[] Dendrochronology Program Library Run FINAL Program COF 00:00 ®¯® 00 0000 Page 1

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[] P R O G R A M C O F E C H A Version 6.06P -30

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QUALITY CONTROL AND DATING CHECK OF TREE-RING MEASUREMENTS

File of DATED series: Fullspruce\_final.txt

CONTENTS:

Part 1: Title page, options selected, summary, absent rings by series

Part 2: Histogram of time spans

Part 3: Master series with sample depth and absent rings by year

Part 4: Bar plot of Master Dating Series

Part 5: Correlation by segment of each series with Master

Part 6: Potential problems: low correlation, divergent year-to-year changes, absent rings, outliers

Part 7: Descriptive statistics

RUN CONTROL OPTIONS SELECTED VALUE

1 Cubic smoothing spline 50% wavelength cutoff for filtering

32 years

2 Segments examined are 50 years lagged successively by 25 years

3 Autoregressive model applied A Residuals are used in master dating series and testing

4 Series transformed to logarithms Y Each series log-transformed for master dating series and testing

5 CORRELATION is Pearson (parametric, quantitative)

Critical correlation, 99% confidence level 0.3281

6 Master dating series saved N

7 Ring measurements listed N

8 Parts printed 1234567

9 Absent rings are omitted from master series and segment correlations (Y)

Time span of Master dating series is 1707 to 2012 306 years

Continuous time span is 1707 to 2012 306 years

Portion with two or more series is 1733 to 2012 280 years

>> Md12p22 1994 absent in 1 of 239 series, but is not usually narrow: master index is -0.156

>> Md12p22 1995 absent in 1 of 239 series, but is not usually narrow: master index is 0.468

\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*

\*C\* Number of dated series 240 \*C\*

\*O\* Master series 1707 2012 306 yrs \*O\*

\*F\* Total rings in all series 25450 \*F\*

\*E\* Total dated rings checked 25424 \*E\*

\*C\* Series intercorrelation 0.461 \*C\*

\*H\* Average mean sensitivity 0.246 \*H\*

\*A\* Segments, possible problems 193 \*A\*

\*\*\* Mean length of series 106.0 \*\*\*

\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*

ABSENT RINGS listed by SERIES: (See Master Dating Series for absent rings listed by year)

Md09p41 1 absent rings: 1948

Md12p22 3 absent rings: 1994 1995 1996

4 absent rings 0.016%

PART 2: TIME PLOT OF TREE-RING SERIES: 00:00 ®¯® 00 0000 Page 2

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1050 1100 1150 1200 1250 1300 1350 1400 1450 1500 1550 1600 1650 1700 1750 1800 1850 1900 1950 2000 2050 Ident Seq Time-span Yrs

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PART 2: TIME PLOT OF TREE-RING SERIES: 00:00 ®¯® 00 0000 Page 3

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1050 1100 1150 1200 1250 1300 1350 1400 1450 1500 1550 1600 1650 1700 1750 1800 1850 1900 1950 2000 2050 Ident Seq Time-span Yrs

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PART 2: TIME PLOT OF TREE-RING SERIES: 00:00 ®¯® 00 0000 Page 4

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PART 2: TIME PLOT OF TREE-RING SERIES: 00:00 ®¯® 00 0000 Page 5

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PART 2: TIME PLOT OF TREE-RING SERIES: 00:00 ®¯® 00 0000 Page 6

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. . . . . . . . . . . . . . . . . .<=========> . Ol08p52 216 1916 2012 97

. . . . . . . . . . . . . . . . . <============> . Ol09p11 217 1883 2012 130

. . . . . . . . . . . . . . . . . <============> . Ol09p12 218 1884 2012 129

. . . . . . . . . . . . . . . . . . <========> . Ol09p21 219 1927 2012 86

. . . . . . . . . . . . . . . . . . <========> . Ol09p22 220 1927 2012 86

. . . . . . . . . . . . . . . . . . <======> . Ol09p31 221 1940 2012 73

. . . . . . . . . . . . . . . . . . <======> . Ol09p32 222 1940 2012 73

. . . . . . . . . . . . . . . . . . <========> . Ol09p41 223 1921 2012 92

. . . . . . . . . . . . . . . . . . <========> . Ol09p42 224 1921 2012 92

. . . . . . . . . . . . . . . . . <============> . Ol09p51 225 1888 2012 125

. . . . . . . . . . . . . . . . . <==========> . Ol09p52 226 1900 2012 113

. . . . . . . . . . . . . . . . . . <========> . Su07p11 227 1926 2012 87

. . . . . . . . . . . . . . . . . . <========> . Su07p12 228 1926 2012 87

. . . . . . . . . . . . . . . . . . <=====> . Su09p11 229 1953 2012 60

. . . . . . . . . . . . . . . . . . <=====> . Su09p12 230 1953 2012 60

. . . . . . . . . . . . . . . . . . <=======> . Su10p12 231 1933 2012 80

. . . . . . . . . . . . . . . . . . <=======> . Su10p11 232 1934 2012 79

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. . . . . . . . . . . . . . . . . . <======> . Su11p22 236 1942 2012 71

