

Introduction

The latest routine international evaluation for conformation traits took place as scheduled at the Interbull Centre. Data from twenty five (26) countries were included in this evaluation.

International genetic evaluations for calving traits of bulls from Australia, Belgium, Canada, Switzerland, Czech Republic, Germany, Denmark-Finland-Sweden, Spain, France, United Kingdom, Hungary, Ireland, Italy, Japan, Korea, The Netherlands, Norway, New Zealand, Poland, South Africa, Estonia, Slovenia, Portugal, and United States of America were computed. Brown Swiss, Guernsey, Holstein, Jersey and Red Dairy Cattle breed data were included in this evaluation.

The WHFF trait definitions are available on this link http://www.interbull.org/ib/conf_trait_hol_jer

The following is a list of substitute traits as applied by countries:

| COU | BRD | TRT_Code | TRT_NAME | Subs_Trt |
|-----|-----|----------|----------------|----------|
| USA | BSW | ofr | overall frame | sta |
| USA | BSW | oru | overall rump | rwi |
| USA | BSW | rle | rump length | rwi |
| USA | BSW | thp | thurl position | rwi |

Changes in national procedures

Changes in the national genetic evaluation of conformation traits are as follows:

AUS (HOL,RDC) Drop in information due to data clean up and pedigree editing.
Some bulls not longer qualified due to loss of herds.

BEL (HOL) Drop in daughters, herds, EDC and reliabilities due to corrections in pedigree.

CHE (ALL) Change in number of herds, EDC and reliabilities due to manual data edits and hYS assignment.

DEU (HOL) Overall base change. From this routine run onwards cow base is adjusted with each routine run, four months (birth month) forwards.

DFS (HOL,JER,RDC) Drop in EDC mostly cause by rounding effect.

ESP (HOL) Base changed. Drop in information due to new checks in data editing.

IRL (HOL) Drop in information and reliabilities due to pedigree clean up.

JPN (HOL) Changes in EDC due to pedigree editing.

LVA (HOL,RDC) Implementation of a new recording system that caused decrease in information and led to some bulls changing from official to unofficial.

NLD (ALL) Drop in information due to pedigree corrections.

POL (HOL) The Polish Federation of Cattle Breeders and Milk Producers replaced the milk recording system SYMLEK by the FEDINFO system.
Due to this change, a marginal number of animals have been assigned to a native breed instead of Holstein-Friesian.
These bulls were removed from the evaluation.
Drop in information due to data editing.

USA (HOL) Some bulls changed type of proofs to better reflect their status and some of them no longer qualified and have been removed.
Some bulls drops in daughters due to parentage verification.

USA (BSW,GUE,JER,RDC) Drop in information due to pedigree corrections and herd-year edits.

INTERBULL CHANGES COMPARED TO THE PREVIOUS ROUTINE RUN

In 2020 new post-processing windows\200\231 correlations for all breeds and traits have been applied: the upper bounds have been set to 0.99 as these were judged to have very little effect on evaluations while the lower values have been reduced to the 10th percentile. This reduction would provide post-processed correlations to be closer to the real estimated ones. The previously lower value adopted (based on the 25th percentile) had been found too high causing estimated and post-processed correlations to differ significantly from each other. It is a recommendation from the Interbull Technical Committee to review such windows every 5 years. The weight assigned to the magnitude of the changes tested by each country has also been revised. The new weight will allow post-processed correlations to take more in consideration the value of the new estimated ones even when no changes are applied by the countries. More information can be read on https://interbull.org/ib/rq_procedure

Since 2021 a new trait group has been added to the MACE evaluation, called stcm (SNP Training for clinical mastitis) evaluating the trait cma (pure clinical mastitis). New trait group codes have been issued as follows: 041 for international ebv files (.itb), 071 for parent average (ipr).

DATA AND METHOD OF ANALYSIS

Data were national genetic evaluations of AI sampled bulls with at least 10 daughters or 10 EDC (for clinical mastitis and maternal calving traits at least 50 daughters or 50 EDC, and for direct calving traits at least 50 calvings or 50 EDC) in at

least 10 herds. Table 1 presents the amount of data included in this Interbull evaluation for all breeds.

National proofs were first de-regressed within country and then analysed jointly with a linear model including the effects of evaluation country, genetic group of bull and bull merit. Heritability estimates used in both the de-regression and international evaluation were as in each country's national evaluation.

Table 2 presents the date of evaluation as supplied by each country

Estimated genetic parameters and sire standard deviations are shown in APPENDIX I and the corresponding number of common bulls are listed in APPENDIX II.

SCIENTIFIC LITERATURE

The international genetic evaluation procedure is based on international work described in the following scientific publications:

International genetic evaluation computation:
Schaeffer, 1994. J. Dairy Sci. 77:2671-2678
Klei, 1998. Interbull Bulletin 17:3-7

Verification and Genetic trend validation:
Klei et al., 2002. Interbull Bulletin 29:178-182.
Boichard et al., 1995. J. Dairy Sci. 78:431-437

Weighting factors:
Fikse and Banos, 2001. J. Dairy Sci. 84:1759-1767

De-regression:
Sigurdsson and G. Banos. 1995. Acta Agric. Scand. 45:207-219
Jairath et al. 1998. J. Dairy Sci. Vol. 81:550-562

Genetic parameter estimation:
Klei and Weigel, 1998, Interbull Bulletin 17:8-14
Sullivan, 1999. Interbull Bulletin 22:146-148

Post-processing of estimated genetic correlations:
Mark et al., 2003, Interbull Bulletin 30:126-135
Jorjani et al., 2003. J. Dairy Sci. 86:677-679
<https://wiki.interbull.org/public/rG%20procedure?action=print>

Time edits
Weigel and Banos. 1997. J. Dairy Sci. 80:3425-3430

International reliability estimation
Harris and Johnson. 1998. Interbull Bulletin 17:31-36

NEXT ROUTINE INTERNATIONAL EVALUATION

Dates for the next routine evaluation can be found on
<http://www.interbull.org/ib/servicecalendar>.

NEXT TEST INTERNATIONAL EVALUATION

Dates for the next test run can be found on
<http://www.interbull.org/ib/servicecalendar>.

PUBLICATION OF INTERBULL ROUTINE RUN

Results were distributed by the Interbull Centre to designated representatives in each country. The international evaluation file comprised international proofs expressed on the base and unit of each country included

in the analysis. Such records readily provide more information on bull performance in various countries, thereby minimizing the need to resort to conversions.

At the same time, all recipients of Interbull results are expected to honor the agreed code of practice, decided by the Interbull Steering Committee, and only publish international evaluations on their own country scale. Evaluations expressed on another country scale are confidential and may only be used internally for research and review purposes.

PUBLICATION OF INTERBULL TEST RUN

Test evaluation results are meant for review purposes only and should not be published.

^aLTable 1. National evaluation data considered in the Interbull evaluation for conformation traits (August Routine Evaluation 2024).

Number of records for stature by breed

| Country | BSW | GUE | HOL | JER | RDC | SIM |
|-------------|-------|------|--------|-------|-------|-----|
| AUS | | 50 | 4025 | 772 | 266 | |
| BEL | | | 1747 | | | |
| CAN | 253 | 104 | 12908 | 859 | 916 | |
| CHE | 2998 | | 3185 | 54 | | |
| CZE | | | 4535 | | | |
| DEA | 3823 | | | | | |
| DEU | | | 21758 | | 282 | |
| DFS | | | 12473 | 2128 | 6488 | |
| ESP | | | 4580 | | | |
| EST | | | 938 | | | |
| FRA | 451 | | 18202 | | | |
| FRM | | | | | | |
| GBR | 25 | 232 | 6594 | 470 | 354 | |
| HUN | | | 2817 | | | |
| IRL | | | 1950 | | | |
| ISR | | | | | | |
| ITA | 2288 | | 8521 | 74 | | |
| JPN | | | 6415 | | | |
| KOR | | | 1685 | | | |
| LTU | | | | | | |
| LVA | | | 1448 | | 619 | |
| NLD | 146 | | 15693 | 55 | 62 | |
| NOR | | | | | 2555 | |
| NZL | | | 7088 | 4293 | 603 | |
| POL | | | 9461 | | | |
| PRT | | | 2587 | | | |
| SVK | | | | | | |
| SVN | 263 | | 642 | | | |
| URY | | | | | | |
| USA | 950 | 736 | 34467 | 4597 | 280 | |
| ZAF | | | 853 | 563 | | |
| HRV | | | | | | |
| CAM | | | | 40 | | |
| No. Records | 11197 | 1122 | 184572 | 13865 | 12465 | |
| Pub. Proofs | 8892 | 952 | 141401 | 12022 | 13041 | 0 |

^aLAPPENDIX I. Sire standard deviations in diagonal and genetic correlations below diagonal

| BSW | sta | | | | | |
|-----|-----|-----|-----|-----|-----|-----|
| CAN | CHE | FRA | ITA | NLD | USA | DEA |

| | | | | | | | | | |
|-----|------|-------|------|-------|------|------|-------|-------|------|
| CAN | 6.25 | | | | | | | | |
| CHE | 0.95 | 12.52 | | | | | | | |
| FRA | 0.98 | 0.97 | 0.94 | | | | | | |
| ITA | 0.96 | 0.96 | 0.95 | 13.77 | | | | | |
| NLD | 0.95 | 0.95 | 0.97 | 0.91 | 4.32 | | | | |
| USA | 0.98 | 0.95 | 0.97 | 0.95 | 0.94 | 1.63 | | | |
| DEA | 0.96 | 0.97 | 0.98 | 0.95 | 0.96 | 0.96 | 11.20 | | |
| SVN | 0.93 | 0.91 | 0.91 | 0.93 | 0.90 | 0.90 | 0.91 | 17.01 | |
| GBR | 0.96 | 0.92 | 0.96 | 0.93 | 0.93 | 0.96 | 0.90 | 0.90 | 0.87 |

BSW cwi

| | CAN | CHE | FRA | ITA | NLD | USA | DEA | SVN | GBR |
|-----|------|-------|------|-------|------|------|-------|-------|------|
| CAN | 7.80 | | | | | | | | |
| CHE | 0.91 | 10.20 | | | | | | | |
| FRA | 0.87 | 0.91 | 0.83 | | | | | | |
| ITA | 0.80 | 0.85 | 0.85 | 21.17 | | | | | |
| NLD | 0.92 | 0.85 | 0.88 | 0.71 | 4.82 | | | | |
| USA | 0.89 | 0.90 | 0.91 | 0.86 | 0.83 | 0.89 | | | |
| DEA | 0.86 | 0.82 | 0.87 | 0.73 | 0.77 | 0.80 | 11.35 | | |
| SVN | 0.89 | 0.91 | 0.91 | 0.81 | 0.86 | 0.85 | 0.90 | 24.75 | |
| GBR | 0.91 | 0.84 | 0.81 | 0.70 | 0.90 | 0.80 | 0.83 | 0.81 | 1.46 |

BSW bde

| | CAN | CHE | FRA | ITA | NLD | DEA | SVN | GBR | USA |
|-----|------|-------|------|-------|------|-------|-------|------|------|
| CAN | 7.13 | | | | | | | | |
| CHE | 0.84 | 10.34 | | | | | | | |
| FRA | 0.73 | 0.87 | 0.91 | | | | | | |
| ITA | 0.79 | 0.92 | 0.90 | 17.76 | | | | | |
| NLD | 0.82 | 0.85 | 0.84 | 0.85 | 4.67 | | | | |
| DEA | 0.79 | 0.89 | 0.91 | 0.87 | 0.80 | 11.04 | | | |
| SVN | 0.78 | 0.73 | 0.79 | 0.80 | 0.78 | 0.71 | 25.12 | | |
| GBR | 0.87 | 0.88 | 0.78 | 0.83 | 0.89 | 0.86 | 0.83 | 1.73 | |
| USA | 0.73 | 0.75 | 0.84 | 0.78 | 0.86 | 0.80 | 0.77 | 0.86 | 0.83 |

BSW ang

| | CAN | CHE | FRA | NLD | USA | GBR |
|-----|------|-------|------|------|------|------|
| CAN | 8.75 | | | | | |
| CHE | 0.69 | 11.04 | | | | |
| FRA | 0.87 | 0.67 | 0.84 | | | |
| NLD | 0.79 | 0.68 | 0.66 | 3.80 | | |
| USA | 0.85 | 0.67 | 0.74 | 0.77 | 1.09 | |
| GBR | 0.89 | 0.77 | 0.79 | 0.82 | 0.90 | 0.77 |

BSW ran

| | CAN | CHE | FRA | ITA | NLD | USA | DEA | SVN | GBR |
|-----|------|-------|------|-------|------|------|-------|-------|------|
| CAN | 6.91 | | | | | | | | |
| CHE | 0.94 | 10.70 | | | | | | | |
| FRA | 0.97 | 0.96 | 0.91 | | | | | | |
| ITA | 0.94 | 0.93 | 0.93 | 23.20 | | | | | |
| NLD | 0.95 | 0.92 | 0.96 | 0.92 | 4.68 | | | | |
| USA | 0.97 | 0.94 | 0.96 | 0.91 | 0.94 | 1.35 | | | |
| DEA | 0.97 | 0.94 | 0.96 | 0.94 | 0.92 | 0.97 | 11.78 | | |
| SVN | 0.91 | 0.88 | 0.89 | 0.89 | 0.90 | 0.90 | 0.88 | 22.58 | |
| GBR | 0.96 | 0.93 | 0.97 | 0.93 | 0.96 | 0.96 | 0.91 | 0.92 | 1.89 |

BSW rwi

| | CAN | CHE | FRA | NLD | USA | DEA | GBR | SVN | ITA |
|-----|------|-------|-----|-----|-----|-----|-----|-----|-----|
| CAN | 7.10 | | | | | | | | |
| CHE | 0.89 | 10.32 | | | | | | | |

| | | | | | | | | | |
|-----|------|------|------|------|------|-------|------|-------|-------|
| FRA | 0.95 | 0.87 | 0.97 | | | | | | |
| NLD | 0.94 | 0.85 | 0.93 | 4.07 | | | | | |
| USA | 0.91 | 0.86 | 0.86 | 0.80 | 0.98 | | | | |
| DEA | 0.90 | 0.88 | 0.92 | 0.78 | 0.89 | 13.23 | | | |
| GBR | 0.92 | 0.84 | 0.90 | 0.88 | 0.92 | 0.81 | 1.20 | | |
| SVN | 0.89 | 0.79 | 0.93 | 0.86 | 0.81 | 0.89 | 0.86 | 25.70 | |
| ITA | 0.87 | 0.79 | 0.90 | 0.79 | 0.86 | 0.87 | 0.87 | 0.90 | 19.19 |

| BSW | rls | CAN | CHE | FRA | ITA | NLD | USA | DEA | SVN | GBR |
|-----|-----|------|-------|------|-------|------|------|-------|-------|------|
| CAN | | 7.72 | | | | | | | | |
| CHE | | 0.92 | 13.10 | | | | | | | |
| FRA | | 0.91 | 0.93 | 0.97 | | | | | | |
| ITA | | 0.91 | 0.86 | 0.92 | 23.69 | | | | | |
| NLD | | 0.88 | 0.85 | 0.88 | 0.83 | 5.07 | | | | |
| USA | | 0.95 | 0.93 | 0.90 | 0.87 | 0.85 | 0.79 | | | |
| DEA | | 0.91 | 0.91 | 0.93 | 0.89 | 0.80 | 0.89 | 12.14 | | |
| SVN | | 0.85 | 0.77 | 0.86 | 0.82 | 0.80 | 0.82 | 0.86 | 22.42 | |
| GBR | | 0.85 | 0.86 | 0.90 | 0.83 | 0.86 | 0.83 | 0.87 | 0.80 | 1.50 |

| BSW | fan | CAN | CHE | FRA | ITA | NLD | USA | DEA | SVN | GBR |
|-----|-----|------|-------|------|-------|------|------|-------|-------|------|
| CAN | | 8.59 | | | | | | | | |
| CHE | | 0.68 | 14.22 | | | | | | | |
| FRA | | 0.74 | 0.73 | 1.04 | | | | | | |
| ITA | | 0.69 | 0.84 | 0.80 | 21.31 | | | | | |
| NLD | | 0.72 | 0.66 | 0.80 | 0.68 | 5.09 | | | | |
| USA | | 0.81 | 0.72 | 0.80 | 0.85 | 0.80 | 0.85 | | | |
| DEA | | 0.61 | 0.89 | 0.67 | 0.89 | 0.62 | 0.65 | 11.51 | | |
| SVN | | 0.70 | 0.75 | 0.71 | 0.78 | 0.67 | 0.70 | 0.81 | 24.85 | |
| GBR | | 0.80 | 0.72 | 0.84 | 0.72 | 0.87 | 0.82 | 0.67 | 0.76 | 1.24 |

| BSW | hde | CAN | CHE | FRA | ITA | NLD | DEA | SVN | USA |
|-----|-----|------|-------|------|-------|------|-------|-------|------|
| CAN | | 8.12 | | | | | | | |
| CHE | | 0.86 | 12.64 | | | | | | |
| FRA | | 0.79 | 0.82 | 1.07 | | | | | |
| ITA | | 0.79 | 0.83 | 0.82 | 20.92 | | | | |
| NLD | | 0.74 | 0.73 | 0.80 | 0.72 | 5.09 | | | |
| DEA | | 0.75 | 0.87 | 0.85 | 0.93 | 0.77 | 11.92 | | |
| SVN | | 0.80 | 0.84 | 0.85 | 0.88 | 0.74 | 0.90 | 31.80 | |
| USA | | 0.84 | 0.73 | 0.80 | 0.89 | 0.80 | 0.80 | 0.82 | 0.85 |

| BSW | fua | CAN | CHE | FRA | ITA | NLD | USA | DEA | SVN | GBR |
|-----|-----|------|-------|------|-------|------|------|-------|-------|------|
| CAN | | 6.73 | | | | | | | | |
| CHE | | 0.86 | 12.38 | | | | | | | |
| FRA | | 0.89 | 0.88 | 0.83 | | | | | | |
| ITA | | 0.88 | 0.85 | 0.85 | 19.68 | | | | | |
| NLD | | 0.89 | 0.85 | 0.86 | 0.85 | 4.77 | | | | |
| USA | | 0.94 | 0.86 | 0.86 | 0.93 | 0.87 | 1.27 | | | |
| DEA | | 0.82 | 0.85 | 0.90 | 0.82 | 0.77 | 0.83 | 11.07 | | |
| SVN | | 0.72 | 0.73 | 0.78 | 0.81 | 0.77 | 0.72 | 0.89 | 21.87 | |
| GBR | | 0.91 | 0.83 | 0.87 | 0.87 | 0.90 | 0.91 | 0.71 | 0.60 | 1.45 |

| BSW | ruh | CAN | CHE | FRA | ITA | NLD | USA | DEA | SVN | GBR |
|-----|-----|------|-------|-----|-----|-----|-----|-----|-----|-----|
| CAN | | 7.63 | | | | | | | | |
| CHE | | 0.91 | 12.18 | | | | | | | |

| | | | | | | | | | |
|-----|------|------|------|-------|------|------|-------|-------|------|
| FRA | 0.85 | 0.82 | 0.89 | | | | | | |
| ITA | 0.75 | 0.84 | 0.86 | 12.90 | | | | | |
| NLD | 0.76 | 0.81 | 0.87 | 0.83 | 4.32 | | | | |
| USA | 0.82 | 0.79 | 0.88 | 0.84 | 0.88 | 1.07 | | | |
| DEA | 0.83 | 0.84 | 0.91 | 0.92 | 0.84 | 0.81 | 11.66 | | |
| SVN | 0.80 | 0.80 | 0.81 | 0.86 | 0.88 | 0.83 | 0.87 | 21.02 | |
| GBR | 0.73 | 0.79 | 0.86 | 0.81 | 0.87 | 0.91 | 0.75 | 0.79 | 1.77 |

BSW ruw

| | CAN | CHE | FRA | ITA | NLD | USA | DEA | SVN | |
|-----|------|-------|------|-------|------|------|-------|-------|--|
| CAN | 8.70 | | | | | | | | |
| CHE | 0.92 | 12.08 | | | | | | | |
| FRA | 0.84 | 0.88 | 0.83 | | | | | | |
| ITA | 0.78 | 0.88 | 0.80 | 13.26 | | | | | |
| NLD | 0.69 | 0.66 | 0.80 | 0.68 | 4.32 | | | | |
| USA | 0.86 | 0.90 | 0.87 | 0.89 | 0.79 | 1.02 | | | |
| DEA | 0.85 | 0.91 | 0.78 | 0.95 | 0.55 | 0.90 | 12.06 | | |
| SVN | 0.84 | 0.85 | 0.80 | 0.81 | 0.67 | 0.83 | 0.82 | 21.21 | |

BSW usu

| | CAN | CHE | FRA | ITA | NLD | USA | DEA | SVN | GBR |
|-----|------|-------|------|-------|------|------|-------|-------|------|
| CAN | 8.05 | | | | | | | | |
| CHE | 0.91 | 12.08 | | | | | | | |
| FRA | 0.83 | 0.91 | 0.88 | | | | | | |
| ITA | 0.88 | 0.91 | 0.88 | 19.06 | | | | | |
| NLD | 0.81 | 0.83 | 0.89 | 0.81 | 4.26 | | | | |
| USA | 0.83 | 0.89 | 0.86 | 0.86 | 0.90 | 0.99 | | | |
| DEA | 0.92 | 0.93 | 0.90 | 0.93 | 0.78 | 0.84 | 11.37 | | |
| SVN | 0.81 | 0.81 | 0.69 | 0.75 | 0.66 | 0.71 | 0.81 | 20.54 | |
| GBR | 0.79 | 0.79 | 0.85 | 0.84 | 0.91 | 0.92 | 0.72 | 0.62 | 2.73 |

BSW ude

| | CAN | CHE | FRA | ITA | NLD | USA | DEA | SVN | GBR |
|-----|------|-------|------|-------|------|------|-------|-------|------|
| CAN | 6.73 | | | | | | | | |
| CHE | 0.96 | 12.21 | | | | | | | |
| FRA | 0.96 | 0.96 | 0.97 | | | | | | |
| ITA | 0.95 | 0.96 | 0.97 | 19.83 | | | | | |
| NLD | 0.95 | 0.94 | 0.95 | 0.93 | 4.31 | | | | |
| USA | 0.96 | 0.95 | 0.96 | 0.95 | 0.94 | 1.23 | | | |
| DEA | 0.93 | 0.97 | 0.94 | 0.97 | 0.94 | 0.92 | 12.15 | | |
| SVN | 0.92 | 0.95 | 0.92 | 0.96 | 0.95 | 0.92 | 0.96 | 22.92 | |
| GBR | 0.96 | 0.94 | 0.96 | 0.94 | 0.96 | 0.96 | 0.90 | 0.94 | 2.12 |

BSW ftp

| | CAN | CHE | FRA | NLD | USA | DEA | SVN | GBR | ITA |
|-----|------|-------|------|------|------|-------|-------|------|-------|
| CAN | 7.39 | | | | | | | | |
| CHE | 0.97 | 14.00 | | | | | | | |
| FRA | 0.97 | 0.96 | 0.90 | | | | | | |
| NLD | 0.97 | 0.95 | 0.96 | 5.09 | | | | | |
| USA | 0.92 | 0.91 | 0.88 | 0.91 | 1.31 | | | | |
| DEA | 0.95 | 0.98 | 0.95 | 0.96 | 0.90 | 11.01 | | | |
| SVN | 0.93 | 0.93 | 0.93 | 0.96 | 0.91 | 0.95 | 18.36 | | |
| GBR | 0.95 | 0.93 | 0.89 | 0.93 | 0.94 | 0.93 | 0.93 | 1.39 | |
| ITA | 0.87 | 0.86 | 0.86 | 0.86 | 0.87 | 0.86 | 0.87 | 0.87 | 21.05 |

BSW ft1

| | CAN | CHE | FRA | ITA | NLD | USA | DEA | SVN | GBR |
|-----|------|-------|-----|-----|-----|-----|-----|-----|-----|
| CAN | 6.60 | | | | | | | | |
| CHE | 0.90 | 14.70 | | | | | | | |

| | | | | | | | | | |
|-----|------|------|------|-------|------|------|-------|-------|------|
| FRA | 0.95 | 0.95 | 0.97 | | | | | | |
| ITA | 0.93 | 0.94 | 0.95 | 18.13 | | | | | |
| NLD | 0.92 | 0.96 | 0.92 | 0.92 | 5.00 | | | | |
| USA | 0.93 | 0.96 | 0.95 | 0.93 | 0.95 | 1.75 | | | |
| DEA | 0.90 | 0.98 | 0.97 | 0.96 | 0.94 | 0.96 | 11.05 | | |
| SVN | 0.90 | 0.91 | 0.90 | 0.90 | 0.92 | 0.90 | 0.91 | 18.64 | |
| GBR | 0.95 | 0.94 | 0.93 | 0.94 | 0.97 | 0.96 | 0.92 | 0.92 | 1.58 |

| BSW | rtp | CAN | CHE | FRA | ITA | NLD | DEA | SVN | USA |
|-----|------|-------|------|-------|------|-------|-------|------|------|
| CAN | 6.77 | | | | | | | | |
| CHE | 0.98 | 14.55 | | | | | | | |
| FRA | 0.97 | 0.98 | 0.89 | | | | | | |
| ITA | 0.92 | 0.95 | 0.94 | 20.01 | | | | | |
| NLD | 0.96 | 0.95 | 0.96 | 0.92 | 4.63 | | | | |
| DEA | 0.97 | 0.99 | 0.98 | 0.96 | 0.94 | 11.90 | | | |
| SVN | 0.94 | 0.93 | 0.94 | 0.93 | 0.95 | 0.93 | 18.33 | | |
| USA | 0.91 | 0.87 | 0.90 | 0.89 | 0.94 | 0.87 | 0.89 | 0.89 | 1.31 |

| BSW | ocs | CAN | CHE | FRA | ITA | NLD | USA | DEA | SVN | GBR |
|-----|------|------|------|------|------|------|-------|-------|------|------|
| CAN | 7.84 | | | | | | | | | |
| CHE | 0.80 | 9.40 | | | | | | | | |
| FRA | 0.74 | 0.83 | 0.97 | | | | | | | |
| ITA | 0.77 | 0.81 | 0.87 | 8.96 | | | | | | |
| NLD | 0.72 | 0.69 | 0.77 | 0.69 | 3.89 | | | | | |
| USA | 0.79 | 0.73 | 0.81 | 0.81 | 0.82 | 0.52 | | | | |
| DEA | 0.81 | 0.90 | 0.87 | 0.88 | 0.59 | 0.71 | 10.38 | | | |
| SVN | 0.59 | 0.64 | 0.65 | 0.63 | 0.61 | 0.62 | 0.73 | 19.79 | | |
| GBR | 0.74 | 0.82 | 0.84 | 0.78 | 0.86 | 0.85 | 0.68 | 0.68 | 0.68 | 1.71 |

| BSW | ous | CAN | CHE | FRA | ITA | NLD | USA | DEA | SVN | GBR |
|-----|------|-------|------|-------|------|------|-------|-------|------|------|
| CAN | 8.10 | | | | | | | | | |
| CHE | 0.85 | 13.95 | | | | | | | | |
| FRA | 0.89 | 0.87 | 0.95 | | | | | | | |
| ITA | 0.81 | 0.88 | 0.85 | 10.15 | | | | | | |
| NLD | 0.88 | 0.84 | 0.89 | 0.78 | 5.06 | | | | | |
| USA | 0.89 | 0.81 | 0.83 | 0.79 | 0.86 | 0.80 | | | | |
| DEA | 0.85 | 0.94 | 0.84 | 0.91 | 0.78 | 0.79 | 12.34 | | | |
| SVN | 0.75 | 0.83 | 0.71 | 0.80 | 0.77 | 0.72 | 0.90 | 19.68 | | |
| GBR | 0.76 | 0.82 | 0.74 | 0.80 | 0.77 | 0.86 | 0.74 | 0.72 | 0.72 | 1.64 |

| BSW | ofl | CAN | CHE | FRA | ITA | NLD | USA | DEA | SVN | GBR |
|-----|------|-------|------|-------|------|------|-------|-------|------|------|
| CAN | 8.29 | | | | | | | | | |
| CHE | 0.82 | 11.80 | | | | | | | | |
| FRA | 0.63 | 0.63 | 1.67 | | | | | | | |
| ITA | 0.60 | 0.71 | 0.84 | 17.78 | | | | | | |
| NLD | 0.65 | 0.65 | 0.74 | 0.63 | 4.56 | | | | | |
| USA | 0.59 | 0.62 | 0.66 | 0.67 | 0.66 | 0.83 | | | | |
| DEA | 0.68 | 0.84 | 0.64 | 0.81 | 0.58 | 0.57 | 11.03 | | | |
| SVN | 0.73 | 0.85 | 0.62 | 0.71 | 0.63 | 0.65 | 0.88 | 26.67 | | |
| GBR | 0.66 | 0.75 | 0.81 | 0.66 | 0.73 | 0.72 | 0.65 | 0.62 | 0.62 | 1.45 |

| BSW | ofr | CAN | CHE | DEA | ITA | SVN | USA | FRA |
|-----|------|-------|-----|-----|-----|-----|-----|-----|
| CAN | 7.32 | | | | | | | |
| CHE | 0.80 | 12.00 | | | | | | |

| | | | | | | | |
|-----|------|------|-------|-------|-------|------|------|
| DEA | 0.81 | 0.90 | 11.36 | | | | |
| ITA | 0.77 | 0.91 | 0.93 | 16.82 | | | |
| SVN | 0.73 | 0.78 | 0.79 | 0.81 | 23.07 | | |
| USA | 0.75 | 0.83 | 0.90 | 0.86 | 0.74 | 1.63 | |
| FRA | 0.73 | 0.90 | 0.91 | 0.90 | 0.78 | 0.87 | 0.86 |

BSW tpl

| | CAN | CHE | DEA | ITA | SVN | FRA |
|-----|------|-------|-------|-------|-------|------|
| CAN | 7.51 | | | | | |
| CHE | 0.88 | 12.26 | | | | |
| DEA | 0.89 | 0.90 | 11.80 | | | |
| ITA | 0.91 | 0.91 | 0.91 | 23.63 | | |
| SVN | 0.88 | 0.86 | 0.84 | 0.86 | 24.68 | |
| FRA | 0.96 | 0.92 | 0.92 | 0.90 | 0.86 | 1.26 |

BSW oru

| | CAN | CHE | DEA | ITA | SVN | USA | FRA |
|-----|------|-------|-------|-------|-------|------|------|
| CAN | 7.43 | | | | | | |
| CHE | 0.76 | 16.63 | | | | | |
| DEA | 0.72 | 0.87 | 12.44 | | | | |
| ITA | 0.92 | 0.76 | 0.77 | 17.45 | | | |
| SVN | 0.83 | 0.58 | 0.70 | 0.78 | 26.81 | | |
| USA | 0.88 | 0.58 | 0.49 | 0.82 | 0.67 | 0.98 | |
| FRA | 0.83 | 0.87 | 0.80 | 0.78 | 0.67 | 0.83 | 1.25 |

BSW rle

| | CHE | DEA | ITA | SVN | USA | FRA |
|-----|-------|-------|-------|-------|------|------|
| CHE | 11.79 | | | | | |
| DEA | 0.94 | 12.20 | | | | |
| ITA | 0.81 | 0.85 | 19.16 | | | |
| SVN | 0.77 | 0.76 | 0.82 | 24.60 | | |
| USA | 0.55 | 0.51 | 0.76 | 0.68 | 0.98 | |
| FRA | 0.93 | 0.94 | 0.86 | 0.77 | 0.73 | 1.04 |

BSW thp

| | CAN | CHE | DEA | ITA | SVN | USA | FRA |
|-----|------|-------|-------|-------|-------|------|------|
| CAN | 7.25 | | | | | | |
| CHE | 0.83 | 11.40 | | | | | |
| DEA | 0.78 | 0.83 | 11.96 | | | | |
| ITA | 0.88 | 0.91 | 0.85 | 28.82 | | | |
| SVN | 0.77 | 0.84 | 0.85 | 0.87 | 35.23 | | |
| USA | 0.88 | 0.87 | 0.71 | 0.82 | 0.73 | 1.35 | |
| FRA | 0.88 | 0.81 | 0.85 | 0.84 | 0.76 | 0.78 | 0.97 |

BSW hoq

| | CAN | CHE | DEA | ITA | SVN | FRA |
|-----|------|-------|-------|-------|-------|------|
| CAN | 7.08 | | | | | |
| CHE | 0.91 | 12.20 | | | | |
| DEA | 0.92 | 0.89 | 12.50 | | | |
| ITA | 0.91 | 0.84 | 0.85 | 19.46 | | |
| SVN | 0.94 | 0.88 | 0.91 | 0.91 | 21.91 | |
| FRA | 0.91 | 0.85 | 0.87 | 0.87 | 0.89 | 1.00 |

BSW ful

| | CHE | DEA | ITA | SVN | FRA |
|-----|-------|-------|-----|-----|-----|
| CHE | 11.87 | | | | |
| DEA | 0.91 | 12.12 | | | |

| | | | | | |
|-----|------|------|-------|-------|------|
| ITA | 0.92 | 0.95 | 12.79 | | |
| SVN | 0.82 | 0.90 | 0.84 | 21.35 | |
| FRA | 0.75 | 0.85 | 0.78 | 0.76 | 0.87 |

BSW udb

| | CHE | DEA | ITA | SVN | FRA |
|-----|-------|-------|-------|-------|------|
| CHE | 12.42 | | | | |
| DEA | 0.96 | 13.29 | | | |
| ITA | 0.93 | 0.95 | 26.28 | | |
| SVN | 0.84 | 0.86 | 0.86 | 24.27 | |
| FRA | 0.91 | 0.88 | 0.86 | 0.81 | 0.90 |

BSW tdi

| | CHE | DEA | ITA | SVN | FRA |
|-----|-------|-------|-------|-------|------|
| CHE | 15.88 | | | | |
| DEA | 0.96 | 11.27 | | | |
| ITA | 0.94 | 0.95 | 20.48 | | |
| SVN | 0.90 | 0.93 | 0.91 | 18.93 | |
| FRA | 0.97 | 0.98 | 0.91 | 0.91 | 0.86 |

BSW tth

| | CHE | DEA | ITA | SVN | FRA |
|-----|-------|-------|-------|-------|------|
| CHE | 14.50 | | | | |
| DEA | 0.98 | 12.87 | | | |
| ITA | 0.94 | 0.95 | 23.20 | | |
| SVN | 0.88 | 0.87 | 0.88 | 21.01 | |
| FRA | 0.93 | 0.95 | 0.95 | 0.87 | 0.88 |

GUE sta

| | CAN | GBR | USA | AUS |
|-----|------|------|------|------|
| CAN | 6.57 | | | |
| GBR | 0.97 | 1.24 | | |
| USA | 0.98 | 0.96 | 2.76 | |
| AUS | 0.90 | 0.92 | 0.91 | 0.87 |

GUE cwi

| | CAN | GBR | USA | AUS |
|-----|------|------|------|------|
| CAN | 6.86 | | | |
| GBR | 0.92 | 1.84 | | |
| USA | 0.85 | 0.85 | 1.51 | |
| AUS | 0.72 | 0.80 | 0.65 | 0.33 |

GUE bde

| | CAN | GBR | USA | AUS |
|-----|------|------|------|------|
| CAN | 6.36 | | | |
| GBR | 0.87 | 1.56 | | |
| USA | 0.75 | 0.88 | 1.75 | |
| AUS | 0.80 | 0.77 | 0.69 | 0.44 |

GUE ang

| | CAN | GBR | USA | AUS |
|-----|------|------|------|------|
| CAN | 7.83 | | | |
| GBR | 0.89 | 1.67 | | |
| USA | 0.87 | 0.91 | 1.86 | |
| AUS | 0.66 | 0.76 | 0.67 | 0.38 |

| GUE | | ran | | | |
|-----|--|------|------|------|------|
| | | CAN | GBR | USA | AUS |
| CAN | | 6.50 | | | |
| GBR | | 0.97 | 1.66 | | |
| USA | | 0.97 | 0.97 | 1.99 | |
| AUS | | 0.90 | 0.93 | 0.89 | 0.73 |

| GUE | | rwi | | | |
|-----|--|------|------|------|------|
| | | CAN | GBR | USA | AUS |
| CAN | | 7.19 | | | |
| GBR | | 0.93 | 1.60 | | |
| USA | | 0.92 | 0.92 | 1.70 | |
| AUS | | 0.84 | 0.83 | 0.77 | 0.65 |

| GUE | | rls | | | |
|-----|--|------|------|------|------|
| | | CAN | GBR | USA | AUS |
| CAN | | 8.30 | | | |
| GBR | | 0.82 | 1.88 | | |
| USA | | 0.93 | 0.81 | 0.89 | |
| AUS | | 0.70 | 0.78 | 0.70 | 0.31 |

| GUE | | rlr | | | |
|-----|--|------|------|------|--|
| | | CAN | USA | AUS | |
| CAN | | 7.12 | | | |
| USA | | 0.84 | 0.92 | | |
| AUS | | 0.59 | 0.54 | 0.19 | |

| GUE | | fan | | | |
|-----|--|------|------|------|------|
| | | CAN | GBR | USA | AUS |
| CAN | | 8.85 | | | |
| GBR | | 0.79 | 1.76 | | |
| USA | | 0.84 | 0.75 | 0.86 | |
| AUS | | 0.62 | 0.76 | 0.64 | 0.26 |

| GUE | | fua | | | |
|-----|--|------|------|------|------|
| | | CAN | GBR | USA | AUS |
| CAN | | 7.30 | | | |
| GBR | | 0.94 | 1.41 | | |
| USA | | 0.92 | 0.92 | 1.81 | |
| AUS | | 0.78 | 0.78 | 0.76 | 0.37 |

| GUE | | ruh | | | |
|-----|--|------|------|------|------|
| | | CAN | GBR | USA | AUS |
| CAN | | 6.91 | | | |
| GBR | | 0.72 | 1.96 | | |
| USA | | 0.80 | 0.91 | 1.44 | |
| AUS | | 0.75 | 0.76 | 0.75 | 0.37 |

| GUE | | usu | | | |
|-----|--|------|------|-----|-----|
| | | CAN | GBR | USA | AUS |
| CAN | | 6.90 | | | |
| GBR | | 0.79 | 1.59 | | |

| | | | | |
|-----|------|------|------|------|
| USA | 0.79 | 0.87 | 1.34 | |
| AUS | 0.74 | 0.78 | 0.74 | 0.30 |

GUE ude

| | CAN | GBR | USA | AUS |
|-----|------|------|------|------|
| CAN | 6.30 | | | |
| GBR | 0.97 | 1.41 | | |
| USA | 0.95 | 0.95 | 1.83 | |
| AUS | 0.89 | 0.89 | 0.88 | 0.51 |

GUE ftp

| | CAN | GBR | USA | AUS |
|-----|------|------|------|------|
| CAN | 5.81 | | | |
| GBR | 0.95 | 1.30 | | |
| USA | 0.92 | 0.92 | 1.60 | |
| AUS | 0.92 | 0.91 | 0.86 | 0.40 |

GUE ftl

| | CAN | GBR | USA | AUS |
|-----|------|------|------|------|
| CAN | 4.69 | | | |
| GBR | 0.94 | 1.95 | | |
| USA | 0.94 | 0.97 | 2.00 | |
| AUS | 0.93 | 0.94 | 0.93 | 0.91 |

GUE rtp

| | CAN | AUS | USA |
|-----|------|------|------|
| CAN | 5.34 | | |
| AUS | 0.88 | 0.35 | |
| USA | 0.93 | 0.88 | 1.60 |

GUE ocs

| | CAN | GBR | USA | AUS |
|-----|------|------|------|------|
| CAN | 7.95 | | | |
| GBR | 0.76 | 2.18 | | |
| USA | 0.73 | 0.86 | 0.86 | |
| AUS | 0.59 | 0.64 | 0.57 | 0.79 |

