

Table 1: Tests d'indépendance du χ^2 - Couples de variables dépendantes au seuil 5%

Variable 1	Variable 2	Chi-2	ddl	p_value	dependance_significative	chi2_valide
person_age	cb_person_cred_hist_length	39883.623	6	0.000	True	True
loan_int_rate	cb_person_default_on_file	7440.067	6	0.000	True	True
loan_amnt	loan_percent_income	6966.772	9	0.000	True	True
person_income	loan_amnt	4318.562	15	0.000	True	True
person_income	person_home_ownership	3885.711	10	0.000	True	True
person_income	loan_percent_income	3786.505	15	0.000	True	True
person_emp_length	cb_person_cred_hist_length	3253.798	4	0.000	True	True
person_age	person_emp_length	3170.324	6	0.000	True	True
person_home_ownership	person_emp_length	1764.583	4	0.000	True	True
person_income	person_emp_length	1485.153	10	0.000	True	True
loan_amnt	loan_int_rate	931.191	18	0.000	True	True
person_age	loan_intent	756.689	15	0.000	True	True
person_home_ownership	loan_intent	754.581	10	0.000	True	True
person_home_ownership	loan_int_rate	717.725	12	0.000	True	True
person_home_ownership	loan_percent_income	630.453	6	0.000	True	True
loan_int_rate	loan_percent_income	507.686	18	0.000	True	True
person_age	person_income	486.127	15	0.000	True	True
person_home_ownership	loan_amnt	434.633	6	0.000	True	True
loan_intent	cb_person_cred_hist_length	400.087	10	0.000	True	True
person_income	loan_intent	361.025	25	0.000	True	True
person_emp_length	loan_amnt	297.355	6	0.000	True	True
person_income	cb_person_cred_hist_length	296.791	10	0.000	True	True
person_emp_length	loan_int_rate	146.878	12	0.000	True	True
person_income	loan_int_rate	136.887	30	0.000	True	True
person_home_ownership	cb_person_default_on_file	135.215	2	0.000	True	True
loan_amnt	cb_person_default_on_file	105.607	3	0.000	True	True
person_emp_length	loan_percent_income	98.512	6	0.000	True	True
person_age	loan_amnt	96.395	9	0.000	True	True
person_emp_length	loan_intent	91.809	10	0.000	True	True
person_age	person_home_ownership	90.666	6	0.000	True	True
loan_intent	loan_amnt	87.729	15	0.000	True	True
loan_percent_income	cb_person_default_on_file	59.730	3	0.000	True	True
person_home_ownership	cb_person_cred_hist_length	59.238	4	0.000	True	True
loan_amnt	cb_person_cred_hist_length	58.695	6	0.000	True	True
person_age	loan_percent_income	51.660	9	0.000	True	True
loan_intent	loan_int_rate	49.184	30	0.015	True	True
person_income	cb_person_default_on_file	44.847	5	0.000	True	True
person_emp_length	cb_person_default_on_file	34.109	2	0.000	True	True
loan_percent_income	cb_person_cred_hist_length	33.101	6	0.000	True	True
loan_intent	cb_person_default_on_file	9.376	5	0.095	True	True

Variable	Modalité	Bornes modalité	Effectif	Coefficient	Note	Contribution (%)	Taux de défaut observé (%)	p-value	Significativité
loan_percent_income	loan_percent_income_0 (Référence)	$]-\infty, 0.15]$	17185	0.0000	0	31.41	12.15	—	—
loan_percent_income	loan_percent_income_1	$[0.15, 0.25]$	9110	0.3276	36	31.41	18.62	3.03e-13	***
loan_percent_income	loan_percent_income_2	$[0.25, 0.30]$	2444	0.6189	68	31.41	25.70	7.75e-21	***
loan_percent_income	loan_percent_income_3	$[0.30, +\infty[$	3833	2.9469	324	31.41	70.31	0	***
person_home_ownership	person_home_ownership_0 (Référence)	Modalité 0	2584	0.0000	0	25.04	7.47	—	—
person_home_ownership	person_home_ownership_1	Modalité 1	13441	1.6898	186	25.04	12.57	6.60e-52	***
person_home_ownership	person_home_ownership_2	Modalité 2	16547	2.5957	286	25.04	31.57	8.09e-128	***
cb_person_default_on_file	cb_person_default_on_file_0 (Référence)	Modalité 0	26829	0.0000	0	15.31	18.40	—	—
cb_person_default_on_file	cb_person_default_on_file_1	Modalité 1	5743	1.1757	129	15.31	37.80	1.92e-161	***
person_income	person_income_0	$]-\infty, 28590.00]$	3259	1.3959	154	15.26	47.41	3.71e-108	***
person_income	person_income_1	$[28590.00, 35000.00]$	3370	0.9319	103	15.26	39.26	3.75e-51	***
person_income	person_income_2	$[35000.00, 63000.00]$	12942	0.2178	24	15.26	20.85	3.15e-06	***
person_income	person_income_3 (Référence)	$[63000.00, +\infty[$	13001	0.0000	0	15.26	11.85	—	—
loan_intent	loan_intent_0	Modalité 0	5212	0.9734	107	12.98	28.59	4.55e-47	***
loan_intent	loan_intent_1	Modalité 1	9675	0.9126	100	12.98	26.48	3.73e-50	***
loan_intent	loan_intent_2	Modalité 2	11970	0.2954	32	12.98	18.45	1.40e-06	***
loan_intent	loan_intent_3 (Référence)	Modalité 3	5715	0.0000	0	12.98	14.82	—	—

Table 2: Grille de Score

Classe Risque	Notation Bâle	Min Score	Max Score	Effectif	Defauts	Part de population(%)	PD_LRA_chr(%)
0	AAA	0.0	221.98	4771	117	14.65	2.45
1	AA	222.15	289.8	4206	283	12.91	6.73
2	A	290.07	392.75	10045	1162	30.84	11.57
3	BBB	395.6	456.28	4600	879	14.12	19.11
4	BB	456.71	568.61	4418	1329	13.56	30.08
5	B	569.34	719.87	2644	1533	8.12	57.98
6	CCC	734.29	1000.0	1888	1804	5.8	95.55

Table 3: Synthèse des Classes Homogènes de Risques (CHR)