. . . . . . . . . . . . . . . . . . <=======> . Su11p31 237 1931 2012 82

. . . . . . . . . . . . . . . . . . <========> . Su11p32 238 1929 2012 84

. . . . . . . . . . . . . . . . . . <======> . Su11p41 239 1947 2012 66

. . . . . . . . . . . . . . . . . . <======> . Su11p42 240 1947 2012 66

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1050 1100 1150 1200 1250 1300 1350 1400 1450 1500 1550 1600 1650 1700 1750 1800 1850 1900 1950 2000 2050

PART 3: Master Dating Series: 00:00 ®¯® 00 0000 Page 7

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Year Value No Ab Year Value No Ab Year Value No Ab Year Value No Ab Year Value No Ab Year Value No Ab

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1750 0.743 2 1800 0.532 7 1850 0.283 29 1900 0.422 80 1950 -0.120 210

1751 -0.730 2 1801 0.018 7 1851 -0.284 31 1901 0.064 83 1951 0.454 210

1752 -0.947 2 1802 -1.354 7 1852 -0.421 31 1902 -0.432 87 1952 -0.092 211

1753 -0.044 2 1803 0.521 7 1853 0.029 31 1903 0.640 87 1953 0.270 213

1754 -0.739 2 1804 -0.428 7 1854 0.353 31 1904 0.758 87 1954 0.507 217

1755 -1.832 2 1805 -0.470 7 1855 0.279 31 1905 0.000 89 1955 1.283 219

1756 -0.580 2 1806 -0.359 8 1856 0.791 33 1906 0.165 90 1956 -0.994 223

1707 0.560 1 1757 -0.244 2 1807 2.282 8 1857 0.161 34 1907 -0.155 93 1957 0.898 225

1708 1.433 1 1758 -0.432 2 1808 0.463 8 1858 0.269 34 1908 0.368 93 1958 1.483 232

1709 -1.371 1 1759 -1.307 2 1809 -0.798 8 1859 0.623 36 1909 -1.021 96 1959 0.281 234

1710 -0.920 1 1760 -1.140 2 1810 -1.603 9 1860 0.425 37 1910 0.516 99 1960 -0.632 236

1711 -2.656 1 1761 -2.181 2 1811 -0.412 9 1861 0.569 40 1911 -0.862 100 1961 0.796 236

1712 -0.812 1 1762 -0.484 2 1812 -0.918 9 1862 0.188 40 1912 0.255 102 1962 -0.900 236

1713 0.677 1 1763 1.440 2 1813 0.177 10 1863 0.121 42 1913 1.111 104 1963 0.021 236

1714 1.070 1 1764 2.613 2 1814 0.225 11 1864 -0.042 42 1914 0.134 106 1964 0.038 236

1715 2.685 1 1765 2.190 2 1815 0.849 12 1865 0.082 42 1915 0.386 108 1965 -0.027 236

1716 3.062 1 1766 0.638 2 1816 0.022 12 1866 -0.207 42 1916 0.766 112 1966 -0.707 236

1717 0.380 1 1767 0.906 2 1817 1.983 12 1867 0.627 42 1917 -0.774 113 1967 -0.132 236

1718 1.310 1 1768 2.113 2 1818 0.394 12 1868 -0.503 42 1918 -1.200 115 1968 -0.593 236

1719 2.684 1 1769 1.667 2 1819 -0.922 12 1869 -0.791 44 1919 -0.177 119 1969 -0.333 236

1720 -1.080 1 1770 0.417 2 1820 -0.888 12 1870 0.741 46 1920 -0.148 124 1970 0.374 238

1721 0.379 1 1771 -3.155 2 1821 -0.251 12 1871 0.236 48 1921 0.587 135 1971 1.401 238

1722 -1.418 1 1772 0.496 3 1822 -0.094 12 1872 -0.124 48 1922 -0.175 137 1972 0.049 238

1723 0.758 1 1773 -1.013 3 1823 -0.185 12 1873 -0.170 48 1923 -0.408 141 1973 -0.129 238

1724 -1.848 1 1774 -0.079 3 1824 -0.683 12 1874 0.542 50 1924 1.270 144 1974 -0.636 238

1725 -1.259 1 1775 -0.634 3 1825 -0.099 12 1875 0.420 50 1925 -0.133 146 1975 0.658 238

1726 -1.763 1 1776 -0.867 3 1826 -1.636 12 1876 -0.665 50 1926 -0.285 148 1976 0.024 238

1727 -3.362 1 1777 0.153 3 1827 0.372 12 1877 -0.695 50 1927 0.236 156 1977 -0.297 238

1728 -2.427 1 1778 -2.923 3 1828 -0.670 15 1878 -0.056 50 1928 0.187 156 1978 -0.068 238

1729 -2.764 1 1779 -2.340 3 1829 -1.379 15 1879 0.228 51 1929 -0.229 157 1979 -0.363 238

1730 -0.432 1 1780 0.627 3 1830 1.003 15 1880 0.415 55 1930 0.289 166 1980 0.863 238

1731 0.730 1 1781 0.057 3 1831 0.463 15 1881 -0.217 55 1931 0.476 169 1981 -1.710 238

1732 -2.941 1 1782 -0.402 3 1832 0.393 15 1882 -1.009 55 1932 1.009 169 1982 -1.326 238

1733 0.693 2 1783 0.230 3 1833 0.773 17 1883 -0.431 56 1933 0.202 170 1983 -0.232 238

1734 -1.031 2 1784 0.107 3 1834 1.219 21 1884 -0.202 57 1934 0.405 173 1984 -0.815 238