GUE ous

| | CAN | GBR | USA | AUS |
|-----|------|------|------|------|
| CAN | 8.13 | | | |
| GBR | 0.77 | 1.54 | | |
| USA | 0.87 | 0.83 | 0.81 | |
| AUS | 0.69 | 0.82 | 0.73 | 1.06 |

GUE ofl

| | CAN | GBR | USA | AUS |
|-----|------|------|------|------|
| CAN | 7.49 | | | |
| GBR | 0.66 | 1.63 | | |
| USA | 0.64 | 0.68 | 0.83 | |
| AUS | 0.41 | 0.55 | 0.52 | 0.59 |

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AUS BEL CAN CHE DEU DFS ESP FRA GBR ITA NLD USA HUN POL NZL ZAF JPN CZE EST IRL KOR SVN PRT LVA

HOL cwi

| | AUS | BEL | CAN | CHE | DEU | DFS | ESP | FRA | GBR | ITA | NLD | USA | HUN | POL | NZL | ZAF | JPN | CZE | EST | IRL | KOR | SVN | PRT | LVA |
|-----|------|------|------|-------|-------|-------|------|------|------|------|------|------|------|-------|------|------|------|-------|-------|------|------|-------|------|------|
| AUS | 0.41 | | | | | | | | | | | | | | | | | | | | | | | |
| BEL | 0.68 | 1.68 | | | | | | | | | | | | | | | | | | | | | | |
| CAN | 0.73 | 0.84 | 6.18 | | | | | | | | | | | | | | | | | | | | | |
| CHE | 0.66 | 0.84 | 0.90 | 10.93 | | | | | | | | | | | | | | | | | | | | |
| DEU | 0.69 | 0.88 | 0.90 | 0.85 | 12.35 | | | | | | | | | | | | | | | | | | | |
| DFS | 0.72 | 0.87 | 0.92 | 0.84 | 0.94 | 12.65 | | | | | | | | | | | | | | | | | | |
| ESP | 0.68 | 0.88 | 0.91 | 0.86 | 0.82 | 0.86 | 1.06 | | | | | | | | | | | | | | | | | |
| FRA | 0.63 | 0.90 | 0.84 | 0.92 | 0.86 | 0.82 | 0.85 | 1.05 | | | | | | | | | | | | | | | | |
| GBR | 0.82 | 0.85 | 0.92 | 0.85 | 0.90 | 0.89 | 0.85 | 0.81 | 1.46 | | | | | | | | | | | | | | | |
| ITA | 0.63 | 0.78 | 0.73 | 0.79 | 0.68 | 0.65 | 0.80 | 0.87 | 0.68 | 1.27 | | | | | | | | | | | | | | |
| NLD | 0.72 | 0.87 | 0.92 | 0.89 | 0.94 | 0.91 | 0.85 | 0.88 | 0.91 | 0.71 | 5.12 | | | | | | | | | | | | | |
| USA | 0.63 | 0.83 | 0.84 | 0.87 | 0.81 | 0.79 | 0.85 | 0.92 | 0.79 | 0.91 | 0.81 | 1.23 | | | | | | | | | | | | |
| HUN | 0.63 | 0.83 | 0.86 | 0.84 | 0.84 | 0.84 | 0.83 | 0.88 | 0.77 | 0.81 | 0.82 | 0.88 | 1.14 | | | | | | | | | | | |
| POL | 0.64 | 0.89 | 0.87 | 0.84 | 0.87 | 0.86 | 0.87 | 0.86 | 0.83 | 0.79 | 0.86 | 0.83 | 0.84 | 12.44 | | | | | | | | | | |
| NZL | 0.77 | 0.64 | 0.70 | 0.67 | 0.67 | 0.69 | 0.70 | 0.64 | 0.78 | 0.63 | 0.68 | 0.68 | 0.63 | 0.64 | 0.38 | | | | | | | | | |
| ZAF | 0.67 | 0.89 | 0.83 | 0.85 | 0.85 | 0.85 | 0.85 | 0.86 | 0.89 | 0.71 | 0.86 | 0.86 | 0.83 | 0.84 | 0.70 | 0.83 | | | | | | | | |
| JPN | 0.63 | 0.83 | 0.75 | 0.82 | 0.72 | 0.72 | 0.81 | 0.91 | 0.67 | 0.92 | 0.73 | 0.92 | 0.84 | 0.77 | 0.63 | 0.77 | 1.54 | | | | | | | |
| CZE | 0.70 | 0.91 | 0.91 | 0.85 | 0.92 | 0.91 | 0.90 | 0.85 | 0.88 | 0.78 | 0.89 | 0.85 | 0.87 | 0.89 | 0.69 | 0.87 | 0.79 | 14.12 | | | | | | |
| EST | 0.73 | 0.77 | 0.85 | 0.76 | 0.79 | 0.83 | 0.82 | 0.72 | 0.80 | 0.63 | 0.84 | 0.64 | 0.65 | 0.75 | 0.66 | 0.71 | 0.64 | 0.79 | 22.83 | | | | | |
| IRL | 0.79 | 0.77 | 0.83 | 0.78 | 0.85 | 0.81 | 0.73 | 0.75 | 0.93 | 0.63 | 0.83 | 0.72 | 0.73 | 0.74 | 0.81 | 0.82 | 0.63 | 0.81 | 0.74 | 1.31 | | | | |
| KOR | 0.63 | 0.73 | 0.63 | 0.64 | 0.72 | 0.71 | 0.70 | 0.71 | 0.65 | 0.66 | 0.64 | 0.72 | 0.73 | 0.64 | 0.66 | 0.68 | 0.71 | 0.76 | 0.64 | 0.64 | 2.45 | | | |
| SVN | 0.67 | 0.84 | 0.86 | 0.79 | 0.89 | 0.92 | 0.84 | 0.82 | 0.80 | 0.67 | 0.88 | 0.78 | 0.86 | 0.80 | 0.64 | 0.79 | 0.71 | 0.85 | 0.74 | 0.72 | 0.68 | 23.42 | | |
| PRT | 0.64 | 0.82 | 0.81 | 0.78 | 0.86 | 0.83 | 0.81 | 0.82 | 0.81 | 0.75 | 0.84 | 0.82 | 0.85 | 0.84 | 0.63 | 0.78 | 0.77 | 0.85 | 0.64 | 0.74 | 0.70 | 0.78 | 2.04 | |
| LVA | 0.63 | 0.69 | 0.65 | 0.75 | 0.67 | 0.69 | 0.63 | 0.69 | 0.64 | 0.63 | 0.68 | 0.64 | 0.63 | 0.65 | 0.64 | 0.63 | 0.64 | 0.65 | 0.68 | 0.64 | 0.64 | 0.69 | 0.66 | 0.37 |

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| | AUS | BEL | CAN | CHE | DEU | DFS | ESP | FRA | GBR | ITA | NLD | USA | HUN | POL | ZAF | JPN | CZE | EST | IRL | KOR | PRT | SVN | LVA |
|-----|------|------|------|-------|------|-------|------|------|------|------|------|------|------|-------|------|------|-------|-------|------|------|------|-------|-----|
| AUS | 0.43 | | | | | | | | | | | | | | | | | | | | | | |
| BEL | 0.60 | 1.11 | | | | | | | | | | | | | | | | | | | | | |
| CAN | 0.66 | 0.75 | 6.57 | | | | | | | | | | | | | | | | | | | | |
| CHE | 0.60 | 0.76 | 0.86 | 11.25 | | | | | | | | | | | | | | | | | | | |
| DEU | 0.61 | 0.61 | 0.60 | 0.61 | 9.24 | | | | | | | | | | | | | | | | | | |
| DFS | 0.68 | 0.84 | 0.88 | 0.81 | 0.61 | 10.37 | | | | | | | | | | | | | | | | | |
| ESP | 0.63 | 0.76 | 0.84 | 0.78 | 0.60 | 0.83 | 0.65 | | | | | | | | | | | | | | | | |
| FRA | 0.61 | 0.82 | 0.86 | 0.85 | 0.60 | 0.84 | 0.81 | 0.88 | | | | | | | | | | | | | | | |
| GBR | 0.77 | 0.75 | 0.91 | 0.79 | 0.61 | 0.87 | 0.80 | 0.79 | 1.52 | | | | | | | | | | | | | | |
| ITA | 0.66 | 0.73 | 0.88 | 0.80 | 0.60 | 0.83 | 0.88 | 0.80 | 0.83 | 1.28 | | | | | | | | | | | | | |
| NLD | 0.72 | 0.62 | 0.82 | 0.75 | 0.60 | 0.72 | 0.78 | 0.67 | 0.82 | 0.80 | 4.55 | | | | | | | | | | | | |
| USA | 0.67 | 0.75 | 0.92 | 0.80 | 0.60 | 0.90 | 0.81 | 0.80 | 0.90 | 0.83 | 0.74 | 1.35 | | | | | | | | | | | |
| HUN | 0.60 | 0.70 | 0.75 | 0.71 | 0.62 | 0.78 | 0.69 | 0.77 | 0.72 | 0.72 | 0.60 | 0.79 | 1.02 | | | | | | | | | | |
| POL | 0.60 | 0.73 | 0.70 | 0.70 | 0.60 | 0.77 | 0.80 | 0.68 | 0.68 | 0.82 | 0.68 | 0.70 | 0.61 | 10.11 | | | | | | | | | |
| ZAF | 0.63 | 0.80 | 0.71 | 0.68 | 0.64 | 0.78 | 0.69 | 0.72 | 0.85 | 0.73 | 0.61 | 0.76 | 0.78 | 0.64 | 0.72 | | | | | | | | |
| JPN | 0.67 | 0.80 | 0.89 | 0.81 | 0.61 | 0.90 | 0.87 | 0.83 | 0.87 | 0.90 | 0.79 | 0.87 | 0.77 | 0.79 | 0.77 | 1.43 | | | | | | | |
| CZE | 0.67 | 0.77 | 0.81 | 0.75 | 0.61 | 0.86 | 0.74 | 0.74 | 0.77 | 0.76 | 0.64 | 0.77 | 0.82 | 0.66 | 0.68 | 0.81 | 13.90 | | | | | | |
| EST | 0.63 | 0.78 | 0.62 | 0.63 | 0.63 | 0.74 | 0.61 | 0.65 | 0.63 | 0.61 | 0.61 | 0.61 | 0.74 | 0.62 | 0.76 | 0.71 | 0.68 | 24.84 | | | | | |
| IRL | 0.73 | 0.72 | 0.85 | 0.73 | 0.61 | 0.81 | 0.78 | 0.78 | 0.92 | 0.79 | 0.71 | 0.86 | 0.71 | 0.66 | 0.79 | 0.84 | 0.76 | 0.63 | 0.71 | 0.71 | | | |
| KOR | 0.69 | 0.77 | 0.79 | 0.73 | 0.62 | 0.75 | 0.76 | 0.73 | 0.81 | 0.75 | 0.68 | 0.78 | 0.78 | 0.69 | 0.76 | 0.84 | 0.73 | 0.71 | 0.77 | 2.15 | | | |
| PRT | 0.60 | 0.69 | 0.76 | 0.65 | 0.61 | 0.79 | 0.74 | 0.71 | 0.78 | 0.76 | 0.60 | 0.81 | 0.72 | 0.67 | 0.70 | 0.81 | 0.72 | 0.62 | 0.74 | 0.78 | 1.23 | | |
| SVN | 0.62 | 0.62 | 0.64 | 0.63 | 0.61 | 0.62 | 0.68 | 0.61 | 0.62 | 0.68 | 0.62 | 0.61 | 0.62 | 0.81 | 0.61 | 0.63 | 0.61 | 0.66 | 0.62 | 0.73 | 0.61 | 19.12 | |
| LVA | 0.61 | 0.61 | 0.60 | 0.61 | 0.61 | 0.61 | 0.60 | 0.61 | 0.61 | 0.60 | 0.61 | 0.60 | 0.61 | 0.60 | 0.62 | 0.61 | 0.62 | 0.61 | 0.61 | 0.60 | 0.62 | 0.32 | |

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| | AUS | BEL | CAN | CHE | DEU | DFS | ESP | FRA | GBR | ITA | NLD | USA | HUN | POL | NZL | ZAF | JPN | CZE | EST | IRL | KOR | SVN | PRT | LVA |
|-----|------|------|------|-------|-------|-------|------|------|------|------|------|------|------|------|-------|------|------|-------|-------|------|------|-------|------|-----|
| AUS | 0.63 | | | | | | | | | | | | | | | | | | | | | | | |
| BEL | 0.93 | 1.45 | | | | | | | | | | | | | | | | | | | | | | |
| CAN | 0.90 | 0.97 | 6.15 | | | | | | | | | | | | | | | | | | | | | |
| CHE | 0.92 | 0.96 | 0.96 | 11.30 | | | | | | | | | | | | | | | | | | | | |
| DEU | 0.91 | 0.97 | 0.98 | 0.95 | 12.18 | | | | | | | | | | | | | | | | | | | |
| DFS | 0.91 | 0.98 | 0.97 | 0.95 | 0.97 | 11.54 | | | | | | | | | | | | | | | | | | |
| ESP | 0.90 | 0.97 | 0.97 | 0.97 | 0.97 | 0.96 | 1.14 | | | | | | | | | | | | | | | | | |
| FRA | 0.94 | 0.98 | 0.96 | 0.97 | 0.97 | 0.96 | 0.97 | 1.02 | | | | | | | | | | | | | | | | |
| GBR | 0.93 | 0.96 | 0.97 | 0.95 | 0.97 | 0.95 | 0.95 | 0.98 | 1.41 | | | | | | | | | | | | | | | |
| ITA | 0.87 | 0.94 | 0.95 | 0.93 | 0.96 | 0.93 | 0.95 | 0.95 | 0.94 | 1.43 | | | | | | | | | | | | | | |
| NLD | 0.90 | 0.96 | 0.97 | 0.95 | 0.98 | 0.96 | 0.96 | 0.96 | 0.97 | 0.94 | 0.94 | 5.03 | | | | | | | | | | | | |
| USA | 0.89 | 0.95 | 0.97 | 0.94 | 0.97 | 0.96 | 0.96 | 0.96 | 0.97 | 0.93 | 0.93 | 0.96 | 1.43 | | | | | | | | | | | |
| HUN | 0.90 | 0.96 | 0.95 | 0.95 | 0.97 | 0.95 | 0.97 | 0.97 | 0.95 | 0.95 | 0.95 | 0.95 | 0.94 | 1.05 | | | | | | | | | | |
| POL | 0.88 | 0.95 | 0.95 | 0.94 | 0.95 | 0.95 | 0.96 | 0.94 | 0.93 | 0.94 | 0.94 | 0.94 | 0.92 | 0.95 | 11.33 | | | | | | | | | |
| NZL | 0.94 | 0.89 | 0.88 | 0.89 | 0.88 | 0.87 | 0.87 | 0.93 | 0.93 | 0.87 | 0.88 | 0.89 | 0.88 | 0.87 | 0.87 | 0.34 | | | | | | | | |
| ZAF | 0.94 | 0.94 | 0.91 | 0.91 | 0.91 | 0.92 | 0.92 | 0.94 | 0.93 | 0.87 | 0.92 | 0.91 | 0.94 | 0.88 | 0.89 | 0.88 | | | | | | | | |
| JPN | 0.87 | 0.95 | 0.97 | 0.96 | 0.96 | 0.96 | 0.96 | 0.94 | 0.92 | 0.93 | 0.95 | 0.94 | 0.95 | 0.95 | 0.87 | 0.87 | 1.44 | | | | | | | |
| CZE | 0.87 | 0.95 | 0.97 | 0.92 | 0.98 | 0.95 | 0.95 | 0.94 | 0.96 | 0.95 | 0.96 | 0.97 | 0.95 | 0.94 | 0.87 | 0.90 | 0.93 | 14.48 | | | | | | |
| EST | 0.87 | 0.91 | 0.94 | 0.89 | 0.94 | 0.93 | 0.92 | 0.89 | 0.91 | 0.90 | 0.94 | 0.92 | 0.90 | 0.94 | 0.84 | 0.87 | 0.92 | 0.94 | 18.50 | | | | | |
| IRL | 0.92 | 0.91 | 0.92 | 0.92 | 0.93 | 0.90 | 0.91 | 0.95 | 0.98 | 0.91 | 0.93 | 0.93 | 0.90 | 0.89 | 0.93 | 0.89 | 0.87 | 0.91 | 0.87 | 1.83 | | | | |
| KOR | 0.87 | 0.89 | 0.88 | 0.88 | 0.87 | 0.88 | 0.90 | 0.88 | 0.87 | 0.87 | 0.87 | 0.88 | 0.87 | 0.87 | 0.87 | 0.89 | 0.87 | 0.87 | 0.86 | 0.87 | 4.68 | | | |
| SVN | 0.89 | 0.96 | 0.95 | 0.93 | 0.95 | 0.96 | 0.95 | 0.95 | 0.93 | 0.93 | 0.94 | 0.92 | 0.92 | 0.94 | 0.87 | 0.87 | 0.95 | 0.92 | 0.90 | 0.88 | 0.88 | 18.32 | | |
| PRT | 0.87 | 0.92 | 0.92 | 0.90 | 0.94 | 0.92 | 0.93 | 0.93 | 0.93 | 0.92 | 0.93 | 0.93 | 0.92 | 0.91 | 0.87 | 0.87 | 0.90 | 0.93 | 0.88 | 0.89 | 0.87 | 0.92 | 1.76 | |

| | | | | | | | | | | | | | | | | | | | | | | | |
|-----|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|
| LVA | 0.87 | 0.93 | 0.93 | 0.91 | 0.93 | 0.93 | 0.92 | 0.91 | 0.90 | 0.90 | 0.92 | 0.90 | 0.92 | 0.86 | 0.87 | 0.94 | 0.90 | 0.89 | 0.89 | 0.88 | 0.90 | 0.87 | 0.45 |
|-----|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|

HOL rwi

| | AUS | BEL | CAN | CHE | DEU | DFS | ESP | FRA | GBR | ITA | NLD | USA | HUN | POL | NZL | ZAF | JPN | CZE | EST | IRL | KOR | PRT | SVN | LVA |
|-----|------|------|------|-------|-------|-------|------|------|------|------|------|------|------|-------|------|------|------|-------|-------|------|------|------|-------|------|
| AUS | 0.53 | | | | | | | | | | | | | | | | | | | | | | | |
| BEL | 0.83 | 1.46 | | | | | | | | | | | | | | | | | | | | | | |
| CAN | 0.86 | 0.94 | 5.63 | | | | | | | | | | | | | | | | | | | | | |
| CHE | 0.84 | 0.95 | 0.93 | 11.08 | | | | | | | | | | | | | | | | | | | | |
| DEU | 0.79 | 0.93 | 0.95 | 0.90 | 11.35 | | | | | | | | | | | | | | | | | | | |
| DFS | 0.81 | 0.91 | 0.95 | 0.88 | 0.96 | 12.35 | | | | | | | | | | | | | | | | | | |
| ESP | 0.88 | 0.92 | 0.97 | 0.90 | 0.94 | 0.94 | 0.98 | | | | | | | | | | | | | | | | | |
| FRA | 0.84 | 0.95 | 0.96 | 0.93 | 0.94 | 0.93 | 0.95 | 1.03 | | | | | | | | | | | | | | | | |
| GBR | 0.84 | 0.90 | 0.94 | 0.86 | 0.90 | 0.90 | 0.91 | 0.91 | 1.32 | | | | | | | | | | | | | | | |
| ITA | 0.76 | 0.83 | 0.87 | 0.79 | 0.84 | 0.83 | 0.87 | 0.87 | 0.88 | 1.33 | | | | | | | | | | | | | | |
| NLD | 0.83 | 0.94 | 0.95 | 0.92 | 0.96 | 0.94 | 0.94 | 0.88 | 0.78 | 4.87 | | | | | | | | | | | | | | |
| USA | 0.76 | 0.84 | 0.91 | 0.79 | 0.85 | 0.87 | 0.88 | 0.87 | 0.94 | 0.89 | 0.81 | 1.25 | | | | | | | | | | | | |
| HUN | 0.77 | 0.91 | 0.92 | 0.84 | 0.93 | 0.91 | 0.89 | 0.91 | 0.89 | 0.89 | 0.90 | 0.88 | 1.02 | | | | | | | | | | | |
| POL | 0.81 | 0.90 | 0.92 | 0.88 | 0.91 | 0.90 | 0.90 | 0.90 | 0.88 | 0.88 | 0.89 | 0.83 | 0.92 | 11.25 | | | | | | | | | | |
| NZL | 0.84 | 0.84 | 0.87 | 0.79 | 0.81 | 0.80 | 0.86 | 0.85 | 0.87 | 0.82 | 0.82 | 0.83 | 0.81 | 0.77 | 0.31 | | | | | | | | | |
| ZAF | 0.76 | 0.81 | 0.85 | 0.76 | 0.84 | 0.84 | 0.80 | 0.80 | 0.91 | 0.80 | 0.79 | 0.87 | 0.85 | 0.80 | 0.79 | 0.89 | | | | | | | | |
| JPN | 0.80 | 0.95 | 0.96 | 0.93 | 0.95 | 0.94 | 0.93 | 0.96 | 0.92 | 0.89 | 0.93 | 0.90 | 0.93 | 0.92 | 0.84 | 0.84 | 1.33 | | | | | | | |
| CZE | 0.80 | 0.92 | 0.94 | 0.87 | 0.95 | 0.93 | 0.94 | 0.91 | 0.89 | 0.87 | 0.92 | 0.88 | 0.92 | 0.91 | 0.84 | 0.83 | 0.93 | 14.88 | | | | | | |
| EST | 0.78 | 0.90 | 0.89 | 0.90 | 0.91 | 0.86 | 0.90 | 0.88 | 0.83 | 0.80 | 0.92 | 0.77 | 0.87 | 0.91 | 0.79 | 0.76 | 0.88 | 0.89 | 16.21 | | | | | |
| IRL | 0.76 | 0.76 | 0.79 | 0.76 | 0.78 | 0.77 | 0.76 | 0.77 | 0.87 | 0.76 | 0.76 | 0.85 | 0.77 | 0.76 | 0.79 | 0.78 | 0.77 | 1.58 | | | | | | |
| KOR | 0.77 | 0.85 | 0.81 | 0.80 | 0.80 | 0.79 | 0.78 | 0.82 | 0.76 | 0.76 | 0.79 | 0.76 | 0.77 | 0.76 | 0.78 | 0.78 | 0.76 | 0.77 | 3.18 | | | | | |
| PRT | 0.77 | 0.85 | 0.88 | 0.79 | 0.90 | 0.90 | 0.87 | 0.85 | 0.85 | 0.84 | 0.82 | 0.85 | 0.88 | 0.76 | 0.83 | 0.86 | 0.87 | 0.77 | 0.76 | 0.77 | 1.67 | | | |
| SVN | 0.81 | 0.90 | 0.93 | 0.91 | 0.94 | 0.94 | 0.93 | 0.90 | 0.88 | 0.81 | 0.94 | 0.83 | 0.89 | 0.92 | 0.77 | 0.81 | 0.93 | 0.93 | 0.89 | 0.77 | 0.77 | 0.85 | 20.08 | |
| LVA | 0.76 | 0.81 | 0.79 | 0.77 | 0.82 | 0.85 | 0.80 | 0.79 | 0.77 | 0.76 | 0.79 | 0.76 | 0.80 | 0.79 | 0.77 | 0.77 | 0.79 | 0.83 | 0.79 | 0.76 | 0.76 | 0.77 | 0.81 | 0.42 |

HOL rls

| | AUS | BEL | CAN | CHE | DEU | DFS | ESP | FRA | GBR | ITA | NLD | USA | HUN | POL | NZL | ZAF | JPN | CZE | EST | IRL | KOR | SVN | PRT | LVA |
|-----|------|------|------|-------|-------|-------|------|------|------|------|------|------|------|-------|------|------|------|-------|-------|-----|-----|-----|-----|-----|
| AUS | 0.31 | | | | | | | | | | | | | | | | | | | | | | | |
| BEL | 0.77 | 1.80 | | | | | | | | | | | | | | | | | | | | | | |
| CAN | 0.70 | 0.95 | 5.85 | | | | | | | | | | | | | | | | | | | | | |
| CHE | 0.77 | 0.92 | 0.93 | 11.86 | | | | | | | | | | | | | | | | | | | | |
| DEU | 0.71 | 0.94 | 0.95 | 0.92 | 11.93 | | | | | | | | | | | | | | | | | | | |
| DFS | 0.67 | 0.94 | 0.97 | 0.92 | 0.96 | 13.41 | | | | | | | | | | | | | | | | | | |
| ESP | 0.72 | 0.95 | 0.95 | 0.92 | 0.95 | 0.95 | 1.15 | | | | | | | | | | | | | | | | | |
| FRA | 0.77 | 0.91 | 0.89 | 0.90 | 0.89 | 0.88 | 0.91 | 1.00 | | | | | | | | | | | | | | | | |
| GBR | 0.79 | 0.86 | 0.84 | 0.85 | 0.85 | 0.82 | 0.83 | 0.90 | 1.43 | | | | | | | | | | | | | | | |
| ITA | 0.65 | 0.91 | 0.89 | 0.86 | 0.89 | 0.90 | 0.88 | 0.88 | 0.82 | 1.44 | | | | | | | | | | | | | | |
| NLD | 0.71 | 0.90 | 0.93 | 0.92 | 0.94 | 0.92 | 0.92 | 0.89 | 0.86 | 0.86 | 5.27 | | | | | | | | | | | | | |
| USA | 0.68 | 0.95 | 0.96 | 0.90 | 0.93 | 0.96 | 0.95 | 0.88 | 0.82 | 0.88 | 0.90 | 1.60 | | | | | | | | | | | | |
| HUN | 0.73 | 0.91 | 0.91 | 0.86 | 0.93 | 0.91 | 0.93 | 0.88 | 0.82 | 0.88 | 0.86 | 0.91 | 1.01 | | | | | | | | | | | |
| POL | 0.70 | 0.92 | 0.93 | 0.88 | 0.95 | 0.91 | 0.93 | 0.91 | 0.82 | 0.88 | 0.87 | 0.90 | 0.94 | 12.14 | | | | | | | | | | |
| NZL | 0.66 | 0.65 | 0.65 | 0.65 | 0.65 | 0.65 | 0.65 | 0.65 | 0.69 | 0.65 | 0.65 | 0.65 | 0.66 | 0.65 | 0.14 | | | | | | | | | |
| ZAF | 0.80 | 0.80 | 0.77 | 0.77 | 0.74 | 0.69 | 0.77 | 0.82 | 0.87 | 0.67 | 0.75 | 0.77 | 0.74 | 0.80 | 0.65 | 0.84 | | | | | | | | |
| JPN | 0.65 | 0.91 | 0.97 | 0.89 | 0.94 | 0.97 | 0.94 | 0.87 | 0.80 | 0.89 | 0.88 | 0.94 | 0.89 | 0.93 | 0.65 | 0.70 | 1.74 | | | | | | | |
| CZE | 0.68 | 0.91 | 0.92 | 0.84 | 0.93 | 0.92 | 0.90 | 0.86 | 0.85 | 0.87 | 0.89 | 0.90 | 0.93 | 0.94 | 0.65 | 0.76 | 0.91 | 15.43 | | | | | | |
| EST | 0.75 | 0.85 | 0.84 | 0.84 | 0.89 | 0.88 | 0.87 | 0.80 | 0.72 | 0.82 | 0.87 | 0.84 | 0.83 | 0.84 | 0.67 | 0.66 | 0.84 | 0.79 | 20.23 | | | | | |
| IRL | 0.78 | 0.78 | 0.72 | 0.77 | 0.73 | | | | | | | | | | | | | | | | | | | |

HOL fan

| | AUS | BEL | CAN | CHE | DEU | DFS | ESP | FRA | GBR | ITA | NLD | USA | HUN | POL | ZAF | JPN | CZE | EST | IRL | KOR | SVN | PRT | LVA |
|-----|------|------|------|-------|-------|-------|------|------|------|------|------|------|------|-------|------|------|-------|-------|------|------|-------|------|-----|
| AUS | 0.32 | | | | | | | | | | | | | | | | | | | | | | |
| BEL | 0.66 | 2.02 | | | | | | | | | | | | | | | | | | | | | |
| CAN | 0.60 | 0.82 | 7.31 | | | | | | | | | | | | | | | | | | | | |
| CHE | 0.63 | 0.84 | 0.81 | 12.10 | | | | | | | | | | | | | | | | | | | |
| DEU | 0.67 | 0.87 | 0.82 | 0.77 | 12.60 | | | | | | | | | | | | | | | | | | |
| DFS | 0.61 | 0.92 | 0.87 | 0.81 | 0.88 | 13.14 | | | | | | | | | | | | | | | | | |
| ESP | 0.64 | 0.75 | 0.85 | 0.68 | 0.85 | 0.81 | 1.00 | | | | | | | | | | | | | | | | |
| FRA | 0.71 | 0.73 | 0.71 | 0.68 | 0.85 | 0.68 | 0.81 | 0.86 | | | | | | | | | | | | | | | |
| GBR | 0.74 | 0.80 | 0.82 | 0.74 | 0.91 | 0.78 | 0.84 | 0.86 | 1.45 | | | | | | | | | | | | | | |
| ITA | 0.60 | 0.67 | 0.77 | 0.71 | 0.76 | 0.71 | 0.75 | 0.67 | 0.73 | 1.59 | | | | | | | | | | | | | |
| NLD | 0.66 | 0.77 | 0.74 | 0.71 | 0.90 | 0.79 | 0.78 | 0.81 | 0.88 | 0.70 | 5.15 | | | | | | | | | | | | |
| USA | 0.64 | 0.74 | 0.87 | 0.72 | 0.83 | 0.81 | 0.85 | 0.74 | 0.83 | 0.85 | 0.80 | 1.54 | | | | | | | | | | | |
| HUN | 0.75 | 0.76 | 0.78 | 0.77 | 0.87 | 0.74 | 0.82 | 0.86 | 0.86 | 0.68 | 0.79 | 0.80 | 1.17 | | | | | | | | | | |
| POL | 0.61 | 0.74 | 0.82 | 0.77 | 0.77 | 0.77 | 0.78 | 0.71 | 0.76 | 0.81 | 0.68 | 0.84 | 0.79 | 13.11 | | | | | | | | | |
| ZAF | 0.82 | 0.76 | 0.76 | 0.73 | 0.82 | 0.73 | 0.76 | 0.77 | 0.86 | 0.67 | 0.72 | 0.80 | 0.87 | 0.71 | 0.90 | | | | | | | | |
| JPN | 0.72 | 0.76 | 0.74 | 0.84 | 0.83 | 0.76 | 0.76 | 0.75 | 0.76 | 0.68 | 0.78 | 0.77 | 0.86 | 0.76 | 0.75 | 2.10 | | | | | | | |
| CZE | 0.70 | 0.84 | 0.84 | 0.79 | 0.92 | 0.84 | 0.83 | 0.83 | 0.85 | 0.75 | 0.80 | 0.83 | 0.92 | 0.80 | 0.80 | 0.87 | 15.68 | | | | | | |
| EST | 0.75 | 0.76 | 0.74 | 0.77 | 0.83 | 0.79 | 0.82 | 0.78 | 0.80 | 0.61 | 0.81 | 0.74 | 0.84 | 0.70 | 0.72 | 0.90 | 0.86 | 23.34 | | | | | |
| IRL | 0.67 | 0.68 | 0.73 | 0.63 | 0.80 | 0.67 | 0.73 | 0.73 | 0.90 | 0.68 | 0.74 | 0.71 | 0.71 | 0.67 | 0.72 | 0.61 | 0.72 | 0.68 | 1.58 | | | | |
| KOR | 0.61 | 0.61 | 0.67 | 0.61 | 0.66 | 0.62 | 0.74 | 0.60 | 0.66 | 0.61 | 0.62 | 0.68 | 0.68 | 0.63 | 0.61 | 0.61 | 0.68 | 0.63 | 0.61 | 1.44 | | | |
| SVN | 0.61 | 0.77 | 0.81 | 0.65 | 0.88 | 0.84 | 0.80 | 0.70 | 0.78 | 0.69 | 0.72 | 0.80 | 0.79 | 0.76 | 0.70 | 0.75 | 0.87 | 0.77 | 0.78 | 0.62 | 24.65 | | |
| PRT | 0.60 | 0.60 | 0.60 | 0.60 | 0.73 | 0.60 | 0.70 | 0.67 | 0.62 | 0.61 | 0.66 | 0.70 | 0.61 | 0.60 | 0.62 | 0.67 | 0.69 | 0.60 | 0.67 | 0.67 | 0.60 | 2.12 | |
| LVA | 0.61 | 0.65 | 0.61 | 0.62 | 0.64 | 0.67 | 0.62 | 0.67 | 0.64 | 0.61 | 0.64 | 0.66 | 0.69 | 0.61 | 0.61 | 0.72 | 0.73 | 0.61 | 0.61 | 0.66 | 0.60 | 0.28 | |

HOL fua

| | AUS | BEL | CAN | CHE | DEU | DFS | ESP | FRA | GBR | ITA | NLD | USA | HUN | POL | NZL | ZAF | JPN | CZE | EST | IRL | KOR | SVN | PRT | LVA |
|-----|------|------|------|-------|-------|-------|------|------|------|------|------|------|------|-------|------|------|------|-------|-----|-----|-----|-----|-----|-----|
| AUS | 0.37 | | | | | | | | | | | | | | | | | | | | | | | |
| BEL | 0.73 | 1.45 | | | | | | | | | | | | | | | | | | | | | | |
| CAN | 0.76 | 0.77 | 5.25 | | | | | | | | | | | | | | | | | | | | | |
| CHE | 0.82 | 0.81 | 0.93 | 12.04 | | | | | | | | | | | | | | | | | | | | |
| DEU | 0.74 | 0.84 | 0.93 | 0.87 | 12.24 | | | | | | | | | | | | | | | | | | | |
| DFS | 0.76 | 0.85 | 0.91 | 0.89 | 0.88 | 11.88 | | | | | | | | | | | | | | | | | | |
| ESP | 0.77 | 0.79 | 0.88 | 0.86 | 0.85 | 0.84 | 0.68 | | | | | | | | | | | | | | | | | |
| FRA | 0.79 | 0.90 | 0.90 | 0.90 | 0.90 | 0.92 | 0.85 | 1.01 | | | | | | | | | | | | | | | | |
| GBR | 0.77 | 0.78 | 0.94 | 0.88 | 0.95 | 0.87 | 0.88 | 0.89 | 1.28 | | | | | | | | | | | | | | | |
| ITA | 0.70 | 0.65 | 0.88 | 0.83 | 0.86 | 0.76 | 0.85 | 0.82 | 0.90 | 1.28 | | | | | | | | | | | | | | |
| NLD | 0.73 | 0.84 | 0.91 | 0.90 | 0.94 | 0.87 | 0.86 | 0.90 | 0.93 | 0.84 | 4.75 | | | | | | | | | | | | | |
| USA | 0.75 | 0.71 | 0.94 | 0.87 | 0.90 | 0.85 | 0.89 | 0.85 | 0.94 | 0.93 | 0.89 | 1.38 | | | | | | | | | | | | |
| HUN | 0.76 | 0.74 | 0.88 | 0.87 | 0.86 | 0.87 | 0.83 | 0.84 | 0.86 | 0.78 | 0.83 | 0.81 | 1.03 | | | | | | | | | | | |
| POL | 0.71 | 0.81 | 0.86 | 0.86 | 0.91 | 0.88 | 0.82 | 0.88 | 0.90 | 0.81 | 0.87 | 0.83 | 0.86 | 11.74 | | | | | | | | | | |
| NZL | 0.76 | 0.77 | 0.84 | 0.80 | 0.83 | 0.81 | 0.80 | 0.85 | 0.86 | 0.76 | 0.84 | 0.84 | 0.72 | 0.76 | 0.41 | | | | | | | | | |
| ZAF | 0.75 | 0.77 | 0.86 | 0.82 | 0.87 | 0.86 | 0.82 | 0.83 | 0.89 | 0.70 | 0.83 | 0.82 | 0.82 | 0.78 | 0.79 | 0.85 | | | | | | | | |
| JPN | 0.74 | 0.76 | 0.95 | 0.91 | 0.90 | 0.91 | 0.85 | 0.87 | 0.91 | 0.85 | 0.88 | 0.91 | 0.88 | 0.87 | 0.81 | 0.81 | 1.44 | | | | | | | |
| CZE | 0.73 | 0.86 | 0.87 | 0.85 | 0.92 | 0.90 | 0.79 | 0.88 | 0.89 | 0.75 | 0.87 | 0.78 | 0.91 | 0.89 | 0.76 | 0.90 | 0.86 | 14.18 | | | | | | |

| | | | | | | | | | | | | | | | | | | | | | | | | |
|-----|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|-------|------|------|-------|------|------|
| EST | 0.63 | 0.75 | 0.79 | 0.75 | 0.79 | 0.85 | 0.66 | 0.81 | 0.76 | 0.60 | 0.78 | 0.70 | 0.80 | 0.77 | 0.68 | 0.73 | 0.71 | 0.80 | 18.44 | | | | | |
| IRL | 0.77 | 0.73 | 0.83 | 0.81 | 0.83 | 0.73 | 0.85 | 0.81 | 0.91 | 0.85 | 0.83 | 0.88 | 0.69 | 0.79 | 0.84 | 0.78 | 0.77 | 0.73 | 0.64 | 1.17 | | | | |
| KOR | 0.67 | 0.75 | 0.68 | 0.73 | 0.70 | 0.77 | 0.75 | 0.73 | 0.68 | 0.57 | 0.66 | 0.64 | 0.77 | 0.74 | 0.67 | 0.79 | 0.72 | 0.81 | 0.64 | 0.67 | 3.16 | | | |
| SVN | 0.50 | 0.78 | 0.51 | 0.58 | 0.69 | 0.57 | 0.64 | 0.63 | 0.53 | 0.51 | 0.66 | 0.51 | 0.54 | 0.65 | 0.53 | 0.51 | 0.59 | 0.66 | 0.46 | 0.52 | 0.67 | 18.67 | | |
| PRT | 0.56 | 0.72 | 0.65 | 0.63 | 0.62 | 0.68 | 0.71 | 0.66 | 0.62 | 0.53 | 0.63 | 0.62 | 0.55 | 0.62 | 0.70 | 0.65 | 0.68 | 0.61 | 0.60 | 0.64 | 0.66 | 0.58 | 1.49 | |
| LVA | 0.65 | 0.84 | 0.77 | 0.74 | 0.78 | 0.79 | 0.69 | 0.80 | 0.74 | 0.62 | 0.77 | 0.70 | 0.80 | 0.77 | 0.75 | 0.70 | 0.75 | 0.84 | 0.72 | 0.63 | 0.74 | 0.63 | 0.60 | 0.34 |

