SUPPLEMENTARY MATERIAL FOR: PHASE-TYPE DISTRIBUTIONS FOR CLAIM SEVERITY REGRESSION MODELING

MARTIN BLADT

DESCRIPTIVE STATISTICS FOR THE MPL DATASET

Description of abbreviations, as per `CASdatasets`:

(1) LicAge: The driving licence age, in months.
(2) DrivAge: The driver age, in years (in France, people can drive a car at 18).
(3) BonusMalus: A numeric for the bonus/malus, between 50 and 350. < 100 means bonus, > 100 means malus in France.
(4) RiskVar: Undisclosed risk variable between 1 and 20, possibly ordered.
(5) VehAge: The vehicle age, in years.
(6) Gender: The gender, either "Male" or "Female".
(7) MariStat: The marital status, either "Alone" or "Other".
(8) SocioCateg: The social category known as CSP in France, between "CSP1" and "CSP99".
(9) VehUsage: The vehicle usage among "Private", "Private+trip to office", "Professional", "Professional run".
(10) HasKmLimit: A numeric, 1 if there is a km limit for the policy, 0 otherwise.
(11) VehBody The vehicle body, among "bus", "cabriolet", "coupe", "microvan", "other microvan", "sedan", "sport utility vehicle", "station wagon", "van".
(12) VehPrice: The category of the vehicle price from "A" (cheapest) to "Z" (most expensive).
(13) VehEngine: The vehicle engine, among "carburation", "direct injection overpowered", "electric", "GPL", "injection", "injection overpowered".
(14) VehEnergy: The vehicle energy, among "diesel", "eletric", "GPL", "regular".
(15) VehMaxSpeed The VehMaxSpeed, among "1-130 km/h", "130-140 km/h", "140-150 km/h", "150-160 km/h", "160-170 km/h", "170-180 km/h", "180-190 km/h", "190-200 km/h", "200-220 km/h", "220+ km/h".
(16) VehClass: The vehicle class (unknown categories), among "0", "A", "B", "H", "M1", "M2".
(17) Garage: The garage, if any, among "Collective garage", "None", "Private garage".
(18) Coverage: Undisclosed coverage for the policies, among 1, 2, 3, 4.

TABLE 0.1. Summary statistics of the French MPL dataset: **continuous rating factors**

Variable	Mean	St. Dev.	Min	Pctl(25)	Median	Pctl(75)	Max
LicAge	286.774	168.199	0	145	264	416	914
DrivAge	45.320	14.959	18	33	43	56	95
BonusMalus	68.480	20.762	50	50	60	85	272
RiskVar	13.346	4.773	1	10	15	17	20

TABLE 0.2. Summary statistics of the French MPL dataset: **categorical rating factors**

VehAge	Gender	MariStat	SocioCateg	VehUsage
2 :1079	Female:2613	Alone:1855	CSP50 :4026	Private :2068
0 :1017	Male :4395	Other:5153	CSP60 : 831	Private+trip to office:3160
1 : 959			CSP55 : 554	Professional :1633
3 : 804			CSP1 : 384	Professional run : 147
4 : 769			CSP26 : 248	
10+ : 696			CSP48 : 200	
(Other):1684			(Other): 765	

HasKmLimit	VehBody		VehPrice	VehEngine
0:6366	sedan :4695		K : 656	carburation : 252
1: 642	sport utility vehicle: 382		J : 641	direct injection ovp.:1533
	van : 354		L : 608	electric : 3
	other microvan : 349		G : 586	injection :4710
	microvan : 319		F : 550	injection ovp. : 510
	cabriolet : 307		E : 519	
	(Other) : 602		(Other):3448	

VehEnergy	VehMaxSpeed	VehClass	Garage	coverage
diesel :2282	160-170 km/h:1211	0 : 275	Collective garage:1387	c1:3265
eletric: 3	170-180 km/h:1173	A : 707	None :4876	c2:2134
regular:4723	150-160 km/h:1022	B :2167	Private garage : 745	c3:1247
	180-190 km/h: 885	H :1111		c4: 362
	190-200 km/h: 776	M1:1739		
	200-220 km/h: 715	M2:1009		
	(Other) :1226			