1735 1.859 2 1785 -0.906 5 1835 0.543 22 1885 -0.147 57 1935 -1.167 172 1985 -0.215 238

1736 -0.436 2 1786 0.729 5 1836 1.090 22 1886 1.424 61 1936 -0.585 176 1986 -0.260 238

1737 1.257 2 1787 0.494 5 1837 0.508 23 1887 -0.321 61 1937 -0.407 181 1987 1.241 239

1738 1.271 2 1788 0.691 5 1838 -0.072 23 1888 0.270 63 1938 0.249 184 1988 1.270 239

1739 -1.303 2 1789 1.191 5 1839 -0.458 23 1889 0.299 65 1939 -0.014 186 1989 -0.259 239

1740 -0.722 2 1790 0.570 5 1840 0.740 23 1890 0.756 65 1940 -1.374 190 1990 0.843 239

1741 2.294 2 1791 0.946 5 1841 0.039 27 1891 0.211 65 1941 0.405 192 1991 0.600 239

1742 1.811 2 1792 0.199 5 1842 -0.462 27 1892 1.018 66 1942 -0.221 196 1992 0.883 239

1743 1.314 2 1793 1.678 5 1843 -0.711 27 1893 -0.448 66 1943 -0.483 196 1993 1.299 239

1744 0.202 2 1794 0.866 5 1844 -2.122 27 1894 0.003 66 1944 -0.140 198 1994 -0.156 239 1<<

1745 0.030 2 1795 0.875 5 1845 0.543 27 1895 -0.491 68 1945 0.209 200 1995 0.468 239 1<<

1746 1.671 2 1796 -1.138 5 1846 0.528 27 1896 0.257 70 1946 0.266 202 1996 -1.690 239 1

1747 1.233 2 1797 -1.261 5 1847 -0.534 27 1897 -0.283 72 1947 0.596 208 1997 -0.766 239

1748 0.398 2 1798 -1.150 6 1848 0.042 27 1898 -0.068 72 1948 -1.590 210 1 1998 -0.176 239

1749 -1.255 2 1799 -0.616 6 1849 -0.727 29 1899 -0.207 74 1949 0.602 210 1999 0.784 239

PART 3: Master Dating Series: 00:00 ®¯® 00 0000 Page 8

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Year Value No Ab Year Value No Ab Year Value No Ab Year Value No Ab Year Value No Ab Year Value No Ab

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2000 0.083 239

2001 1.101 239

2002 1.069 239

2003 -2.341 239

2004 -1.913 239

2005 -1.425 239

2006 -0.459 239

2007 0.881 239

2008 0.232 239

2009 0.123 239

2010 1.256 239

2011 -0.135 237

2012 0.997 236

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PART 4: Master Bar Plot: 00:00 ®¯® 00 0000 Page 9

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Year Rel value Year Rel value Year Rel value Year Rel value Year Rel value Year Rel value Year Rel value Year Rel value

1750--------C 1800--------B 1850------A 1900-------B 1950----@ 2000-----@

1751--c 1801-----@ 1851---a 1901-----@ 1951-------B 2001---------D

1752-d 1802-e 1852---b 1902---b 1952----@ 2002---------D

1753-----@ 1803-------B 1853-----@ 1903--------C 1953------A 2003i

1754--c 1804---b 1854-------A 1904--------C 1954-------B 2004h

1755g 1805---b 1855------A 1905-----@ 1955---------E 2005f

1756--b 1806---a 1856--------C 1906------A 1956-d 2006---b

1707--------B 1757----a 1807----------I 1857------A 1907----a 1957---------D 2007---------D