HOL ruh

| | AUS | BEL | CAN | CHE | DEU | DFS | ESP | FRA | GBR | ITA | NLD | USA | HUN | POL | NZL | ZAF | JPN | CZE | EST | IRL | KOR | SVN | PRT | LVA |
|-----|------|------|------|-------|-------|-------|------|------|------|------|------|------|------|-------|------|------|------|-------|-------|------|------|-------|------|------|
| AUS | 0.41 | | | | | | | | | | | | | | | | | | | | | | | |
| BEL | 0.83 | 1.24 | | | | | | | | | | | | | | | | | | | | | | |
| CAN | 0.76 | 0.91 | 5.56 | | | | | | | | | | | | | | | | | | | | | |
| CHE | 0.81 | 0.91 | 0.93 | 11.28 | | | | | | | | | | | | | | | | | | | | |
| DEU | 0.80 | 0.89 | 0.88 | 0.89 | 13.04 | | | | | | | | | | | | | | | | | | | |
| DFS | 0.77 | 0.91 | 0.86 | 0.91 | 0.95 | 11.57 | | | | | | | | | | | | | | | | | | |
| ESP | 0.81 | 0.87 | 0.85 | 0.87 | 0.91 | 0.91 | 0.68 | | | | | | | | | | | | | | | | | |
| FRA | 0.77 | 0.88 | 0.83 | 0.87 | 0.91 | 0.93 | 0.89 | 1.02 | | | | | | | | | | | | | | | | |
| GBR | 0.77 | 0.83 | 0.72 | 0.80 | 0.85 | 0.90 | 0.86 | 0.88 | 1.38 | | | | | | | | | | | | | | | |
| ITA | 0.69 | 0.74 | 0.69 | 0.71 | 0.81 | 0.84 | 0.85 | 0.84 | 0.82 | 1.23 | | | | | | | | | | | | | | |
| NLD | 0.73 | 0.83 | 0.74 | 0.82 | 0.91 | 0.92 | 0.89 | 0.88 | 0.88 | 0.82 | 4.15 | | | | | | | | | | | | | |
| USA | 0.76 | 0.85 | 0.81 | 0.85 | 0.90 | 0.93 | 0.89 | 0.89 | 0.93 | 0.88 | 0.86 | 1.46 | | | | | | | | | | | | |
| HUN | 0.80 | 0.79 | 0.78 | 0.79 | 0.86 | 0.82 | 0.87 | 0.81 | 0.79 | 0.80 | 0.80 | 0.81 | 0.98 | | | | | | | | | | | |
| POL | 0.70 | 0.81 | 0.70 | 0.76 | 0.82 | 0.86 | 0.87 | 0.86 | 0.82 | 0.84 | 0.84 | 0.81 | 0.80 | 10.27 | | | | | | | | | | |
| NZL | 0.79 | 0.82 | 0.73 | 0.83 | 0.83 | 0.87 | 0.83 | 0.86 | 0.91 | 0.78 | 0.83 | 0.90 | 0.82 | 0.78 | 0.39 | | | | | | | | | |
| ZAF | 0.70 | 0.75 | 0.69 | 0.79 | 0.75 | 0.83 | 0.79 | 0.76 | 0.86 | 0.76 | 0.77 | 0.81 | 0.73 | 0.70 | 0.82 | 0.79 | | | | | | | | |
| JPN | 0.80 | 0.92 | 0.92 | 0.92 | 0.91 | 0.92 | 0.93 | 0.90 | 0.82 | 0.81 | 0.85 | 0.87 | 0.85 | 0.86 | 0.82 | 0.78 | 1.46 | | | | | | | |
| CZE | 0.79 | 0.88 | 0.88 | 0.86 | 0.89 | 0.85 | 0.81 | 0.82 | 0.73 | 0.71 | 0.75 | 0.78 | 0.85 | 0.71 | 0.77 | 0.78 | 0.86 | 14.39 | | | | | | |
| EST | 0.72 | 0.76 | 0.75 | 0.77 | 0.81 | 0.83 | 0.82 | 0.85 | 0.77 | 0.80 | 0.77 | 0.83 | 0.82 | 0.82 | 0.80 | 0.71 | 0.84 | 0.79 | 16.90 | | | | | |
| IRL | 0.70 | 0.76 | 0.69 | 0.72 | 0.78 | 0.83 | 0.82 | 0.81 | 0.91 | 0.85 | 0.82 | 0.89 | 0.77 | 0.77 | 0.83 | 0.78 | 0.76 | 0.69 | 0.77 | 1.04 | | | | |
| KOR | 0.72 | 0.81 | 0.84 | 0.79 | 0.74 | 0.71 | 0.77 | 0.71 | 0.69 | 0.69 | 0.69 | 0.69 | 0.72 | 0.70 | 0.71 | 0.70 | 0.83 | 0.79 | 0.71 | 0.70 | 3.35 | | | |
| SVN | 0.76 | 0.92 | 0.88 | 0.84 | 0.90 | 0.90 | 0.89 | 0.88 | 0.77 | 0.81 | 0.83 | 0.82 | 0.77 | 0.80 | 0.73 | 0.73 | 0.90 | 0.87 | 0.80 | 0.76 | 0.79 | 15.50 | | |
| PRT | 0.70 | 0.77 | 0.69 | 0.69 | 0.78 | 0.82 | 0.82 | 0.81 | 0.85 | 0.80 | 0.80 | 0.80 | 0.75 | 0.79 | 0.77 | 0.75 | 0.77 | 0.69 | 0.70 | 0.79 | 0.69 | 0.79 | 1.28 | |
| LVA | 0.70 | 0.73 | 0.71 | 0.71 | 0.77 | 0.74 | 0.73 | 0.73 | 0.70 | 0.69 | 0.71 | 0.71 | 0.69 | 0.69 | 0.70 | 0.69 | 0.73 | 0.72 | 0.70 | 0.70 | 0.70 | 0.78 | 0.69 | 0.42 |

HOL usu

| | AUS | BEL | CAN | CHE | DEU | DFS | ESP | FRA | GBR | ITA | NLD | USA | HUN | POL | NZL | ZAF | JPN | CZE | EST | IRL | KOR | SVN | PRT | LVA |
|-----|------|------|------|-------|-------|-------|------|------|------|------|------|------|------|-------|------|------|------|-------|-------|------|------|-------|------|------|
| AUS | 0.35 | | | | | | | | | | | | | | | | | | | | | | | |
| BEL | 0.64 | 1.46 | | | | | | | | | | | | | | | | | | | | | | |
| CAN | 0.77 | 0.77 | 5.52 | | | | | | | | | | | | | | | | | | | | | |
| CHE | 0.76 | 0.87 | 0.91 | 11.89 | | | | | | | | | | | | | | | | | | | | |
| DEU | 0.73 | 0.80 | 0.92 | 0.94 | 11.54 | | | | | | | | | | | | | | | | | | | |
| DFS | 0.70 | 0.86 | 0.81 | 0.89 | 0.83 | 11.57 | | | | | | | | | | | | | | | | | | |
| ESP | 0.77 | 0.68 | 0.82 | 0.81 | 0.79 | 0.79 | 0.67 | | | | | | | | | | | | | | | | | |
| FRA | 0.74 | 0.86 | 0.78 | 0.85 | 0.77 | 0.91 | 0.82 | 1.02 | | | | | | | | | | | | | | | | |
| GBR | 0.80 | 0.64 | 0.79 | 0.80 | 0.75 | 0.82 | 0.91 | 0.87 | 1.35 | | | | | | | | | | | | | | | |
| ITA | 0.68 | 0.67 | 0.76 | 0.78 | 0.78 | 0.77 | 0.88 | 0.80 | 0.85 | 1.39 | | | | | | | | | | | | | | |
| NLD | 0.79 | 0.77 | 0.81 | 0.86 | 0.80 | 0.90 | 0.89 | 0.91 | 0.92 | 0.79 | 4.27 | | | | | | | | | | | | | |
| USA | 0.78 | 0.68 | 0.81 | 0.79 | 0.75 | 0.86 | 0.91 | 0.87 | 0.94 | 0.86 | 0.91 | 1.44 | | | | | | | | | | | | |
| HUN | 0.71 | 0.89 | 0.80 | 0.90 | 0.84 | 0.90 | 0.76 | 0.90 | 0.76 | 0.76 | 0.82 | 0.78 | 1.01 | | | | | | | | | | | |
| POL | 0.69 | 0.77 | 0.86 | 0.87 | 0.93 | 0.80 | 0.78 | 0.73 | 0.70 | 0.75 | 0.77 | 0.73 | 0.83 | 11.30 | | | | | | | | | | |
| NZL | 0.59 | 0.58 | 0.57 | 0.58 | 0.57 | 0.57 | 0.68 | 0.57 | 0.60 | 0.62 | 0.57 | 0.65 | 0.58 | 0.58 | 0.38 | | | | | | | | | |
| ZAF | 0.77 | 0.62 | 0.65 | 0.66 | 0.59 | 0.75 | 0.77 | 0.73 | 0.81 | 0.62 | 0.78 | 0.82 | 0.75 | 0.65 | 0.61 | 0.84 | | | | | | | | |
| JPN | 0.59 | 0.95 | 0.72 | 0.84 | 0.75 | 0.84 | 0.62 | 0.88 | 0.64 | 0.64 | 0.75 | 0.66 | 0.88 | 0.74 | 0.57 | 0.58 | 1.63 | | | | | | | |
| CZE | 0.58 | 0.88 | 0.81 | 0.85 | 0.87 | 0.77 | 0.64 | 0.73 | 0.60 | 0.69 | 0.67 | 0.62 | 0.89 | 0.86 | 0.57 | 0.58 | 0.83 | 14.03 | | | | | | |
| EST | 0.70 | 0.89 | 0.81 | 0.86 | 0.85 | 0.85 | 0.69 | 0.81 | 0.71 | 0.64 | 0.79 | 0.69 | 0.86 | 0.81 | 0.57 | 0.63 | 0.87 | 0.86 | 18.54 | | | | | |
| IRL | 0.78 | 0.68 | 0.82 | 0.79 | 0.78 | 0.75 | 0.87 | 0.80 | 0.91 | 0.86 | 0.84 | 0.86 | 0.74 | 0.76 | 0.70 | 0.73 | 0.63 | 0.67 | 0.68 | 1.07 | | | | |
| KOR | 0.64 | 0.71 | 0.83 | 0.75 | 0.82 | 0.68 | 0.71 | 0.63 | 0.60 | 0.71 | 0.66 | 0.68 | 0.72 | 0.83 | 0.57 | 0.64 | 0.65 | 0.76 | 0.64 | 0.68 | 2.50 | | | |
| SVN | 0.62 | 0.77 | 0.87 | 0.85 | 0.89 | 0.75 | 0.66 | 0.65 | 0.59 | 0.60 | 0.64 | 0.60 | 0.75 | 0.88 | 0.58 | 0.54 | 0.72 | 0.86 | 0.81 | 0.68 | 0.75 | 20.26 | | |
| PRT | 0.68 | 0.65 | 0.76 | 0.76 | 0.81 | 0.70 | 0.78 | 0.65 | 0.73 | 0.74 | 0.71 | 0.68 | 0.72 | 0.77 | 0.57 | 0.58 | 0.58 | 0.71 | 0.67 | 0.75 | 0.69 | 0.70 | 1.62 | |
| LVA | 0.58 | 0.58 | 0.62 | 0.64 | 0.61 | 0.64 | 0.73 | 0.68 | 0.73 | 0.67 | 0.65 | 0.67 | 0.64 | 0.62 | 0.63 | 0.59 | 0.58 | 0.57 | 0.59 | 0.71 | 0.57 | 0.60 | 0.63 | 0.30 |

HOL ude

HOL ftp

HOL ftl

HOL rtp

| | AUS | BEL | CAN | CHE | DEU | DFS | ESP | FRA | GBR | ITA | NLD | USA | POL | NZL | JPN | CZE | EST | IRL | KOR | SVN | PRT | ZAF | HUN | LVA |
|-----|------|------|------|-------|-------|-------|------|------|------|------|------|------|-------|------|------|-------|-------|------|------|-------|------|------|------|------|
| AUS | 0.44 | | | | | | | | | | | | | | | | | | | | | | | |
| BEL | 0.92 | 1.41 | | | | | | | | | | | | | | | | | | | | | | |
| CAN | 0.88 | 0.97 | 6.02 | | | | | | | | | | | | | | | | | | | | | |
| CHE | 0.91 | 0.97 | 0.98 | 11.87 | | | | | | | | | | | | | | | | | | | | |
| DEU | 0.89 | 0.96 | 0.96 | 0.96 | 14.06 | | | | | | | | | | | | | | | | | | | |
| DFS | 0.86 | 0.94 | 0.94 | 0.94 | 0.96 | 11.03 | | | | | | | | | | | | | | | | | | |
| ESP | 0.89 | 0.96 | 0.97 | 0.96 | 0.97 | 0.95 | 0.82 | | | | | | | | | | | | | | | | | |
| FRA | 0.89 | 0.97 | 0.98 | 0.98 | 0.97 | 0.95 | 0.97 | 1.00 | | | | | | | | | | | | | | | | |
| GBR | 0.90 | 0.96 | 0.97 | 0.96 | 0.97 | 0.95 | 0.97 | 0.97 | 1.42 | | | | | | | | | | | | | | | |
| ITA | 0.86 | 0.89 | 0.89 | 0.88 | 0.92 | 0.91 | 0.91 | 0.92 | 0.90 | 1.26 | | | | | | | | | | | | | | |
| NLD | 0.90 | 0.96 | 0.97 | 0.97 | 0.98 | 0.97 | 0.97 | 0.97 | 0.97 | 0.91 | 4.89 | | | | | | | | | | | | | |
| USA | 0.88 | 0.94 | 0.95 | 0.93 | 0.95 | 0.97 | 0.96 | 0.94 | 0.97 | 0.90 | 0.96 | 1.54 | | | | | | | | | | | | |
| POL | 0.86 | 0.94 | 0.94 | 0.92 | 0.96 | 0.93 | 0.96 | 0.94 | 0.94 | 0.90 | 0.94 | 0.91 | 11.20 | | | | | | | | | | | |
| NZL | 0.91 | 0.95 | 0.94 | 0.93 | 0.93 | 0.89 | 0.93 | 0.95 | 0.95 | 0.86 | 0.93 | 0.90 | 0.92 | 0.47 | | | | | | | | | | |
| JPN | 0.90 | 0.97 | 0.98 | 0.97 | 0.96 | 0.96 | 0.97 | 0.97 | 0.96 | 0.91 | 0.98 | 0.96 | 0.94 | 0.93 | 1.56 | | | | | | | | | |
| CZE | 0.89 | 0.96 | 0.95 | 0.95 | 0.96 | 0.94 | 0.94 | 0.94 | 0.95 | 0.90 | 0.94 | 0.94 | 0.95 | 0.92 | 0.95 | 14.32 | | | | | | | | |
| EST | 0.92 | 0.95 | 0.94 | 0.95 | 0.96 | 0.92 | 0.94 | 0.95 | 0.95 | 0.90 | 0.96 | 0.92 | 0.93 | 0.91 | 0.94 | 0.94 | 16.06 | | | | | | | |
| IRL | 0.86 | 0.91 | 0.91 | 0.90 | 0.89 | 0.87 | 0.89 | 0.90 | 0.92 | 0.86 | 0.88 | 0.88 | 0.88 | 0.91 | 0.90 | 0.87 | 0.87 | 1.26 | | | | | | |
| KOR | 0.86 | 0.93 | 0.94 | 0.94 | 0.94 | 0.93 | 0.96 | 0.95 | 0.92 | 0.91 | 0.94 | 0.92 | 0.91 | 0.90 | 0.95 | 0.88 | 0.90 | 0.87 | 2.06 | | | | | |
| SVN | 0.86 | 0.93 | 0.94 | 0.94 | 0.95 | 0.92 | 0.95 | 0.94 | 0.94 | 0.90 | 0.95 | 0.92 | 0.94 | 0.91 | 0.92 | 0.93 | 0.93 | 0.89 | 0.91 | 14.80 | | | | |
| PRT | 0.86 | 0.89 | 0.90 | 0.88 | 0.91 | 0.89 | 0.92 | 0.89 | 0.92 | 0.86 | 0.89 | 0.90 | 0.91 | 0.88 | 0.90 | 0.89 | 0.88 | 0.86 | 0.86 | 0.92 | 1.44 | | | |
| ZAF | 0.88 | 0.86 | 0.86 | 0.86 | 0.86 | 0.86 | 0.86 | 0.86 | 0.86 | 0.86 | 0.86 | 0.86 | 0.86 | 0.86 | 0.87 | 0.87 | 0.86 | 0.86 | 0.87 | 0.86 | 0.86 | 0.57 | | |
| HUN | 0.88 | 0.95 | 0.93 | 0.94 | 0.96 | 0.95 | 0.96 | 0.95 | 0.96 | 0.90 | 0.96 | 0.95 | 0.96 | 0.91 | 0.95 | 0.95 | 0.94 | 0.87 | 0.90 | 0.95 | 0.90 | 0.86 | 1.06 | |
| LVA | 0.86 | 0.92 | 0.89 | 0.90 | 0.89 | 0.89 | 0.92 | 0.91 | 0.90 | 0.87 | 0.91 | 0.87 | 0.91 | 0.88 | 0.90 | 0.90 | 0.92 | 0.86 | 0.89 | 0.91 | 0.89 | 0.86 | 0.92 | 0.44 |

HOL OCS

| | AUS | BEL | CAN | CHE | DEU | DFS | ESP | FRA | GBR | ITA | NLD | USA | HUN | POL | NZL | JPN | CZE | EST | IRL | KOR | SVN | PRT |
|-----|------|------|------|-------|-------|-------|------|------|------|------|------|------|------|-------|------|------|-------|-------|------|------|-------|------|
| AUS | 0.95 | | | | | | | | | | | | | | | | | | | | | |
| BEL | 0.60 | 1.21 | | | | | | | | | | | | | | | | | | | | |
| CAN | 0.62 | 0.66 | 4.84 | | | | | | | | | | | | | | | | | | | |
| CHE | 0.60 | 0.78 | 0.82 | 10.98 | | | | | | | | | | | | | | | | | | |
| DEU | 0.51 | 0.67 | 0.73 | 0.84 | 12.64 | | | | | | | | | | | | | | | | | |
| DFS | 0.63 | 0.63 | 0.68 | 0.80 | 0.78 | 10.10 | | | | | | | | | | | | | | | | |
| ESP | 0.64 | 0.65 | 0.74 | 0.81 | 0.78 | 0.86 | 0.69 | | | | | | | | | | | | | | | |
| FRA | 0.54 | 0.75 | 0.70 | 0.88 | 0.82 | 0.87 | 0.88 | 1.04 | | | | | | | | | | | | | | |
| GBR | 0.65 | 0.69 | 0.76 | 0.89 | 0.88 | 0.87 | 0.85 | 0.88 | 1.01 | | | | | | | | | | | | | |
| ITA | 0.50 | 0.70 | 0.69 | 0.81 | 0.78 | 0.81 | 0.86 | 0.88 | 0.81 | 0.79 | | | | | | | | | | | | |
| NLD | 0.56 | 0.65 | 0.71 | 0.83 | 0.87 | 0.89 | 0.86 | 0.86 | 0.88 | 0.80 | 0.80 | 2.99 | | | | | | | | | | |
| USA | 0.59 | 0.62 | 0.73 | 0.85 | 0.82 | 0.88 | 0.85 | 0.86 | 0.89 | 0.84 | 0.84 | 0.86 | 0.87 | | | | | | | | | |
| HUN | 0.55 | 0.70 | 0.67 | 0.79 | 0.80 | 0.71 | 0.74 | 0.76 | 0.80 | 0.78 | 0.71 | 0.75 | 1.03 | | | | | | | | | |
| POL | 0.50 | 0.70 | 0.61 | 0.68 | 0.68 | 0.67 | 0.67 | 0.71 | 0.68 | 0.73 | 0.67 | 0.67 | 0.66 | 10.80 | | | | | | | | |
| NZL | 0.76 | 0.46 | 0.64 | 0.63 | 0.65 | 0.60 | 0.62 | 0.56 | 0.72 | 0.51 | 0.65 | 0.68 | 0.56 | 0.46 | 0.30 | | | | | | | |
| JPN | 0.57 | 0.79 | 0.74 | 0.91 | 0.71 | 0.75 | 0.78 | 0.81 | 0.77 | 0.81 | 0.76 | 0.81 | 0.71 | 0.74 | 0.52 | 0.58 | | | | | | |
| CZE | 0.59 | 0.68 | 0.78 | 0.81 | 0.86 | 0.75 | 0.78 | 0.79 | 0.81 | 0.73 | 0.77 | 0.78 | 0.83 | 0.66 | 0.65 | 0.70 | 12.98 | | | | | |
| EST | 0.46 | 0.58 | 0.63 | 0.59 | 0.68 | 0.58 | 0.56 | 0.58 | 0.58 | 0.56 | 0.64 | 0.55 | 0.67 | 0.57 | 0.48 | 0.57 | 0.70 | 18.81 | | | | |
| IRL | 0.57 | 0.48 | 0.65 | 0.67 | 0.65 | 0.65 | 0.65 | 0.63 | 0.79 | 0.62 | 0.62 | 0.64 | 0.62 | 0.53 | 0.57 | 0.57 | 0.62 | 0.49 | 0.89 | | | |
| KOR | 0.56 | 0.56 | 0.55 | 0.60 | 0.57 | 0.58 | 0.66 | 0.64 | 0.56 | 0.65 | 0.59 | 0.61 | 0.57 | 0.61 | 0.45 | 0.60 | 0.56 | 0.59 | 0.42 | 6.09 | | |
| SVN | 0.49 | 0.78 | 0.55 | 0.65 | 0.67 | 0.66 | 0.61 | 0.67 | 0.69 | 0.68 | 0.63 | 0.60 | 0.61 | 0.69 | 0.44 | 0.64 | 0.61 | 0.69 | 0.49 | 0.57 | 15.05 | |
| PRT | 0.53 | 0.64 | 0.61 | 0.68 | 0.73 | 0.76 | 0.76 | 0.76 | 0.80 | 0.75 | 0.77 | 0.75 | 0.67 | 0.68 | 0.49 | 0.74 | 0.69 | 0.56 | 0.59 | 0.63 | 0.58 | 0.29 |

| HOL | loc | BEL | CAN | CHE | DEU | DFS | ESP | FRA | GBR | ITA | NLD | USA | CZE | IRL | KOR | SVN | PRT | EST | HUN | POL |
|-----|-----|------|------|-------|-------|-------|------|------|------|------|------|------|-------|------|------|------|------|------|-----|-----|
| BEL | | 1.79 | | | | | | | | | | | | | | | | | | |
| CAN | | 0.85 | 6.71 | | | | | | | | | | | | | | | | | |
| CHE | | 0.56 | 0.60 | 12.45 | | | | | | | | | | | | | | | | |
| DEU | | 0.66 | 0.74 | 0.69 | 11.45 | | | | | | | | | | | | | | | |
| DFS | | 0.88 | 0.91 | 0.51 | 0.69 | 13.19 | | | | | | | | | | | | | | |
| ESP | | 0.62 | 0.74 | 0.67 | 0.74 | 0.74 | 0.85 | | | | | | | | | | | | | |
| FRA | | 0.79 | 0.77 | 0.72 | 0.82 | 0.70 | 0.76 | 0.96 | | | | | | | | | | | | |
| GBR | | 0.66 | 0.69 | 0.88 | 0.82 | 0.65 | 0.79 | 0.85 | 1.52 | | | | | | | | | | | |
| ITA | | 0.60 | 0.69 | 0.63 | 0.74 | 0.60 | 0.77 | 0.77 | 0.73 | 1.92 | | | | | | | | | | |
| NLD | | 0.85 | 0.82 | 0.69 | 0.82 | 0.78 | 0.70 | 0.82 | 0.78 | 0.64 | 4.64 | | | | | | | | | |
| USA | | 0.66 | 0.78 | 0.50 | 0.78 | 0.74 | 0.74 | 0.73 | 0.68 | 0.74 | 0.68 | 1.53 | | | | | | | | |
| CZE | | 0.51 | 0.61 | 0.54 | 0.62 | 0.61 | 0.64 | 0.61 | 0.66 | 0.69 | 0.50 | 0.62 | 20.34 | | | | | | | |
| IRL | | 0.57 | 0.56 | 0.52 | 0.63 | 0.51 | 0.63 | 0.68 | 0.72 | 0.62 | 0.62 | 0.55 | 0.51 | 1.65 | | | | | | |
| KOR | | 0.56 | 0.56 | 0.51 | 0.51 | 0.52 | 0.57 | 0.61 | 0.51 | 0.52 | 0.51 | 0.51 | 0.51 | 0.51 | 0.51 | 0.51 | 0.51 | 9.90 | | |

HOL bcs

| | BEL | CHE | DEU | DFS | FRA | GBR | ITA | NLD | USA | CZE | JPN | IRL | KOR | CAN | PRT | ESP | SVN | EST | HUN | NZL | POL |
|-----|------|-------|-------|-------|------|------|------|------|------|-------|------|------|------|------|------|------|-------|-------|------|------|-------|
| BEL | 0.97 | | | | | | | | | | | | | | | | | | | | |
| CHE | 0.71 | 11.72 | | | | | | | | | | | | | | | | | | | |
| DEU | 0.71 | 0.90 | 14.11 | | | | | | | | | | | | | | | | | | |
| DFS | 0.74 | 0.89 | 0.95 | 12.18 | | | | | | | | | | | | | | | | | |
| FRA | 0.71 | 0.93 | 0.95 | 0.95 | 0.95 | | | | | | | | | | | | | | | | |
| GBR | 0.75 | 0.91 | 0.90 | 0.90 | 0.92 | 1.61 | | | | | | | | | | | | | | | |
| ITA | 0.71 | 0.91 | 0.95 | 0.95 | 0.96 | 0.90 | 6.58 | | | | | | | | | | | | | | |
| NLD | 0.71 | 0.94 | 0.96 | 0.95 | 0.95 | 0.91 | 0.93 | 5.02 | | | | | | | | | | | | | |
| USA | 0.76 | 0.71 | 0.81 | 0.80 | 0.81 | 0.75 | 0.78 | 0.76 | 1.35 | | | | | | | | | | | | |
| CZE | 0.72 | 0.87 | 0.96 | 0.95 | 0.92 | 0.89 | 0.94 | 0.93 | 0.77 | 13.83 | | | | | | | | | | | |
| JPN | 0.79 | 0.93 | 0.97 | 0.97 | 0.97 | 0.92 | 0.96 | 0.95 | 0.84 | 0.95 | 1.68 | | | | | | | | | | |
| IRL | 0.72 | 0.86 | 0.79 | 0.85 | 0.87 | 0.93 | 0.83 | 0.85 | 0.71 | 0.77 | 0.86 | 0.98 | | | | | | | | | |
| KOR | 0.72 | 0.75 | 0.85 | 0.85 | 0.86 | 0.81 | 0.85 | 0.80 | 0.75 | 0.85 | 0.88 | 0.72 | 2.34 | | | | | | | | |
| CAN | 0.73 | 0.93 | 0.96 | 0.94 | 0.95 | 0.94 | 0.94 | 0.95 | 0.82 | 0.94 | 0.98 | 0.87 | 0.85 | 5.88 | | | | | | | |
| PRT | 0.71 | 0.85 | 0.87 | 0.86 | 0.89 | 0.87 | 0.85 | 0.86 | 0.71 | 0.84 | 0.87 | 0.79 | 0.83 | 0.89 | 1.76 | | | | | | |
| ESP | 0.73 | 0.87 | 0.92 | 0.92 | 0.94 | 0.93 | 0.92 | 0.91 | 0.75 | 0.91 | 0.93 | 0.82 | 0.85 | 0.94 | 0.88 | 1.02 | | | | | |
| SVN | 0.72 | 0.88 | 0.92 | 0.91 | 0.88 | 0.81 | 0.89 | 0.91 | 0.72 | 0.91 | 0.89 | 0.73 | 0.79 | 0.85 | 0.75 | 0.84 | 20.76 | | | | |
| EST | 0.72 | 0.83 | 0.91 | 0.87 | 0.88 | 0.78 | 0.88 | 0.91 | 0.81 | 0.88 | 0.89 | 0.72 | 0.76 | 0.88 | 0.76 | 0.79 | 0.86 | 16.65 | | | |
| HUN | 0.72 | 0.87 | 0.94 | 0.92 | 0.92 | 0.87 | 0.94 | 0.90 | 0.75 | 0.95 | 0.93 | 0.76 | 0.85 | 0.93 | 0.85 | 0.91 | 0.87 | 0.83 | 0.99 | | |
| NZL | 0.71 | 0.90 | 0.91 | 0.91 | 0.92 | 0.91 | 0.91 | 0.88 | 0.72 | 0.88 | 0.92 | 0.87 | 0.81 | 0.91 | 0.85 | 0.86 | 0.84 | 0.82 | 0.89 | 0.16 | |
| POL | 0.72 | 0.86 | 0.91 | 0.89 | 0.89 | 0.89 | 0.90 | 0.87 | 0.75 | 0.91 | 0.92 | 0.79 | 0.80 | 0.91 | 0.85 | 0.87 | 0.83 | 0.80 | 0.91 | 0.85 | 11.13 |

JER sta

| | AUS | CAN | DFS | GBR | ITA | NZL | USA | ZAF | NLD | CHE |
|-----|------|------|-------|------|------|------|------|------|------|-------|
| AUS | 0.54 | | | | | | | | | |
| CAN | 0.89 | 6.75 | | | | | | | | |
| DFS | 0.90 | 0.97 | 11.73 | | | | | | | |
| GBR | 0.91 | 0.96 | 0.94 | 1.17 | | | | | | |
| ITA | 0.87 | 0.95 | 0.93 | 0.95 | 1.65 | | | | | |
| NZL | 0.87 | 0.84 | 0.85 | 0.90 | 0.87 | 0.36 | | | | |
| USA | 0.90 | 0.97 | 0.95 | 0.96 | 0.94 | 0.89 | 1.65 | | | |
| ZAF | 0.87 | 0.85 | 0.84 | 0.92 | 0.87 | 0.89 | 0.86 | 8.68 | | |
| NLD | 0.88 | 0.96 | 0.97 | 0.94 | 0.92 | 0.85 | 0.94 | 0.86 | 5.22 | |
| CHE | 0.89 | 0.96 | 0.96 | 0.95 | 0.93 | 0.85 | 0.94 | 0.87 | 0.97 | 11.58 |

JER cwi

| | AUS | CAN | DFS | GBR | ITA | NZL | USA | ZAF | NLD | CHE |
|-----|------|------|-------|------|------|------|------|------|------|-------|
| AUS | 0.29 | | | | | | | | | |
| CAN | 0.74 | 6.64 | | | | | | | | |
| DFS | 0.71 | 0.80 | 15.57 | | | | | | | |
| GBR | 0.81 | 0.91 | 0.84 | 1.84 | | | | | | |
| ITA | 0.65 | 0.77 | 0.69 | 0.73 | 1.69 | | | | | |
| NZL | 0.81 | 0.73 | 0.66 | 0.75 | 0.66 | 0.37 | | | | |
| USA | 0.74 | 0.89 | 0.80 | 0.85 | 0.90 | 0.67 | 1.00 | | | |
| ZAF | 0.68 | 0.77 | 0.73 | 0.80 | 0.73 | 0.75 | 0.76 | 8.44 | | |
| NLD | 0.73 | 0.91 | 0.89 | 0.90 | 0.72 | 0.69 | 0.84 | 0.80 | 4.51 | |
| CHE | 0.67 | 0.85 | 0.86 | 0.82 | 0.81 | 0.68 | 0.84 | 0.71 | 0.87 | 12.42 |

JER bde

| | AUS | CAN | DFS | GBR | ITA | NZL | ZAF | NLD | USA | CHE |
|-----|------|------|------|-------|-----|-----|-----|-----|-----|-----|
| AUS | 0.33 | | | | | | | | | |
| CAN | | 0.78 | 5.64 | | | | | | | |
| DFS | | 0.76 | 0.85 | 13.75 | | | | | | |

JER ang

| | AUS | CAN | DFS | GBR | ITA | USA | ZAF | NLD | CHE |
|-----|------|------|-------|------|------|------|------|------|------|
| AUS | 0.33 | | | | | | | | |
| CAN | 0.67 | 7.54 | | | | | | | |
| DFS | 0.71 | 0.82 | 13.18 | | | | | | |
| GBR | 0.80 | 0.84 | 0.86 | 1.36 | | | | | |
| ITA | 0.73 | 0.85 | 0.81 | 0.85 | 1.63 | | | | |
| USA | 0.70 | 0.83 | 0.84 | 0.83 | 0.79 | 1.00 | | | |
| ZAF | 0.62 | 0.63 | 0.65 | 0.80 | 0.82 | 0.67 | 8.58 | | |
| NLD | 0.72 | 0.82 | 0.74 | 0.82 | 0.80 | 0.73 | 0.65 | 5.82 | |
| CHE | 0.63 | 0.78 | 0.71 | 0.71 | 0.74 | 0.72 | 0.65 | 0.74 | 9.79 |

JER ran

| | AUS | CAN | DFS | GBR | ITA | NZL | USA | ZAF | NLD | CHE |
|-----|------|------|-------|------|------|------|------|------|------|-------|
| AUS | 0.36 | | | | | | | | | |
| CAN | 0.88 | 5.76 | | | | | | | | |
| DFS | 0.89 | 0.96 | 11.50 | | | | | | | |
| GBR | 0.94 | 0.95 | 0.96 | 1.27 | | | | | | |
| ITA | 0.88 | 0.95 | 0.94 | 0.95 | 1.64 | | | | | |
| NZL | 0.90 | 0.88 | 0.88 | 0.92 | 0.89 | 0.30 | | | | |
| USA | 0.89 | 0.95 | 0.96 | 0.97 | 0.94 | 0.91 | 1.23 | | | |
| ZAF | 0.88 | 0.88 | 0.88 | 0.89 | 0.88 | 0.88 | 0.88 | 8.89 | | |
| NLD | 0.90 | 0.96 | 0.95 | 0.96 | 0.94 | 0.89 | 0.95 | 0.91 | 4.99 | |
| CHE | 0.91 | 0.96 | 0.95 | 0.95 | 0.94 | 0.90 | 0.94 | 0.89 | 0.94 | 12.97 |

JER rwi

| | AUS | CAN | DFS | GBR | ITA | NZL | USA | ZAF | NLD | CHE |
|-----|------|------|-------|------|------|------|------|------|------|-------|
| AUS | 0.32 | | | | | | | | | |
| CAN | 0.80 | 6.26 | | | | | | | | |
| DFS | 0.81 | 0.91 | 12.05 | | | | | | | |
| GBR | 0.80 | 0.92 | 0.86 | 1.37 | | | | | | |
| ITA | 0.77 | 0.85 | 0.81 | 0.85 | 1.49 | | | | | |
| NZL | 0.88 | 0.82 | 0.82 | 0.80 | 0.80 | 0.30 | | | | |
| USA | 0.77 | 0.81 | 0.81 | 0.84 | 0.87 | 0.78 | 0.98 | | | |
| ZAF | 0.77 | 0.78 | 0.79 | 0.80 | 0.78 | 0.77 | 0.78 | 9.06 | | |
| NLD | 0.84 | 0.94 | 0.91 | 0.87 | 0.79 | 0.84 | 0.80 | 0.79 | 5.12 | |
| CHE | 0.82 | 0.92 | 0.83 | 0.86 | 0.79 | 0.80 | 0.79 | 0.78 | 0.91 | 13.23 |

JER rls

| | AUS | CAN | DFS | GBR | ITA | NZL | USA | ZAF | NLD | CHE |
|-----|------|------|-------|------|------|------|------|-------|------|------|
| AUS | 0.18 | | | | | | | | | |
| CAN | 0.67 | 6.25 | | | | | | | | |
| DFS | 0.67 | 0.90 | 12.56 | | | | | | | |
| GBR | 0.71 | 0.84 | 0.75 | 1.67 | | | | | | |
| ITA | 0.67 | 0.86 | 0.81 | 0.80 | 1.94 | | | | | |
| NZL | 0.66 | 0.66 | 0.67 | 0.68 | 0.68 | 0.12 | | | | |
| USA | 0.66 | 0.94 | 0.87 | 0.87 | 0.85 | 0.66 | 0.87 | | | |
| ZAF | 0.71 | 0.68 | 0.67 | 0.74 | 0.68 | 0.83 | 0.70 | 11.85 | | |
| NLD | 0.71 | 0.91 | 0.90 | 0.85 | 0.85 | 0.67 | 0.86 | 0.73 | 3.63 | |
| CHE | 0.74 | 0.92 | 0.86 | 0.81 | 0.80 | 0.68 | 0.85 | 0.71 | 0.90 | 9.72 |

