BONUSC5</i>	-0.0760	-0.0246	-0.0756	-0.0374	-3.8372	-3.2877	-3.8420	-1.9910
<i>BONUSC6</i>	-0.0689	-0.0207	-0.0686	-0.0360	-3.4855	-2.7689	-3.4953	-1.9081
<i>BONUSC7</i>	-0.0500	-0.0115	-0.0500	-0.0091	-2.4987	-1.5145	-2.5150	-0.4790
<i>BONUSC8</i>	0.1557	0.0871	0.1535	0.2528	9.6310	13.9646	9.5816	17.2791
<i>BONUSC9</i>	-0.3605	-0.1337	-0.3587	-0.3589	-24.8262	-25.0169	-24.8265	-25.0889
<i>DEDUCT1</i>	0.1255	0.0541	0.1247	0.1439	11.5632	13.1030	11.5704	13.5095
<i>DEDUCT3</i>	-0.0687	-0.0500	-0.0692	-0.1342	-0.7747	-1.4820	-0.7863	-1.5488
<i>DEDUCT4</i>	0.0000	0.0000	0.0000	0.0000	nan	nan	nan	nan
<i>DEDUCT9</i>	0.5380	0.2207	0.5336	0.5452	15.5206	16.2245	15.5286	16.0564
<i>DEDUCTV</i>	-2.5536	-0.7184	-2.5241	-2.3270	-3.4250	-2.5158	-3.4072	-3.0994
<i>COVCAS</i>	-0.2834	-0.1818	-0.2827	-0.5896	-8.6832	-14.3455	-8.7197	-17.9131
<i>COVRCD</i>	0.0369	0.0158	0.0364	0.0430	8.0301	8.7707	8.0120	9.9944
<i>COVAPP</i>	-0.0095	0.0022	-0.0094	0.0415	-0.8955	0.5449	-0.8908	4.3959