1708----------F 1758---b 1808-------B 1858------A 1908-------A 1958----------F 2008------A

1709-e 1759-e 1809--c 1859--------B 1909-d 1959------A 2009-----@

1710-d 1760-e 1810f 1860-------B 1910-------B 1960--c 2010---------E

1711k 1761i 1811---b 1861--------B 1911-c 1961---------C 2011----a

1712--c 1762---b 1812-d 1862------A 1912------A 1962-d 2012---------D

1713--------C 1763----------F 1813------A 1863-----@ 1913---------D 1963-----@

1714---------D 1764----------J 1814------A 1864-----@ 1914-----A 1964-----@

1715----------K 1765----------I 1815---------C 1865-----@ 1915-------B 1965-----@

1716----------L 1766--------C 1816-----@ 1866----a 1916--------C 1966--c

1717-------B 1767---------D 1817----------H 1867--------C 1917--c 1967----a

1718----------E 1768----------H 1818-------B 1868--b 1918-e 1968--b

1719----------K 1769----------G 1819-d 1869--c 1919----a 1969---a

1720-d 1770-------B 1820-d 1870--------C 1920----a 1970-------A

1721-------B 1771m 1821---a 1871------A 1921--------B 1971----------F

1722f 1772-------B 1822----@ 1872----@ 1922----a 1972-----@

1723--------C 1773-d 1823----a 1873----a 1923---b 1973----a

1724g 1774----@ 1824--c 1874--------B 1924---------E 1974--c

1725-e 1775--c 1825----@ 1875-------B 1925----a 1975--------C

1726g 1776-c 1826g 1876--c 1926---a 1976-----@

1727m 1777------A 1827-------A 1877--c 1927------A 1977---a

1728j 1778l 1828--c 1878----@ 1928------A 1978----@

1729k 1779i 1829f 1879------A 1929----a 1979---a

1730---b 1780--------C 1830---------D 1880-------B 1930------A 1980---------C

1731--------C 1781-----@ 1831-------B 1881----a 1931-------B 1981g

1732l 1782---b 1832-------B 1882-d 1932---------D 1982-e

1733--------C 1783------A 1833--------C 1883---b 1933------A 1983----a

1734-d 1784-----@ 1834---------E 1884----a 1934-------B 1984-c

1735----------G 1785-d 1835--------B 1885----a 1935-e 1985----a

1736---b 1786--------C 1836---------D 1886----------F 1936--b 1986---a

1737---------E 1787-------B 1837-------B 1887---a 1937---b 1987---------E

1738---------E 1788--------C 1838----@ 1888------A 1938------A 1988---------E

1739-e 1789---------E 1839---b 1889------A 1939-----@ 1989---a

1740--c 1790--------B 1840--------C 1890--------C 1940-e 1990---------C

1741----------I 1791---------D 1841-----@ 1891------A 1941-------B 1991--------B

1742----------G 1792------A 1842---b 1892---------D 1942----a 1992---------D

1743----------E 1793----------G 1843--c 1893---b 1943---b 1993---------E

1744------A 1794---------C 1844h 1894-----@ 1944----a 1994----a

1745-----@ 1795---------D 1845--------B 1895---b 1945------A 1995-------B

1746----------G 1796-e 1846-------B 1896------A 1946------A 1996g

1747---------E 1797-e 1847--b 1897---a 1947--------B 1997--c

1748-------B 1798-e 1848-----@ 1898----@ 1948f 1998----a

1749-e 1799--b 1849--c 1899----a 1949--------B 1999--------C

PART 5: CORRELATION OF SERIES BY SEGMENTS: 00:00 ®¯® 00 0000 Page 5

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Correlations of 50-year dated segments, lagged 25 years

Flags: A = correlation under 0.3281 but highest as dated; B = correlation higher at other than dated position

Seq Series Time\_span 1725 1750 1775 1800 1825 1850 1875 1900 1925 1950 1975

1774 1799 1824 1849 1874 1899 1924 1949 1974 1999 2024

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1 Ab08p11 1937 2012 .50 .50 .45