JER rlr

| | AUS | CAN | DFS | ITA | ZAF | NLD | USA | CHE | |
|-----|------|------|-------|------|-------|------|------|-------|--|
| AUS | 0.22 | | | | | | | | |
| CAN | 0.52 | 6.42 | | | | | | | |
| DFS | 0.53 | 0.79 | 13.79 | | | | | | |
| ITA | 0.56 | 0.82 | 0.71 | 1.40 | | | | | |
| ZAF | 0.51 | 0.52 | 0.52 | 0.55 | 12.14 | | | | |
| NLD | 0.58 | 0.86 | 0.89 | 0.74 | 0.61 | 5.69 | | | |
| USA | 0.50 | 0.71 | 0.63 | 0.84 | 0.52 | 0.74 | 0.87 | | |
| CHE | 0.63 | 0.67 | 0.62 | 0.61 | 0.55 | 0.70 | 0.57 | 13.13 | |

| JER | fan | | | | | | | | |
|-----|------|------|-------|------|------|------|------|------|-------|
| | AUS | CAN | DFS | GBR | ITA | USA | ZAF | NLD | CHE |
| AUS | 0.22 | | | | | | | | |
| CAN | 0.61 | 6.58 | | | | | | | |
| DFS | 0.62 | 0.87 | 12.79 | | | | | | |
| GBR | 0.70 | 0.79 | 0.77 | 1.51 | | | | | |
| ITA | 0.62 | 0.74 | 0.68 | 0.70 | 1.55 | | | | |
| USA | 0.62 | 0.88 | 0.82 | 0.85 | 0.79 | 0.86 | | | |
| ZAF | 0.65 | 0.65 | 0.66 | 0.81 | 0.65 | 0.74 | 9.50 | | |
| NLD | 0.67 | 0.73 | 0.77 | 0.85 | 0.70 | 0.76 | 0.70 | 3.92 | |
| CHE | 0.65 | 0.82 | 0.82 | 0.71 | 0.69 | 0.75 | 0.66 | 0.71 | 12.02 |

| JER | fua | | | | | | | | | |
|-----|------|------|-------|------|------|------|------|-------|------|-------|
| | AUS | CAN | DFS | GBR | ITA | NZL | USA | ZAF | NLD | CHE |
| AUS | 0.37 | | | | | | | | | |
| CAN | 0.72 | 5.76 | | | | | | | | |
| DFS | 0.69 | 0.85 | 12.73 | | | | | | | |
| GBR | 0.74 | 0.94 | 0.86 | 1.68 | | | | | | |
| ITA | 0.67 | 0.86 | 0.74 | 0.87 | 1.55 | | | | | |
| NZL | 0.80 | 0.71 | 0.73 | 0.80 | 0.69 | 0.42 | | | | |
| USA | 0.73 | 0.94 | 0.86 | 0.92 | 0.90 | 0.71 | 1.46 | | | |
| ZAF | 0.69 | 0.90 | 0.87 | 0.92 | 0.78 | 0.74 | 0.89 | 11.83 | | |
| NLD | 0.73 | 0.90 | 0.87 | 0.92 | 0.85 | 0.80 | 0.88 | 0.84 | 5.01 | |
| CHE | 0.77 | 0.92 | 0.85 | 0.87 | 0.80 | 0.71 | 0.87 | 0.88 | 0.89 | 12.24 |

| JER | ruh | | | | | | | | | |
|-----|------|------|-------|------|------|------|------|------|------|-------|
| | AUS | CAN | DFS | GBR | ITA | NZL | USA | ZAF | NLD | CHE |
| AUS | 0.35 | | | | | | | | | |
| CAN | 0.72 | 6.78 | | | | | | | | |
| DFS | 0.73 | 0.83 | 10.70 | | | | | | | |
| GBR | 0.79 | 0.79 | 0.83 | 1.39 | | | | | | |
| ITA | 0.72 | 0.72 | 0.79 | 0.83 | 1.36 | | | | | |
| NZL | 0.71 | 0.71 | 0.76 | 0.76 | 0.81 | 0.41 | | | | |
| USA | 0.77 | 0.83 | 0.90 | 0.90 | 0.83 | 0.74 | 1.23 | | | |
| ZAF | 0.82 | 0.70 | 0.77 | 0.86 | 0.84 | 0.77 | 0.83 | 9.13 | | |
| NLD | 0.74 | 0.75 | 0.91 | 0.87 | 0.81 | 0.81 | 0.87 | 0.76 | 4.13 | |
| CHE | 0.78 | 0.91 | 0.84 | 0.82 | 0.71 | 0.76 | 0.84 | 0.74 | 0.82 | 12.67 |

| JER | usu | | | | | | | | | |
|-----|------|------|-------|------|------|------|------|------|------|-------|
| | AUS | CAN | DFS | GBR | ITA | NZL | USA | ZAF | NLD | CHE |
| AUS | 0.38 | | | | | | | | | |
| CAN | 0.73 | 6.36 | | | | | | | | |
| DFS | 0.71 | 0.84 | 13.47 | | | | | | | |
| GBR | 0.78 | 0.85 | 0.85 | 1.74 | | | | | | |
| ITA | 0.65 | 0.76 | 0.75 | 0.83 | 1.66 | | | | | |
| NZL | 0.58 | 0.59 | 0.59 | 0.62 | 0.63 | 0.40 | | | | |
| USA | 0.74 | 0.81 | 0.89 | 0.84 | 0.82 | 0.60 | 0.97 | | | |
| ZAF | 0.75 | 0.76 | 0.71 | 0.79 | 0.65 | 0.59 | 0.75 | 9.90 | | |
| NLD | 0.81 | 0.81 | 0.87 | 0.91 | 0.79 | 0.61 | 0.88 | 0.78 | 4.64 | |
| CHE | 0.76 | 0.90 | 0.86 | 0.81 | 0.79 | 0.61 | 0.83 | 0.77 | 0.85 | 11.21 |

| JER ude | | | | | | | | | |
|---------|------|------|-------|------|------|------|-------|------|-------|
| | AUS | CAN | DFS | GBR | ITA | USA | ZAF | NLD | CHE |
| AUS | 0.35 | | | | | | | | |
| CAN | 0.91 | 5.58 | | | | | | | |
| DFS | 0.88 | 0.93 | 12.19 | | | | | | |
| GBR | 0.89 | 0.97 | 0.93 | 1.44 | | | | | |
| ITA | 0.91 | 0.95 | 0.94 | 0.94 | 1.73 | | | | |
| USA | 0.88 | 0.95 | 0.95 | 0.94 | 0.96 | 1.76 | | | |
| ZAF | 0.87 | 0.89 | 0.89 | 0.89 | 0.88 | 0.88 | 10.29 | | |
| NLD | 0.89 | 0.96 | 0.96 | 0.96 | 0.95 | 0.95 | 0.91 | 4.96 | |
| CHE | 0.93 | 0.95 | 0.93 | 0.92 | 0.95 | 0.95 | 0.89 | 0.96 | 10.11 |

| JER ftp | | | | | | | | | | |
|---------|------|------|-------|------|------|------|------|-------|------|-------|
| | AUS | CAN | DFS | GBR | ITA | NZL | USA | ZAF | NLD | CHE |
| AUS | 0.46 | | | | | | | | | |
| CAN | 0.89 | 6.26 | | | | | | | | |
| DFS | 0.88 | 0.91 | 12.73 | | | | | | | |
| GBR | 0.90 | 0.94 | 0.88 | 1.35 | | | | | | |
| ITA | 0.87 | 0.87 | 0.86 | 0.87 | 1.66 | | | | | |
| NZL | 0.87 | 0.92 | 0.87 | 0.88 | 0.87 | 0.31 | | | | |
| USA | 0.86 | 0.95 | 0.91 | 0.94 | 0.86 | 0.88 | 1.31 | | | |
| ZAF | 0.87 | 0.93 | 0.87 | 0.92 | 0.87 | 0.90 | 0.90 | 10.06 | | |
| NLD | 0.92 | 0.97 | 0.94 | 0.93 | 0.86 | 0.90 | 0.90 | 0.90 | 5.78 | |
| CHE | 0.92 | 0.95 | 0.93 | 0.91 | 0.87 | 0.89 | 0.90 | 0.88 | 0.96 | 10.05 |

| JER ft1 | | | | | | | | | | |
|---------|------|------|-------|------|------|------|-------|------|-------|------|
| | AUS | CAN | DFS | GBR | ITA | USA | ZAF | NLD | CHE | NZL |
| AUS | 0.33 | | | | | | | | | |
| CAN | 0.91 | 5.59 | | | | | | | | |
| DFS | 0.92 | 0.91 | 13.89 | | | | | | | |
| GBR | 0.91 | 0.93 | 0.94 | 1.47 | | | | | | |
| ITA | 0.90 | 0.92 | 0.91 | 0.93 | 1.79 | | | | | |
| USA | 0.90 | 0.91 | 0.94 | 0.97 | 0.92 | 1.08 | | | | |
| ZAF | 0.91 | 0.90 | 0.93 | 0.95 | 0.90 | 0.96 | 10.75 | | | |
| NLD | 0.92 | 0.93 | 0.96 | 0.97 | 0.91 | 0.95 | 0.93 | 4.36 | | |
| CHE | 0.91 | 0.92 | 0.94 | 0.96 | 0.90 | 0.94 | 0.92 | 0.96 | 11.55 | |
| NZL | 0.92 | 0.95 | 0.92 | 0.94 | 0.91 | 0.93 | 0.93 | 0.93 | 0.93 | 0.52 |

| JER rtp | | | | | | | | |
|---------|------|------|-------|------|------|------|------|-------|
| | AUS | CAN | DFS | NZL | ZAF | NLD | USA | CHE |
| AUS | 0.32 | | | | | | | |
| CAN | 0.87 | 6.30 | | | | | | |
| DFS | 0.87 | 0.94 | 13.08 | | | | | |
| NZL | 0.87 | 0.95 | 0.90 | 0.42 | | | | |
| ZAF | 0.87 | 0.90 | 0.87 | 0.87 | 9.20 | | | |
| NLD | 0.89 | 0.96 | 0.95 | 0.92 | 0.87 | 5.44 | | |
| USA | 0.87 | 0.93 | 0.95 | 0.87 | 0.86 | 0.94 | 1.33 | |
| CHE | 0.89 | 0.97 | 0.94 | 0.93 | 0.92 | 0.96 | 0.92 | 11.43 |

| JER ocs | | | | | | | | | |
|---------|------|------|-------|------|------|------|------|-----|-----|
| | AUS | CAN | DFS | GBR | ITA | NZL | USA | NLD | CHE |
| AUS | 0.77 | | | | | | | | |
| CAN | 0.54 | 5.20 | | | | | | | |
| DFS | 0.50 | 0.62 | 12.48 | | | | | | |
| GBR | 0.63 | 0.75 | 0.81 | 2.94 | | | | | |
| ITA | 0.48 | 0.70 | 0.72 | 0.79 | 1.31 | | | | |
| NZL | 0.62 | 0.58 | 0.47 | 0.56 | 0.55 | 0.30 | | | |
| USA | 0.62 | 0.79 | 0.67 | 0.84 | 0.78 | 0.58 | 0.87 | | |

| | | | | | | | | | |
|-----|------|------|------|------|------|------|------|------|------|
| NLD | 0.56 | 0.71 | 0.86 | 0.87 | 0.80 | 0.63 | 0.81 | 3.80 | |
| CHE | 0.56 | 0.83 | 0.73 | 0.88 | 0.79 | 0.54 | 0.74 | 0.82 | 8.08 |

JER ous

| | AUS | CAN | DFS | GBR | NZL | USA | NLD | CHE | ITA |
|-----|------|------|-------|------|------|------|------|-------|------|
| AUS | 0.78 | | | | | | | | |
| CAN | 0.67 | 6.31 | | | | | | | |
| DFS | 0.67 | 0.82 | 12.83 | | | | | | |
| GBR | 0.73 | 0.81 | 0.70 | 1.47 | | | | | |
| NZL | 0.81 | 0.72 | 0.68 | 0.75 | 0.44 | | | | |
| USA | 0.68 | 0.89 | 0.82 | 0.85 | 0.71 | 0.98 | | | |
| NLD | 0.70 | 0.88 | 0.87 | 0.78 | 0.80 | 0.86 | 5.28 | | |
| CHE | 0.76 | 0.87 | 0.79 | 0.84 | 0.77 | 0.85 | 0.92 | 10.67 | |
| ITA | 0.69 | 0.83 | 0.88 | 0.78 | 0.71 | 0.85 | 0.84 | 0.86 | 1.71 |

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| | AUS | CAN | DFS | GBR | ITA | USA | NLD | CHE |
|-----|------|------|-------|------|------|------|------|-------|
| AUS | 6.32 | | | | | | | |
| CAN | 0.47 | 4.98 | | | | | | |
| DFS | 0.37 | 0.72 | 13.61 | | | | | |
| GBR | 0.63 | 0.62 | 0.63 | 1.31 | | | | |
| ITA | 0.46 | 0.59 | 0.67 | 0.65 | 1.87 | | | |
| USA | 0.61 | 0.64 | 0.62 | 0.64 | 0.73 | 1.39 | | |
| NLD | 0.45 | 0.66 | 0.64 | 0.72 | 0.68 | 0.66 | 5.63 | |
| CHE | 0.55 | 0.83 | 0.70 | 0.70 | 0.70 | 0.79 | 0.72 | 11.00 |

RDC sta

| | AUS | CAN | DEU | DFS | GBR | NOR | NZL | USA | NLD | CAM | LVA |
|-----|------|------|-------|------|------|-------|------|------|------|------|------|
| AUS | 0.68 | | | | | | | | | | |
| CAN | 0.88 | 6.32 | | | | | | | | | |
| DEU | 0.88 | 0.97 | 13.18 | | | | | | | | |
| DFS | 0.86 | 0.96 | 0.97 | 8.65 | | | | | | | |
| GBR | 0.92 | 0.96 | 0.96 | 0.93 | 1.31 | | | | | | |
| NOR | 0.87 | 0.93 | 0.94 | 0.97 | 0.92 | 13.61 | | | | | |
| NZL | 0.90 | 0.89 | 0.86 | 0.89 | 0.92 | 0.92 | 0.50 | | | | |
| USA | 0.89 | 0.97 | 0.96 | 0.94 | 0.97 | 0.91 | 0.89 | 2.28 | | | |
| NLD | 0.87 | 0.96 | 0.97 | 0.97 | 0.94 | 0.96 | 0.84 | 0.93 | 4.87 | | |
| CAM | 0.92 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 6.08 | |
| LVA | 0.85 | 0.85 | 0.86 | 0.91 | 0.84 | 0.89 | 0.86 | 0.84 | 0.86 | 0.90 | 0.66 |

RDC cwi

| | AUS | CAN | DEU | DFS | GBR | NZL | USA | NLD | CAM | NOR | LVA |
|-----|------|------|-------|-------|------|------|------|------|------|-------|------|
| AUS | 0.40 | | | | | | | | | | |
| CAN | 0.72 | 6.79 | | | | | | | | | |
| DEU | 0.72 | 0.88 | 11.61 | | | | | | | | |
| DFS | 0.76 | 0.82 | 0.89 | 13.68 | | | | | | | |
| GBR | 0.83 | 0.87 | 0.90 | 0.88 | 1.61 | | | | | | |
| NZL | 0.78 | 0.68 | 0.70 | 0.68 | 0.80 | 0.35 | | | | | |
| USA | 0.66 | 0.84 | 0.81 | 0.83 | 0.83 | 0.71 | 1.26 | | | | |
| NLD | 0.72 | 0.92 | 0.92 | 0.89 | 0.91 | 0.69 | 0.82 | 5.40 | | | |
| CAM | 0.76 | 0.79 | 0.79 | 0.79 | 0.79 | 0.78 | 0.79 | 0.79 | 6.89 | | |
| NOR | 0.83 | 0.79 | 0.81 | 0.89 | 0.82 | 0.82 | 0.82 | 0.87 | 0.79 | 14.46 | |
| LVA | 0.68 | 0.69 | 0.67 | 0.66 | 0.66 | 0.70 | 0.65 | 0.69 | 0.79 | 0.79 | 0.30 |

RDC bde

| | | | | | | | | | | | |
|-----|------|------|------|-------|------|-------|------|------|------|------|------|
| DFS | 0.79 | 0.83 | 0.92 | 11.88 | | | | | | | |
| GBR | 0.78 | 0.86 | 0.92 | 0.90 | 1.59 | | | | | | |
| NOR | 0.76 | 0.80 | 0.82 | 0.89 | 0.83 | 15.38 | | | | | |
| NZL | 0.77 | 0.70 | 0.73 | 0.73 | 0.75 | 0.82 | 0.35 | | | | |
| USA | 0.70 | 0.76 | 0.89 | 0.84 | 0.89 | 0.82 | 0.73 | 1.27 | | | |
| NLD | 0.70 | 0.83 | 0.90 | 0.85 | 0.91 | 0.90 | 0.69 | 0.90 | 4.87 | | |
| CAM | 0.85 | 0.82 | 0.84 | 0.83 | 0.83 | 0.83 | 0.84 | 0.83 | 0.83 | 5.89 | |
| LVA | 0.73 | 0.77 | 0.80 | 0.82 | 0.79 | 0.84 | 0.75 | 0.69 | 0.75 | 0.82 | 0.34 |

RDC ang

| | AUS | CAN | DEU | DFS | GBR | USA | NLD | CAM | NOR | LVA | |
|-----|------|------|------|------|------|------|------|------|-------|------|--|
| AUS | 0.45 | | | | | | | | | | |
| CAN | 0.66 | 6.82 | | | | | | | | | |
| DEU | 0.64 | 0.61 | 6.94 | | | | | | | | |
| DFS | 0.71 | 0.73 | 0.68 | 9.06 | | | | | | | |
| GBR | 0.77 | 0.81 | 0.62 | 0.83 | 1.35 | | | | | | |
| USA | 0.69 | 0.86 | 0.61 | 0.80 | 0.86 | 1.18 | | | | | |
| NLD | 0.73 | 0.82 | 0.61 | 0.74 | 0.82 | 0.74 | 5.56 | | | | |
| CAM | 0.83 | 0.77 | 0.79 | 0.79 | 0.79 | 0.79 | 0.79 | 7.40 | | | |
| NOR | 0.71 | 0.75 | 0.79 | 0.63 | 0.77 | 0.78 | 0.77 | 0.77 | 16.06 | | |
| LVA | 0.66 | 0.63 | 0.63 | 0.62 | 0.63 | 0.62 | 0.64 | 0.77 | 0.77 | 0.30 | |

RDC ran

| | AUS | CAN | DEU | DFS | GBR | NOR | NZL | USA | NLD | CAM | LVA |
|-----|------|------|------|-------|------|-------|------|------|------|------|------|
| AUS | 0.45 | | | | | | | | | | |
| CAN | 0.90 | 5.68 | | | | | | | | | |
| DEU | 0.91 | 0.97 | 9.03 | | | | | | | | |
| DFS | 0.90 | 0.95 | 0.95 | 10.02 | | | | | | | |
| GBR | 0.92 | 0.97 | 0.97 | 0.95 | 1.57 | | | | | | |
| NOR | 0.90 | 0.94 | 0.90 | 0.91 | 0.93 | 12.10 | | | | | |
| NZL | 0.92 | 0.90 | 0.89 | 0.88 | 0.92 | 0.93 | 0.28 | | | | |
| USA | 0.89 | 0.98 | 0.96 | 0.94 | 0.97 | 0.93 | 0.90 | 1.61 | | | |
| NLD | 0.90 | 0.97 | 0.98 | 0.96 | 0.97 | 0.94 | 0.89 | 0.96 | 5.63 | | |
| CAM | 0.93 | 0.93 | 0.93 | 0.93 | 0.93 | 0.93 | 0.93 | 0.93 | 0.93 | 5.56 | |
| LVA | 0.89 | 0.92 | 0.92 | 0.90 | 0.91 | 0.89 | 0.89 | 0.90 | 0.91 | 0.92 | 0.42 |

RDC rwi

| | AUS | CAN | DEU | DFS | GBR | NZL | USA | NLD | CAM | NOR | LVA |
|-----|------|------|------|-------|------|------|------|------|------|-------|------|
| AUS | 0.48 | | | | | | | | | | |
| CAN | 0.84 | 6.42 | | | | | | | | | |
| DEU | 0.79 | 0.94 | 9.83 | | | | | | | | |
| DFS | 0.80 | 0.93 | 0.92 | 10.49 | | | | | | | |
| GBR | 0.84 | 0.92 | 0.89 | 0.88 | 1.46 | | | | | | |
| NZL | 0.82 | 0.89 | 0.81 | 0.87 | 0.90 | 0.33 | | | | | |
| USA | 0.77 | 0.90 | 0.85 | 0.89 | 0.93 | 0.87 | 1.39 | | | | |
| NLD | 0.83 | 0.94 | 0.96 | 0.92 | 0.88 | 0.82 | 0.81 | 6.25 | | | |
| CAM | 0.86 | 0.87 | 0.86 | 0.88 | 0.87 | 0.88 | 0.87 | 0.87 | 6.74 | | |
| NOR | 0.82 | 0.87 | 0.85 | 0.94 | 0.87 | 0.88 | 0.87 | 0.89 | 0.87 | 13.87 | |
| LVA | 0.79 | 0.82 | 0.82 | 0.85 | 0.78 | 0.80 | 0.77 | 0.82 | 0.86 | 0.86 | 0.41 |

RDC rls

| | AUS | CAN | DEU | DFS | GBR | NOR | NZL | USA | NLD | CAM | LVA |
|-----|------|------|------|------|------|-------|------|------|------|-----|-----|
| AUS | 0.23 | | | | | | | | | | |
| CAN | 0.70 | 6.49 | | | | | | | | | |
| DEU | 0.71 | 0.94 | 9.13 | | | | | | | | |
| DFS | 0.68 | 0.97 | 0.94 | 9.28 | | | | | | | |
| GBR | 0.78 | 0.77 | 0.85 | 0.77 | 1.53 | | | | | | |
| NOR | 0.71 | 0.87 | 0.85 | 0.93 | 0.79 | 11.80 | | | | | |
| NZL | 0.67 | 0.67 | 0.68 | 0.67 | 0.69 | 0.73 | 0.12 | | | | |
| USA | 0.68 | 0.92 | 0.93 | 0.93 | 0.82 | 0.83 | 0.67 | 0.89 | | | |
| NLD | 0.71 | 0.92 | 0.93 | 0.88 | 0.86 | 0.80 | 0.66 | 0.90 | 5.38 | | |

CAM 0.82 0.80 0.80 0.79 0.80 0.80 0.78 0.81 0.80 6.88
 LVA 0.70 0.77 0.81 0.72 0.75 0.71 0.71 0.76 0.80 0.80 0.28

RDC rlr

| | AUS | CAN | DEU | DFS | NOR | NLD | USA | CAM | LVA |
|-----|------|------|-------|-------|-------|------|------|------|------|
| AUS | 0.21 | | | | | | | | |
| CAN | 0.58 | 6.35 | | | | | | | |
| DEU | 0.61 | 0.88 | 10.46 | | | | | | |
| DFS | 0.55 | 0.82 | 0.90 | 10.89 | | | | | |
| NOR | 0.58 | 0.77 | 0.82 | 0.84 | 13.32 | | | | |
| NLD | 0.58 | 0.87 | 0.90 | 0.88 | 0.85 | 5.12 | | | |
| USA | 0.56 | 0.72 | 0.77 | 0.66 | 0.71 | 0.80 | 0.89 | | |
| CAM | 0.75 | 0.72 | 0.72 | 0.73 | 0.71 | 0.71 | 0.71 | 6.98 | |
| LVA | 0.62 | 0.72 | 0.76 | 0.78 | 0.66 | 0.70 | 0.69 | 0.73 | 0.24 |

RDC fan

| | AUS | CAN | DEU | DFS | GBR | NOR | USA | NLD | CAM | LVA |
|-----|------|------|-------|------|------|-------|------|------|------|------|
| AUS | 0.29 | | | | | | | | | |
| CAN | 0.64 | 6.64 | | | | | | | | |
| DEU | 0.68 | 0.81 | 13.65 | | | | | | | |
| DFS | 0.62 | 0.69 | 0.79 | 9.32 | | | | | | |
| GBR | 0.73 | 0.78 | 0.90 | 0.74 | 1.58 | | | | | |
| NOR | 0.67 | 0.74 | 0.86 | 0.62 | 0.77 | 12.82 | | | | |
| USA | 0.67 | 0.84 | 0.83 | 0.71 | 0.83 | 0.77 | 1.04 | | | |
| NLD | 0.67 | 0.74 | 0.88 | 0.78 | 0.88 | 0.73 | 0.80 | 5.07 | | |
| CAM | 0.74 | 0.77 | 0.77 | 0.77 | 0.77 | 0.77 | 0.77 | 0.77 | 7.86 | |
| LVA | 0.70 | 0.64 | 0.65 | 0.64 | 0.65 | 0.68 | 0.67 | 0.66 | 0.77 | 0.27 |

RDC fua

| | AUS | CAN | DEU | DFS | GBR | NOR | NZL | USA | NLD | CAM | LVA |
|-----|------|------|-------|-------|------|-------|------|------|------|------|------|
| AUS | 0.39 | | | | | | | | | | |
| CAN | 0.77 | 5.40 | | | | | | | | | |
| DEU | 0.74 | 0.91 | 12.53 | | | | | | | | |
| DFS | 0.73 | 0.79 | 0.84 | 11.66 | | | | | | | |
| GBR | 0.76 | 0.88 | 0.94 | 0.85 | 1.52 | | | | | | |
| NOR | 0.76 | 0.82 | 0.76 | 0.86 | 0.80 | 12.06 | | | | | |
| NZL | 0.76 | 0.82 | 0.80 | 0.69 | 0.79 | 0.72 | 0.36 | | | | |
| USA | 0.75 | 0.93 | 0.89 | 0.85 | 0.92 | 0.80 | 0.84 | 1.45 | | | |
| NLD | 0.75 | 0.91 | 0.93 | 0.85 | 0.93 | 0.79 | 0.83 | 0.89 | 4.06 | | |
| CAM | 0.84 | 0.81 | 0.79 | 0.80 | 0.79 | 0.80 | 0.79 | 0.81 | 0.81 | 6.50 | |
| LVA | 0.68 | 0.75 | 0.76 | 0.80 | 0.76 | 0.75 | 0.74 | 0.71 | 0.75 | 0.78 | 0.36 |

RDC ruh

| | AUS | CAN | DEU | DFS | GBR | NOR | NZL | USA | NLD | CAM | LVA |
|-----|------|------|-------|-------|------|-------|------|------|------|------|------|
| AUS | 0.48 | | | | | | | | | | |
| CAN | 0.79 | 5.65 | | | | | | | | | |
| DEU | 0.79 | 0.87 | 14.38 | | | | | | | | |
| DFS | 0.78 | 0.87 | 0.89 | 10.72 | | | | | | | |
| GBR | 0.78 | 0.75 | 0.84 | 0.85 | 1.43 | | | | | | |
| NOR | 0.75 | 0.84 | 0.88 | 0.87 | 0.82 | 12.26 | | | | | |
| NZL | 0.82 | 0.73 | 0.81 | 0.77 | 0.92 | 0.77 | 0.33 | | | | |
| USA | 0.77 | 0.84 | 0.90 | 0.93 | 0.90 | 0.83 | 0.85 | 1.31 | | | |
| NLD | 0.74 | 0.75 | 0.91 | 0.91 | 0.87 | 0.90 | 0.82 | 0.86 | 3.96 | | |
| CAM | 0.81 | 0.82 | 0.82 | 0.83 | 0.82 | 0.82 | 0.82 | 0.82 | 0.82 | 6.09 | |
| LVA | 0.75 | 0.73 | 0.75 | 0.83 | 0.72 | 0.74 | 0.73 | 0.72 | 0.74 | 0.82 | 0.40 |

RDC usu

AUS 0.34 CAN DEU DFS GBR NOR NZL USA NLD CAM LVA

| | | | | | | | | | | | |
|-----|------|------|-------|-------|------|-------|------|------|------|------|------|
| CAN | 0.75 | 5.79 | | | | | | | | | |
| DEU | 0.72 | 0.90 | 12.26 | | | | | | | | |
| DFS | 0.66 | 0.75 | 0.79 | 13.03 | | | | | | | |
| GBR | 0.80 | 0.79 | 0.75 | 0.79 | 1.87 | | | | | | |
| NOR | 0.65 | 0.71 | 0.66 | 0.72 | 0.76 | 12.16 | | | | | |
| NZL | 0.64 | 0.71 | 0.61 | 0.59 | 0.66 | 0.68 | 0.32 | | | | |
| USA | 0.77 | 0.82 | 0.75 | 0.85 | 0.88 | 0.78 | 0.69 | 1.18 | | | |
| NLD | 0.78 | 0.81 | 0.79 | 0.89 | 0.92 | 0.75 | 0.58 | 0.91 | 4.52 | | |
| CAM | 0.83 | 0.77 | 0.76 | 0.76 | 0.78 | 0.76 | 0.76 | 0.77 | 0.78 | 5.85 | |
| LVA | 0.63 | 0.64 | 0.62 | 0.60 | 0.73 | 0.67 | 0.67 | 0.67 | 0.67 | 0.76 | 0.32 |

| | | | | | | | | | | | |
|-------|------|------|-------|-------|------|-------|------|------|------|------|--|
| RDC | ude | | | | | | | | | | |
| <hr/> | | | | | | | | | | | |
| AUS | AUS | CAN | DEU | DFS | GBR | NOR | USA | NLD | CAM | LVA | |
| AUS | 0.56 | | | | | | | | | | |
| CAN | 0.88 | 5.63 | | | | | | | | | |
| DEU | 0.89 | 0.97 | 12.69 | | | | | | | | |
| DFS | 0.88 | 0.96 | 0.94 | 10.67 | | | | | | | |
| GBR | 0.89 | 0.96 | 0.96 | 0.93 | 1.78 | | | | | | |
| NOR | 0.89 | 0.91 | 0.90 | 0.88 | 0.92 | 14.23 | | | | | |
| USA | 0.87 | 0.96 | 0.95 | 0.95 | 0.96 | 0.92 | 1.28 | | | | |
| NLD | 0.88 | 0.97 | 0.97 | 0.95 | 0.97 | 0.89 | 0.96 | 4.36 | | | |
| CAM | 0.91 | 0.92 | 0.93 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 4.54 | | |
| LVA | 0.89 | 0.89 | 0.88 | 0.91 | 0.88 | 0.89 | 0.88 | 0.88 | 0.92 | 0.42 | |

| | | | | | | | | | | | |
|-------|------|------|-------|-------|------|-------|------|------|------|------|------|
| RDC | ftp | | | | | | | | | | |
| <hr/> | | | | | | | | | | | |
| AUS | AUS | CAN | DEU | DFS | GBR | NOR | NZL | USA | NLD | CAM | LVA |
| AUS | 0.54 | | | | | | | | | | |
| CAN | 0.92 | 6.06 | | | | | | | | | |
| DEU | 0.93 | 0.97 | 12.79 | | | | | | | | |
| DFS | 0.89 | 0.95 | 0.93 | 11.92 | | | | | | | |
| GBR | 0.91 | 0.93 | 0.94 | 0.89 | 1.48 | | | | | | |
| NOR | 0.88 | 0.91 | 0.89 | 0.93 | 0.91 | 14.19 | | | | | |
| NZL | 0.91 | 0.90 | 0.90 | 0.87 | 0.89 | 0.89 | 0.26 | | | | |
| USA | 0.86 | 0.92 | 0.91 | 0.92 | 0.93 | 0.91 | 0.87 | 1.40 | | | |
| NLD | 0.92 | 0.98 | 0.97 | 0.95 | 0.94 | 0.89 | 0.91 | 0.90 | 4.54 | | |
| CAM | 0.90 | 0.91 | 0.91 | 0.91 | 0.91 | 0.91 | 0.91 | 0.91 | 0.91 | 6.59 | |
| LVA | 0.88 | 0.87 | 0.87 | 0.87 | 0.87 | 0.89 | 0.88 | 0.86 | 0.87 | 0.91 | 0.39 |

| | | | | | | | | | | | |
|-------|------|------|-------|-------|------|-------|------|------|------|------|-----|
| RDC | ftl | | | | | | | | | | |
| <hr/> | | | | | | | | | | | |
| AUS | AUS | CAN | DEU | DFS | GBR | NOR | USA | NLD | CAM | LVA | NZL |
| AUS | 0.58 | | | | | | | | | | |
| CAN | 0.93 | 5.07 | | | | | | | | | |
| DEU | 0.93 | 0.94 | 13.87 | | | | | | | | |
| DFS | 0.92 | 0.90 | 0.97 | 10.59 | | | | | | | |
| GBR | 0.94 | 0.93 | 0.97 | 0.93 | 1.44 | | | | | | |
| NOR | 0.91 | 0.92 | 0.92 | 0.94 | 0.93 | 12.55 | | | | | |
| USA | 0.94 | 0.93 | 0.95 | 0.93 | 0.97 | 0.93 | 1.64 | | | | |
| NLD | 0.92 | 0.93 | 0.98 | 0.97 | 0.97 | 0.95 | 0.95 | 5.23 | | | |
| CAM | 0.93 | 0.93 | 0.93 | 0.93 | 0.93 | 0.93 | 0.93 | 0.93 | 7.28 | | |
| LVA | 0.90 | 0.91 | 0.90 | 0.90 | 0.90 | 0.94 | 0.89 | 0.90 | 0.93 | 0.47 | |
| NZL | 0.94 | 0.94 | 0.93 | 0.92 | 0.93 | 0.93 | 0.93 | 0.93 | 0.90 | 0.41 | |

| | | | | | | | | | | | |
|-------|------|------|-------|-------|-------|------|------|-----|-----|-----|--|
| RDC | rtp | | | | | | | | | | |
| <hr/> | | | | | | | | | | | |
| AUS | AUS | CAN | DEU | DFS | NOR | NZL | NLD | USA | CAM | LVA | |
| AUS | 0.39 | | | | | | | | | | |
| CAN | 0.88 | 5.99 | | | | | | | | | |
| DEU | 0.89 | 0.96 | 13.83 | | | | | | | | |
| DFS | 0.87 | 0.93 | 0.96 | 12.28 | | | | | | | |
| NOR | 0.88 | 0.90 | 0.89 | 0.87 | 13.14 | | | | | | |
| NZL | 0.91 | 0.95 | 0.92 | 0.88 | 0.89 | 0.35 | | | | | |
| NLD | 0.90 | 0.97 | 0.98 | 0.96 | 0.88 | 0.93 | 5.39 | | | | |

| | | | | | | | | |
|-----|------|------|------|------|------|------|------|------|
| USA | 0.88 | 0.91 | 0.95 | 0.91 | 0.91 | 0.89 | 0.96 | 1.40 |
| CAM | 0.92 | 0.91 | 0.91 | 0.91 | 0.91 | 0.91 | 0.91 | 6.11 |
| LVA | 0.89 | 0.89 | 0.89 | 0.88 | 0.88 | 0.89 | 0.91 | 0.38 |

RDC ocs

| | AUS | CAN | DEU | DFS | GBR | NOR | NZL | USA | NLD | CAM |
|-----|------|------|-------|-------|------|-------|------|------|------|------|
| AUS | 1.10 | | | | | | | | | |
| CAN | 0.64 | 4.73 | | | | | | | | |
| DEU | 0.53 | 0.74 | 20.57 | | | | | | | |
| DFS | 0.59 | 0.60 | 0.71 | 10.51 | | | | | | |
| GBR | 0.65 | 0.73 | 0.87 | 0.74 | 1.61 | | | | | |
| NOR | 0.52 | 0.69 | 0.69 | 0.74 | 0.75 | 16.33 | | | | |
| NZL | 0.72 | 0.56 | 0.62 | 0.52 | 0.65 | 0.63 | 0.27 | | | |
| USA | 0.62 | 0.76 | 0.82 | 0.72 | 0.87 | 0.75 | 0.71 | 0.56 | | |
| NLD | 0.59 | 0.71 | 0.86 | 0.82 | 0.88 | 0.74 | 0.65 | 0.86 | 3.53 | |
| CAM | 0.73 | 0.75 | 0.75 | 0.76 | 0.76 | 0.75 | 0.73 | 0.78 | 0.78 | 6.29 |

RDC ous

| | AUS | CAN | DEU | DFS | GBR | NOR | NZL | USA | NLD | CAM |
|-----|------|------|-------|-------|------|-------|------|------|------|------|
| AUS | 1.48 | | | | | | | | | |
| CAN | 0.71 | 5.32 | | | | | | | | |
| DEU | 0.75 | 0.87 | 17.07 | | | | | | | |
| DFS | 0.68 | 0.78 | 0.81 | 10.78 | | | | | | |
| GBR | 0.83 | 0.79 | 0.82 | 0.71 | 1.59 | | | | | |
| NOR | 0.72 | 0.80 | 0.80 | 0.79 | 0.82 | 13.05 | | | | |
| NZL | 0.83 | 0.82 | 0.78 | 0.73 | 0.81 | 0.75 | 0.36 | | | |
| USA | 0.75 | 0.88 | 0.84 | 0.85 | 0.86 | 0.82 | 0.87 | 0.96 | | |
| NLD | 0.71 | 0.88 | 0.90 | 0.85 | 0.77 | 0.80 | 0.82 | 0.85 | 4.40 | |
| CAM | 0.85 | 0.83 | 0.83 | 0.82 | 0.83 | 0.82 | 0.85 | 0.84 | 0.84 | 6.61 |

RDC ofl

| | AUS | CAN | DEU | DFS | GBR | NOR | USA | NLD | CAM |
|-----|------|------|-------|-------|------|-------|------|------|------|
| AUS | 0.66 | | | | | | | | |
| CAN | 0.37 | 4.41 | | | | | | | |
| DEU | 0.42 | 0.73 | 16.47 | | | | | | |
| DFS | 0.38 | 0.80 | 0.82 | 13.86 | | | | | |
| GBR | 0.54 | 0.67 | 0.73 | 0.66 | 1.43 | | | | |
| NOR | 0.46 | 0.70 | 0.70 | 0.58 | 0.76 | 13.00 | | | |
| USA | 0.58 | 0.60 | 0.74 | 0.64 | 0.69 | 0.75 | 1.30 | | |
| NLD | 0.47 | 0.67 | 0.76 | 0.65 | 0.73 | 0.76 | 0.68 | 7.05 | |
| CAM | 0.56 | 0.75 | 0.75 | 0.75 | 0.75 | 0.75 | 0.75 | 0.75 | 6.90 |

^APPENDIX II. Number of common bulls

BSW

common bulls below diagonal

common three quarter sib group above diagonal

| | CAN | CHE | FRA | ITA | NLD | USA | DEA | SVN | GBR |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| CAN | 0 | 141 | 86 | 139 | 42 | 158 | 123 | 26 | 20 |
| CHE | 123 | 0 | 184 | 510 | 72 | 282 | 557 | 62 | 18 |
| FRA | 79 | 145 | 0 | 213 | 64 | 104 | 211 | 41 | 14 |
| ITA | 120 | 452 | 176 | 0 | 97 | 221 | 618 | 77 | 19 |
| NLD | 34 | 69 | 53 | 77 | 0 | 63 | 88 | 28 | 12 |
| USA | 148 | 251 | 79 | 162 | 50 | 0 | 236 | 27 | 20 |
| DEA | 103 | 461 | 166 | 533 | 77 | 190 | 0 | 72 | 15 |
| SVN | 24 | 59 | 42 | 71 | 28 | 23 | 67 | 0 | 6 |
| GBR | 17 | 16 | 13 | 17 | 10 | 18 | 13 | 4 | 0 |

BSW

common bulls below diagonal
common three quarter sib group above diagonal

CAN CHE FRA ITA NLD USA DEA SVN GBR

| | | | | | | | | | |
|-----|-----|-----|-----|-----|----|-----|-----|----|----|
| CAN | 0 | 133 | 52 | 139 | 35 | 158 | 121 | 26 | 20 |
| CHE | 116 | 0 | 116 | 455 | 67 | 253 | 494 | 62 | 18 |
| FRA | 47 | 86 | 0 | 128 | 45 | 65 | 140 | 41 | 10 |
| ITA | 120 | 398 | 105 | 0 | 89 | 221 | 582 | 78 | 19 |
| NLD | 30 | 66 | 41 | 73 | 0 | 49 | 82 | 28 | 12 |
| USA | 148 | 218 | 46 | 162 | 41 | 0 | 218 | 27 | 20 |
| DEA | 102 | 402 | 107 | 496 | 75 | 165 | 0 | 73 | 14 |
| SVN | 24 | 59 | 42 | 72 | 28 | 23 | 68 | 0 | 6 |
| GBR | 17 | 16 | 9 | 17 | 10 | 18 | 13 | 4 | 0 |

BSW

common bulls below diagonal

common three quarter sib group above diagonal

CAN CHE FRA ITA NLD DEA SVN GBR USA

| | | | | | | | | | |
|-----|-----|-----|-----|-----|----|-----|----|----|-----|
| CAN | 0 | 141 | 86 | 139 | 35 | 123 | 23 | 20 | 158 |
| CHE | 123 | 0 | 184 | 510 | 71 | 557 | 48 | 18 | 282 |
| FRA | 79 | 145 | 0 | 213 | 58 | 211 | 37 | 14 | 104 |
| ITA | 120 | 452 | 176 | 0 | 89 | 618 | 67 | 19 | 221 |
| NLD | 30 | 69 | 50 | 73 | 0 | 83 | 27 | 12 | 49 |
| DEA | 103 | 461 | 166 | 533 | 76 | 0 | 60 | 15 | 236 |
| SVN | 21 | 46 | 38 | 61 | 27 | 56 | 0 | 6 | 22 |
| GBR | 17 | 16 | 13 | 17 | 10 | 13 | 4 | 0 | 20 |
| USA | 148 | 251 | 79 | 162 | 41 | 190 | 20 | 18 | 0 |

BSW

common bulls below diagonal

common three quarter sib group above diagonal

CAN CHE FRA NLD USA GBR

| | | | | | | |
|-----|-----|-----|-----|----|-----|----|
| CAN | 0 | 140 | 85 | 24 | 157 | 20 |
| CHE | 123 | 0 | 178 | 49 | 280 | 18 |
| FRA | 78 | 141 | 0 | 41 | 103 | 14 |
| NLD | 21 | 50 | 37 | 0 | 34 | 9 |
| USA | 147 | 251 | 78 | 30 | 0 | 20 |
| GBR | 17 | 16 | 13 | 7 | 18 | 0 |

BSW

common bulls below diagonal

common three quarter sib group above diagonal

CAN CHE FRA ITA NLD USA DEA SVN GBR

| | | | | | | | | | |
|-----|-----|-----|-----|-----|----|-----|-----|----|----|
| CAN | 0 | 141 | 86 | 139 | 42 | 158 | 123 | 26 | 20 |
| CHE | 123 | 0 | 184 | 510 | 72 | 282 | 557 | 62 | 18 |
| FRA | 79 | 145 | 0 | 213 | 64 | 104 | 211 | 41 | 14 |
| ITA | 120 | 452 | 176 | 0 | 97 | 221 | 618 | 77 | 19 |
| NLD | 34 | 69 | 53 | 77 | 0 | 63 | 88 | 28 | 12 |
| USA | 148 | 251 | 79 | 162 | 50 | 0 | 236 | 27 | 20 |
| DEA | 103 | 461 | 166 | 533 | 77 | 190 | 0 | 72 | 15 |
| SVN | 24 | 59 | 42 | 71 | 28 | 23 | 67 | 0 | 6 |
| GBR | 17 | 16 | 13 | 17 | 10 | 18 | 13 | 4 | 0 |

BSW

common bulls below diagonal

common three quarter sib group above diagonal

CAN CHE FRA NLD USA GBR SVN ITA

| | | | | | | | | | |
|-----|-----|-----|-----|----|-----|-----|----|----|-----|
| CAN | 0 | 141 | 52 | 42 | 158 | 123 | 20 | 23 | 135 |
| CHE | 123 | 0 | 116 | 72 | 282 | 557 | 18 | 48 | 503 |
| FRA | 47 | 86 | 0 | 45 | 65 | 140 | 10 | 37 | 128 |
| NLD | 34 | 69 | 41 | 0 | 63 | 88 | 12 | 27 | 95 |

| | | | | | | | | | |
|-----|-----|-----|-----|----|-----|-----|----|----|-----|
| USA | 148 | 251 | 46 | 50 | 0 | 236 | 20 | 22 | 207 |
| DEA | 103 | 461 | 108 | 77 | 190 | 0 | 15 | 60 | 612 |
| GBR | 17 | 16 | 9 | 10 | 18 | 13 | 0 | 6 | 19 |
| SVN | 21 | 46 | 38 | 27 | 20 | 56 | 4 | 0 | 67 |
| ITA | 117 | 446 | 105 | 76 | 148 | 525 | 17 | 61 | 0 |

