

APPENDIX II. Number of common bulls

BSW dlo

common bulls below diagonal
common three quarter sib group above diagonal

	CAN	CHE	DEA	NLD	NZL	USA	ITA	FRA	GBR	SVN
CAN	0	86	96	43	50	122	89	63	46	25
CHE	70	0	463	60	47	265	364	118	43	55
DEA	81	363	0	93	58	269	562	154	45	80
NLD	38	56	86	0	30	63	88	59	26	33
NZL	48	41	46	21	0	60	53	35	31	16
USA	119	252	248	59	56	0	202	100	56	34
ITA	79	309	459	70	43	141	0	137	46	74
FRA	56	81	109	45	27	63	105	0	36	38
GBR	50	39	33	24	28	60	38	32	0	16
SVN	21	53	71	29	12	28	71	35	14	0

GUE dlo

common bulls below diagonal
common three quarter sib group above diagonal

	AUS	CAN	NZL	USA	GBR	ZAF
AUS	0	42	37	50	32	41
CAN	40	0	20	56	25	36
NZL	37	17	0	42	22	23
USA	45	45	41	0	68	81
GBR	27	19	19	70	0	36
ZAF	38	36	17	87	34	0

HOL dlo

common bulls below diagonal
common three quarter sib group above diagonal

	AUS	BEL	CAN	CHE	DEU	DFS	ESP	FRA	GBR	IRL	ISR	ITA	NLD	NZL	USA	HUN	CHR	CZE	SVN
AUS	0	336	832	286	1100	834	552	841	986	500	82	847	948	941	1227	559	191	641	105
BEL	239	0	307	205	471	346	285	402	408	253	43	371	517	272	405	273	162	331	74
CAN	674	255	0	399	1544	779	802	894	1127	354	73	1108	821	569	2099	726	260	780	101
CHE	241	184	264	0	466	320	284	300	371	222	34	356	354	244	430	263	261	284	60
DEU	624	367	629	363	0	1841	976	1707	1584	623	117	1891	2079	800	2485	1023	424	1552	171
DFS	463	268	424	271	824	0	628	1106	1121	535	107	1111	1252	663	1307	711	211	933	136
ESP	373	258	394	238	574	440	0	703	753	348	83	819	689	435	997	563	166	635	104
FRA	445	340	409	261	621	385	448	0	1174	543	95	1405	1326	656	1868	752	171	979	107
GBR	792	350	1217	355	1007	772	641	618	0	700	113	1251	1318	822	1641	797	240	946	139
IRL	389	220	275	227	472	393	333	361	710	0	73	492	639	539	563	372	134	433	68
ISR	57	24	42	24	88	81	57	42	90	59	0	110	118	94	132	102	21	109	35
ITA	491	271	579	301	921	658	565	520	891	385	77	0	1257	688	2015	887	238	1044	141
NLD	718	504	524	328	1292	858	554	541	1099	539	98	792	0	856	1679	796	357	1174	142
NZL	922	205	576	208	553	445	342	333	764	445	78	492	769	0	915	501	160	608	91
USA	1026	291	1711	341	1171	727	591	731	1382	437	106	970	1050	867	0	1107	356	1349	132
HUN	416	212	623	220	756	568	494	496	791	347	86	771	658	463	1144	0	162	858	108
CHR	158	150	214	283	343	180	130	154	226	121	12	202	320	142	338	137	0	209	50
CZE	411	250	498	214	1197	570	507	557	765	343	90	725	960	486	1051	866	160	0	129
SVN	70	55	65	40	141	105	80	60	108	49	27	114	117	66	97	92	34	104	0

JER dlo

common bulls below diagonal
common three quarter sib group above diagonal

	AUS	CAN	DFS	NLD	NZL	USA	GBR	ZAF
AUS	0	149	97	55	324	326	148	161
CAN	156	0	65	29	127	224	113	101
DFS	70	56	0	67	124	139	119	105
NLD	49	24	66	0	67	63	66	59
NZL	373	150	104	64	0	292	168	159
USA	354	230	116	70	379	0	164	208
GBR	163	120	120	67	180	198	0	125
ZAF	152	99	84	54	167	218	132	0

RDC dlo

common bulls below diagonal

common three quarter sib group above diagonal

	AUS	CAN	DEU	DFS	NZL	USA	GBR	NLD	ZAF
AUS	0	74	17	124	99	69	43	10	41
CAN	75	0	8	72	74	159	61	4	104
DEU	16	7	0	38	11	4	3	9	1
DFS	114	70	30	0	134	85	42	25	54
NZL	106	79	11	132	0	78	55	10	45
USA	74	140	4	86	77	0	62	10	84
GBR	44	63	3	41	53	60	0	5	52
NLD	9	4	9	26	10	10	5	0	1
ZAF	44	111	1	53	42	81	48	1	0

SIM dlo

common bulls below diagonal

common three quarter sib group above diagonal

	FRM	NLD	CZE	SVN
FRM	0	89	156	0
NLD	110	0	67	0
CZE	187	64	0	20
SVN	0	0	20	0