2 Ab08p12 1937 2012 .47 .45 .56

3 Ab08p21 1948 2012 .51 .48 .76

4 Ab08p22 1948 2012 .30A .36 .65

5 Ab08p31 1880 2012 .28A .41 .66 .46 .44

6 Ab08p32 1880 2012 .35 .50 .56 .40 .43

7 Ab08p42 1958 2012 .38 .47

8 Ab08p51 1919 2012 .45 .49 .59 .59

9 Ab08p52 1919 2012 .45B .48 .53 .53

10 Ab09p11 1871 2012 .50 .53 .59 .61 .61 .67

11 Ab09p12 1871 2012 .54 .52 .49 .68 .56 .68

12 Ab09p22 1849 2012 .33 .35 .56 .62 .54 .42 .47

13 Ab09p21 1849 2011 .35 .38 .54 .57 .50 .45 .52

14 Ab09p31 1912 2012 .29B .35 .51 .47

15 Ab09p32 1912 2012 .41 .35 .49 .40

16 Ab11p11 1851 2010 .39 .30A .27B .61 .60 .63

17 Ab11p12 1851 2010 .60 .70 .63 .64 .61 .62

18 Ab11p21 1828 2012 .56 .26B .46 .45 .45 .60 .52

19 Ab11p22 1828 2012 .68 .24B .38 .51 .37 .43 .47

20 Ab11p31 1922 2012 .39 .42 .36 .39

21 Ab11p32 1922 2012 .47 .48 .44 .45

22 Ab11p52 1837 2012 .31A .21A .31A .57 .62 .54 .72

23 Bi06p11 1927 2012 .44 .55 .47

24 Bi06p12 1927 2012 .55 .44 .50

25 Bi06p21 1955 2012 .34 .42

26 Bi06p22 1955 2012 .53 .53

27 Bi06p31 1947 2012 .39 .37 .38

28 Bi06p32 1947 2012 .49 .42 .31A

29 Bi06p41 1939 2012 .27B .47 .51

30 Bi06p42 1939 2012 .37 .46 .38

31 Bi06p51 1931 2012 .05B .37 .51

32 Bi06p52 1931 2012 .22B .53 .74

33 Bi08p11 1930 2012 .45 .53 .53

34 Bi08p12 1930 2012 .29A .42 .40

35 Bi08p21 1910 2012 .24B .30A .54 .50

36 Bi08p22 1910 2012 .32A .38 .53 .68

37 Bi08p31 1927 2012 .22B .36 .45

38 Bi08p32 1927 2012 .42 .38B .41

39 Bi08p41 1959 2012 .46 .46

40 Bi08p42 1959 2012 .47 .39

41 Bi09p11 1869 2012 -.08B-.14B-.25B .23B .64 .66

42 Bi09p12 1869 2012 .13B .02B .00B .36B .67 .70

43 Bi09p22 1944 2012 .40 .43 .59

44 Bi09p31 1886 2012 .44 .36 .32A .53 .63

45 Bi09p32 1886 2012 .43 .58 .64 .54 .47

46 Bi09p41 1733 2012 .10B .13B .12B .27B .39B .42 .56 .62 .64 .69 .72

47 Bi09p42 1800 2012 -.07B-.25B .31A .44 .46 .56 .75 .79

48 Bi09p51 1815 2012 .34 .13B .18B .54 .37 .34 .56 .65

49 Bi09p52 1954 2012 .66 .69

50 Bi09p53 1814 1934 .08B .00B .41 .73 .70

51 Ca07p12 1707 2012 .08B .04B .09B .39 .29B .41 .52 .43 .45 .41 .38

52 Ca07p21 1861 2012 .36 .48 .54 .52 .36B .32A

53 Ca07p22 1861 2012 .31A .51 .52 .56 .27B .16B

54 Ca07p31 1914 2012 .41 .30A .15B .27A

55 Ca07p32 1914 2012 .46 .47 .46 .58

56 Ca07p41 1833 2012 -.23B .30B .54 .24B .26B .51 .44

57 Ca07p51 1888 2012 .24A .17B .37 .48 .38

58 Di07p11 1923 2012 .27A .30A .51 .35

59 Di07p12 1923 2012 .27A .30B .48 .47

60 Di07p21 1856 2012 .32B .50 .43 .32A .25A .17A

61 Di07p22 1856 2012 .18B .54 .54 .56 .57 .50

62 Di07p31 1940 2012 .45 .60 .57

63 Di07p32 1940 2012 .50 .48 .35

64 Di07p41 1892 2012 .33 .38 .35 .34 .33

65 Di07p42 1954 2012 .49 .42

66 Di07p51 1930 2012 .38 .45 .29B

67 Di07p52 1930 2012 .31A .45 .40

68 Di09p22 1956 2012 .51 .61

69 Di09p21 1956 2012 .41 .56

70 Di09p31 1920 2012 .33 .47 .56 .72

71 Di09p32 1920 2012 .41 .38 .58 .46

72 Di09p41 1930 2012 .40B .25B .33

73 Di09p42 1930 2012 .50 .49 .47

74 Di09p51 1957 2012 .42 .43

75 Di09p52 1957 2012 .41 .56

76 Di11p11 1863 2012 .01B .13B .45 .46 .53 .54

77 Di11p12 1863 2012 .40 .46 .54 .54 .50 .49

78 Di11p21 1938 2012 .46 .67 .64

79 Di11p22 1938 2012 .37 .41 .65

80 Di11p31 1798 2012 .43 .42 .49 .26B .43 .54 .59 .64 .61

81 Di11p32 1806 2012 .58 .58 .29A .48 .36 .42 .51 .54

82 Di11p41 1785 2012 .40 .66 .60 .31B .32A .39 .47 .45 .53

83 Di11p42 1785 2012 .39B .52 .53 .21B .38 .53 .66 .61 .46

84 Di11p52 1772 2012 .20B .19B .56 .52 .28A .41 .49 .48 .65 .74

85 Ja08p11 1954 2012 .39 .43

86 Ja08p12 1954 2012 .49 .52

87 Ja08p22 1958 2012 .71 .65

88 Ja08p31 1900 2012 .34 .58 .53 .54

89 Ja08p32 1900 2012 .30A .48 .48 .52

90 Ja08p41 1947 2012 .52 .62 .53

91 Ja08p42 1947 2012 .29A .41 .39

92 Ja09p11 1921 2012 .59 .62 .78 .73

93 Ja09p12 1921 2012 .54 .52 .66 .59

94 Ja09p21 1923 2012 .36 .35 .64 .72

95 Ja09p22 1923 2012 .58 .65 .56 .59

96 Ja09p31 1930 2012 .31A .53 .67

97 Ja09p32 1930 2012 .52 .66 .72

98 Ja09p41 1918 2012 .16B .28A .45 .65

99 Ja09p42 1918 2012 .50 .51 .35 .41

100 Ja09p51 1937 2012 .65 .66 .47

101 Ja09p52 1936 2012 .51 .53 .51

102 Ja10p11 1921 2012 .47 .44 .49 .63

103 Ja10p12 1921 2012 .41 .46 .53 .62

104 Ki09p11 1958 2012 .64 .68

105 Ki09p12 1958 2012 .68 .69