BSW

| common bulls below diagonal | | | | | | | | | |
|---|-----|-----|-----|-----|-----|-----|-----|-----|----|
| common three quarter sib group above diagonal | | | | | | | | | |
| CAN | CHE | FRA | ITA | NLD | USA | DEA | SVN | GBR | |
| CAN | 0 | 141 | 86 | 139 | 42 | 158 | 123 | 26 | 20 |
| CHE | 123 | 0 | 184 | 510 | 72 | 282 | 557 | 62 | 18 |
| FRA | 79 | 145 | 0 | 213 | 64 | 104 | 211 | 41 | 14 |
| ITA | 120 | 452 | 176 | 0 | 97 | 221 | 618 | 77 | 19 |
| NLD | 34 | 69 | 53 | 77 | 0 | 63 | 88 | 28 | 12 |
| USA | 148 | 251 | 79 | 162 | 50 | 0 | 236 | 27 | 20 |
| DEA | 103 | 461 | 166 | 533 | 77 | 190 | 0 | 72 | 15 |
| SVN | 24 | 59 | 42 | 71 | 28 | 23 | 67 | 0 | 6 |
| GBR | 17 | 16 | 13 | 17 | 10 | 18 | 13 | 4 | 0 |

BSW

| common bulls below diagonal | | | | | | | | | |
|---|-----|-----|-----|-----|-----|-----|-----|-----|----|
| common three quarter sib group above diagonal | | | | | | | | | |
| CAN | CHE | FRA | ITA | NLD | USA | DEA | SVN | GBR | |
| CAN | 0 | 141 | 86 | 139 | 34 | 158 | 123 | 26 | 20 |
| CHE | 123 | 0 | 184 | 510 | 70 | 282 | 557 | 62 | 18 |
| FRA | 79 | 145 | 0 | 213 | 58 | 104 | 211 | 41 | 14 |
| ITA | 120 | 452 | 176 | 0 | 88 | 221 | 618 | 77 | 19 |
| NLD | 29 | 68 | 50 | 72 | 0 | 48 | 82 | 28 | 12 |
| USA | 148 | 251 | 79 | 162 | 39 | 0 | 236 | 27 | 20 |
| DEA | 103 | 461 | 166 | 533 | 75 | 190 | 0 | 72 | 15 |
| SVN | 24 | 59 | 42 | 71 | 28 | 23 | 67 | 0 | 6 |
| GBR | 17 | 16 | 13 | 17 | 10 | 18 | 13 | 4 | 0 |

BSW

| common bulls below diagonal | | | | | | | | | |
|---|-----|-----|-----|-----|-----|-----|-----|-----|--|
| common three quarter sib group above diagonal | | | | | | | | | |
| CAN | CHE | FRA | ITA | NLD | DEA | SVN | USA | | |
| CAN | 0 | 141 | 86 | 135 | 34 | 123 | 26 | 158 | |
| CHE | 123 | 0 | 184 | 504 | 70 | 557 | 62 | 282 | |
| FRA | 79 | 145 | 0 | 212 | 58 | 211 | 41 | 104 | |
| ITA | 117 | 447 | 176 | 0 | 87 | 612 | 77 | 207 | |
| NLD | 29 | 68 | 50 | 71 | 0 | 82 | 28 | 48 | |
| DEA | 103 | 461 | 166 | 525 | 75 | 0 | 72 | 236 | |
| SVN | 24 | 59 | 42 | 71 | 28 | 67 | 0 | 27 | |
| USA | 148 | 251 | 79 | 148 | 39 | 190 | 23 | 0 | |

BSW

| common bulls below diagonal | | | | | | | | | |
|---|-----|-----|-----|-----|-----|-----|-----|-----|----|
| common three quarter sib group above diagonal | | | | | | | | | |
| CAN | CHE | FRA | ITA | NLD | USA | DEA | SVN | GBR | |
| CAN | 0 | 141 | 52 | 96 | 34 | 158 | 91 | 26 | 20 |
| CHE | 123 | 0 | 116 | 339 | 71 | 281 | 364 | 62 | 18 |
| FRA | 47 | 86 | 0 | 120 | 43 | 65 | 130 | 41 | 10 |
| ITA | 85 | 291 | 98 | 0 | 65 | 123 | 336 | 72 | 16 |
| NLD | 29 | 69 | 39 | 58 | 0 | 47 | 69 | 28 | 12 |
| USA | 148 | 251 | 46 | 89 | 39 | 0 | 140 | 27 | 20 |
| DEA | 77 | 295 | 100 | 299 | 63 | 101 | 0 | 72 | 12 |
| SVN | 24 | 59 | 42 | 67 | 28 | 23 | 67 | 0 | 6 |
| GBR | 17 | 16 | 9 | 14 | 10 | 18 | 11 | 4 | 0 |

BSW

common bulls below diagonal

common three quarter sib group above diagonal
CAN CHE FRA ITA NLD USA DEA SVN GBR

| | | | | | | | | | |
|-----|-----|-----|-----|-----|----|-----|-----|----|----|
| CAN | 0 | 141 | 86 | 139 | 35 | 158 | 123 | 26 | 20 |
| CHE | 123 | 0 | 184 | 510 | 71 | 282 | 557 | 62 | 18 |
| FRA | 79 | 145 | 0 | 213 | 57 | 104 | 211 | 41 | 14 |
| ITA | 120 | 452 | 176 | 0 | 86 | 221 | 618 | 78 | 19 |
| NLD | 30 | 69 | 49 | 70 | 0 | 48 | 81 | 28 | 12 |
| USA | 148 | 251 | 79 | 162 | 40 | 0 | 236 | 27 | 20 |
| DEA | 103 | 461 | 166 | 533 | 74 | 190 | 0 | 73 | 15 |
| SVN | 24 | 59 | 42 | 72 | 28 | 23 | 68 | 0 | 6 |
| GBR | 17 | 16 | 13 | 17 | 10 | 18 | 13 | 4 | 0 |

BSW

common bulls below diagonal

common three quarter sib group above diagonal
CAN CHE FRA ITA NLD USA DEA SVN

| | | | | | | | | | |
|-----|-----|-----|-----|-----|----|-----|-----|----|----|
| CAN | 0 | 141 | 86 | 139 | 35 | 158 | 123 | 26 | 20 |
| CHE | 123 | 0 | 184 | 510 | 71 | 282 | 557 | 62 | 18 |
| FRA | 79 | 145 | 0 | 213 | 57 | 104 | 211 | 41 | 14 |
| ITA | 120 | 452 | 176 | 0 | 86 | 221 | 618 | 78 | 19 |
| NLD | 30 | 69 | 49 | 70 | 0 | 48 | 81 | 28 | 12 |
| USA | 148 | 251 | 79 | 162 | 40 | 0 | 236 | 27 | 20 |
| DEA | 103 | 461 | 166 | 533 | 74 | 190 | 0 | 73 | 15 |
| SVN | 24 | 59 | 42 | 72 | 28 | 23 | 68 | 0 | 6 |

BSW

common bulls below diagonal

common three quarter sib group above diagonal
CAN CHE FRA ITA NLD USA DEA SVN GBR

| | | | | | | | | | |
|-----|-----|-----|-----|-----|----|-----|-----|----|----|
| CAN | 0 | 141 | 86 | 139 | 42 | 158 | 123 | 26 | 20 |
| CHE | 123 | 0 | 184 | 510 | 72 | 282 | 557 | 62 | 18 |
| FRA | 79 | 145 | 0 | 213 | 63 | 104 | 211 | 41 | 14 |
| ITA | 120 | 452 | 176 | 0 | 94 | 221 | 618 | 78 | 19 |
| NLD | 34 | 69 | 52 | 74 | 0 | 62 | 86 | 28 | 12 |
| USA | 148 | 251 | 79 | 162 | 49 | 0 | 236 | 27 | 20 |
| DEA | 103 | 461 | 166 | 533 | 75 | 190 | 0 | 73 | 15 |
| SVN | 24 | 59 | 42 | 72 | 28 | 23 | 68 | 0 | 6 |
| GBR | 17 | 16 | 13 | 17 | 10 | 18 | 13 | 4 | 0 |

BSW

common bulls below diagonal

common three quarter sib group above diagonal
CAN CHE FRA ITA NLD USA DEA SVN GBR

| | | | | | | | | | |
|-----|-----|-----|-----|-----|----|-----|-----|----|----|
| CAN | 0 | 141 | 86 | 139 | 43 | 156 | 123 | 26 | 20 |
| CHE | 123 | 0 | 184 | 510 | 74 | 282 | 557 | 62 | 18 |
| FRA | 79 | 145 | 0 | 213 | 65 | 104 | 211 | 41 | 14 |
| ITA | 120 | 452 | 176 | 0 | 99 | 221 | 618 | 78 | 19 |
| NLD | 35 | 70 | 53 | 78 | 0 | 63 | 91 | 28 | 12 |
| USA | 147 | 251 | 79 | 162 | 50 | 0 | 236 | 27 | 20 |
| DEA | 103 | 461 | 166 | 533 | 80 | 190 | 0 | 73 | 15 |
| SVN | 24 | 59 | 42 | 72 | 28 | 23 | 68 | 0 | 6 |
| GBR | 17 | 16 | 13 | 17 | 10 | 18 | 13 | 4 | 0 |

BSW

common bulls below diagonal

common three quarter sib group above diagonal
CAN CHE FRA NLD USA DEA SVN GBR ITA

| | | | | | | | | | |
|-----|-----|-----|-----|----|-----|-----|----|----|-----|
| CAN | 0 | 141 | 86 | 43 | 158 | 112 | 26 | 20 | 127 |
| CHE | 123 | 0 | 184 | 74 | 282 | 525 | 62 | 18 | 468 |
| FRA | 79 | 145 | 0 | 65 | 104 | 198 | 41 | 14 | 196 |
| NLD | 35 | 70 | 53 | 0 | 63 | 85 | 28 | 12 | 89 |
| USA | 148 | 251 | 79 | 50 | 0 | 211 | 27 | 20 | 177 |
| DEA | 95 | 430 | 156 | 78 | 162 | 0 | 73 | 14 | 524 |
| SVN | 24 | 59 | 42 | 28 | 23 | 68 | 0 | 6 | 77 |
| GBR | 17 | 16 | 13 | 10 | 18 | 13 | 4 | 0 | 19 |
| ITA | 110 | 415 | 162 | 73 | 129 | 460 | 71 | 17 | 0 |

BSW

common bulls below diagonal

common three quarter sib group above diagonal

| CAN | CHE | FRA | ITA | NLD | USA | DEA | SVN | GBR |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|
|-----|-----|-----|-----|-----|-----|-----|-----|-----|

| | | | | | | | | | |
|-----|-----|-----|-----|-----|----|-----|-----|----|----|
| CAN | 0 | 141 | 86 | 139 | 42 | 158 | 123 | 26 | 20 |
| CHE | 123 | 0 | 184 | 510 | 72 | 282 | 557 | 62 | 18 |
| FRA | 79 | 145 | 0 | 213 | 63 | 104 | 211 | 41 | 14 |
| ITA | 120 | 452 | 176 | 0 | 94 | 219 | 618 | 78 | 19 |
| NLD | 34 | 69 | 52 | 74 | 0 | 62 | 86 | 28 | 12 |
| USA | 148 | 251 | 79 | 161 | 49 | 0 | 236 | 27 | 20 |
| DEA | 103 | 461 | 166 | 533 | 75 | 190 | 0 | 73 | 15 |
| SVN | 24 | 59 | 42 | 72 | 28 | 23 | 68 | 0 | 6 |
| GBR | 17 | 16 | 13 | 17 | 10 | 18 | 13 | 4 | 0 |

BSW

common bulls below diagonal

common three quarter sib group above diagonal

| CAN | CHE | FRA | ITA | NLD | DEA | SVN | USA |
|-----|-----|-----|-----|-----|-----|-----|-----|
|-----|-----|-----|-----|-----|-----|-----|-----|

| | | | | | | | | |
|-----|-----|-----|-----|-----|----|-----|----|-----|
| CAN | 0 | 141 | 86 | 96 | 31 | 91 | 26 | 158 |
| CHE | 123 | 0 | 181 | 339 | 69 | 364 | 62 | 281 |
| FRA | 79 | 142 | 0 | 144 | 56 | 151 | 41 | 104 |
| ITA | 85 | 291 | 118 | 0 | 69 | 336 | 72 | 123 |
| NLD | 27 | 68 | 48 | 62 | 0 | 73 | 28 | 43 |
| DEA | 77 | 295 | 113 | 299 | 68 | 0 | 72 | 140 |
| SVN | 24 | 59 | 42 | 67 | 28 | 67 | 0 | 27 |
| USA | 148 | 251 | 79 | 89 | 36 | 101 | 23 | 0 |

BSW

common bulls below diagonal

common three quarter sib group above diagonal

| CAN | CHE | FRA | ITA | NLD | USA | DEA | SVN | GBR |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|
|-----|-----|-----|-----|-----|-----|-----|-----|-----|

| | | | | | | | | | |
|-----|-----|-----|-----|-----|----|-----|-----|----|----|
| CAN | 0 | 133 | 75 | 139 | 42 | 158 | 91 | 26 | 20 |
| CHE | 116 | 0 | 146 | 454 | 67 | 253 | 359 | 61 | 18 |
| FRA | 70 | 113 | 0 | 173 | 55 | 87 | 142 | 40 | 14 |
| ITA | 120 | 396 | 145 | 0 | 95 | 218 | 372 | 75 | 19 |
| NLD | 34 | 66 | 49 | 77 | 0 | 63 | 71 | 28 | 12 |
| USA | 148 | 218 | 66 | 162 | 50 | 0 | 140 | 27 | 20 |
| DEA | 77 | 291 | 110 | 334 | 65 | 101 | 0 | 70 | 12 |
| SVN | 24 | 58 | 41 | 69 | 28 | 23 | 65 | 0 | 6 |
| GBR | 17 | 16 | 13 | 17 | 10 | 18 | 11 | 4 | 0 |

BSW

common bulls below diagonal

common three quarter sib group above diagonal

| CAN | CHE | FRA | ITA | NLD | USA | DEA | SVN | GBR |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|
|-----|-----|-----|-----|-----|-----|-----|-----|-----|

| | | | | | | | | | |
|-----|-----|-----|-----|-----|----|-----|-----|----|----|
| CAN | 0 | 133 | 75 | 139 | 42 | 157 | 123 | 26 | 20 |
| CHE | 116 | 0 | 146 | 455 | 67 | 253 | 502 | 61 | 18 |
| FRA | 70 | 113 | 0 | 174 | 54 | 87 | 177 | 41 | 14 |
| ITA | 120 | 398 | 145 | 0 | 94 | 221 | 611 | 77 | 19 |
| NLD | 34 | 66 | 48 | 74 | 0 | 62 | 86 | 28 | 12 |
| USA | 147 | 218 | 66 | 162 | 49 | 0 | 234 | 27 | 20 |

| | | | | | | | | | |
|-----|-----|-----|-----|-----|----|-----|----|----|----|
| DEA | 102 | 412 | 139 | 529 | 75 | 186 | 0 | 73 | 15 |
| SVN | 24 | 58 | 42 | 71 | 28 | 23 | 68 | 0 | 6 |
| GBR | 17 | 16 | 13 | 17 | 10 | 18 | 13 | 4 | 0 |

BSW

common bulls below diagonal
common three quarter sib group above diagonal
CAN CHE FRA ITA NLD USA DEA SVN GBR

| | | | | | | | | | |
|-----|-----|-----|-----|-----|----|-----|-----|----|----|
| CAN | 0 | 133 | 75 | 135 | 42 | 158 | 123 | 26 | 20 |
| CHE | 116 | 0 | 146 | 454 | 67 | 253 | 502 | 62 | 18 |
| FRA | 70 | 113 | 0 | 173 | 55 | 87 | 177 | 41 | 14 |
| ITA | 117 | 397 | 145 | 0 | 95 | 207 | 606 | 77 | 19 |
| NLD | 34 | 66 | 49 | 76 | 0 | 63 | 88 | 28 | 12 |
| USA | 148 | 218 | 66 | 148 | 50 | 0 | 234 | 27 | 20 |
| DEA | 102 | 412 | 139 | 522 | 77 | 186 | 0 | 72 | 15 |
| SVN | 24 | 59 | 42 | 71 | 28 | 23 | 67 | 0 | 6 |
| GBR | 17 | 16 | 13 | 17 | 10 | 18 | 13 | 4 | 0 |

BSW

BSW

common bulls below diagonal
common three quarter sib group above diagonal
CAN CHE DEA ITA SVN USA FRA

| | | | | | | | |
|-----|-----|-----|-----|-----|----|-----|-----|
| CAN | 0 | 132 | 122 | 97 | 25 | 159 | 53 |
| CHE | 115 | 0 | 496 | 339 | 62 | 252 | 116 |
| DEA | 103 | 409 | 0 | 376 | 71 | 230 | 140 |
| ITA | 86 | 290 | 324 | 0 | 70 | 123 | 120 |
| SVN | 24 | 59 | 66 | 65 | 0 | 27 | 40 |
| USA | 148 | 218 | 185 | 89 | 23 | 0 | 65 |
| FRA | 48 | 86 | 108 | 98 | 41 | 46 | 0 |

BSW

common bulls below diagonal
common three quarter sib group above diagonal
CAN CHE DEA ITA SVN FRA

| | | | | | | |
|-----|-----|-----|-----|-----|----|-----|
| CAN | 0 | 139 | 124 | 140 | 26 | 87 |
| CHE | 122 | 0 | 557 | 510 | 61 | 184 |
| DEA | 103 | 461 | 0 | 616 | 72 | 210 |
| ITA | 121 | 452 | 532 | 0 | 77 | 211 |
| SVN | 24 | 59 | 68 | 72 | 0 | 41 |
| FRA | 80 | 145 | 166 | 175 | 42 | 0 |

BSW

common bulls below diagonal
common three quarter sib group above diagonal
CAN CHE DEA ITA SVN USA FRA

| | | | | | | | |
|-----|-----|-----|-----|-----|----|-----|-----|
| CAN | 0 | 132 | 101 | 97 | 25 | 159 | 53 |
| CHE | 115 | 0 | 394 | 339 | 62 | 252 | 116 |
| DEA | 87 | 322 | 0 | 343 | 70 | 168 | 132 |
| ITA | 86 | 290 | 306 | 0 | 70 | 123 | 120 |
| SVN | 24 | 59 | 65 | 65 | 0 | 27 | 40 |
| USA | 148 | 218 | 125 | 89 | 23 | 0 | 65 |
| FRA | 48 | 86 | 102 | 98 | 41 | 46 | 0 |

BSW

common bulls below diagonal
common three quarter sib group above diagonal

CHE DEA ITA SVN USA FRA

| | | | | | | |
|-----|-----|-----|-----|----|-----|-----|
| CHE | 0 | 539 | 339 | 48 | 281 | 182 |
| DEA | 446 | 0 | 375 | 59 | 221 | 205 |
| ITA | 291 | 323 | 0 | 60 | 123 | 144 |
| SVN | 46 | 55 | 55 | 0 | 22 | 36 |
| USA | 251 | 174 | 89 | 20 | 0 | 103 |
| FRA | 144 | 163 | 118 | 37 | 79 | 0 |

BSW

common bulls below diagonal

common three quarter sib group above diagonal

CAN CHE DEA ITA SVN USA FRA

| | | | | | | | |
|-----|----|-----|-----|-----|----|-----|-----|
| CAN | 0 | 89 | 74 | 78 | 24 | 91 | 41 |
| CHE | 76 | 0 | 394 | 339 | 58 | 252 | 116 |
| DEA | 61 | 322 | 0 | 343 | 67 | 168 | 132 |
| ITA | 69 | 290 | 306 | 0 | 63 | 123 | 120 |
| SVN | 23 | 55 | 62 | 59 | 0 | 25 | 40 |
| USA | 81 | 218 | 125 | 89 | 21 | 0 | 65 |
| FRA | 36 | 86 | 102 | 98 | 41 | 46 | 0 |

BSW

common bulls below diagonal

common three quarter sib group above diagonal

CAN CHE DEA ITA SVN FRA

| | | | | | | |
|-----|-----|-----|-----|-----|----|-----|
| CAN | 0 | 139 | 124 | 136 | 26 | 87 |
| CHE | 122 | 0 | 557 | 504 | 61 | 184 |
| DEA | 103 | 461 | 0 | 610 | 71 | 210 |
| ITA | 118 | 447 | 524 | 0 | 76 | 210 |
| SVN | 24 | 59 | 67 | 71 | 0 | 41 |
| FRA | 80 | 145 | 166 | 175 | 42 | 0 |

BSW

common bulls below diagonal

common three quarter sib group above diagonal

CHE DEA ITA SVN FRA

| | | | | | |
|-----|-----|-----|-----|----|-----|
| CHE | 0 | 556 | 507 | 61 | 180 |
| DEA | 460 | 0 | 616 | 72 | 208 |
| ITA | 449 | 532 | 0 | 77 | 208 |
| SVN | 59 | 68 | 72 | 0 | 41 |
| FRA | 142 | 165 | 174 | 42 | 0 |

BSW

common bulls below diagonal

common three quarter sib group above diagonal

CHE DEA ITA SVN FRA

| | | | | | |
|-----|-----|-----|-----|----|-----|
| CHE | 0 | 330 | 314 | 61 | 129 |
| DEA | 280 | 0 | 334 | 71 | 150 |
| ITA | 275 | 299 | 0 | 72 | 141 |
| SVN | 59 | 67 | 67 | 0 | 41 |
| FRA | 101 | 112 | 116 | 42 | 0 |

BSW

common bulls below diagonal

common three quarter sib group above diagonal

CHE DEA ITA SVN FRA

| | | | | | |
|-----|-----|-----|-----|----|-----|
| CHE | 0 | 556 | 501 | 60 | 180 |
| DEA | 460 | 0 | 610 | 72 | 208 |
| ITA | 444 | 524 | 0 | 76 | 207 |

| | | | | | |
|-----|-----|-----|-----|----|----|
| SVN | 58 | 68 | 71 | 0 | 41 |
| FRA | 142 | 165 | 174 | 42 | 0 |

BSW

common bulls below diagonal
common three quarter sib group above diagonal
CHE DEA ITA SVN FRA

| | | | | | |
|-----|-----|-----|-----|----|-----|
| CHE | 0 | 363 | 337 | 61 | 111 |
| DEA | 294 | 0 | 335 | 71 | 128 |
| ITA | 289 | 299 | 0 | 72 | 118 |
| SVN | 59 | 67 | 67 | 0 | 41 |
| FRA | 84 | 99 | 96 | 42 | 0 |

GUE

common bulls below diagonal
common three quarter sib group above diagonal
CAN GBR USA AUS

| | | | | |
|-----|----|----|----|----|
| CAN | 0 | 25 | 66 | 20 |
| GBR | 22 | 0 | 79 | 12 |
| USA | 56 | 77 | 0 | 24 |
| AUS | 21 | 10 | 22 | 0 |

GUE

common bulls below diagonal
common three quarter sib group above diagonal
CAN GBR USA AUS

| | | | | |
|-----|----|----|----|----|
| CAN | 0 | 25 | 66 | 20 |
| GBR | 22 | 0 | 79 | 12 |
| USA | 56 | 77 | 0 | 24 |
| AUS | 21 | 10 | 22 | 0 |

GUE

common bulls below diagonal
common three quarter sib group above diagonal
CAN GBR USA AUS

| | | | | |
|-----|----|----|----|----|
| CAN | 0 | 25 | 66 | 20 |
| GBR | 22 | 0 | 79 | 12 |
| USA | 56 | 77 | 0 | 24 |
| AUS | 21 | 10 | 22 | 0 |

GUE

common bulls below diagonal
common three quarter sib group above diagonal
CAN GBR USA AUS

| | | | | |
|-----|----|----|----|----|
| CAN | 0 | 25 | 66 | 20 |
| GBR | 22 | 0 | 79 | 12 |
| USA | 56 | 77 | 0 | 24 |
| AUS | 21 | 10 | 22 | 0 |

GUE

common bulls below diagonal
common three quarter sib group above diagonal
CAN GBR USA AUS

| | | | | |
|-----|----|----|----|----|
| CAN | 0 | 25 | 66 | 20 |
| GBR | 22 | 0 | 79 | 12 |
| USA | 56 | 77 | 0 | 24 |
| AUS | 21 | 10 | 22 | 0 |

GUE

common bulls below diagonal
common three quarter sib group above diagonal
CAN GBR USA AUS

| | | | | |
|-----|----|----|----|----|
| CAN | 0 | 25 | 66 | 20 |
| GBR | 22 | 0 | 79 | 12 |
| USA | 56 | 77 | 0 | 24 |
| AUS | 21 | 10 | 22 | 0 |

GUE

common bulls below diagonal
common three quarter sib group above diagonal
CAN GBR USA AUS

| | | | | |
|-----|----|----|----|----|
| CAN | 0 | 25 | 66 | 20 |
| GBR | 22 | 0 | 79 | 12 |
| USA | 56 | 77 | 0 | 24 |
| AUS | 21 | 10 | 22 | 0 |

GUE

common bulls below diagonal
common three quarter sib group above diagonal
CAN USA AUS

| | | | |
|-----|----|----|----|
| CAN | 0 | 39 | 20 |
| USA | 37 | 0 | 8 |
| AUS | 21 | 7 | 0 |

GUE

common bulls below diagonal
common three quarter sib group above diagonal
CAN GBR USA AUS

| | | | | |
|-----|----|----|----|----|
| CAN | 0 | 25 | 66 | 20 |
| GBR | 22 | 0 | 79 | 12 |
| USA | 56 | 77 | 0 | 24 |
| AUS | 21 | 10 | 22 | 0 |

GUE

common bulls below diagonal
common three quarter sib group above diagonal
CAN GBR USA AUS

| | | | | |
|-----|----|----|----|----|
| CAN | 0 | 25 | 66 | 20 |
| GBR | 22 | 0 | 79 | 12 |
| USA | 56 | 77 | 0 | 24 |
| AUS | 21 | 10 | 22 | 0 |

GUE

common bulls below diagonal
common three quarter sib group above diagonal
CAN GBR USA AUS

| | | | | |
|-----|----|----|----|----|
| CAN | 0 | 25 | 66 | 20 |
| GBR | 22 | 0 | 79 | 12 |
| USA | 56 | 77 | 0 | 24 |
| AUS | 21 | 10 | 22 | 0 |

GUE

common bulls below diagonal

common three quarter sib group above diagonal

CAN GBR USA AUS

| | | | | |
|-----|----|----|----|----|
| CAN | 0 | 25 | 66 | 20 |
| GBR | 22 | 0 | 79 | 12 |
| USA | 56 | 77 | 0 | 24 |
| AUS | 21 | 10 | 22 | 0 |

GUE

common bulls below diagonal

common three quarter sib group above diagonal

CAN GBR USA AUS

| | | | | |
|-----|----|----|----|----|
| CAN | 0 | 25 | 64 | 19 |
| GBR | 22 | 0 | 79 | 12 |
| USA | 55 | 77 | 0 | 24 |
| AUS | 20 | 10 | 22 | 0 |

GUE

common bulls below diagonal

common three quarter sib group above diagonal

CAN GBR USA AUS

| | | | | |
|-----|----|----|----|----|
| CAN | 0 | 25 | 66 | 20 |
| GBR | 22 | 0 | 79 | 12 |
| USA | 56 | 77 | 0 | 24 |
| AUS | 21 | 10 | 22 | 0 |

GUE

common bulls below diagonal

common three quarter sib group above diagonal

CAN GBR USA AUS

| | | | | |
|-----|----|----|----|----|
| CAN | 0 | 25 | 66 | 20 |
| GBR | 22 | 0 | 79 | 12 |
| USA | 56 | 77 | 0 | 24 |
| AUS | 21 | 10 | 22 | 0 |

GUE

common bulls below diagonal

common three quarter sib group above diagonal

CAN AUS USA

| | | | |
|-----|----|----|----|
| CAN | 0 | 20 | 66 |
| AUS | 21 | 0 | 24 |
| USA | 56 | 22 | 0 |

GUE

common bulls below diagonal

common three quarter sib group above diagonal

CAN GBR USA AUS

| | | | | |
|-----|----|----|----|----|
| CAN | 0 | 12 | 66 | 20 |
| GBR | 9 | 0 | 33 | 9 |
| USA | 56 | 31 | 0 | 23 |
| AUS | 21 | 8 | 21 | 0 |

GUE

common bulls below diagonal

common three quarter sib group above diagonal

CAN GBR USA AUS

| | | | | |
|-----|---|----|----|----|
| CAN | 0 | 23 | 64 | 19 |
|-----|---|----|----|----|

| | | | | |
|-----|----|----|----|----|
| GBR | 20 | 0 | 77 | 11 |
| USA | 55 | 75 | 0 | 24 |
| AUS | 20 | 9 | 22 | 0 |

GUE

common bulls below diagonal

common three quarter sib group above diagonal

CAN GBR USA AUS

| | | | | |
|-----|----|----|----|----|
| CAN | 0 | 23 | 66 | 20 |
| GBR | 20 | 0 | 77 | 11 |
| USA | 56 | 75 | 0 | 24 |
| AUS | 21 | 9 | 22 | 0 |

GUE-----
GUE-----
HOL

common bulls below diagonal

common three quarter sib group above diagonal

AUS BEL CAN CHE DEU DFS ESP FRA GBR ITA NLD USA HUN POL NZL ZAF JPN CZE EST IRL KOR SVN PRT LVA

| | | | | | | | | | | | | | | | | | | | | | | | | |
|-----|-----|------|------|-----|------|------|------|------|------|------|------|------|------|------|-----|-----|------|------|-----|-----|-----|-----|------|-----|
| AUS | 0 | 521 | 939 | 479 | 903 | 793 | 661 | 885 | 933 | 646 | 929 | 1135 | 478 | 604 | 514 | 309 | 591 | 561 | 107 | 441 | 360 | 110 | 563 | 256 |
| BEL | 453 | 0 | 707 | 552 | 950 | 701 | 628 | 885 | 783 | 666 | 1082 | 818 | 422 | 615 | 292 | 248 | 447 | 561 | 107 | 421 | 301 | 136 | 583 | 257 |
| CAN | 872 | 677 | 0 | 886 | 2157 | 1211 | 1399 | 1496 | 1704 | 1857 | 1449 | 3446 | 899 | 1253 | 390 | 376 | 1217 | 1172 | 200 | 478 | 783 | 205 | 1068 | 541 |
| CHE | 436 | 550 | 790 | 0 | 1028 | 602 | 585 | 709 | 748 | 734 | 861 | 941 | 376 | 566 | 257 | 218 | 409 | 503 | 96 | 376 | 303 | 123 | 497 | 261 |
| DEU | 624 | 891 | 1351 | 876 | 0 | 2135 | 1520 | 2374 | 1916 | 2296 | 2690 | 2925 | 1026 | 1853 | 465 | 372 | 1219 | 1703 | 276 | 616 | 622 | 334 | 1141 | 782 |
| DFS | 535 | 614 | 902 | 546 | 1257 | 0 | 990 | 1602 | 1378 | 1214 | 1703 | 1705 | 737 | 1175 | 470 | 384 | 822 | 1093 | 213 | 562 | 482 | 208 | 849 | 447 |
| ESP | 513 | 604 | 925 | 484 | 865 | 715 | 0 | 1289 | 1141 | 1315 | 1157 | 1633 | 726 | 1000 | 334 | 367 | 878 | 921 | 155 | 436 | 553 | 182 | 875 | 413 |
| FRA | 623 | 872 | 1033 | 658 | 1271 | 891 | 990 | 0 | 1588 | 1486 | 2030 | 2438 | 856 | 1568 | 524 | 390 | 1161 | 1275 | 176 | 585 | 573 | 200 | 941 | 460 |
| GBR | 806 | 780 | 1734 | 744 | 1304 | 959 | 927 | 1078 | 0 | 1507 | 1746 | 2231 | 791 | 1227 | 500 | 396 | 935 | 1090 | 196 | 775 | 563 | 203 | 972 | 477 |
| ITA | 551 | 675 | 1657 | 665 | 1543 | 980 | 984 | 1016 | 1316 | 0 | 1513 | 2427 | 841 | 1413 | 299 | 298 | 954 | 1230 | 225 | 474 | 645 | 265 | 1017 | 590 |
| NLD | 783 | 1185 | 1316 | 843 | 1997 | 1261 | 996 | 1315 | 1486 | 1335 | 0 | 2298 | 807 | 1429 | 645 | 383 | 955 | 1440 | 243 | 702 | 536 | 236 | 1029 | 521 |
| USA | 968 | 709 | 3503 | 876 | 1661 | 1068 | 1110 | 1353 | 2059 | 2074 | 1876 | 0 | 1164 | 1711 | 562 | 467 | 1758 | 1662 | 256 | 618 | 950 | 227 | 1339 | 747 |
| HUN | 345 | 343 | 795 | 316 | 689 | 529 | 560 | 574 | 639 | 712 | 613 | 1053 | 0 | 749 | 280 | 300 | 613 | 843 | 123 | 340 | 459 | 128 | 654 | 340 |
| POL | 398 | 488 | 961 | 414 | 1233 | 766 | 663 | 994 | 950 | 1118 | 1107 | 1447 | 578 | 0 | 326 | 291 | 788 | 1177 | 221 | 435 | 550 | 232 | 907 | 545 |
| NZL | 417 | 226 | 335 | 214 | 323 | 303 | 273 | 307 | 394 | 252 | 576 | 476 | 208 | 203 | 0 | 205 | 333 | 344 | 52 | 350 | 197 | 63 | 313 | 145 |
| ZAF | 287 | 212 | 349 | 192 | 293 | 302 | 340 | 319 | 368 | 261 | 345 | 495 | 257 | 217 | 186 | 0 | 309 | 303 | 54 | 238 | 232 | 55 | 323 | 138 |
| JPN | 317 | 252 | 455 | 241 | 369 | 328 | 341 | 345 | 387 | 397 | 382 | 522 | 253 | 280 | 163 | 197 | 0 | 774 | 125 | 349 | 549 | 130 | 631 | 337 |
| CZE | 366 | 415 | 825 | 366 | 1141 | 633 | 645 | 829 | 782 | 955 | 1227 | 1275 | 716 | 831 | 226 | 225 | 256 | 0 | 169 | 424 | 523 | 205 | 803 | 458 |
| EST | 53 | 64 | 111 | 48 | 163 | 133 | 67 | 83 | 108 | 134 | 158 | 175 | 68 | 130 | 24 | 23 | 34 | 92 | 0 | 75 | 90 | 60 | 136 | 131 |
| IRL | 403 | 402 | 446 | 371 | 499 | 446 | 415 | 513 | 828 | 437 | 640 | 570 | 283 | 319 | 285 | 226 | 202 | 318 | 39 | 0 | 225 | 90 | 405 | 189 |
| KOR | 251 | 210 | 721 | 215 | 381 | 316 | 397 | 343 | 425 | 543 | 373 | 1065 | 354 | 394 | 136 | 178 | 267 | 366 | 36 | 155 | 0 | 108 | 504 | 283 |
| SVN | 76 | 105 | 157 | 87 | 314 | 161 | 125 | 150 | 148 | 233 | 200 | 178 | 92 | 181 | 46 | 37 | 55 | 144 | 31 | 71 | 67 | 0 | 150 | 110 |
| PRT | 436 | 582 | 1087 | 449 | 934 | 740 | 845 | 833 | 892 | 1014 | 1024 | 1389 | 617 | 844 | 246 | 307 | 316 | 660 | 79 | 343 | 428 | 116 | 0 | 439 |
| LVA | 118 | 144 | 332 | 137 | 604 | 252 | 214 | 233 | 277 | 388 | 332 | 645 | 233 | 373 | 76 | 83 | 101 | 290 | 69 | 107 | 173 | 65 | 344 | 0 |

HOL

common bulls below diagonal

common three quarter sib group above diagonal

AUS BEL CAN CHE DEU DFS ESP FRA GBR ITA NLD USA HUN POL NZL ZAF JPN CZE EST IRL KOR SVN PRT LVA

| | | | | | | | | | | | | | | | | | | | | | | | | |
|-----|-----|-----|------|-----|------|------|------|------|------|------|------|------|------|------|-----|-----|------|------|-----|-----|-----|-----|------|-----|
| AUS | 0 | 514 | 939 | 479 | 902 | 792 | 673 | 759 | 933 | 646 | 874 | 1135 | 478 | 602 | 514 | 259 | 589 | 561 | 106 | 441 | 357 | 110 | 566 | 231 |
| BEL | 452 | 0 | 701 | 549 | 944 | 694 | 641 | 818 | 776 | 664 | 1028 | 801 | 419 | 611 | 288 | 217 | 436 | 559 | 107 | 418 | 298 | 136 | 584 | 237 |
| CAN | 872 | 677 | 0 | 886 | 2155 | 1211 | 1408 | 1335 | 1704 | 1857 | 1375 | 3446 | 899 | 1252 | 390 | 323 | 1213 | 1172 | 200 | 478 | 778 | 205 | 1071 | 515 |
| CHE | 436 | 549 | 790 | 0 | 1027 | 602 | 594 | 681 | 748 | 734 | 843 | 941 | 376 | 565 | 257 | 197 | 408 | 503 | 96 | 376 | 300 | 123 | 498 | 241 |
| DEU | 624 | 891 | 1351 | 876 | 0 | 2134 | 1546 | 2242 | 1914 | 2295 | 2647 | 2924 | 1025 | 1846 | 464 | 334 | 1215 | 1702 | 275 | 615 | 616 | 334 | 1141 | 753 |
| DFS | 535 | 613 | 903 | 547 | 1259 | 0 | 1013 | 1433 | 1376 | 1214 | 1625 | 1704 | 736 | 1170 | 469 | 330 | 821 | 1093 | 212 | 560 | 478 | 208 | 853 | 420 |
| ESP | 524 | 629 | 934 | 495 | 903 | 741 | 0 | 1230 | 1164 | 1327 | 1149 | 1652 | 736 | 1019 | 345 | 322 | 881 | 940 | 159 | 451 | 554 | 186 | 894 | 399 |
| FRA | 586 | 827 | 978 | 634 | 1201 | 864 | 996 | 0 | 1445 | 1468 | 1690 | 2015 | 814 | 1480 | 441 | 306 | 1006 | 1221 | 171 | 539 | 534 | 200 | 908 | 429 |
| GBR | 806 | 781 | 1734 | 744 | 1304 | 960 | 958 | 1035 | 0 | 1507 | 1679 | 2229 | 791 | 1225 | 500 | 340 | 932 | 1090 | 196 | 772 | 559 | 203 | 974 | 449 |
| ITA | 551 | 675 | 1657 | 665 | 1543 | 981 | 1001 | 1010 | | | | | | | | | | | | | | | | |

| | | | | | | | | | | | | | | | | | | | | | | | | |
|-----|-----|-----|------|-----|------|-----|-----|-----|-----|------|------|------|-----|-----|-----|-----|-----|------|-----|-----|-----|-----|-----|-----|
| POL | 398 | 488 | 961 | 414 | 1233 | 767 | 685 | 949 | 949 | 1118 | 1096 | 1447 | 578 | 0 | 326 | 265 | 786 | 1177 | 220 | 435 | 547 | 232 | 910 | 523 |
| NZL | 417 | 226 | 335 | 214 | 323 | 303 | 281 | 283 | 394 | 252 | 555 | 476 | 208 | 203 | 0 | 168 | 333 | 344 | 52 | 350 | 194 | 63 | 314 | 127 |
| ZAF | 246 | 195 | 307 | 176 | 273 | 278 | 301 | 272 | 317 | 258 | 286 | 410 | 240 | 209 | 149 | 0 | 262 | 282 | 53 | 201 | 212 | 55 | 307 | 122 |
| JPN | 312 | 247 | 449 | 238 | 365 | 325 | 339 | 334 | 380 | 394 | 372 | 514 | 252 | 277 | 162 | 182 | 0 | 773 | 125 | 349 | 544 | 130 | 632 | 318 |
| CZE | 366 | 415 | 825 | 366 | 1141 | 634 | 667 | 798 | 782 | 955 | 1210 | 1275 | 716 | 831 | 226 | 213 | 255 | 0 | 169 | 424 | 520 | 205 | 805 | 442 |
| EST | 53 | 64 | 111 | 48 | 163 | 133 | 71 | 82 | 108 | 134 | 157 | 175 | 68 | 130 | 24 | 23 | 34 | 92 | 0 | 75 | 89 | 60 | 136 | 125 |
| IRL | 403 | 402 | 446 | 371 | 499 | 446 | 434 | 494 | 826 | 437 | 626 | 570 | 283 | 319 | 285 | 195 | 201 | 318 | 39 | 0 | 222 | 90 | 406 | 174 |
| KOR | 250 | 210 | 719 | 214 | 380 | 316 | 401 | 334 | 423 | 541 | 361 | 1058 | 352 | 393 | 135 | 161 | 263 | 365 | 36 | 154 | 0 | 106 | 501 | 272 |
| SVN | 76 | 105 | 157 | 87 | 314 | 162 | 130 | 150 | 148 | 233 | 200 | 178 | 92 | 181 | 46 | 37 | 55 | 144 | 31 | 71 | 66 | 0 | 150 | 110 |
| PRT | 437 | 584 | 1089 | 449 | 934 | 743 | 867 | 823 | 895 | 1015 | 1012 | 1390 | 622 | 848 | 246 | 297 | 311 | 662 | 79 | 344 | 426 | 116 | 0 | 421 |
| LVA | 105 | 132 | 317 | 126 | 581 | 238 | 209 | 219 | 258 | 384 | 309 | 623 | 220 | 360 | 66 | 75 | 96 | 282 | 64 | 96 | 171 | 65 | 332 | 0 |

