

1 Multinomial \wedge Dirichlet Model and χ^2 Test

1.1 BL1

Country	N	$P(H_0 \mathbf{x})$			$\underline{P}(H_0 \mathbf{x})$	p_{obs}
		$\alpha = 1$	$\alpha = \theta_0$	$\alpha = 22 \theta_0$		
Austria	619	0.001	0.988	0.000	0.000	0.000
Belgium	604	0.016	1.000	0.000	0.000	0.000
Finland	605	0.919	1.000	0.200	0.000	0.000
France	600	0.039	1.000	0.001	0.000	0.000
Germany	612	0.942	1.000	0.113	0.002	0.000
Greece	629	0.885	1.000	0.067	0.002	0.000
Ireland	616	0.004	0.997	0.000	0.000	0.000
Italy	625	0.945	1.000	0.110	0.002	0.000
Luxembourg	602	0.000	0.000	0.000	0.000	0.000
Netherlands	596	1.000	1.000	0.986	0.105	0.009
Portugal	617	0.000	0.000	0.000	0.000	0.000
Spain	535	0.808	1.000	0.018	0.002	0.000
Pooled.sample	7260	0.999	1.000	0.912	0.000	0.000

1.2 BL2

Country	N	$P(H_0 \mathbf{x})$			$\underline{P}(H_0 \mathbf{x})$	p_{obs}
		$\alpha = 1$	$\alpha = \theta_0$	$\alpha = 12 \theta_0$		
Austria	614	1	1	1.000	0.357	0.082
Belgium	604	1	1	1.000	0.481	0.236
Finland	605	1	1	1.000	0.331	0.068
France	600	1	1	0.999	0.069	0.005
Germany	610	1	1	1.000	0.453	0.175
Greece	627	1	1	1.000	0.152	0.016
Ireland	616	1	1	1.000	0.500	0.387
Italy	608	1	1	1.000	0.346	0.075
Luxembourg	602	1	1	0.999	0.089	0.007
Netherlands	596	1	1	1.000	0.313	0.060
Portugal	617	1	1	1.000	0.461	0.189
Spain	530	1	1	1.000	0.500	0.855
Pooled.sample	7229	1	1	1.000	0.317	0.061

2 Binomial \wedge Beta Model Results

2.1 Austria BL1

Digit	$P(H_0 x)$			$\underline{P}(H_0 x)$	p_{obs}
	$a = 1$ $b = 1$	$a = \theta_0$ $b = 1 - \theta_0$	$a = 22 \theta_0$ $b = 22 - 22 \theta_0$		
1	0.542	0.618	0.232	0.170	0.019
2	0.951	0.966	0.813	0.500	0.493
3	0.954	0.962	0.782	0.500	0.406
4	0.194	0.290	0.059	0.018	0.001
5	0.016	0.030	0.005	0.000	0.000
6	0.973	0.978	0.844	0.500	0.740
7	0.001	0.000	0.000	0.000	0.000
8	0.947	0.941	0.647	0.462	0.191
9	0.968	0.976	0.812	0.500	0.422

2.2 Belgium BL1

Digit	$P(H_0 x)$			$\underline{P}(H_0 x)$	p_{obs}
	$a = 1$ $b = 1$	$a = \theta_0$ $b = 1 - \theta_0$	$a = 22 \theta_0$ $b = 22 - 22 \theta_0$		
1	0.003	0.003	0.001	0.000	0.000
2	0.028	0.047	0.009	0.000	0.000
3	0.008	0.014	0.003	0.000	0.000
4	0.963	0.967	0.799	0.500	0.489
5	0.940	0.941	0.674	0.471	0.210
6	0.960	0.961	0.749	0.499	0.334
7	0.977	0.980	0.850	0.500	0.934
8	0.957	0.969	0.777	0.496	0.301
9	0.920	0.903	0.515	0.401	0.113

2.3 Ireland BL1

Digit	$P(H_0 x)$			$\underline{P}(H_0 x)$	p_{obs}
	$a = 1$ $b = 1$	$a = \theta_0$ $b = 1 - \theta_0$	$a = 22 \theta_0$ $b = 22 - 22 \theta_0$		
1	0.894	0.930	0.696	0.460	0.186
2	0.957	0.967	0.821	0.500	0.599
3	0.772	0.782	0.355	0.275	0.045
4	0.015	0.028	0.005	0.000	0.000
5	0.453	0.401	0.090	0.111	0.010
6	0.055	0.097	0.015	0.000	0.000
7	0.948	0.945	0.672	0.472	0.213
8	0.872	0.843	0.393	0.330	0.067
9	0.802	0.743	0.257	0.256	0.039

2.4 Luxembourg BL1

Digit	$P(H_0 x)$			$\underline{P}(H_0 x)$	p_{obs}
	$a = 1$ $b = 1$	$a = \theta_0$ $b = 1 - \theta_0$	$a = 22 \theta_0$ $b = 22 - 22 \theta_0$		
1	0.000	0.000	0.000	0.000	0.000
2	0.046	0.048	0.010	0.018	0.001
3	0.921	0.930	0.662	0.460	0.187
4	0.966	0.974	0.834	0.500	0.663
5	0.000	0.000	0.000	0.000	0.000
6	0.966	0.974	0.818	0.500	0.494
7	0.955	0.954	0.708	0.489	0.264
8	0.894	0.873	0.450	0.364	0.086
9	0.977	0.978	0.830	0.500	0.690

2.5 Portugal BL1

Digit	$P(H_0 x)$			$\underline{P}(H_0 x)$	p_{obs}
	$a = 1$ $b = 1$	$a = \theta_0$ $b = 1 - \theta_0$	$a = 22 \theta_0$ $b = 22 - 22 \theta_0$		
1	0.000	0.000	0.000	0.000	0.000
2	0.001	0.001	0.000	0.000	0.000
3	0.964	0.971	0.828	0.500	0.662
4	0.001	0.001	0.000	0.000	0.000
5	0.972	0.976	0.834	0.500	0.726
6	0.974	0.979	0.848	0.500	0.848
7	0.881	0.862	0.435	0.349	0.077
8	0.972	0.978	0.834	0.500	0.591
9	0.979	0.982	0.853	0.500	0.959