106 Ki09p21 1941 2012 .47 .45 .52

107 Ki09p22 1941 2012 .60 .64 .59

108 Ki09p31 1934 2012 .26A .32A .58

109 Ki09p32 1934 2012 .31A .42 .61

110 Ki09p41 1958 2012 .56 .67

111 Ki09p42 1958 2012 .65 .68

112 Ki09p51 1897 2012 .38 .45 .55 .58 .61

113 Ki09p52 1897 2012 .47 .51 .71 .65 .55

114 Ki10p11 1921 2012 .49 .50 .59 .69

115 Ki10p12 1921 2012 .48 .54 .67 .61

116 Ki10p21 1960 2012 .51 .47

117 Ki10p22 1960 2012 .50 .47

118 Ki10p31 1956 2012 .71 .67

119 Ki10p32 1956 2012 .45 .53

120 Ki10p41 1889 2012 .48 .51 .50 .48 .57

121 Ki10p42 1889 2012 .35 .50 .55 .63 .73

122 Ki10p51 1902 2012 .50 .49 .65 .66

123 Ki10p52 1902 2012 .33 .41 .52 .60

124 Ki11p11 1841 2012 .12B .12B .43 .55 .59 .55 .49

125 Ki11p12 1841 2012 .46 .51 .48 .46 .55 .45 .46

126 Ki11p21 1902 2012 .21B .41 .44 .60

127 Ki11p22 1902 2012 .24B .40 .33 .53

128 Ki11p31 1879 2012 .25A .53 .56 .33 .51

129 Ki11p32 1870 2012 .29A .31A .38 .51 .41 .50

130 Ki11p41 1841 2012 .45 .42 .47 .57 .60 .60 .63

131 Ki11p42 1841 2012 .22B .12B .09B .37B .48 .56 .56

132 Ki11p52 1857 2012 .27A .39 .54 .52 .44 .49

133 Ma08p11 1920 2012 .17B .13B .51 .55

134 Ma08p12 1920 2012 .36 .37 .50 .45

135 Ma08p31 1917 2012 .54 .56 .46 .33A

136 Ma08p32 1958 2012 .35 .43

137 Ma08p41 1921 2012 .22B .22B .47 .45

138 Ma08p42 1921 2012 .18B .23B .44 .27A

139 Ma09p11 1927 2012 .57 .13B .25B

140 Ma09p12 1927 2012 .29B .52 .61

141 Ma09p21 1919 2012 .43 .53 .59 .44

142 Ma09p22 1919 2012 .45 .51 .50 .44

143 Ma09p31 1901 2012 .39 .70 .62 .46

144 Ma09p32 1901 2012 .34 .63 .64 .58

145 Ma09p41 1937 2012 .45 .62 .45

146 Ma09p42 1937 2012 .31A .57 .43

147 Ma09p51 1834 2012 .21B .44 .60 .57 .44 .35 .44

148 Ma09p52 1834 2012 .40 .48 .56 .58 .47 .51 .48

149 Md07p12 1909 2012 .64 .53 .45 .59

150 Md08p11 1946 2012 .38B .34B .36

151 Md08p12 1946 2012 .37 .29A .37

152 Md09p11 1899 2012 .52 .53 .45 .35 .60

153 Md09p12 1899 2012 .37 .39 .24B .34 .63

154 Md09p21 1895 2012 .52 .57 .38 .24A .62

155 Md09p22 1895 2012 .36 .55 .35 .28A .49

156 Md09p31 1900 2012 .46 .42 .57 .62

157 Md09p32 1900 2012 .17B .39 .57 .68

158 Md09p41 1896 2012 .50 .47 .41 .45 .53

159 Md09p42 1896 2012 .50 .61 .35 .23B .37

160 Md10p11 1874 2012 .55 .56 .69 .55 .55 .66

161 Md10p12 1874 2012 .43 .43 .46 .46 .56 .60

162 Md10p21 1886 2012 .39 .33 .34 .40 .60

163 Md10p22 1886 2012 .23B .31A .53 .62 .48

164 Md10p31 1834 2012 .29A .17B .34 .42 .40 .59 .59

165 Md10p32 1834 2012 .22B .28A .48 .54 .55 .58 .61

166 Md10p41 1970 2012 .76

167 Md10p42 1970 2012 .51

168 Md10p51 1861 2012 .41 .47 .66 .58 .60 .69

169 Md10p52 1924 2012 .48 .46 .59 .63

170 Md12p11 1860 2012 .13B .36 .40B .29A .57 .63

171 Md12p12 1833 2012 .24B .11B .43 .62 .52 .64 .67

172 Md12p22 1952 2012 .53 .56

173 Md12p31 1859 2012 .38 .60 .41 .19B .46 .59

174 Md12p32 1859 2012 .25B .42 .33A .27A .58 .61

175 Md12p41 1911 2012 .42 .33A .51 .61

176 Md12p42 1810 2012 .35 .46 .56 .65 .49 .45 .65 .58

177 Md12p51 1910 2012 .38 .49 .64 .74

178 Mo07p11 1915 2012 .25B .33A .42 .51

179 Mo07p12 1915 2012 .26A .29A .39 .64

180 Mo07p21 1930 2012 .19B .13B .25B

181 Mo07p42 1900 2012 .38 .42 .42 .55

182 Mo07p51 1907 2012 .48 .47 .45 .62

183 Mo08p11 1913 2012 .55 .51 .37 .27B

184 Mo08p12 1913 2012 .47 .42 .45 .27A

185 Mo08p21 1880 2012 .15B .54 .59 .61 .64

186 Mo08p22 1880 2012 .45 .41 .39 .32B .19B

187 Mo08p31 1936 2012 .47 .54 .56

188 Mo08p32 1907 2012 .41 .35 .59 .73

189 Mo08p41 1906 2012 .53 .43 .50 .59

190 Mo08p42 1907 2012 .59 .38 .63 .75

191 Mo08p51 1828 2012 -.11B-.11B .16B .45 .43 .36 .48

192 Mo08p52 1835 2012 .04B .05B .14B .44 .59 .54 .46

193 Mo09p11 1909 2012 .20B .50 .48 .41

194 Mo09p12 1909 2012 .25B .30A .45 .57

195 Mo09p21 1905 2012 .22B .19B .30A .32A

196 Mo09p22 1905 2012 .18B .24B .36 .44

197 Mo09p31 1813 2012 .20B .20B .30A .36 .36 .40 .56 .57

198 Mo09p32 1870 2012 .38 .39 .46 .52 .45 .35B

199 Mo09p42 1901 2012 .42 .60 .57 .41B

200 Ol07p11 1936 2012 .46 .53 .54

201 Ol07p12 1936 2012 .52 .56 .51

202 Ol07p21 1945 2012 .37 .39 .73

203 Ol07p22 1945 2012 .20B .25B .51

204 Ol07p32 1938 2012 .38 .41 .43

205 Ol07p51 1987 2012 .50

206 Ol07p52 1944 2012 .48 .48 .57

207 Ol08p11 1916 2012 .40 .43 .70 .75