HOL

common bulls below diagonal

common three quarter sib group above diagonal

| AUS | BEL | CAN | CHE | DEU | DFS | ESP | FRA | GBR | ITA | NLD | USA | HUN | POL | NZL | ZAF | JPN | CZE | EST | IRL | KOR | PRT | SVN | LVA |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|

| | | | | | | | | | | | | | | | | | | | | | | | | |
|-----|-----|------|------|-----|------|------|------|------|------|------|------|------|------|------|-----|-----|------|------|-----|-----|-----|------|-----|-----|
| AUS | 0 | 521 | 939 | 479 | 903 | 792 | 663 | 885 | 933 | 646 | 903 | 1135 | 478 | 604 | 514 | 309 | 590 | 561 | 107 | 441 | 358 | 566 | 110 | 256 |
| BEL | 453 | 0 | 707 | 552 | 950 | 700 | 631 | 885 | 783 | 666 | 1058 | 818 | 422 | 615 | 292 | 248 | 446 | 561 | 107 | 421 | 299 | 585 | 136 | 257 |
| CAN | 872 | 677 | 0 | 886 | 2157 | 1211 | 1402 | 1496 | 1704 | 1857 | 1418 | 3446 | 899 | 1253 | 390 | 376 | 1215 | 1172 | 200 | 478 | 780 | 1071 | 205 | 541 |
| CHE | 436 | 550 | 790 | 0 | 1028 | 602 | 586 | 710 | 748 | 734 | 855 | 941 | 376 | 566 | 257 | 218 | 409 | 503 | 96 | 376 | 301 | 498 | 122 | 261 |
| DEU | 624 | 891 | 1351 | 876 | 0 | 2135 | 1525 | 2375 | 1916 | 2296 | 2677 | 2925 | 1026 | 1853 | 465 | 372 | 1218 | 1703 | 276 | 616 | 619 | 1142 | 333 | 782 |
| DFS | 535 | 614 | 903 | 547 | 1258 | 0 | 993 | 1601 | 1377 | 1214 | 1661 | 1704 | 736 | 1174 | 469 | 384 | 822 | 1093 | 213 | 561 | 479 | 854 | 207 | 447 |
| ESP | 514 | 607 | 926 | 486 | 872 | 719 | 0 | 1293 | 1143 | 1317 | 1146 | 1636 | 727 | 1003 | 336 | 367 | 877 | 924 | 157 | 437 | 550 | 880 | 182 | 415 |
| FRA | 623 | 872 | 1033 | 659 | 1272 | 891 | 995 | 0 | 1588 | 1486 | 1915 | 2438 | 856 | 1568 | 524 | 390 | 1160 | 1275 | 176 | 585 | 570 | 947 | 199 | 460 |
| GBR | 806 | 780 | 1734 | 744 | 1304 | 960 | 930 | 1078 | 0 | 1507 | 1716 | 2230 | 791 | 1227 | 396 | 934 | 1090 | 196 | 773 | 561 | 976 | 202 | 477 | |
| ITA | 551 | 675 | 1657 | 665 | 1543 | 981 | 986 | 1016 | 1316 | 0 | 1509 | 2427 | 841 | 1413 | 299 | 298 | 953 | 1230 | 225 | 474 | 642 | 1019 | 264 | 590 |
| NLD | 778 | 1160 | 1309 | 842 | 1995 | 1261 | 998 | 1293 | 1473 | 1334 | 0 | 2170 | 798 | 1420 | 632 | 373 | 920 | 1435 | 242 | 695 | 528 | 1027 | 234 | 516 |
| USA | 968 | 709 | 3503 | 876 | 1661 | 1068 | 1112 | 1353 | 2059 | 2074 | 1834 | 0 | 1164 | 1711 | 562 | 467 | 1756 | 1662 | 256 | 617 | 946 | 1343 | 226 | 747 |
| HUN | 345 | 343 | 795 | 316 | 689 | 530 | 561 | 574 | 639 | 712 | 613 | 1053 | 0 | 749 | 280 | 300 | 613 | 843 | 123 | 340 | 458 | 658 | 128 | 340 |
| POL | 398 | 488 | 961 | 414 | 1233 | 767 | 665 | 994 | 950 | 1118 | 1106 | 1447 | 578 | 0 | 326 | 291 | 787 | 1177 | 221 | 435 | 549 | 910 | 231 | 545 |
| NZL | 417 | 226 | 335 | 214 | 323 | 303 | 274 | 307 | 394 | 252 | 574 | 476 | 208 | 203 | 0 | 205 | 333 | 344 | 52 | 350 | 195 | 314 | 63 | 145 |
| ZAF | 287 | 212 | 349 | 192 | 293 | 302 | 341 | 319 | 368 | 261 | 343 | 495 | 257 | 217 | 186 | 0 | 309 | 303 | 54 | 238 | 231 | 323 | 54 | 138 |
| JPN | 314 | 250 | 452 | 240 | 367 | 327 | 339 | 342 | 384 | 396 | 378 | 518 | 252 | 278 | 162 | 196 | 0 | 774 | 125 | 349 | 546 | 633 | 130 | 337 |
| CZE | 366 | 415 | 825 | 366 | 1141 | 634 | 647 | 829 | 782 | 955 | 1226 | 1275 | 716 | 831 | 226 | 225 | 255 | 0 | 169 | 424 | 522 | 806 | 204 | 458 |
| EST | 53 | 64 | 111 | 48 | 163 | 133 | 68 | 83 | 108 | 134 | 158 | 175 | 68 | 130 | 24 | 34 | 92 | 0 | 75 | 90 | 136 | 60 | 131 | |
| IRL | 403 | 402 | 446 | 371 | 499 | 446 | 416 | 513 | 826 | 437 | 637 | 570 | 283 | 319 | 285 | 226 | 201 | 318 | 39 | 0 | 223 | 406 | 90 | 189 |
| KOR | 250 | 210 | 720 | 214 | 380 | 316 | 396 | 342 | 424 | 542 | 369 | 1060 | 354 | 394 | 135 | | | | | | | | | |

| | | | | | | | | | | | | | | | | | | | | | | | |
|-----|-----|-----|------|-----|-----|-----|-----|-----|-----|------|-----|------|-----|-----|-----|-----|-----|----|-----|-----|-----|-----|-----|
| PRT | 437 | 577 | 1089 | 439 | 182 | 738 | 868 | 823 | 892 | 1010 | 723 | 1388 | 620 | 837 | 303 | 311 | 662 | 77 | 343 | 426 | 0 | 143 | 433 |
| SVN | 75 | 104 | 156 | 87 | 149 | 158 | 129 | 146 | 147 | 227 | 196 | 177 | 92 | 175 | 33 | 54 | 144 | 31 | 69 | 66 | 114 | 0 | 104 |
| LVA | 118 | 144 | 332 | 135 | 194 | 252 | 232 | 230 | 277 | 388 | 272 | 645 | 233 | 373 | 82 | 100 | 290 | 69 | 107 | 173 | 344 | 64 | 0 |

HOL

common bulls below diagonal

common three quarter sib group above diagonal

| | AUS | BEL | CAN | CHE | DEU | DFS | ESP | FRA | GBR | ITA | NLD | USA | HUN | POL | NZL | ZAF | JPN | CZE | EST | IRL | KOR | SVN | PRT | LVA |
|-----|-----|------|------|-----|------|------|------|------|------|------|------|------|------|------|-----|-----|------|------|-----|-----|-----|-----|------|-----|
| AUS | 0 | 521 | 939 | 479 | 903 | 793 | 660 | 885 | 933 | 646 | 929 | 1135 | 478 | 604 | 514 | 309 | 590 | 561 | 107 | 441 | 360 | 111 | 566 | 256 |
| BEL | 453 | 0 | 707 | 552 | 950 | 701 | 624 | 885 | 783 | 666 | 1082 | 818 | 422 | 615 | 292 | 248 | 446 | 561 | 107 | 421 | 301 | 137 | 585 | 257 |
| CAN | 872 | 677 | 0 | 886 | 2157 | 1211 | 1396 | 1496 | 1704 | 1857 | 1449 | 3446 | 899 | 1253 | 390 | 376 | 1215 | 1172 | 200 | 478 | 783 | 206 | 1070 | 541 |
| CHE | 436 | 550 | 790 | 0 | 1028 | 602 | 584 | 709 | 748 | 734 | 861 | 941 | 376 | 566 | 257 | 218 | 409 | 503 | 96 | 376 | 303 | 124 | 498 | 261 |
| DEU | 624 | 891 | 1351 | 876 | 0 | 2135 | 1511 | 2374 | 1916 | 2296 | 2690 | 2925 | 1026 | 1853 | 465 | 372 | 1218 | 1703 | 276 | 616 | 622 | 335 | 1141 | 782 |
| DFS | 535 | 614 | 903 | 547 | 1258 | 0 | 984 | 1602 | 1378 | 1214 | 1703 | 1705 | 737 | 1175 | 470 | 384 | 822 | 1093 | 213 | 562 | 482 | 209 | 853 | 447 |
| ESP | 512 | 599 | 921 | 482 | 855 | 709 | 0 | 1282 | 1135 | 1309 | 1151 | 1626 | 725 | 996 | 332 | 367 | 873 | 918 | 155 | 435 | 552 | 183 | 876 | 412 |
| FRA | 623 | 872 | 1033 | 658 | 1271 | 890 | 981 | 0 | 1588 | 1486 | 2030 | 2438 | 856 | 1568 | 524 | 390 | 1160 | 1275 | 176 | 585 | 573 | 201 | 946 | 460 |
| GBR | 806 | 780 | 1734 | 744 | 1304 | 960 | 919 | 1078 | 0 | 1507 | 1746 | 2231 | 791 | 1227 | 500 | 396 | 934 | 1090 | 196 | 775 | 563 | 204 | 976 | 477 |
| ITA | 551 | 675 | 1657 | 665 | 1543 | 981 | 976 | 1016 | 1316 | 0 | 1513 | 2427 | 841 | 1413 | 299 | 298 | 953 | 1230 | 225 | 474 | 645 | 266 | 1018 | 590 |
| NLD | 783 | 1185 | 1316 | 843 | 1997 | 1262 | 989 | 1315 | 1486 | 1335 | 0 | 2298 | 807 | 1429 | 645 | 383 | 954 | 1440 | 243 | 702 | 536 | 237 | 1031 | 521 |
| USA | 968 | 709 | 3503 | 876 | 1661 | 1068 | 1103 | 1353 | 2059 | 2074 | 1876 | 0 | 1164 | 1711 | 562 | 467 | 1756 | 1662 | 256 | 618 | 950 | 228 | 1342 | 747 |
| HUN | 345 | 343 | 795 | 316 | 689 | 530 | 559 | 574 | 639 | 712 | 613 | 1053 | 0 | 749 | 280 | 300 | 613 | 843 | 123 | 340 | 459 | 129 | 657 | 340 |
| POL | 398 | 488 | 961 | 414 | 1233 | 767 | 657 | 994 | 950 | 1118 | 1107 | 1447 | 578 | 0 | 326 | 291 | 787 | 1177 | 221 | 435 | 550 | 233 | 909 | 545 |
| NZL | 417 | 226 | 335 | 214 | 323 | 303 | 271 | 307 | 394 | 252 | 576 | 476 | 208 | 203 | 0 | 205 | 333 | 344 | 52 | 350 | 197 | 63 | 314 | 145 |
| ZAF | 287 | 212 | 349 | 192 | 293 | 302 | 340 | 319 | 368 | 261 | 345 | 495 | 257 | 217 | 186 | 0 | 309 | 303 | 54 | 238 | 232 | 56 | 323 | 138 |
| JPN | 315 | 250 | 452 | 240 | 367 | 327 | 339 | 343 | 385 | 396 | 380 | 519 | 252 | 278 | 162 | 196 | 0 | 774 | 125 | 349 | 548 | 131 | 632 | 337 |
| CZE | 366 | 415 | 825 | 366 | 1141 | 634 | 642 | 829 | 782 | 955 | 1227 | 1275 | 716 | 831 | 226 | 225 | 256 | 0 | 169 | 424 | 523 | 206 | 806 | 458 |
| EST | 53 | 64 | 111 | 48 | 163 | 133 | 67 | 83 | 108 | 134 | 158 | 175 | 68 | 130 | 24 | 23 | 34 | 92 | 0 | 75 | 90 | 61 | 136 | 131 |
| IRL | 403 | 402 | 446 | 371 | 499 | 446 | 414 | 513 | 828 | 437 | 640 | 570 | 283 | 319 | 285 | 226 | 201 | 318 | 39 | 0 | 225 | 91 | 406 | 189 |
| KOR | 251 | 210 | 721 | 215 | 381 | 316 | 395 | 343 | 425 | 543 | 373 | 1065 | 354 | 394 | 136 | 178 | 266 | 366 | 36 | 155 | 0 | 109 | 504 | 283 |
| SVN | 77 | 106 | 158 | 88 | 315 | 163 | 126 | 151 | 149 | 234 | 201 | 179 | 93 | 182 | 46 | 37 | 56 | 145 | 31 | 72 | 68 | 0 | 151 | 111 |
| PRT | 437 | 583 | 1089 | 449 | 934 | 743 | 843 | 837 | 894 | 1014 | 1026 | 1389 | 620 | 847 | 246 | 307 | 314 | 662 | 79 | 344 | 428 | 116 | 0 | 439 |
| LVA | 118 | 144 | 332 | 137 | 604 | 252 | 212 | 233 | 277 | 388 | 332 | 645 | 233 | 373 | 76 | 83 | 100 | 290 | 69 | 107 | 173 | 344 | 65 | 0 |

HOL

common bulls below diagonal

common three quarter sib group above diagonal

| | AUS | BEL | CAN | CHE | DEU | DFS | ESP | FRA | GBR | ITA | NLD | USA | HUN | POL | NZL | ZAF | JPN | CZE | EST | IRL | KOR | PT | SVN | LVA |
|-----|-----|-----|------|-----|------|------|------|------|------|------|------|------|------|------|-----|-----|-----|------|-----|-----|-----|------|-----|-----|
| AUS | 0 | 496 | 939 | 479 | 903 | 793 | 660 | 885 | 933 | 646 | 927 | 1135 | 478 | 604 | 514 | 309 | 396 | 561 | 107 | 441 | 357 | 566 | 110 | 256 |
| BEL | 450 | 0 | 687 | 545 | 928 | 680 | 608 | 838 | 752 | 664 | 993 | 771 | 407 | 603 | 277 | 236 | 336 | 547 | 107 | 406 | 290 | 577 | 136 | 256 |
| CAN | 872 | 667 | 0 | 886 | 2157 | 1211 | 1398 | 1496 | 1704 | 1857 | 1446 | 3446 | 899 | 1253 | 390 | 376 | 913 | 1172 | 200 | 478 | 779 | 1070 | 205 | 541 |
| CHE | 436 | 546 | 790 | 0 | 1028 | 602 | 584 | 710 | 748 | 734 | 861 | 941 | 376 | 566 | 257 | 218 | 347 | 503 | 96 | 376 | 300 | 498 | 122 | 261 |
| DEU | 624 | 885 | 1351 | 876 | 0 | 2135 | 1514 | 2375 | 1916 | 2296 | 2688 | 2925 | 1026 | 1853 | 465 | 372 | 979 | 1703 | 276 | | | | | |

| | | common | three | quarter | sib | group | above | diagonal | AUS | BEL | CAN | CHE | DEU | DFS | ESP | FRA | GBR | ITA | NLD | USA | HUN | POL | NZL | ZAF | JPN | CZE | EST | IRL | KOR | SVN | PRT | LVA |
|-----|-----|--------|-------|---------|------|-------|-------|----------|------|------|------|------|------|------|-----|-----|------|------|-----|-----|-----|-----|------|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| AUS | 0 | 521 | 939 | 479 | 903 | 793 | 664 | 885 | 933 | 646 | 929 | 1135 | 478 | 604 | 514 | 309 | 589 | 561 | 107 | 441 | 357 | 111 | 566 | 256 | | | | | | | | |
| BEL | 453 | 0 | 707 | 552 | 950 | 701 | 631 | 885 | 783 | 666 | 1082 | 818 | 422 | 615 | 292 | 248 | 444 | 561 | 107 | 421 | 298 | 137 | 586 | 257 | | | | | | | | |
| CAN | 872 | 677 | 0 | 886 | 2157 | 1211 | 1403 | 1496 | 1704 | 1857 | 1449 | 3446 | 899 | 1253 | 390 | 376 | 1213 | 1172 | 200 | 478 | 778 | 206 | 1072 | 541 | | | | | | | | |
| CHE | 436 | 550 | 790 | 0 | 1028 | 602 | 587 | 709 | 748 | 734 | 861 | 941 | 376 | 566 | 257 | 218 | 408 | 503 | 96 | 376 | 300 | 124 | 499 | 261 | | | | | | | | |
| DEU | 624 | 891 | 1351 | 876 | 0 | 2135 | 1528 | 2374 | 1916 | 2296 | 2690 | 2925 | 1026 | 1853 | 465 | 372 | 1216 | 1703 | 276 | 616 | 617 | 335 | 1142 | 782 | | | | | | | | |
| DFS | 535 | 614 | 903 | 547 | 1258 | 0 | 997 | 1602 | 1378 | 1214 | 1703 | 1705 | 737 | 1175 | 470 | 384 | 821 | 1093 | 213 | 562 | 478 | 209 | 854 | 447 | | | | | | | | |
| ESP | 515 | 608 | 927 | 488 | 876 | 722 | 0 | 1296 | 1146 | 1318 | 1163 | 1637 | 728 | 1005 | 337 | 368 | 876 | 926 | 157 | 438 | 550 | 183 | 882 | 416 | | | | | | | | |
| FRA | 623 | 872 | 1033 | 658 | 1271 | 891 | 999 | 0 | 1588 | 1486 | 2030 | 2438 | 856 | 1568 | 524 | 390 | 1158 | 1275 | 176 | 585 | 567 | 201 | 948 | 460 | | | | | | | | |
| GBR | 806 | 780 | 1734 | 744 | 1304 | 960 | 933 | 1078 | 0 | 1507 | 1746 | 2231 | 791 | 1227 | 500 | 396 | 932 | 1090 | 196 | 775 | 559 | 204 | 976 | 477 | | | | | | | | |
| ITA | 551 | 675 | 1657 | 665 | 1543 | 981 | 988 | 1016 | 1316 | 0 | 1513 | 2427 | 841 | 1413 | 299 | 298 | 951 | 1230 | 225 | 474 | 639 | 266 | 1019 | 590 | | | | | | | | |
| NLD | 783 | 1185 | 1316 | 843 | 1997 | 1262 | 1002 | 1315 | 1486 | 1335 | 0 | 2298 | 807 | 1429 | 645 | 383 | 952 | 1440 | 243 | 702 | 529 | 237 | 1033 | 521 | | | | | | | | |
| USA | 968 | 709 | 3503 | 876 | 1661 | 1069 | 1114 | 1353 | 2059 | 2074 | 1876 | 0 | 1164 | 1711 | 562 | 467 | 1754 | 1662 | 256 | 618 | 941 | 228 | 1344 | 747 | | | | | | | | |
| HUN | 345 | 343 | 795 | 316 | 689 | 530 | 563 | 574 | 639 | 712 | 613 | 1053 | 0 | 749 | 280 | 300 | 613 | 843 | 123 | 340 | 455 | 129 | 658 | 340 | | | | | | | | |
| POL | 398 | 488 | 961 | 414 | 1233 | 767 | 667 | 994 | 950 | 1118 | 1107 | 1447 | 578 | 0 | 326 | 291 | 787 | 1177 | 221 | 435 | 547 | 233 | 910 | 545 | | | | | | | | |
| NZL | 417 | 226 | 335 | 214 | 323 | 303 | 275 | 307 | 394 | 252 | 576 | 476 | 208 | 203 | 0 | 205 | 333 | 344 | 52 | 350 | 194 | 63 | 314 | 145 | | | | | | | | |
| ZAF | 287 | 212 | 349 | 192 | 293 | 302 | 342 | 319 | 368 | 261 | 345 | 495 | 257 | 217 | 186 | 0 | 308 | 303 | 54 | 238 | 231 | 56 | 323 | 138 | | | | | | | | |
| JPN | 312 | 247 | 449 | 238 | 365 | 325 | 336 | 338 | 380 | 394 | 375 | 514 | 252 | 277 | 162 | 194 | 0 | 773 | 125 | 349 | 544 | 131 | 632 | 337 | | | | | | | | |
| CZE | 366 | 415 | 825 | 366 | 1141 | 634 | 650 | 829 | 782 | 955 | 1227 | 1275 | 716 | 831 | 226 | 225 | 255 | 0 | 169 | 424 | 520 | 206 | 806 | 458 | | | | | | | | |
| EST | 53 | 64 | 111 | 48 | 163 | 133 | 68 | 83 | 108 | 134 | 158 | 175 | 68 | 130 | 24 | 34 | 92 | 0 | 75 | 89 | 61 | 136 | 131 | | | | | | | | | |
| IRL | 403 | 402 | 446 | 371 | 499 | 446 | 417 | 513 | 828 | 437 | 640 | 570 | 283 | 319 | 285 | 226 | 201 | 318 | 39 | 0 | 222 | 91 | 406 | 189 | | | | | | | | |
| KOR | 250 | 210 | 719 | 214 | 380 | 316 | 396 | 340 | 423 | 541 | 370 | 1057 | 352 | 393 | 135 | 177 | 263 | 365 | 36 | 154 | 0 | 107 | 500 | 283 | | | | | | | | |
| SVN | 77 | 106 | 158 | 88 | 315 | 163 | 126 | 151 | 149 | 234 | 201 | 179 | 93 | 182 | 46 | 37 | 56 | 145 | 31 | 72 | 67 | 0 | 151 | 111 | | | | | | | | |
| PRT | 437 | 585 | 1090 | 450 | 934 | 743 | 854 | 839 | 896 | 1016 | 1029 | 1393 | 623 | 848 | 246 | 307 | 311 | 663 | 79 | 344 | 427 | 116 | 0 | 439 | | | | | | | | |
| LVA | 118 | 144 | 332 | 137 | 604 | 252 | 217 | 233 | 388 | 332 | 645 | 233 | 373 | 76 | 83 | 100 | 290 | 69 | 107 | 173 | 65 | 345 | 0 | | | | | | | | | |

HOL

| | | common | bulls | below | diagonal | AUS | BEL | CAN | CHE | DEU | DFS | ESP | FRA | GBR | ITA | NLD | USA | HUN | POL | ZAF | JPN | CZE | EST | IRL | KOR | SVN | PRT | LVA | |
|-----|-----|--------|-------|-------|----------|------|------|------|------|------|------|------|------|------|-----|------|------|-----|-----|-----|-----|------|-----|-----|-----|-----|-----|-----|--|
| AUS | 0 | 476 | 858 | 479 | 900 | 792 | 662 | 637 | 930 | 646 | 835 | 1134 | 476 | 565 | 261 | 551 | 443 | 106 | 426 | 272 | 110 | 563 | 231 | | | | | | |
| BEL | 443 | 0 | 658 | 534 | 901 | 651 | 599 | 732 | 723 | 661 | 936 | 740 | 397 | 571 | 208 | 401 | 470 | 104 | 383 | 243 | 136 | 568 | 235 | | | | | | |
| CAN | 817 | 656 | 0 | 863 | 2092 | 1115 | 1335 | 1195 | 1610 | 1850 | 1311 | 3252 | 877 | 1202 | 313 | 1091 | 1038 | 197 | 448 | 676 | 205 | 1052 | 513 | | | | | | |
| CHE | 436 | 536 | 775 | 0 | 1027 | 601 | 589 | 652 | 748 | 734 | 834 | 941 | 374 | 548 | 198 | 401 | 437 | 96 | 369 | 253 | 122 | 495 | 241 | | | | | | |
| DEU | 624 | 868 | 1348 | 876 | 0 | 2133 | 1531 | 2042 | 1912 | 2295 | 2624 | 2922 | 1021 | 1815 | 336 | 1187 | 1498 | 275 | 598 | | | | | | | | | | |

| | | | | | | | | | | | | | | | | | | | | | | | |
|-----|-----|------|------|-----|------|------|------|------|------|------|------|------|------|------|-----|------|------|-----|-----|-----|-----|------|-----|
| DFS | 535 | 609 | 903 | 547 | 1076 | 0 | 1013 | 1574 | 1376 | 1213 | 1648 | 1703 | 735 | 1172 | 384 | 821 | 1093 | 213 | 561 | 479 | 207 | 859 | 447 |
| ESP | 524 | 621 | 934 | 495 | 735 | 741 | 0 | 1304 | 1164 | 1327 | 1162 | 1652 | 735 | 1017 | 372 | 880 | 939 | 160 | 451 | 554 | 186 | 899 | 420 |
| FRA | 623 | 855 | 1033 | 658 | 1048 | 889 | 1031 | 0 | 1574 | 1486 | 1862 | 2396 | 853 | 1558 | 389 | 1143 | 1270 | 174 | 579 | 563 | 199 | 951 | 459 |
| GBR | 806 | 764 | 1734 | 744 | 1095 | 960 | 958 | 1079 | 0 | 1507 | 1701 | 2228 | 790 | 1223 | 395 | 931 | 1090 | 196 | 769 | 560 | 202 | 980 | 477 |
| ITA | 551 | 675 | 1657 | 665 | 1459 | 981 | 1001 | 1016 | 1316 | 0 | 1504 | 2427 | 841 | 1412 | 298 | 951 | 1230 | 225 | 474 | 639 | 264 | 1019 | 590 |
| NLD | 773 | 1086 | 1303 | 841 | 1691 | 1259 | 1023 | 1271 | 1465 | 1333 | 0 | 2127 | 791 | 1406 | 371 | 911 | 1430 | 242 | 688 | 524 | 234 | 1027 | 515 |
| USA | 968 | 694 | 3503 | 876 | 1404 | 1068 | 1127 | 1318 | 2059 | 2074 | 1818 | 0 | 1163 | 1707 | 467 | 1753 | 1662 | 256 | 616 | 941 | 226 | 1346 | 747 |
| HUN | 345 | 339 | 795 | 316 | 539 | 529 | 570 | 574 | 639 | 712 | 611 | 1053 | 0 | 748 | 299 | 613 | 842 | 123 | 339 | 454 | 128 | 659 | 340 |
| POL | 398 | 485 | 961 | 413 | 1119 | 766 | 683 | 994 | 949 | 1118 | 1099 | 1447 | 577 | 0 | 290 | 787 | 1174 | 219 | 433 | 546 | 230 | 911 | 544 |
| ZAF | 287 | 210 | 349 | 192 | 202 | 302 | 344 | 319 | 368 | 261 | 339 | 495 | 257 | 217 | 0 | 307 | 303 | 54 | 238 | 231 | 54 | 329 | 138 |
| JPN | 312 | 247 | 449 | 238 | 321 | 325 | 338 | 337 | 379 | 394 | 372 | 513 | 252 | 277 | 193 | 0 | 773 | 125 | 349 | 544 | 130 | 637 | 337 |
| CZE | 366 | 412 | 825 | 366 | 942 | 634 | 666 | 829 | 782 | 955 | 1225 | 1275 | 716 | 831 | 225 | 255 | 0 | 168 | 424 | 520 | 204 | 807 | 458 |
| EST | 53 | 64 | 111 | 48 | 149 | 133 | 71 | 83 | 108 | 134 | 158 | 175 | 68 | 129 | 23 | 34 | 92 | 0 | 75 | 90 | 60 | 135 | 131 |
| IRL | 402 | 396 | 446 | 371 | 391 | 446 | 434 | 513 | 822 | 437 | 636 | 570 | 283 | 319 | 226 | 201 | 318 | 39 | 0 | 222 | 90 | 407 | 189 |
| KOR | 249 | 210 | 718 | 214 | 341 | 316 | 398 | 338 | 423 | 540 | 366 | 1050 | 351 | 392 | 177 | 262 | 364 | 36 | 154 | 0 | 106 | 503 | 282 |
| SVN | 76 | 105 | 157 | 87 | 314 | 162 | 130 | 149 | 148 | 232 | 198 | 178 | 92 | 181 | 37 | 55 | 144 | 31 | 71 | 65 | 0 | 150 | 110 |
| PRT | 439 | 585 | 1092 | 453 | 803 | 747 | 873 | 842 | 902 | 1016 | 1027 | 1396 | 626 | 851 | 308 | 311 | 666 | 78 | 345 | 427 | 116 | 0 | 439 |
| LVA | 118 | 144 | 332 | 137 | 575 | 252 | 224 | 233 | 277 | 388 | 331 | 645 | 233 | 373 | 83 | 100 | 290 | 69 | 107 | 172 | 65 | 345 | 0 |

HOL

common bulls below diagonal

common three quarter sib group above diagonal

| AUS | BEL | CAN | CHE | DEU | DFS | ESP | FRA | GBR | ITA | NLD | USA | HUN | POL | NZL | ZAF | JPN | CZE | EST | IRL | KOR | SVN | PRT | LVA | |
|-----|-----|------|------|-----|-------|------|------|------|------|------|------|------|------|------|-----|-----|------|------|-----|-----|-----|-----|------|-----|
| AUS | 0 | 514 | 939 | 479 | 903 | 792 | 673 | 839 | 933 | 646 | 873 | 1135 | 478 | 603 | 514 | 309 | 588 | 561 | 107 | 441 | 358 | 108 | 566 | 256 |
| BEL | 452 | 0 | 703 | 551 | 946 | 696 | 643 | 866 | 778 | 665 | 1030 | 803 | 419 | 612 | 288 | 246 | 437 | 559 | 107 | 419 | 299 | 134 | 585 | 257 |
| CAN | 872 | 677 | 0 | 886 | 2156 | 1211 | 1408 | 1424 | 1704 | 1857 | 1354 | 3446 | 899 | 1253 | 390 | 376 | 1212 | 1172 | 200 | 478 | 781 | 203 | 1071 | 541 |
| CHE | 436 | 549 | 790 | 0 | 1028 | 602 | 594 | 707 | 748 | 734 | 834 | 941 | 376 | 566 | 257 | 218 | 407 | 503 | 96 | 376 | 301 | 121 | 498 | 261 |
| DEU | 624 | 891 | 1351 | 876 | 0 | 2135 | 1547 | 2356 | 1916 | 2296 | 2623 | 2925 | 1026 | 1852 | 465 | 372 | 1215 | 1703 | 276 | 616 | 620 | 331 | 1142 | 782 |
| DFS | 535 | 613 | 903 | 547 | 1259 | 0 | 1013 | 1528 | 1377 | 1214 | 1620 | 1704 | 736 | 1174 | 469 | 384 | 821 | 1093 | 213 | 561 | 480 | 206 | 854 | 447 |
| ESP | 524 | 629 | 934 | 495 | 903 | 741 | 0 | 1284 | 1165 | 1327 | 1146 | 1652 | 736 | 1019 | 345 | 372 | 880 | 939 | 160 | 451 | 556 | 184 | 894 | 420 |
| FRA | 622 | 869 | 1028 | 657 | 1270 | 888 | 1028 | 0 | 1539 | 1481 | 1822 | 2246 | 843 | 1558 | 496 | 377 | 1085 | 1264 | 174 | 571 | 556 | 197 | 939 | 455 |
| GBR | 806 | 781 | 1734 | 744 | 1304 | 960 | 958 | 1071 | 0 | 1507 | 1670 | 2230 | 791 | 1227 | 500 | 396 | 932 | 1090 | 196 | 773 | 561 | 200 | 976 | 477 |
| ITA | 551 | 675 | 1657 | 665 | 1543 | 981 | 1001 | 1015 | 1316 | 0 | 1481 | 2426 | 841 | 1413 | 299 | 298 | 949 | 1230 | 225 | 474 | 643 | 262 | 1019 | 590 |
| NLD | 747 | 1123 | 1231 | 814 | 1939 | 1233 | 996 | 1241 | 1418 | 1304 | 0 | 2038 | 786 | 1397 | 619 | 364 | 880 | 1413 | 239 | 687 | 515 | 232 | 1012 | 509 |
| USA | 968 | 708 | 3503 | 876 | 1661 | 1069 | 1127 | 1283 | 2059 | 2074 | 1600 | 0 | 1164 | 1711 | 562 | 467 | 1753 | 1662 | 256 | 617 | 947 | 225 | 1343 | 747 |
| HUN | 345 | 343 | 795 | 316 | 689 | 530 | 570 | 572 | 639 | 712 | 595 | 1053 | 0 | 749 | 280 | 300 | 613 | 843 | 123 | 340 | 459 | 128 | 658 | 340 |
| POL | 398 | 488 | 961 | 414 | 1233 | 767 | 684 | 993 | 950 | 1118 | 1091 | 1447 | 578 | 0 | 326 | 291 | 787 | 1177 | 221 | 435 | 550 | 230 | 910 | 545 |
| NZL | 417 | 226 | 335 | 214 | 323 | 303 | 281 | 306 | 394 | 252 | 555 | 476 | 208 | 203 | 0 | 205 | 333 | 344 | 52 | 350 | 195 | 62 | 314 | 145 |
| ZAF | 287 | 212 | 349 | 192 | 293</ | | | | | | | | | | | | | | | | | | | |

| | | | | | | | | | | | | | | | | | | | | | | | | |
|-----|-----|-----|------|-----|------|-----|-----|-----|-----|------|------|------|-----|-----|-----|-----|-----|------|-----|-----|-----|-----|-----|-----|
| POL | 398 | 488 | 961 | 414 | 1233 | 767 | 669 | 994 | 950 | 1118 | 1099 | 1447 | 578 | 0 | 326 | 291 | 787 | 1177 | 221 | 435 | 550 | 232 | 908 | 545 |
| NZL | 417 | 226 | 335 | 214 | 323 | 303 | 275 | 307 | 394 | 252 | 574 | 476 | 208 | 203 | 0 | 205 | 333 | 344 | 52 | 350 | 196 | 63 | 314 | 145 |
| ZAF | 287 | 212 | 349 | 192 | 293 | 302 | 343 | 319 | 368 | 261 | 343 | 495 | 257 | 217 | 186 | 0 | 309 | 303 | 54 | 238 | 231 | 55 | 322 | 138 |
| JPN | 312 | 248 | 450 | 238 | 366 | 326 | 338 | 339 | 381 | 395 | 375 | 515 | 252 | 277 | 162 | 195 | 0 | 774 | 125 | 349 | 547 | 130 | 633 | 337 |
| CZE | 366 | 415 | 825 | 366 | 1141 | 634 | 651 | 829 | 782 | 955 | 1220 | 1275 | 716 | 831 | 226 | 225 | 255 | 0 | 169 | 424 | 523 | 205 | 805 | 458 |
| EST | 53 | 64 | 111 | 48 | 163 | 133 | 68 | 83 | 108 | 134 | 157 | 175 | 68 | 130 | 24 | 23 | 34 | 92 | 0 | 75 | 90 | 60 | 135 | 131 |
| IRL | 403 | 402 | 446 | 371 | 499 | 446 | 418 | 513 | 826 | 437 | 636 | 570 | 283 | 319 | 285 | 226 | 201 | 318 | 39 | 0 | 224 | 90 | 406 | 189 |
| KOR | 251 | 210 | 721 | 215 | 381 | 316 | 399 | 343 | 425 | 543 | 368 | 1062 | 354 | 394 | 136 | 178 | 265 | 366 | 36 | 155 | 0 | 108 | 504 | 283 |
| SVN | 76 | 105 | 157 | 87 | 314 | 162 | 125 | 150 | 148 | 233 | 200 | 178 | 92 | 181 | 46 | 37 | 55 | 144 | 31 | 71 | 67 | 0 | 150 | 110 |
| PRT | 437 | 584 | 1089 | 449 | 934 | 740 | 854 | 837 | 895 | 1015 | 1023 | 1390 | 622 | 848 | 246 | 307 | 312 | 662 | 79 | 344 | 428 | 116 | 0 | 439 |
| LVA | 118 | 144 | 332 | 137 | 604 | 252 | 218 | 233 | 277 | 388 | 330 | 645 | 233 | 373 | 76 | 83 | 100 | 290 | 69 | 107 | 173 | 65 | 344 | 0 |