208 Ol08p12 1916 2012 .36 .48 .44 .52

209 Ol08p21 1925 2012 .50 .58 .52

210 Ol08p22 1925 2012 .41 .64 .42

211 Ol08p31 1921 2012 .42 .45 .52 .61

212 Ol08p32 1920 2012 .31A .29A .44 .70

213 Ol08p41 1924 2012 .43 .40 .65 .67

214 Ol08p42 1924 2012 .46 .45 .66 .72

215 Ol08p51 1916 2012 .46 .42 .59 .54

216 Ol08p52 1916 2012 .32B .41 .58 .60

217 Ol09p11 1883 2012 .27A .38 .54 .45 .44

218 Ol09p12 1884 2012 .40 .38 .60 .63 .57

219 Ol09p21 1927 2012 .52 .49 .51

220 Ol09p22 1927 2012 .53 .55 .59

221 Ol09p31 1940 2012 .53 .53 .53

222 Ol09p32 1940 2012 .60 .64 .59

223 Ol09p41 1921 2012 .27A .28A .58 .69

224 Ol09p42 1921 2012 .37 .36 .46 .62

225 Ol09p51 1888 2012 .41 .33 .22A .39 .45

226 Ol09p52 1900 2012 .29B .22A .48 .68

227 Su07p11 1926 2012 .34 .29B .35

228 Su07p12 1926 2012 .31A .24B .38

229 Su09p11 1953 2012 .37 .31A

230 Su09p12 1953 2012 .27B .50

231 Su10p12 1933 2012 .43 .53 .66

232 Su10p11 1934 2012 .19B .30A .45

233 Su11p11 1942 2012 .58 .69 .73

234 Su11p12 1942 2012 .39 .52 .66

235 Su11p21 1942 2012 .40 .43 .47

236 Su11p22 1942 2012 .31A .44 .41

237 Su11p31 1931 2012 .59 .61 .46

238 Su11p32 1929 2012 .50 .50 .30A

239 Su11p41 1947 2012 .47 .46 .50

240 Su11p42 1947 2012 .72 .68 .64

Av segment correlation 0.09 0.12 0.27 0.36 0.29 0.30 0.41 0.42 0.44 0.50 0.53

PART 6: POTENTIAL PROBLEMS: 00:00 ®¯® 00 0000 Page 10

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For each series with potential problems the following diagnostics may appear:

[A] Correlations with master dating series of flagged 50-year segments of series filtered with 32-year spline,

at every point from ten years earlier (-10) to ten years later (+10) than dated

[B] Effect of those data values which most lower or raise correlation with master series

Symbol following year indicates value in series is greater (>) or lesser (<) than master series value

[C] Year-to-year changes very different from the mean change in other series

[D] Absent rings (zero values)

[E] Values which are statistical outliers from mean for the year

====================================================================================================================================

Ab08p11 1937 to 2012 76 years Series 1

[B] Entire series, effect on correlation ( 0.434) is:

Lower 1937<-0.057 1989>-0.028 1996>-0.027 2011>-0.014 1955<-0.014 1944>-0.010 Higher 1981 0.039 1956 0.031

====================================================================================================================================

Ab08p12 1937 to 2012 76 years Series 2

[B] Entire series, effect on correlation ( 0.557) is:

Lower 1981>-0.030 1960<-0.020 1989>-0.017 1945<-0.014 1982>-0.011 1980<-0.010 Higher 1948 0.043 2003 0.035

====================================================================================================================================

Ab08p21 1948 to 2012 65 years Series 3

[B] Entire series, effect on correlation ( 0.598) is:

Lower 1959<-0.053 1956>-0.036 1951<-0.015 1974>-0.012 1983<-0.012 2011>-0.011 Higher 2003 0.061 1981 0.030

====================================================================================================================================

Ab08p22 1948 to 2012 65 years Series 4

[A] Segment High -10 -9 -8 -7 -6 -5 -4 -3 -2 -1 0 +1 +2 +3 +4 +5 +6 +7 +8 +9 +10

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1948 1997 0 .17 -.10 -.20 -.13 .02 .18 -.01 .13 -.04 -.02 .30\*-.08 .04 .22 -.26 -.07 -.13 .11 -.21 .12 -.12

[B] Entire series, effect on correlation ( 0.491) is:

Lower 1953<-0.075 1949<-0.031 1956>-0.020 1974>-0.015 1948>-0.015 1950>-0.012 Higher 2003 0.120 2004 0.016

1948 to 1997 segment:

Lower 1953<-0.092 1949<-0.043 1956>-0.021 1974>-0.020 1950>-0.014 1948>-0.012 Higher 1971 0.028 1981 0.028

====================================================================================================================================

Ab08p31 1880 to 2012 133 years Series 5

[A] Segment High -10 -9 -8 -7 -6 -5 -4 -3 -2 -1 0 +1 +2 +3 +4 +5 +6 +7 +8 +9 +10

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1880 1929 0 .01 -.12 .24 .00 .05 -.07 -.21 .08 .09 -.35 .28\*-.04 -.06 .06 .02 .17 .18 -.15 .14 -.21 .05