HOL

common bulls below diagonal

common three quarter sib group above diagonal

| AUS | BEL | CAN | CHE | DEU | DFS | ESP | FRA | GBR | ITA | NLD | USA | HUN | POL | NZL | ZAF | JPN | CZE | EST | IRL | KOR | SVN | PRT | LVA |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|

| | | | | | | | | | | | | | | | | | | | | | | | | |
|-----|-----|------|------|-----|------|------|------|------|------|------|------|------|------|------|-----|-----|------|------|-----|-----|-----|-----|------|-----|
| AUS | 0 | 514 | 939 | 479 | 903 | 793 | 676 | 885 | 933 | 646 | 928 | 1135 | 478 | 604 | 514 | 309 | 588 | 561 | 107 | 441 | 357 | 111 | 566 | 256 |
| BEL | 452 | 0 | 703 | 551 | 946 | 697 | 645 | 875 | 778 | 665 | 1052 | 803 | 419 | 612 | 288 | 246 | 437 | 559 | 107 | 419 | 298 | 137 | 586 | 257 |
| CAN | 872 | 677 | 0 | 886 | 2157 | 1211 | 1410 | 1496 | 1704 | 1857 | 1428 | 3446 | 899 | 1253 | 390 | 376 | 1212 | 1172 | 200 | 478 | 778 | 206 | 1072 | 541 |
| CHE | 436 | 549 | 790 | 0 | 1028 | 602 | 594 | 709 | 748 | 734 | 852 | 941 | 376 | 566 | 257 | 218 | 407 | 503 | 96 | 376 | 300 | 124 | 499 | 261 |
| DEU | 624 | 891 | 1351 | 876 | 0 | 2135 | 1556 | 2374 | 1916 | 2296 | 2664 | 2925 | 1026 | 1853 | 465 | 372 | 1215 | 1703 | 276 | 616 | 617 | 335 | 1142 | 782 |
| DFS | 535 | 613 | 904 | 547 | 1259 | 0 | 1019 | 1602 | 1378 | 1214 | 1698 | 1705 | 737 | 1175 | 470 | 384 | 821 | 1093 | 213 | 562 | 478 | 209 | 854 | 447 |
| ESP | 525 | 632 | 935 | 495 | 918 | 748 | 0 | 1323 | 1170 | 1331 | 1192 | 1657 | 738 | 1026 | 348 | 372 | 883 | 943 | 161 | 453 | 554 | 187 | 898 | 423 |
| FRA | 623 | 872 | 1033 | 658 | 1271 | 891 | 1045 | 0 | 1589 | 1486 | 2024 | 2438 | 856 | 1568 | 524 | 390 | 1158 | 1275 | 176 | 585 | 567 | 201 | 948 | 460 |
| GBR | 806 | 781 | 1734 | 744 | 1304 | 960 | 965 | 1079 | 0 | 1507 | 1736 | 2231 | 791 | 1227 | 396 | 932 | 1090 | 196 | 775 | 559 | 204 | 976 | 477 | |
| ITA | 551 | 675 | 1657 | 665 | 1543 | 981 | 1005 | 1016 | 1316 | 0 | 1491 | 2427 | 841 | 1413 | 299 | 298 | 950 | 1230 | 225 | 474 | 639 | 266 | 1019 | 590 |
| NLD | 781 | 1161 | 1287 | 837 | 1968 | 1257 | 1040 | 1309 | 1471 | 1311 | 0 | 2272 | 807 | 1419 | 645 | 383 | 950 | 1432 | 242 | 701 | 527 | 236 | 1031 | 518 |
| USA | 968 | 708 | 3503 | 876 | 1661 | 1070 | 1129 | 1353 | 2059 | 2074 | 1844 | 0 | 1164 | 1711 | 562 | 467 | 1753 | 1662 | 256 | 618 | 940 | 228 | 1344 | 747 |
| HUN | 345 | 343 | 795 | 316 | 689 | 531 | 573 | 574 | 639 | 712 | 612 | 1053 | 0 | 749 | 280 | 300 | 613 | 843 | 123 | 340 | 455 | 129 | 658 | 340 |
| POL | 398 | 488 | 961 | 414 | 1233 | 767 | 692 | 994 | 950 | 1118 | 1100 | 1447 | 578 | 0 | 326 | 291 | 787 | 1177 | 221 | 435 | 547 | 233 | 910 | 545 |
| NZL | 417 | 226 | 335 | 214 | 323 | 303 | 283 | 307 | 394 | 252 | 576 | 476 | 208 | 203 | 0 | 205 | 333 | 344 | 52 | 350 | 194 | 63 | 314 | 145 |
| ZAF | 287 | 212 | 349 | 192 | 293 | 303 | 344 | 319 | 368 | 261 | 345 | 495 | 257 | 217 | 186 | 0 | 308 | 303 | 54 | 238 | 231 | 56 | 323 | 138 |
| JPN | 311 | 247 | 448 | 237 | 364 | 325 | 338 | 338 | 380 | 393 | 374 | 513 | 252 | 277 | 162 | 194 | 0 | 773 | 125 | 349 | 544 | 130 | 632 | 337 |
| CZE | 366 | 415 | 825 | 366 | 1141 | 634 | 669 | 829 | 782 | 955 | 1221 | 1275 | 716 | 831 | 226 | 225 | 255 | 0 | 169 | 424 | 520 | 206 | 806 | 458 |
| EST | 53 | 64 | 111 | 48 | 163 | 133 | 72 | 83 | 108 | 134 | 157 | 175 | 68 | 130 | 24 | 23 | 34 | 92 | 0 | 75 | 89 | 61 | 136 | 131 |
| IRL | 403 | 402 | 446 | 371 | 499 | 446 | 436 | 513 | 828 | 437 | 639 | 570 | 283 | 319 | 285 | 226 | 201 | 318 | 39 | 0 | 222 | 91 | 406 | 189 |
| KOR | 250 | 210 | 719 | 214 | 380 | 316 | 400 | 340 | 423 | 541 | 368 | 1056 | 352 | 39 | | | | | | | | | | |

| | | | | | | | | | | | | | | | | | | | | | | | |
|-----|-----|-----|------|-----|-----|-----|-----|-----|-----|------|------|------|-----|-----|-----|-----|-----|----|-----|-----|-----|-----|-----|
| SVN | 77 | 106 | 158 | 88 | 315 | 163 | 126 | 151 | 149 | 234 | 207 | 179 | 93 | 182 | 37 | 56 | 145 | 31 | 72 | 67 | 0 | 151 | 111 |
| PRT | 437 | 583 | 1089 | 449 | 934 | 743 | 849 | 837 | 894 | 1014 | 1030 | 1389 | 620 | 847 | 307 | 315 | 662 | 79 | 344 | 427 | 116 | 0 | 439 |
| LVA | 118 | 144 | 332 | 137 | 604 | 252 | 215 | 233 | 277 | 388 | 339 | 645 | 233 | 373 | 83 | 100 | 290 | 69 | 107 | 173 | 65 | 344 | 0 |

HOL

common bulls below diagonal

common three quarter sib group above diagonal

| | AUS | BEL | CAN | CHE | DEU | DFS | ESP | FRA | GBR | ITA | NLD | USA | HUN | POL | NZL | ZAF | JPN | CZE | EST | IRL | KOR | SVN | PRT | LVA |
|-----|-----|------|------|-----|------|------|------|------|------|------|------|------|------|------|-----|-----|------|------|-----|-----|-----|-----|------|-----|
| AUS | 0 | 514 | 939 | 479 | 903 | 793 | 665 | 885 | 933 | 646 | 930 | 1135 | 478 | 604 | 514 | 309 | 590 | 561 | 106 | 441 | 358 | 109 | 566 | 231 |
| BEL | 452 | 0 | 703 | 551 | 946 | 697 | 630 | 874 | 777 | 665 | 1055 | 803 | 419 | 612 | 288 | 246 | 439 | 559 | 107 | 419 | 299 | 135 | 585 | 237 |
| CAN | 872 | 677 | 0 | 886 | 2157 | 1211 | 1403 | 1496 | 1704 | 1857 | 1469 | 3446 | 899 | 1253 | 390 | 376 | 1215 | 1172 | 200 | 478 | 781 | 203 | 1070 | 515 |
| CHE | 436 | 549 | 790 | 0 | 1028 | 602 | 588 | 709 | 748 | 734 | 860 | 941 | 376 | 566 | 257 | 218 | 409 | 503 | 96 | 376 | 301 | 121 | 498 | 241 |
| DEU | 624 | 891 | 1351 | 876 | 0 | 2135 | 1529 | 2374 | 1916 | 2296 | 2713 | 2925 | 1026 | 1854 | 465 | 372 | 1218 | 1703 | 275 | 616 | 620 | 331 | 1141 | 753 |
| DFS | 535 | 613 | 904 | 547 | 1258 | 0 | 997 | 1602 | 1378 | 1214 | 1712 | 1705 | 737 | 1175 | 470 | 384 | 822 | 1093 | 212 | 562 | 480 | 206 | 853 | 421 |
| ESP | 515 | 609 | 927 | 488 | 876 | 722 | 0 | 1297 | 1147 | 1318 | 1176 | 1638 | 728 | 1006 | 338 | 369 | 877 | 926 | 156 | 438 | 552 | 181 | 882 | 395 |
| FRA | 623 | 871 | 1033 | 658 | 1271 | 891 | 1000 | 0 | 1588 | 1486 | 2043 | 2438 | 856 | 1568 | 524 | 390 | 1160 | 1275 | 175 | 585 | 571 | 197 | 946 | 435 |
| GBR | 806 | 780 | 1734 | 744 | 1304 | 960 | 933 | 1078 | 0 | 1507 | 1765 | 2231 | 791 | 1227 | 500 | 396 | 934 | 1090 | 196 | 775 | 561 | 200 | 976 | 449 |
| ITA | 551 | 675 | 1657 | 665 | 1543 | 981 | 988 | 1016 | 1316 | 0 | 1528 | 2428 | 842 | 1415 | 299 | 298 | 953 | 1230 | 225 | 474 | 643 | 263 | 1018 | 580 |
| NLD | 786 | 1166 | 1336 | 847 | 2027 | 1267 | 1008 | 1323 | 1501 | 1352 | 0 | 2317 | 814 | 1445 | 646 | 383 | 958 | 1451 | 247 | 705 | 539 | 239 | 1038 | 497 |
| USA | 968 | 708 | 3503 | 876 | 1661 | 1069 | 1114 | 1353 | 2059 | 2074 | 1896 | 0 | 1164 | 1713 | 562 | 467 | 1756 | 1662 | 256 | 618 | 948 | 225 | 1342 | 716 |
| HUN | 345 | 343 | 795 | 316 | 689 | 531 | 563 | 574 | 639 | 712 | 618 | 1053 | 0 | 750 | 280 | 300 | 613 | 843 | 123 | 340 | 459 | 129 | 657 | 322 |
| POL | 398 | 488 | 961 | 414 | 1233 | 767 | 668 | 994 | 950 | 1120 | 1128 | 1447 | 579 | 0 | 326 | 291 | 787 | 1177 | 220 | 435 | 550 | 231 | 909 | 523 |
| NZL | 417 | 226 | 335 | 214 | 323 | 303 | 275 | 307 | 394 | 252 | 577 | 476 | 208 | 203 | 0 | 205 | 333 | 344 | 52 | 350 | 195 | 62 | 314 | 127 |
| ZAF | 287 | 212 | 349 | 192 | 293 | 303 | 342 | 319 | 368 | 261 | 346 | 495 | 257 | 217 | 186 | 0 | 309 | 303 | 54 | 238 | 231 | 55 | 323 | 124 |
| JPN | 314 | 250 | 452 | 240 | 367 | 327 | 339 | 342 | 384 | 396 | 382 | 518 | 252 | 278 | 162 | 196 | 0 | 774 | 125 | 349 | 546 | 130 | 632 | 318 |
| CZE | 366 | 415 | 825 | 366 | 1141 | 634 | 650 | 829 | 782 | 955 | 1233 | 1275 | 716 | 831 | 226 | 225 | 255 | 0 | 169 | 424 | 522 | 205 | 806 | 442 |
| EST | 53 | 64 | 111 | 48 | 163 | 133 | 68 | 83 | 108 | 134 | 158 | 175 | 68 | 130 | 24 | 23 | 34 | 92 | 0 | 75 | 90 | 61 | 136 | 125 |
| IRL | 403 | 402 | 446 | 371 | 499 | 446 | 417 | 513 | 828 | 437 | 643 | 570 | 283 | 319 | 285 | 226 | 201 | 318 | 39 | 0 | 223 | 90 | 406 | 174 |
| KOR | 250 | 210 | 720 | 214 | 380 | 316 | 397 | 342 | 424 | 542 | 378 | 1061 | 354 | 394 | 135 | 178 | 265 | 365 | 36 | 154 | 0 | 107 | 503 | 272 |
| SVN | 76 | 105 | 157 | 88 | 311 | 161 | 125 | 149 | 148 | 232 | 206 | 178 | 93 | 182 | 45 | 36 | 55 | 145 | 31 | 71 | 67 | 0 | 149 | 110 |
| PRT | 437 | 583 | 1089 | 449 | 934 | 743 | 852 | 837 | 894 | 1014 | 1030 | 1389 | 620 | 847 | 246 | 307 | 314 | 662 | 79 | 344 | 427 | 115 | 0 | 421 |
| LVA | 105 | 132 | 317 | 126 | 581 | 238 | 203 | 221 | 258 | 384 | 317 | 623 | 220 | 360 | 66 | 75 | 96 | 282 | 64 | 96 | 171 | 64 | 332 | 0 |

HOL

common bulls below diagonal

common three quarter sib group above diagonal

| | AUS | BEL | CAN | CHE | DEU | DFS | ESP | FRA | GBR | ITA | NLD | USA | HUN | POL | ZAF | JPN | CZE | EST | IRL | KOR | SVN | PRT | LVA | NZL |
|-----|-----|-----|------|-----|------|------|------|------|------|------|------|------|------|------|-----|------|------|-----|-----|-----|-----|------|-----|-----|
| AUS | 0 | 521 | 939 | 479 | 903 | 793 | 662 | 885 | 933 | 646 | 928 | 1135 | 466 | 604 | 309 | 582 | 561 | 107 | 440 | 360 | 109 | 566 | 256 | 66 |
| BEL | 453 | 0 | 707 | 552 | 950 | 701 | 631 | 885 | 783 | 666 | 1082 | 818 | 415 | 615 | 248 | 445 | 561 | 107 | 421 | 301 | 135 | 585 | 257 | 51 |
| CAN | 872 | 677 | 0 | 886 | 2157 | 1211 | 1402 | 1496 | 1704 | 1857 | 1428 | 3446 | 885 | 1253 | 376 | 1208 | 1172 | 200 | 478 | 783 | 203 | 1070 | 541 | 77 |
| CHE | 436 | 550 | 790 | 0 | 1028 | 602 | 586 | 709 | 748 | 734 | 852 | 941 | 372 | 566 | 218 | 409 | 503 | 96 | 376 | 303 | 121 | 498 | 261 | 55 |
| DEU | 624 | 891 | 1351 | 876 | 0 | 2135 | 1523 | 2374 | 1916 | 2296 | 2664 | 2925 | 1017 | 1854 | 372 | 1216 | 1703 | 276 | 616 | 6 | | | | |

| | | common | | three | | quarter | | sib | | group | | above diagonal | | | | | | | | | | | | | | | | | |
|-----|-----|--------|------|-------|------|---------|------|------|------|-------|------|----------------|------|-----|------|------|-----|-----|-----|-----|------|-----|-----|-----|-----|--|--|--|--|
| | | AUS | BEL | CAN | CHE | DEU | DFS | ESP | FRA | GBR | ITA | NLD | USA | POL | NZL | JPN | CZE | EST | IRL | KOR | SVN | PRT | ZAF | HUN | LVA | | | | |
| AUS | 0 | 508 | 938 | 461 | 898 | 668 | 667 | 883 | 797 | 645 | 775 | 855 | 500 | 507 | 395 | 442 | 106 | 374 | 237 | 109 | 479 | 168 | 321 | 256 | | | | | |
| BEL | 451 | 0 | 696 | 525 | 935 | 641 | 632 | 859 | 698 | 665 | 943 | 699 | 528 | 284 | 337 | 475 | 107 | 359 | 218 | 135 | 513 | 145 | 307 | 257 | | | | | |
| CAN | 871 | 672 | 0 | 849 | 2149 | 1054 | 1404 | 1495 | 1525 | 1855 | 1318 | 3031 | 1149 | 385 | 913 | 1042 | 199 | 413 | 602 | 203 | 952 | 227 | 729 | 541 | | | | | |
| CHE | 431 | 525 | 760 | 0 | 938 | 559 | 582 | 690 | 703 | 717 | 741 | 854 | 491 | 252 | 346 | 423 | 95 | 333 | 228 | 120 | 434 | 133 | 293 | 256 | | | | | |
| DEU | 623 | 889 | 1350 | 820 | 0 | 1985 | 1532 | 2345 | 1754 | 2293 | 2563 | 2598 | 1717 | 455 | 978 | 1495 | 275 | 543 | 483 | 331 | 1026 | 223 | 798 | 782 | | | | | |
| DFS | 496 | 575 | 873 | 506 | 1212 | 0 | 893 | 1365 | 1132 | 1193 | 1493 | 1308 | 1018 | 381 | 581 | 878 | 206 | 448 | 333 | 206 | 730 | 212 | 532 | 434 | | | | | |
| ESP | 516 | 614 | 929 | 486 | 883 | 676 | 0 | 1304 | 1038 | 1321 | 1080 | 1467 | 909 | 339 | 696 | 820 | 156 | 370 | 422 | 182 | 786 | 218 | 568 | 418 | | | | | |
| FRA | 623 | 866 | 1033 | 643 | 1255 | 833 | 1012 | 0 | 1299 | 1484 | 1634 | 1736 | 1400 | 515 | 817 | 1087 | 174 | 469 | 418 | 197 | 816 | 215 | 645 | 459 | | | | | |
| GBR | 718 | 715 | 1578 | 688 | 1244 | 856 | 825 | 947 | 0 | 1481 | 1467 | 1856 | 1081 | 393 | 677 | 907 | 184 | 582 | 411 | 199 | 833 | 221 | 578 | 461 | | | | | |
| ITA | 551 | 675 | 1657 | 656 | 1542 | 968 | 993 | 1016 | 1308 | 0 | 1507 | 2374 | 1378 | 297 | 870 | 1186 | 224 | 456 | 536 | 263 | 968 | 229 | 767 | 590 | | | | | |
| NLD | 692 | 1025 | 1221 | 737 | 1961 | 1170 | 933 | 1176 | 1271 | 1340 | 0 | 1707 | 1285 | 522 | 703 | 1263 | 241 | 568 | 393 | 239 | 888 | 212 | 600 | 513 | | | | | |
| USA | 797 | 669 | 3231 | 797 | 1579 | 969 | 1008 | 1062 | 1838 | 2064 | 1450 | 0 | 1519 | 388 | 1195 | 1402 | 246 | 491 | 705 | 225 | 1137 | 257 | 865 | 726 | | | | | |
| POL | 340 | 424 | 903 | 350 | 1137 | 688 | 578 | 892 | 856 | 1091 | 1020 | 1326 | 0 | 248 | 661 | 1041 | 208 | 351 | 451 | 229 | 807 | 188 | 607 | 519 | | | | | |
| NZL | 414 | 224 | 333 | 211 | 322 | 272 | 277 | 306 | 326 | 252 | 479 | 348 | 159 | 0 | 218 | 254 | 51 | 285 | 125 | 62 | 247 | 101 | 160 | 144 | | | | | |
| JPN | 273 | 222 | 412 | 221 | 339 | 296 | 297 | 306 | 336 | 382 | 340 | 460 | 255 | 138 | 0 | 604 | 112 | 244 | 390 | 127 | 496 | 165 | 440 | 297 | | | | | |
| CZE | 310 | 359 | 749 | 301 | 1023 | 550 | 553 | 686 | 663 | 928 | 1115 | 1107 | 755 | 176 | 233 | 0 | 161 | 330 | 394 | 203 | 695 | 203 | 643 | 436 | | | | | |
| EST | 53 | 64 | 111 | 48 | 163 | 130 | 68 | 83 | 105 | 134 | 154 | 172 | 121 | 24 | 34 | 87 | 0 | 68 | 81 | 61 | 128 | 46 | 111 | 131 | | | | | |
| IRL | 356 | 363 | 405 | 334 | 467 | 385 | 366 | 434 | 599 | 429 | 548 | 495 | 267 | 242 | 177 | 261 | 39 | 0 | 143 | 90 | 334 | 126 | 230 | 181 | | | | | |
| KOR | 175 | 165 | 565 | 170 | 310 | 237 | 293 | 272 | 304 | 456 | 285 | 798 | 337 | 94 | 209 | 278 | 33 | 104 | 0 | 107 | 379 | 128 | 333 | 235 | | | | | |
| SVN | 76 | 105 | 157 | 88 | 311 | 161 | 127 | 149 | 148 | 232 | 206 | 178 | 182 | 45 | 55 | 144 | 31 | 71 | 68 | 0 | 149 | 53 | 126 | 110 | | | | | |
| PRT | 373 | 506 | 945 | 384 | 845 | 631 | 732 | 717 | 750 | 964 | 872 | 1181 | 760 | 194 | 271 | 572 | 74 | 285 | 330 | 115 | 0 | 212 | 507 | 416 | | | | | |
| ZAF | 161 | 132 | 211 | 111 | 182 | 187 | 192 | 189 | 196 | 201 | 185 | 262 | 160 | 92 | 124 | 154 | 21 | 119 | 88 | 35 | 202 | 0 | 170 | 105 | | | | | |
| HUN | 245 | 249 | 658 | 243 | 536 | 403 | 410 | 432 | 462 | 641 | 457 | 801 | 485 | 117 | 200 | 547 | 61 | 198 | 252 | 92 | 486 | 151 | 0 | 305 | | | | | |
| LVA | 118 | 144 | 332 | 135 | 604 | 251 | 220 | 232 | 273 | 388 | 333 | 634 | 358 | 76 | 96 | 280 | 69 | 107 | 148 | 64 | 326 | 65 | 206 | 0 | | | | | |

HOL

| | | common | | bulls | | below diagonal | | | | | | | | | | | | | | | | | | | | | | | |
|-----|---|--------|-----|-------|-----|----------------|-----|-----|-----|-------|-----|----------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|--|------|--|--|--|--|
| | | common | | three | | quarter | | sib | | group | | above diagonal | | | | | | | | | | | | | | | | | |
| | | AUS | BEL | CAN | CHE | DEU | DFS | ESP | FRA | GBR | ITA | NLD | USA | HUN | POL | NZL | JPN | CZE | EST | IRL | KOR | SVN | PRT | | | | | | |
| AUS | 0 | 521 | 939 | 479 | 901 | 793 | 662 | 763 | 933 | 646 | 929 | 1132 | 478 | 603 | 514 | 589 | 561 | 106 | 441 | 360 | 110 | 566 | | | </td | | | | |

| | | | | | | | | | | | | | | | | | | | | | |
|-----|-----|------|------|-----|------|------|------|------|------|------|------|------|------|------|-----|------|------|-----|-----|-----|------|
| ESP | 517 | 616 | 929 | 489 | 885 | 728 | 0 | 1306 | 1156 | 1322 | 1172 | 1645 | 732 | 1013 | 344 | 879 | 932 | 156 | 431 | 182 | 889 |
| FRA | 623 | 873 | 1033 | 658 | 1267 | 891 | 1012 | 0 | 1589 | 1486 | 2020 | 2438 | 856 | 1568 | 524 | 1160 | 1275 | 175 | 556 | 196 | 947 |
| GBR | 806 | 779 | 1733 | 744 | 1302 | 959 | 939 | 1077 | 0 | 1507 | 1736 | 2231 | 791 | 1227 | 500 | 934 | 1090 | 196 | 737 | 200 | 976 |
| ITA | 551 | 675 | 1657 | 665 | 1543 | 981 | 993 | 1016 | 1315 | 0 | 1491 | 2427 | 841 | 1413 | 299 | 952 | 1230 | 225 | 470 | 261 | 1019 |
| NLD | 781 | 1184 | 1287 | 837 | 1968 | 1257 | 1013 | 1309 | 1469 | 1311 | 0 | 2272 | 807 | 1419 | 645 | 952 | 1432 | 241 | 665 | 230 | 1030 |
| USA | 968 | 709 | 3503 | 876 | 1661 | 1070 | 1120 | 1353 | 2059 | 2074 | 1844 | 0 | 1164 | 1711 | 562 | 1755 | 1662 | 256 | 592 | 225 | 1343 |
| HUN | 345 | 343 | 795 | 316 | 689 | 531 | 565 | 574 | 639 | 712 | 612 | 1053 | 0 | 749 | 280 | 613 | 843 | 123 | 329 | 129 | 657 |
| POL | 398 | 488 | 961 | 414 | 1233 | 767 | 673 | 994 | 950 | 1118 | 1100 | 1447 | 578 | 0 | 326 | 787 | 1177 | 220 | 424 | 231 | 910 |
| NZL | 417 | 226 | 335 | 214 | 323 | 303 | 279 | 307 | 394 | 252 | 576 | 476 | 208 | 203 | 0 | 333 | 344 | 52 | 336 | 62 | 314 |
| JPN | 313 | 249 | 450 | 239 | 366 | 327 | 338 | 342 | 384 | 395 | 378 | 517 | 252 | 278 | 162 | 0 | 774 | 125 | 335 | 129 | 633 |
| CZE | 366 | 415 | 825 | 366 | 1141 | 634 | 655 | 829 | 781 | 955 | 1221 | 1275 | 716 | 831 | 226 | 256 | 0 | 169 | 409 | 204 | 806 |
| EST | 53 | 64 | 111 | 48 | 163 | 133 | 68 | 83 | 108 | 134 | 157 | 175 | 68 | 130 | 24 | 34 | 92 | 0 | 74 | 61 | 136 |
| IRL | 401 | 401 | 445 | 369 | 497 | 445 | 421 | 506 | 804 | 437 | 631 | 564 | 281 | 319 | 281 | 201 | 317 | 39 | 0 | 90 | 395 |
| SVN | 76 | 104 | 157 | 88 | 309 | 159 | 127 | 148 | 148 | 230 | 198 | 178 | 93 | 182 | 45 | 54 | 144 | 31 | 71 | 0 | 149 |
| PRT | 437 | 584 | 1089 | 449 | 934 | 743 | 860 | 837 | 894 | 1015 | 1026 | 1390 | 622 | 848 | 246 | 313 | 662 | 79 | 344 | 115 | 0 |

HOL

common bulls below diagonal

common three quarter sib group above diagonal

| AUS | BEL | CAN | CHE | DEU | DFS | ESP | FRA | GBR | ITA | NLD | USA | HUN | POL | JPN | CZE | EST | IRL | SVN | PRT |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|

| | | | | | | | | | | | | | | | | | | | | |
|-----|-----|------|------|-----|------|------|------|------|------|------|------|------|------|------|------|------|-----|-----|-----|------|
| AUS | 0 | 513 | 939 | 479 | 901 | 793 | 670 | 759 | 933 | 646 | 909 | 1133 | 466 | 602 | 580 | 561 | 106 | 427 | 110 | 571 |
| BEL | 452 | 0 | 700 | 547 | 942 | 694 | 636 | 818 | 775 | 664 | 1035 | 796 | 411 | 609 | 432 | 558 | 107 | 406 | 135 | 587 |
| CAN | 872 | 676 | 0 | 886 | 2156 | 1211 | 1407 | 1335 | 1704 | 1857 | 1418 | 3438 | 885 | 1252 | 1198 | 1172 | 200 | 464 | 204 | 1077 |
| CHE | 436 | 547 | 790 | 0 | 1026 | 602 | 592 | 681 | 748 | 734 | 852 | 939 | 372 | 565 | 406 | 503 | 96 | 369 | 121 | 503 |
| DEU | 624 | 890 | 1351 | 876 | 0 | 2134 | 1539 | 2242 | 1915 | 2295 | 2664 | 2924 | 1016 | 1847 | 1211 | 1702 | 275 | 599 | 331 | 1147 |
| DFS | 535 | 612 | 904 | 547 | 1258 | 0 | 1007 | 1434 | 1378 | 1214 | 1675 | 1691 | 723 | 1172 | 811 | 1093 | 212 | 538 | 205 | 861 |
| ESP | 519 | 623 | 931 | 492 | 891 | 733 | 0 | 1221 | 1158 | 1324 | 1161 | 1643 | 724 | 1015 | 868 | 934 | 158 | 432 | 184 | 898 |
| FRA | 586 | 827 | 978 | 634 | 1201 | 864 | 982 | 0 | 1446 | 1468 | 1714 | 2008 | 807 | 1481 | 1000 | 1221 | 171 | 529 | 197 | 913 |
| GBR | 806 | 778 | 1733 | 744 | 1302 | 959 | 945 | 1033 | 0 | 1507 | 1722 | 2224 | 777 | 1226 | 922 | 1090 | 196 | 734 | 201 | 981 |
| ITA | 551 | 675 | 1657 | 665 | 1543 | 981 | 997 | 1010 | 1315 | 0 | 1509 | 2426 | 840 | 1413 | 950 | 1230 | 225 | 470 | 263 | 1020 |
| NLD | 757 | 1128 | 1269 | 822 | 1970 | 1240 | 992 | 1176 | 1447 | 1329 | 0 | 2188 | 783 | 1416 | 915 | 1429 | 241 | 660 | 232 | 1028 |
| USA | 964 | 704 | 3503 | 876 | 1660 | 1070 | 1121 | 1157 | 2058 | 2074 | 1666 | 0 | 1135 | 1709 | 1702 | 1660 | 256 | 590 | 225 | 1350 |
| HUN | 332 | 334 | 781 | 312 | 682 | 522 | 553 | 553 | 623 | 709 | 584 | 1027 | 0 | 743 | 603 | 831 | 123 | 324 | 128 | 658 |
| POL | 398 | 487 | 961 | 414 | 1233 | 767 | 676 | 949 | 950 | 1118 | 1099 | 1447 | 574 | 0 | 784 | 1177 | 220 | 424 | 231 | 914 |
| JPN | 311 | 248 | 449 | 237 | 365 | 326 | 338 | 335 | 381 | 394 | 373 | 514 | 246 | 277 | 0 | 771 | 124 | 331 | 129 | 637 |
| CZE | 366 | 414 | 825 | 366 | 1141 | 634 | 658 | 798 | 781 | 955 | 1210 | 1274 | 705 | 831 | 255 | 0 | 169 | 409 | 202 | 808 |
| EST | 53 | 64 | 111 | 48 | 163 | 133 | 70 | 82 | 108 | 134 | 157 | 175 | 68 | 130 | 34 | 92 | 0 | 74 | 60 | 136 |
| IRL | 400 | 401 | 445 | 369 | 497 | 445 | 423 | 492 | 801 | 437 | 622 | 564 | 274 | 319 | 201 | 317 | 39 | 0 | 90 | 397 |
| SVN | 76 | 104 | 157 | 87 | 312 | 160 | 128 | 147 | 148 | 231 | 197 | 178 | 92 | 181 | 54 | 143 | 31 | 71 | 0 | 150 |
| PRT | 439 | 588 | 1093 | 453 | 939 | 749 | 870 | 829 | 903 | 1016 | 1019 | 1395 | 623 | 852 | 312 | 666 | 79 | 345 | 116 | 0 |

HOL

common bulls below diagonal

common three quarter sib group above diagonal

| BEL | CAN | CHE | DEU | DFS | ESP | FRA | GBR | ITA | NLD | USA | CZE | KOR | SVN | PRT | EST | HUN | POL |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|

| | | | | | | | | | | | | | | | | | | | |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| BEL | 0 | 655 | 459 | 777 | 647 | 576 | 773 | 719 | 617 | 880 | 738 | 462 | 381 | 201 | 107 | 501 | 76 | 305 | 373 |

<tbl_r cells="21

HOL

common bulls below diagonal

common three quarter sib group above diagonal

| | BEL | CHE | DEU | DFS | FRA | GBR | ITA | NLD | USA | CZE | JPN | IRL | KOR | CAN | PRT | ESP | SVN | EST | HUN | NZL | POL |
|-----|------|-----|------|-----|------|------|------|------|------|------|------|-----|-----|------|-----|------|-----|-----|-----|-----|------|
| BEL | 0 | 505 | 750 | 302 | 617 | 709 | 624 | 924 | 724 | 419 | 275 | 351 | 207 | 543 | 379 | 575 | 133 | 86 | 261 | 216 | 450 |
| CHE | 508 | 0 | 905 | 247 | 587 | 720 | 718 | 808 | 911 | 405 | 298 | 329 | 226 | 753 | 343 | 560 | 122 | 84 | 259 | 206 | 440 |
| DEU | 722 | 768 | 0 | 802 | 1644 | 1566 | 2128 | 2221 | 2378 | 1293 | 788 | 436 | 468 | 1682 | 777 | 1318 | 329 | 236 | 677 | 288 | 1467 |
| DFS | 241 | 201 | 368 | 0 | 495 | 625 | 531 | 788 | 686 | 437 | 220 | 276 | 133 | 322 | 270 | 419 | 82 | 61 | 225 | 195 | 421 |
| FRA | 622 | 532 | 1022 | 259 | 0 | 1034 | 1305 | 1246 | 1406 | 877 | 627 | 352 | 387 | 1025 | 599 | 993 | 196 | 141 | 552 | 230 | 1150 |
| GBR | 730 | 706 | 1128 | 352 | 795 | 0 | 1481 | 1605 | 2180 | 850 | 569 | 665 | 410 | 1307 | 646 | 1086 | 202 | 169 | 517 | 360 | 970 |
| ITA | 640 | 656 | 1438 | 365 | 938 | 1295 | 0 | 1450 | 2378 | 1116 | 765 | 418 | 533 | 1699 | 786 | 1288 | 260 | 206 | 682 | 259 | 1255 |
| NLD | 1005 | 790 | 1756 | 504 | 975 | 1379 | 1298 | 0 | 1923 | 1177 | 566 | 569 | 384 | 1088 | 666 | 1069 | 234 | 207 | 513 | 467 | 1118 |
| USA | 658 | 846 | 1451 | 343 | 892 | 2046 | 2036 | 1546 | 0 | 1327 | 1000 | 544 | 704 | 2621 | 918 | 1567 | 226 | 210 | 791 | 361 | 1388 |
| CZE | 324 | 288 | 928 | 231 | 594 | 614 | 872 | 1046 | 1043 | 0 | 505 | 281 | 385 | 892 | 540 | 752 | 201 | 140 | 556 | 202 | 923 |
| JPN | 182 | 190 | 300 | 107 | 267 | 293 | 345 | 296 | 407 | 210 | 0 | 181 | 367 | 726 | 378 | 598 | 121 | 92 | 377 | 153 | 558 |
| IRL | 357 | 329 | 380 | 206 | 342 | 729 | 399 | 542 | 526 | 215 | 136 | 0 | 130 | 341 | 217 | 378 | 84 | 54 | 183 | 242 | 275 |
| KOR | 154 | 169 | 309 | 78 | 270 | 303 | 453 | 277 | 801 | 273 | 206 | 95 | 0 | 570 | 351 | 417 | 105 | 74 | 319 | 118 | 438 |
| CAN | 565 | 693 | 1232 | 247 | 831 | 1406 | 1572 | 1119 | 2962 | 692 | 365 | 357 | 550 | 0 | 727 | 1105 | 202 | 165 | 628 | 231 | 994 |
| PRT | 371 | 300 | 675 | 197 | 559 | 571 | 787 | 642 | 973 | 443 | 228 | 184 | 303 | 749 | 0 | 601 | 146 | 108 | 416 | 171 | 663 |
| ESP | 576 | 460 | 741 | 275 | 804 | 890 | 972 | 925 | 1062 | 505 | 261 | 377 | 291 | 804 | 549 | 0 | 183 | 133 | 509 | 245 | 802 |
| SVN | 102 | 87 | 314 | 55 | 148 | 148 | 227 | 198 | 178 | 143 | 54 | 65 | 66 | 157 | 110 | 126 | 0 | 58 | 123 | 61 | 223 |
| EST | 53 | 42 | 141 | 26 | 72 | 98 | 123 | 140 | 139 | 78 | 32 | 31 | 33 | 104 | 67 | 61 | 31 | 0 | 98 | 40 | 188 |
| HUN | 210 | 208 | 470 | 148 | 384 | 411 | 574 | 392 | 724 | 472 | 175 | 152 | 244 | 603 | 406 | 364 | 90 | 55 | 0 | 130 | 542 |
| NZL | 181 | 181 | 242 | 127 | 193 | 301 | 230 | 430 | 315 | 148 | 115 | 202 | 92 | 233 | 145 | 210 | 44 | 20 | 99 | 0 | 172 |
| POL | 364 | 322 | 1032 | 255 | 786 | 791 | 1009 | 902 | 1252 | 680 | 232 | 221 | 330 | 870 | 640 | 519 | 178 | 114 | 447 | 131 | 0 |

JER

common bulls below diagonal

common three quarter sib group above diagonal

| | AUS | CAN | DFS | GBR | ITA | NZL | USA | ZAF | NLD | CHE |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| AUS | 0 | 157 | 92 | 106 | 35 | 154 | 260 | 136 | 18 | 17 |
| CAN | 163 | 0 | 104 | 141 | 37 | 78 | 469 | 149 | 15 | 25 |
| DFS | 69 | 92 | 0 | 112 | 47 | 97 | 165 | 130 | 23 | 34 |
| GBR | 104 | 145 | 108 | 0 | 43 | 77 | 177 | 116 | 18 | 35 |
| ITA | 35 | 35 | 46 | 41 | 0 | 33 | 47 | 47 | 10 | 16 |
| NZL | 156 | 79 | 76 | 79 | 30 | 0 | 151 | 105 | 18 | 20 |
| USA | 255 | 472 | 134 | 184 | 50 | 157 | 0 | 259 | 38 | 39 |
| ZAF | 140 | 149 | 113 | 114 | 48 | 101 | 266 | 0 | 28 | 26 |
| NLD | 14 | 10 | 17 | 15 | 7 | 15 | 38 | 23 | 0 | 4 |
| CHE | 15 | 23 | 33 | 33 | 17 | 18 | 39 | 25 | 3 | 0 |

JER

common bulls below diagonal

common three quarter sib group above diagonal

| | AUS | CAN | DFS | GBR | ITA | NZL | USA | ZAF | NLD | CHE |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| AUS | 0 | 157 | 92 | 106 | 35 | 154 | 260 | 129 | 18 | 24 |
| CAN | 163 | 0 | 104 | 141 | 37 | 78 | 469 | 138 | 15 | 30 |
| DFS | 69 | 92 | 0 | 112 | 47 | 97 | 165 | 121 | 23 | 44 |
| GBR | 104 | 145 | 108 | 0 | 43 | 77 | 177 | 111 | 18 | 42 |
| ITA | 35 | 35 | 46 | 41 | 0 | 33 | 47 | 47 | 10 | 23 |
| NZL | 156 | 79 | 76 | 79 | 30 | 0 | 151 | 96 | 18 | 26 |
| USA | 255 | 472 | 134 | 184 | 50 | 157 | 0 | 239 | 38 | 46 |
| ZAF | 134 | 140 | 107 | 110 | 48 | 93 | 248 | 0 | 28 | 38 |
| NLD | 14 | 10 | 17 | 15 | 7 | 15 | 38 | 23 | 0 | 8 |
| CHE | 22 | 29 | 43 | 41 | 24 | 24 | 47 | 37 | 6 | 0 |

JER

common bulls below diagonal

common three quarter sib group above diagonal

| | AUS | CAN | DFS | GBR | ITA | NZL | ZAF | NLD | USA | CHE |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| AUS | 0 | 157 | 92 | 106 | 35 | 154 | 129 | 18 | 260 | 28 |

| | | | | | | | | | | |
|-----|-----|-----|-----|-----|----|-----|-----|----|-----|----|
| CAN | 163 | 0 | 104 | 141 | 37 | 78 | 138 | 15 | 469 | 34 |
| DFS | 69 | 92 | 0 | 112 | 47 | 97 | 121 | 23 | 165 | 47 |
| GBR | 104 | 145 | 108 | 0 | 43 | 77 | 111 | 18 | 177 | 45 |
| ITA | 35 | 35 | 46 | 41 | 0 | 33 | 47 | 10 | 47 | 26 |
| NZL | 156 | 79 | 76 | 79 | 30 | 0 | 96 | 18 | 151 | 30 |
| ZAF | 134 | 140 | 107 | 110 | 48 | 93 | 0 | 28 | 239 | 42 |
| NLD | 14 | 10 | 17 | 15 | 7 | 15 | 23 | 0 | 38 | 10 |
| USA | 255 | 472 | 134 | 184 | 50 | 157 | 248 | 38 | 0 | 50 |
| CHE | 25 | 31 | 46 | 44 | 26 | 28 | 40 | 7 | 51 | 0 |

JER

common bulls below diagonal

common three quarter sib group above diagonal

| AUS | CAN | DFS | GBR | ITA | USA | ZAF | NLD | CHE |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|
|-----|-----|-----|-----|-----|-----|-----|-----|-----|

| | | | | | | | | | |
|-----|-----|-----|-----|-----|----|-----|-----|----|----|
| AUS | 0 | 157 | 89 | 105 | 35 | 260 | 135 | 6 | 28 |
| CAN | 163 | 0 | 104 | 141 | 37 | 469 | 149 | 7 | 34 |
| DFS | 67 | 92 | 0 | 110 | 47 | 165 | 129 | 12 | 47 |
| GBR | 103 | 145 | 106 | 0 | 43 | 177 | 116 | 12 | 45 |
| ITA | 35 | 35 | 46 | 41 | 0 | 47 | 47 | 5 | 26 |
| USA | 255 | 472 | 134 | 184 | 50 | 0 | 258 | 21 | 50 |
| ZAF | 139 | 149 | 112 | 114 | 48 | 265 | 0 | 13 | 42 |
| NLD | 3 | 5 | 11 | 10 | 4 | 19 | 11 | 0 | 5 |
| CHE | 25 | 31 | 46 | 44 | 26 | 51 | 40 | 5 | 0 |

JER

common bulls below diagonal

common three quarter sib group above diagonal

| AUS | CAN | DFS | GBR | ITA | NZL | USA | ZAF | NLD | CHE |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|

| | | | | | | | | | | |
|-----|-----|-----|-----|-----|----|-----|-----|-----|----|----|
| AUS | 0 | 157 | 92 | 106 | 35 | 154 | 260 | 136 | 18 | 28 |
| CAN | 163 | 0 | 104 | 141 | 37 | 78 | 469 | 149 | 15 | 34 |
| DFS | 69 | 92 | 0 | 112 | 47 | 97 | 165 | 130 | 23 | 47 |
| GBR | 104 | 145 | 108 | 0 | 43 | 77 | 177 | 116 | 18 | 45 |
| ITA | 35 | 35 | 46 | 41 | 0 | 33 | 47 | 47 | 10 | 26 |
| NZL | 156 | 79 | 76 | 79 | 30 | 0 | 151 | 105 | 18 | 30 |
| USA | 255 | 472 | 134 | 184 | 50 | 157 | 0 | 259 | 38 | 50 |
| ZAF | 140 | 149 | 113 | 114 | 48 | 101 | 266 | 0 | 28 | 42 |
| NLD | 14 | 10 | 17 | 15 | 7 | 15 | 38 | 23 | 0 | 10 |
| CHE | 25 | 31 | 46 | 44 | 26 | 28 | 51 | 40 | 7 | 0 |

JER

common bulls below diagonal

common three quarter sib group above diagonal

| AUS | CAN | DFS | GBR | ITA | NZL | USA | ZAF | NLD | CHE |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|

| | | | | | | | | | | |
|-----|-----|-----|-----|-----|----|-----|-----|-----|----|----|
| AUS | 0 | 157 | 87 | 106 | 35 | 154 | 260 | 136 | 18 | 28 |
| CAN | 163 | 0 | 93 | 141 | 37 | 78 | 469 | 149 | 15 | 34 |
| DFS | 61 | 78 | 0 | 108 | 44 | 90 | 154 | 123 | 21 | 46 |
| GBR | 104 | 145 | 101 | 0 | 43 | 77 | 177 | 116 | 18 | 45 |
| ITA | 35 | 35 | 41 | 41 | 0 | 33 | 47 | 47 | 10 | 26 |
| NZL | 156 | 79 | 68 | 79 | 30 | 0 | 151 | 105 | 18 | 30 |
| USA | 255 | 472 | 120 | 184 | 50 | 157 | 0 | 259 | 38 | 50 |
| ZAF | 140 | 149 | 103 | 114 | 48 | 101 | 266 | 0 | 28 | 42 |
| NLD | 14 | 10 | 15 | 15 | 7 | 15 | 38 | 23 | 0 | 10 |
| CHE | 25 | 31 | 45 | 44 | 26 | 28 | 51 | 40 | 7 | 0 |

JER

common bulls below diagonal

common three quarter sib group above diagonal

| AUS | CAN | DFS | GBR | ITA | NZL | USA | ZAF | NLD | CHE |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|

| | | | | | | | | | | |
|-----|-----|-----|-----|-----|----|-----|-----|-----|----|----|
| AUS | 0 | 157 | 92 | 106 | 35 | 154 | 260 | 136 | 18 | 28 |
| CAN | 163 | 0 | 104 | 141 | 37 | 78 | 469 | 149 | 15 | 34 |
| DFS | 69 | 92 | 0 | 112 | 47 | 97 | 165 | 130 | 23 | 47 |

| | | | | | | | | | | |
|-----|-----|-----|-----|-----|----|-----|-----|-----|----|----|
| GBR | 104 | 145 | 108 | 0 | 43 | 77 | 177 | 116 | 18 | 45 |
| ITA | 35 | 35 | 46 | 41 | 0 | 33 | 47 | 47 | 10 | 26 |
| NZL | 156 | 79 | 76 | 79 | 30 | 0 | 151 | 105 | 18 | 30 |
| USA | 255 | 472 | 134 | 184 | 50 | 157 | 0 | 259 | 38 | 50 |
| ZAF | 140 | 149 | 113 | 114 | 48 | 101 | 266 | 0 | 28 | 42 |
| NLD | 14 | 10 | 17 | 15 | 7 | 15 | 38 | 23 | 0 | 10 |
| CHE | 25 | 31 | 46 | 44 | 26 | 28 | 51 | 40 | 7 | 0 |

JER

common bulls below diagonal

common three quarter sib group above diagonal

AUS CAN DFS ITA ZAF NLD USA CHE

| | | | | | | | | |
|-----|-----|-----|-----|----|-----|----|-----|----|
| AUS | 0 | 157 | 84 | 35 | 107 | 18 | 260 | 28 |
| CAN | 163 | 0 | 93 | 37 | 124 | 15 | 469 | 34 |
| DFS | 59 | 78 | 0 | 44 | 93 | 21 | 154 | 46 |
| ITA | 35 | 35 | 41 | 0 | 44 | 10 | 47 | 26 |
| ZAF | 109 | 120 | 79 | 44 | 0 | 25 | 204 | 42 |
| NLD | 14 | 10 | 15 | 7 | 18 | 0 | 38 | 10 |
| USA | 255 | 472 | 120 | 50 | 202 | 38 | 0 | 50 |
| CHE | 25 | 31 | 45 | 26 | 40 | 7 | 51 | 0 |

JER

common bulls below diagonal

common three quarter sib group above diagonal

AUS CAN DFS GBR ITA USA ZAF NLD CHE

| | | | | | | | | | |
|-----|-----|-----|-----|-----|----|-----|-----|----|----|
| AUS | 0 | 157 | 89 | 105 | 35 | 260 | 135 | 18 | 28 |
| CAN | 163 | 0 | 104 | 141 | 37 | 469 | 149 | 15 | 34 |
| DFS | 67 | 92 | 0 | 110 | 47 | 165 | 129 | 23 | 47 |
| GBR | 103 | 145 | 106 | 0 | 43 | 177 | 116 | 18 | 45 |
| ITA | 35 | 35 | 46 | 41 | 0 | 47 | 47 | 10 | 26 |
| USA | 255 | 472 | 134 | 184 | 50 | 0 | 258 | 38 | 50 |
| ZAF | 139 | 149 | 112 | 114 | 48 | 265 | 0 | 28 | 42 |
| NLD | 14 | 10 | 17 | 15 | 7 | 38 | 23 | 0 | 10 |
| CHE | 25 | 31 | 46 | 44 | 26 | 51 | 40 | 7 | 0 |

JER

common bulls below diagonal

common three quarter sib group above diagonal

AUS CAN DFS GBR ITA NZL USA ZAF NLD CHE

| | | | | | | | | | | |
|-----|-----|-----|-----|-----|----|-----|-----|-----|----|----|
| AUS | 0 | 157 | 92 | 106 | 35 | 154 | 260 | 136 | 17 | 28 |
| CAN | 163 | 0 | 104 | 141 | 37 | 78 | 469 | 149 | 13 | 34 |
| DFS | 69 | 92 | 0 | 112 | 47 | 97 | 165 | 130 | 22 | 47 |
| GBR | 104 | 145 | 108 | 0 | 43 | 77 | 177 | 116 | 16 | 45 |
| ITA | 35 | 35 | 46 | 41 | 0 | 33 | 47 | 47 | 10 | 26 |
| NZL | 156 | 79 | 76 | 79 | 30 | 0 | 151 | 105 | 17 | 30 |
| USA | 255 | 472 | 134 | 184 | 50 | 157 | 0 | 259 | 34 | 50 |
| ZAF | 140 | 149 | 113 | 114 | 48 | 101 | 266 | 0 | 26 | 42 |
| NLD | 13 | 8 | 16 | 13 | 7 | 14 | 34 | 21 | 0 | 10 |
| CHE | 25 | 31 | 46 | 44 | 26 | 28 | 51 | 40 | 7 | 0 |

JER

common bulls below diagonal

common three quarter sib group above diagonal

AUS CAN DFS GBR ITA NZL USA ZAF NLD CHE

| | | | | | | | | | | |
|-----|-----|-----|-----|-----|----|-----|-----|-----|----|----|
| AUS | 0 | 157 | 84 | 106 | 35 | 154 | 260 | 136 | 17 | 28 |
| CAN | 163 | 0 | 87 | 141 | 37 | 78 | 469 | 149 | 13 | 34 |
| DFS | 59 | 76 | 0 | 99 | 44 | 83 | 147 | 118 | 20 | 46 |
| GBR | 104 | 145 | 97 | 0 | 43 | 77 | 177 | 116 | 16 | 45 |
| ITA | 35 | 35 | 41 | 41 | 0 | 33 | 47 | 47 | 10 | 26 |
| NZL | 156 | 79 | 63 | 79 | 30 | 0 | 151 | 105 | 17 | 30 |
| USA | 255 | 472 | 115 | 184 | 50 | 157 | 0 | 259 | 34 | 50 |

| | | | | | | | | | | |
|-----|-----|-----|-----|-----|----|-----|-----|----|----|----|
| ZAF | 140 | 149 | 101 | 114 | 48 | 101 | 266 | 0 | 26 | 42 |
| NLD | 13 | 8 | 14 | 13 | 7 | 14 | 34 | 21 | 0 | 10 |
| CHE | 25 | 31 | 45 | 44 | 26 | 28 | 51 | 40 | 7 | 0 |

JER

common bulls below diagonal

common three quarter sib group above diagonal

| AUS | CAN | DFS | GBR | ITA | NZL | USA | ZAF | NLD | CHE |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|

| | | | | | | | | | | |
|-----|-----|-----|-----|-----|----|-----|-----|-----|----|----|
| AUS | 0 | 157 | 92 | 106 | 35 | 154 | 260 | 136 | 17 | 28 |
| CAN | 163 | 0 | 104 | 141 | 37 | 78 | 469 | 149 | 13 | 34 |
| DFS | 69 | 92 | 0 | 112 | 47 | 97 | 165 | 130 | 22 | 47 |
| GBR | 104 | 145 | 108 | 0 | 43 | 77 | 177 | 116 | 16 | 45 |
| ITA | 35 | 35 | 46 | 41 | 0 | 33 | 47 | 47 | 10 | 26 |
| NZL | 156 | 79 | 76 | 79 | 30 | 0 | 151 | 105 | 17 | 30 |
| USA | 255 | 472 | 134 | 184 | 50 | 157 | 0 | 259 | 34 | 50 |
| ZAF | 140 | 149 | 113 | 114 | 48 | 101 | 266 | 0 | 26 | 42 |
| NLD | 13 | 8 | 16 | 13 | 7 | 14 | 34 | 21 | 0 | 10 |
| CHE | 25 | 31 | 46 | 44 | 26 | 28 | 51 | 40 | 7 | 0 |

JER

common bulls below diagonal

common three quarter sib group above diagonal

| AUS | CAN | DFS | GBR | ITA | USA | ZAF | NLD | CHE |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|
|-----|-----|-----|-----|-----|-----|-----|-----|-----|

| | | | | | | | | | |
|-----|-----|-----|-----|-----|----|-----|-----|----|----|
| AUS | 0 | 157 | 90 | 105 | 35 | 260 | 136 | 18 | 28 |
| CAN | 163 | 0 | 104 | 141 | 37 | 466 | 149 | 15 | 34 |
| DFS | 68 | 92 | 0 | 110 | 47 | 165 | 130 | 30 | 47 |
| GBR | 103 | 145 | 106 | 0 | 43 | 177 | 116 | 22 | 45 |
| ITA | 35 | 35 | 46 | 41 | 0 | 47 | 47 | 10 | 26 |
| USA | 255 | 470 | 134 | 184 | 50 | 0 | 258 | 38 | 50 |
| ZAF | 140 | 149 | 113 | 114 | 48 | 265 | 0 | 30 | 42 |
| NLD | 14 | 10 | 24 | 19 | 7 | 38 | 25 | 0 | 12 |
| CHE | 25 | 31 | 46 | 44 | 26 | 51 | 40 | 9 | 0 |

JER

common bulls below diagonal

common three quarter sib group above diagonal

| AUS | CAN | DFS | GBR | ITA | NZL | USA | ZAF | NLD | CHE |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|

| | | | | | | | | | | |
|-----|-----|-----|-----|-----|----|-----|-----|-----|----|----|
| AUS | 0 | 157 | 92 | 106 | 35 | 154 | 260 | 136 | 18 | 28 |
| CAN | 163 | 0 | 104 | 141 | 37 | 78 | 469 | 149 | 15 | 34 |
| DFS | 69 | 92 | 0 | 112 | 46 | 97 | 165 | 130 | 30 | 47 |
| GBR | 104 | 145 | 108 | 0 | 43 | 77 | 177 | 116 | 22 | 45 |
| ITA | 35 | 35 | 45 | 41 | 0 | 33 | 46 | 47 | 10 | 26 |
| NZL | 156 | 79 | 76 | 79 | 30 | 0 | 151 | 105 | 18 | 30 |
| USA | 255 | 472 | 134 | 184 | 49 | 157 | 0 | 259 | 38 | 50 |
| ZAF | 140 | 149 | 113 | 114 | 48 | 101 | 266 | 0 | 30 | 42 |
| NLD | 14 | 10 | 24 | 19 | 7 | 15 | 38 | 25 | 0 | 12 |
| CHE | 25 | 31 | 46 | 44 | 26 | 28 | 51 | 40 | 9 | 0 |

JER

common bulls below diagonal

common three quarter sib group above diagonal

| AUS | CAN | DFS | GBR | ITA | USA | ZAF | NLD | CHE | NZL |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|

| | | | | | | | | | | |
|-----|-----|-----|-----|-----|----|-----|-----|----|----|----|
| AUS | 0 | 157 | 89 | 105 | 35 | 260 | 128 | 17 | 28 | 20 |
| CAN | 163 | 0 | 104 | 141 | 37 | 469 | 138 | 13 | 34 | 14 |
| DFS | 67 | 92 | 0 | 110 | 47 | 165 | 120 | 22 | 47 | 20 |
| GBR | 103 | 145 | 106 | 0 | 43 | 177 | 111 | 16 | 45 | 13 |
| ITA | 35 | 35 | 46 | 41 | 0 | 47 | 47 | 10 | 26 | 3 |
| USA | 255 | 472 | 134 | 184 | 50 | 0 | 239 | 34 | 50 | 17 |
| ZAF | 133 | 140 | 106 | 110 | 48 | 248 | 0 | 26 | 42 | 15 |
| NLD | 13 | 8 | 16 | 13 | 7 | 34 | 21 | 0 | 10 | 3 |
| CHE | 25 | 31 | 46 | 44 | 26 | 51 | 40 | 7 | 0 | 6 |

NZL 20 13 19 12 1 15 13 1 5 0

JER

common bulls below diagonal

common three quarter sib group above diagonal

AUS CAN DFS NZL ZAF NLD USA CHE

| | | | | | | | | |
|-----|-----|-----|-----|-----|-----|----|-----|----|
| AUS | 0 | 157 | 76 | 154 | 126 | 18 | 260 | 28 |
| CAN | 163 | 0 | 82 | 78 | 135 | 15 | 469 | 34 |
| DFS | 54 | 73 | 0 | 76 | 105 | 28 | 140 | 46 |
| NZL | 156 | 79 | 58 | 0 | 92 | 18 | 151 | 30 |
| ZAF | 129 | 134 | 89 | 85 | 0 | 30 | 234 | 42 |
| NLD | 14 | 10 | 22 | 15 | 25 | 0 | 38 | 12 |
| USA | 255 | 472 | 110 | 157 | 235 | 38 | 0 | 50 |
| CHE | 25 | 31 | 45 | 28 | 40 | 9 | 51 | 0 |

JER

common bulls below diagonal

common three quarter sib group above diagonal

AUS CAN DFS GBR ITA NZL USA NLD CHE

| | | | | | | | | | |
|-----|-----|-----|-----|----|----|-----|-----|----|----|
| AUS | 0 | 157 | 92 | 35 | 35 | 154 | 260 | 18 | 24 |
| CAN | 163 | 0 | 104 | 37 | 37 | 78 | 469 | 15 | 30 |
| DFS | 69 | 92 | 0 | 32 | 47 | 97 | 165 | 23 | 44 |
| GBR | 40 | 42 | 30 | 0 | 12 | 35 | 37 | 4 | 3 |
| ITA | 35 | 35 | 46 | 13 | 0 | 33 | 47 | 10 | 23 |
| NZL | 156 | 79 | 76 | 39 | 30 | 0 | 151 | 18 | 26 |
| USA | 255 | 472 | 134 | 40 | 50 | 157 | 0 | 38 | 46 |
| NLD | 14 | 10 | 17 | 5 | 7 | 15 | 38 | 0 | 8 |
| CHE | 22 | 29 | 43 | 4 | 24 | 24 | 47 | 6 | 0 |

JER

common bulls below diagonal

common three quarter sib group above diagonal

AUS CAN DFS GBR NZL USA NLD CHE ITA

| | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|----|----|----|
| AUS | 0 | 157 | 89 | 106 | 154 | 260 | 17 | 24 | 35 |
| CAN | 163 | 0 | 98 | 141 | 78 | 466 | 13 | 30 | 37 |
| DFS | 67 | 90 | 0 | 102 | 89 | 158 | 22 | 44 | 46 |
| GBR | 104 | 145 | 103 | 0 | 74 | 177 | 16 | 42 | 43 |
| NZL | 156 | 79 | 70 | 76 | 0 | 151 | 17 | 26 | 33 |
| USA | 255 | 470 | 129 | 184 | 157 | 0 | 34 | 46 | 46 |
| NLD | 13 | 8 | 16 | 13 | 14 | 34 | 0 | 8 | 10 |
| CHE | 22 | 29 | 43 | 41 | 24 | 47 | 6 | 0 | 23 |
| ITA | 35 | 35 | 45 | 41 | 30 | 49 | 7 | 24 | 0 |

JER

common bulls below diagonal

common three quarter sib group above diagonal

AUS CAN DFS GBR ITA USA NLD CHE

| | | | | | | | | |
|-----|-----|-----|-----|-----|----|-----|----|----|
| AUS | 0 | 124 | 74 | 83 | 32 | 212 | 15 | 19 |
| CAN | 129 | 0 | 104 | 141 | 37 | 469 | 15 | 30 |
| DFS | 53 | 92 | 0 | 110 | 47 | 165 | 23 | 44 |
| GBR | 81 | 145 | 106 | 0 | 43 | 177 | 18 | 42 |
| ITA | 31 | 35 | 46 | 41 | 0 | 47 | 10 | 23 |
| USA | 201 | 472 | 134 | 184 | 50 | 0 | 38 | 46 |
| NLD | 11 | 10 | 17 | 15 | 7 | 38 | 0 | 8 |
| CHE | 17 | 29 | 43 | 41 | 24 | 47 | 6 | 0 |

JER

JER

RDC

| common three quarter sib group above diagonal | | | | | | | | | | | |
|---|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| | AUS | CAN | DEU | DFS | GBR | NOR | NZL | USA | NLD | CAM | LVA |
| AUS | 0 | 27 | 13 | 55 | 12 | 18 | 25 | 16 | 10 | 5 | 17 |
| CAN | 27 | 0 | 11 | 150 | 77 | 5 | 34 | 155 | 4 | 0 | 10 |
| DEU | 13 | 11 | 0 | 58 | 4 | 12 | 11 | 4 | 14 | 0 | 30 |
| DFS | 43 | 151 | 49 | 0 | 60 | 88 | 59 | 83 | 36 | 0 | 127 |
| GBR | 10 | 76 | 4 | 55 | 0 | 0 | 27 | 64 | 1 | 0 | 3 |
| NOR | 14 | 5 | 11 | 68 | 0 | 0 | 6 | 0 | 27 | 0 | 11 |
| NZL | 24 | 32 | 11 | 57 | 24 | 5 | 0 | 23 | 3 | 2 | 7 |
| USA | 16 | 150 | 4 | 80 | 60 | 0 | 22 | 0 | 2 | 0 | 4 |
| NLD | 10 | 4 | 13 | 35 | 1 | 26 | 3 | 2 | 0 | 0 | 12 |
| CAM | 5 | 0 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 0 | 0 |
| LVA | 16 | 10 | 24 | 89 | 3 | 9 | 7 | 4 | 11 | 0 | 0 |

| common three quarter sib group above diagonal | | | | | | | | | | | |
|---|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| | AUS | CAN | DEU | DFS | GBR | NZL | USA | NLD | CAM | NOR | LVA |
| AUS | 0 | 27 | 13 | 55 | 12 | 25 | 16 | 10 | 5 | 11 | 16 |
| CAN | 27 | 0 | 11 | 150 | 77 | 34 | 155 | 4 | 0 | 3 | 10 |
| DEU | 13 | 11 | 0 | 58 | 4 | 11 | 4 | 14 | 0 | 6 | 28 |
| DFS | 43 | 151 | 49 | 0 | 60 | 57 | 83 | 34 | 0 | 54 | 108 |
| GBR | 10 | 76 | 4 | 55 | 0 | 27 | 64 | 1 | 0 | 0 | 3 |
| NZL | 24 | 32 | 11 | 55 | 24 | 0 | 23 | 3 | 2 | 3 | 6 |
| USA | 16 | 150 | 4 | 80 | 60 | 22 | 0 | 2 | 0 | 0 | 4 |
| NLD | 10 | 4 | 13 | 33 | 1 | 3 | 2 | 0 | 0 | 17 | 11 |
| CAM | 5 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 0 |
| NOR | 10 | 2 | 5 | 41 | 0 | 3 | 0 | 16 | 0 | 0 | 1 |
| LVA | 15 | 10 | 22 | 74 | 3 | 6 | 4 | 10 | 0 | 0 | 0 |

| common three quarter sib group above diagonal | | | | | | | | | | | |
|---|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| | AUS | CAN | DEU | DFS | GBR | NOR | NZL | USA | NLD | CAM | LVA |
| AUS | 0 | 27 | 13 | 55 | 12 | 11 | 25 | 16 | 10 | 5 | 17 |
| CAN | 27 | 0 | 11 | 150 | 77 | 2 | 34 | 153 | 4 | 0 | 10 |
| DEU | 13 | 11 | 0 | 58 | 4 | 7 | 11 | 4 | 14 | 0 | 30 |
| DFS | 43 | 151 | 49 | 0 | 60 | 64 | 57 | 83 | 34 | 0 | 127 |
| GBR | 10 | 76 | 4 | 55 | 0 | 0 | 27 | 63 | 1 | 0 | 3 |
| NOR | 10 | 2 | 6 | 48 | 0 | 0 | 3 | 0 | 22 | 0 | 2 |
| NZL | 24 | 32 | 11 | 55 | 24 | 3 | 0 | 23 | 3 | 2 | 7 |
| USA | 16 | 149 | 4 | 80 | 59 | 0 | 22 | 0 | 2 | 0 | 4 |
| NLD | 10 | 4 | 13 | 33 | 1 | 21 | 3 | 2 | 0 | 0 | 12 |
| CAM | 5 | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 0 |
| LVA | 16 | 10 | 24 | 89 | 3 | 1 | 7 | 4 | 11 | 0 | 0 |

| common three quarter sib group above diagonal | | | | | | | | | | | |
|---|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|---|
| | AUS | CAN | DEU | DFS | GBR | USA | NLD | CAM | NOR | LVA | |
| AUS | 0 | 27 | 3 | 55 | 12 | 16 | 10 | 5 | 12 | 17 | |
| CAN | 27 | 0 | 0 | 150 | 77 | 155 | 4 | 0 | 4 | 10 | |
| DEU | 3 | 0 | 0 | 18 | 0 | 0 | 2 | 0 | 3 | 2 | |
| DFS | 43 | 151 | 16 | 0 | 60 | 83 | 33 | 0 | 64 | 127 | |
| GBR | 10 | 76 | 0 | 55 | 0 | 64 | 1 | 0 | 0 | 3 | |
| USA | 16 | 150 | 0 | 80 | 60 | 0 | 2 | 0 | 0 | 0 | 4 |
| NLD | 10 | 4 | 2 | 32 | 1 | 2 | 0 | 0 | 17 | 11 | |
| CAM | 5 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| NOR | 11 | 3 | 3 | 52 | 0 | 0 | 16 | 0 | 0 | 0 | 2 |
| LVA | 16 | 10 | 1 | 89 | 3 | 4 | 10 | 0 | 1 | 0 | |

LVA 15 10 22 74 8 10 4 0 0

RDC

common bulls below diagonal

common three quarter sib group above diagonal

AUS CAN DEU DFS GBR NOR USA NLD CAM LVA

| | | | | | | | | | | |
|-----|----|-----|----|-----|----|----|-----|----|---|-----|
| AUS | 0 | 27 | 10 | 55 | 12 | 20 | 16 | 10 | 5 | 17 |
| CAN | 27 | 0 | 9 | 150 | 77 | 5 | 155 | 4 | 0 | 10 |
| DEU | 10 | 9 | 0 | 49 | 4 | 11 | 4 | 14 | 0 | 17 |
| DFS | 43 | 151 | 43 | 0 | 60 | 98 | 83 | 34 | 0 | 127 |
| GBR | 10 | 76 | 4 | 55 | 0 | 0 | 64 | 1 | 0 | 3 |
| NOR | 16 | 5 | 10 | 76 | 0 | 0 | 0 | 27 | 0 | 12 |
| USA | 16 | 150 | 4 | 80 | 60 | 0 | 0 | 2 | 0 | 4 |
| NLD | 10 | 4 | 13 | 33 | 1 | 26 | 2 | 0 | 0 | 12 |
| CAM | 5 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| LVA | 16 | 10 | 14 | 89 | 3 | 10 | 4 | 11 | 0 | 0 |

RDC

common bulls below diagonal

common three quarter sib group above diagonal

AUS CAN DEU DFS GBR NOR NZL USA NLD CAM LVA

| | | | | | | | | | | | |
|-----|----|-----|----|-----|----|-----|----|-----|----|---|-----|
| AUS | 0 | 27 | 13 | 55 | 12 | 20 | 25 | 16 | 10 | 5 | 17 |
| CAN | 27 | 0 | 11 | 150 | 77 | 5 | 34 | 155 | 4 | 0 | 10 |
| DEU | 13 | 11 | 0 | 58 | 4 | 12 | 11 | 4 | 12 | 0 | 30 |
| DFS | 43 | 151 | 49 | 0 | 60 | 101 | 59 | 83 | 32 | 0 | 127 |
| GBR | 10 | 76 | 4 | 55 | 0 | 0 | 27 | 64 | 1 | 0 | 3 |
| NOR | 16 | 5 | 11 | 78 | 0 | 0 | 7 | 0 | 24 | 0 | 12 |
| NZL | 24 | 32 | 11 | 57 | 24 | 6 | 0 | 23 | 2 | 2 | 7 |
| USA | 16 | 150 | 4 | 80 | 60 | 0 | 22 | 0 | 2 | 0 | 4 |
| NLD | 10 | 4 | 11 | 31 | 1 | 23 | 2 | 2 | 0 | 0 | 12 |
| CAM | 5 | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 0 |
| LVA | 16 | 10 | 24 | 89 | 3 | 10 | 7 | 4 | 11 | 0 | 0 |

RDC

common bulls below diagonal

common three quarter sib group above diagonal

AUS CAN DEU DFS GBR NOR NZL USA NLD CAM LVA

| | | | | | | | | | | | |
|-----|----|-----|----|-----|----|----|----|-----|----|---|-----|
| AUS | 0 | 27 | 13 | 55 | 12 | 20 | 25 | 16 | 10 | 5 | 17 |
| CAN | 27 | 0 | 11 | 150 | 77 | 5 | 34 | 155 | 4 | 0 | 10 |
| DEU | 13 | 11 | 0 | 58 | 4 | 12 | 11 | 4 | 12 | 0 | 30 |
| DFS | 43 | 151 | 49 | 0 | 60 | 98 | 57 | 83 | 32 | 0 | 121 |
| GBR | 10 | 76 | 4 | 55 | 0 | 0 | 27 | 64 | 1 | 0 | 3 |
| NOR | 16 | 5 | 11 | 76 | 0 | 0 | 7 | 0 | 24 | 0 | 12 |
| NZL | 24 | 32 | 11 | 54 | 24 | 6 | 0 | 23 | 2 | 2 | 7 |
| USA | 16 | 150 | 4 | 80 | 60 | 0 | 22 | 0 | 2 | 0 | 4 |
| NLD | 10 | 4 | 11 | 31 | 1 | 23 | 2 | 2 | 0 | 0 | 12 |
| CAM | 5 | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 0 |
| LVA | 16 | 10 | 24 | 85 | 3 | 10 | 7 | 4 | 11 | 0 | 0 |

RDC

common bulls below diagonal

common three quarter sib group above diagonal

AUS CAN DEU DFS GBR NOR NZL USA NLD CAM LVA

| | | | | | | | | | | | |
|-----|----|-----|----|-----|----|----|----|-----|----|---|-----|
| AUS | 0 | 27 | 13 | 55 | 12 | 20 | 25 | 16 | 10 | 5 | 17 |
| CAN | 27 | 0 | 11 | 150 | 77 | 5 | 34 | 155 | 4 | 0 | 10 |
| DEU | 13 | 11 | 0 | 58 | 4 | 13 | 11 | 4 | 12 | 0 | 30 |
| DFS | 43 | 151 | 49 | 0 | 60 | 93 | 59 | 83 | 34 | 0 | 127 |
| GBR | 10 | 76 | 4 | 55 | 0 | 0 | 27 | 64 | 1 | 0 | 3 |
| NOR | 16 | 5 | 12 | 73 | 0 | 0 | 7 | 0 | 24 | 0 | 12 |
| NZL | 24 | 32 | 11 | 57 | 24 | 6 | 0 | 23 | 2 | 2 | 7 |
| USA | 16 | 150 | 4 | 80 | 60 | 0 | 22 | 0 | 2 | 0 | 4 |

| | | | | | | | | | | | | |
|-----|----|----|----|----|---|----|---|---|----|---|---|----|
| NLD | 10 | 4 | 11 | 33 | 1 | 23 | 2 | 2 | 0 | 0 | 0 | 12 |
| CAM | 5 | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 0 | 0 |
| LVA | 16 | 10 | 24 | 89 | 3 | 10 | 7 | 4 | 11 | 0 | 0 | 0 |

RDC

common bulls below diagonal

common three quarter sib group above diagonal

AUS CAN DEU DFS GBR NOR USA NLD CAM LVA

| | | | | | | | | | | |
|-----|----|-----|----|-----|----|-----|-----|----|---|-----|
| AUS | 0 | 27 | 13 | 55 | 12 | 20 | 16 | 10 | 5 | 17 |
| CAN | 27 | 0 | 11 | 150 | 77 | 5 | 152 | 4 | 0 | 10 |
| DEU | 13 | 11 | 0 | 58 | 4 | 12 | 4 | 14 | 0 | 30 |
| DFS | 43 | 151 | 49 | 0 | 60 | 101 | 83 | 41 | 0 | 127 |
| GBR | 10 | 76 | 4 | 55 | 0 | 0 | 64 | 1 | 0 | 3 |
| NOR | 16 | 5 | 11 | 78 | 0 | 0 | 0 | 31 | 0 | 12 |
| USA | 16 | 149 | 4 | 80 | 60 | 0 | 0 | 2 | 0 | 4 |
| NLD | 10 | 4 | 13 | 40 | 1 | 30 | 2 | 0 | 0 | 13 |
| CAM | 5 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| LVA | 16 | 10 | 24 | 89 | 3 | 10 | 4 | 12 | 0 | 0 |

RDC

common bulls below diagonal

common three quarter sib group above diagonal

AUS CAN DEU DFS GBR NOR NZL USA NLD CAM LVA

| | | | | | | | | | | | |
|-----|----|-----|----|-----|----|-----|----|-----|----|---|-----|
| AUS | 0 | 27 | 13 | 55 | 12 | 20 | 25 | 16 | 10 | 5 | 16 |
| CAN | 27 | 0 | 11 | 150 | 77 | 5 | 34 | 155 | 4 | 0 | 10 |
| DEU | 13 | 11 | 0 | 58 | 4 | 13 | 11 | 4 | 14 | 0 | 28 |
| DFS | 43 | 151 | 49 | 0 | 60 | 100 | 57 | 83 | 40 | 0 | 108 |
| GBR | 10 | 76 | 4 | 55 | 0 | 0 | 27 | 64 | 1 | 0 | 3 |
| NOR | 16 | 5 | 12 | 78 | 0 | 0 | 7 | 0 | 31 | 0 | 11 |
| NZL | 24 | 32 | 11 | 55 | 24 | 6 | 0 | 23 | 3 | 2 | 6 |
| USA | 16 | 150 | 4 | 80 | 60 | 0 | 22 | 0 | 2 | 0 | 4 |
| NLD | 10 | 4 | 13 | 39 | 1 | 30 | 3 | 2 | 0 | 0 | 12 |
| CAM | 5 | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 0 |
| LVA | 15 | 10 | 22 | 74 | 3 | 9 | 6 | 4 | 11 | 0 | 0 |

RDC

common bulls below diagonal

common three quarter sib group above diagonal

AUS CAN DEU DFS GBR NOR USA NLD CAM LVA NZL

| | | | | | | | | | | | |
|-----|----|-----|----|-----|----|----|-----|----|---|-----|---|
| AUS | 0 | 27 | 13 | 55 | 12 | 20 | 16 | 10 | 5 | 17 | 5 |
| CAN | 27 | 0 | 11 | 150 | 77 | 5 | 153 | 4 | 0 | 10 | 3 |
| DEU | 13 | 11 | 0 | 58 | 4 | 12 | 4 | 12 | 0 | 30 | 4 |
| DFS | 43 | 151 | 49 | 0 | 60 | 95 | 83 | 34 | 0 | 127 | 9 |
| GBR | 10 | 76 | 4 | 55 | 0 | 0 | 63 | 1 | 0 | 3 | 4 |
| NOR | 16 | 5 | 11 | 73 | 0 | 0 | 0 | 24 | 0 | 12 | 1 |
| USA | 16 | 149 | 4 | 80 | 59 | 0 | 0 | 2 | 0 | 4 | 3 |
| NLD | 10 | 4 | 11 | 33 | 1 | 23 | 2 | 0 | 0 | 12 | 0 |
| CAM | 5 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| LVA | 16 | 10 | 24 | 89 | 3 | 10 | 4 | 11 | 0 | 0 | 1 |
| NZL | 5 | 3 | 4 | 9 | 4 | 1 | 3 | 0 | 0 | 1 | 0 |

RDC

common bulls below diagonal

common three quarter sib group above diagonal

AUS CAN DEU DFS NOR NZL NLD USA CAM LVA

| | | | | | | | | | | |
|-----|----|-----|----|-----|----|----|----|-----|---|-----|
| AUS | 0 | 27 | 13 | 50 | 20 | 25 | 10 | 16 | 5 | 17 |
| CAN | 27 | 0 | 11 | 144 | 5 | 34 | 4 | 155 | 0 | 10 |
| DEU | 13 | 11 | 0 | 55 | 13 | 11 | 14 | 4 | 0 | 30 |
| DFS | 40 | 144 | 49 | 0 | 92 | 52 | 38 | 78 | 0 | 110 |
| NOR | 16 | 5 | 12 | 73 | 0 | 7 | 31 | 0 | 0 | 12 |
| NZL | 24 | 32 | 11 | 51 | 6 | 0 | 2 | 23 | 2 | 7 |

| | | | | | | | | | | |
|-----|----|-----|----|----|----|----|----|---|---|----|
| NLD | 10 | 4 | 13 | 37 | 30 | 2 | 0 | 2 | 0 | 12 |
| USA | 16 | 150 | 4 | 76 | 0 | 22 | 2 | 0 | 0 | 4 |
| CAM | 5 | 0 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 0 |
| LVA | 16 | 10 | 24 | 77 | 10 | 7 | 11 | 4 | 0 | 0 |

RDC

common bulls below diagonal

common three quarter sib group above diagonal

| AUS | CAN | DEU | DFS | GBR | NOR | NZL | USA | NLD | CAM |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|

| | | | | | | | | | | |
|-----|----|-----|----|-----|----|-----|----|-----|----|---|
| AUS | 0 | 27 | 13 | 55 | 11 | 22 | 25 | 16 | 10 | 5 |
| CAN | 27 | 0 | 11 | 150 | 74 | 7 | 34 | 155 | 4 | 0 |
| DEU | 13 | 11 | 0 | 58 | 4 | 15 | 11 | 4 | 14 | 0 |
| DFS | 43 | 151 | 49 | 0 | 60 | 119 | 59 | 83 | 36 | 0 |
| GBR | 9 | 73 | 4 | 55 | 0 | 0 | 24 | 62 | 1 | 0 |
| NOR | 18 | 6 | 14 | 97 | 0 | 0 | 9 | 0 | 28 | 0 |
| NZL | 24 | 32 | 11 | 57 | 21 | 8 | 0 | 23 | 3 | 2 |
| USA | 16 | 150 | 4 | 80 | 58 | 0 | 22 | 0 | 2 | 0 |
| NLD | 10 | 4 | 13 | 35 | 1 | 27 | 3 | 2 | 0 | 0 |
| CAM | 5 | 0 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 0 |

RDC

common bulls below diagonal

common three quarter sib group above diagonal

| AUS | CAN | DEU | DFS | GBR | NOR | NZL | USA | NLD | CAM |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|

| | | | | | | | | | | |
|-----|----|-----|----|-----|----|-----|----|-----|----|---|
| AUS | 0 | 27 | 13 | 55 | 11 | 20 | 25 | 16 | 10 | 5 |
| CAN | 27 | 0 | 11 | 150 | 74 | 5 | 34 | 152 | 4 | 0 |
| DEU | 13 | 11 | 0 | 58 | 4 | 12 | 11 | 4 | 12 | 0 |
| DFS | 43 | 151 | 49 | 0 | 60 | 101 | 59 | 83 | 34 | 0 |
| GBR | 9 | 73 | 4 | 55 | 0 | 0 | 24 | 62 | 1 | 0 |
| NOR | 16 | 5 | 11 | 78 | 0 | 0 | 7 | 0 | 24 | 0 |
| NZL | 24 | 32 | 11 | 57 | 21 | 6 | 0 | 23 | 2 | 2 |
| USA | 16 | 149 | 4 | 80 | 58 | 0 | 22 | 0 | 2 | 0 |
| NLD | 10 | 4 | 11 | 33 | 1 | 23 | 2 | 2 | 0 | 0 |
| CAM | 5 | 0 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 0 |

RDC

common bulls below diagonal

common three quarter sib group above diagonal

| AUS | CAN | DEU | DFS | GBR | NOR | USA | NLD | CAM |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|
|-----|-----|-----|-----|-----|-----|-----|-----|-----|

| | | | | | | | | | |
|-----|----|-----|----|-----|----|-----|-----|----|---|
| AUS | 0 | 27 | 13 | 55 | 11 | 20 | 16 | 10 | 5 |
| CAN | 27 | 0 | 11 | 150 | 74 | 5 | 155 | 4 | 0 |
| DEU | 13 | 11 | 0 | 58 | 4 | 12 | 4 | 14 | 0 |
| DFS | 43 | 151 | 49 | 0 | 60 | 101 | 83 | 36 | 0 |
| GBR | 9 | 73 | 4 | 55 | 0 | 0 | 62 | 1 | 0 |
| NOR | 16 | 5 | 11 | 78 | 0 | 0 | 0 | 27 | 0 |
| USA | 16 | 150 | 4 | 80 | 58 | 0 | 0 | 2 | 0 |
| NLD | 10 | 4 | 13 | 35 | 1 | 26 | 2 | 0 | 0 |
| CAM | 5 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |

RDC

RDC

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