[B] Entire series, effect on correlation ( 0.446) is:

Lower 1904<-0.066 1996>-0.032 1957<-0.012 1987<-0.012 1918>-0.012 1903<-0.010 Higher 1956 0.034 1948 0.031

1880 to 1929 segment:

Lower 1904<-0.169 1918>-0.033 1903<-0.029 1887>-0.021 1923>-0.018 1897>-0.015 Higher 1917 0.077 1886 0.073

[C] Year-to-year changes diverging by over 4.0 std deviations:

1903 1904 -4.0 SD 1904 1905 4.3 SD

[E] Outliers 1 3.0 SD above or -4.5 SD below mean for year

1904 -7.2 SD

====================================================================================================================================

Ab08p32 1880 to 2012 133 years Series 6

[B] Entire series, effect on correlation ( 0.453) is:

Lower 1911>-0.020 1980<-0.012 2011>-0.010 1962>-0.010 1956>-0.009 1957<-0.009 Higher 1948 0.044 1886 0.018

[C] Year-to-year changes diverging by over 4.0 std deviations:

1947 1948 -4.7 SD 1948 1949 4.6 SD

[E] Outliers 1 3.0 SD above or -4.5 SD below mean for year

1948 -5.2 SD

====================================================================================================================================

Ab08p42 1958 to 2012 55 years Series 7

[B] Entire series, effect on correlation ( 0.369) is:

Lower 1958<-0.055 1982>-0.049 1981>-0.044 1962>-0.029 1960>-0.015 2011>-0.015 Higher 2003 0.085 2004 0.032

[E] Outliers 1 3.0 SD above or -4.5 SD below mean for year

1982 +4.4 SD

====================================================================================================================================

Ab08p51 1919 to 2012 94 years Series 8

[B] Entire series, effect on correlation ( 0.509) is:

Lower 1942<-0.051 1996>-0.046 1925>-0.020 1949<-0.014 1994>-0.010 1931<-0.009 Higher 2003 0.033 1981 0.030

====================================================================================================================================

Ab08p52 1919 to 2012 94 years Series 9

[A] Segment High -10 -9 -8 -7 -6 -5 -4 -3 -2 -1 0 +1 +2 +3 +4 +5 +6 +7 +8 +9 +10

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1919 1968 6 -.19 -.04 .20 .00 .00 -.11 .03 -.05 -.11 -.15 .45|-.32 -.15 .16 -.05 -.09 .53\*-.12 .09 -.11 .08

[B] Entire series, effect on correlation ( 0.486) is:

Lower 1981>-0.015 1949<-0.014 1942<-0.014 2007<-0.012 1966>-0.012 1932<-0.012 Higher 2003 0.047 1956 0.043

1919 to 1968 segment:

Lower 1949<-0.027 1966>-0.023 1932<-0.022 1925>-0.021 1935>-0.017 1922>-0.015 Higher 1956 0.108 1958 0.033

====================================================================================================================================

Ab09p11 1871 to 2012 142 years Series 10

[B] Entire series, effect on correlation ( 0.605) is:

Lower 1904<-0.021 1996>-0.013 1890<-0.012 1932<-0.009 1989>-0.009 2009<-0.009 Higher 2003 0.051 1981 0.018

[E] Outliers 1 3.0 SD above or -4.5 SD below mean for year

1935 -5.5 SD

====================================================================================================================================

Ab09p12 1871 to 2012 142 years Series 11

[B] Entire series, effect on correlation ( 0.614) is:

Lower 1996>-0.023 1909>-0.021 1914<-0.016 1904<-0.011 1871>-0.009 1979>-0.007 Higher 2003 0.073 1886 0.012

[E] Outliers 1 3.0 SD above or -4.5 SD below mean for year

2003 -4.8 SD

====================================================================================================================================

Ab09p22 1849 to 2012 164 years Series 12

[B] Entire series, effect on correlation ( 0.474) is:

Lower 1854<-0.016 1999<-0.013 1962>-0.012 1996>-0.012 1893>-0.010 1957<-0.009 Higher 1956 0.024 1935 0.019

====================================================================================================================================

Ab09p21 1849 to 2011 163 years Series 13

[B] Entire series, effect on correlation ( 0.479) is:

Lower 1889<-0.024 1999<-0.016 1948>-0.014 1870<-0.009 1854<-0.009 1890<-0.009 Higher 1981 0.025 1935 0.015

[C] Year-to-year changes diverging by over 4.0 std deviations:

2003 2004 -4.4 SD

====================================================================================================================================

Ab09p31 1912 to 2012 101 years Series 14

[A] Segment High -10 -9 -8 -7 -6 -5 -4 -3 -2 -1 0 +1 +2 +3 +4 +5 +6 +7 +8 +9 +10

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1912 1961 -8 .13 -.26 .40\*-.05 -.21 .10 .04 .05 .15 -.24 .29|-.02 -.30 .15 -.08 -.05 .19 -.02 -.24 .09 .04

[B] Entire series, effect on correlation ( 0.374) is:

Lower 1918>-0.033 1940>-0.023 1953<-0.017 2004>-0.016 1917>-0.015 1919<-0.012 Higher 1996 0.042 1981 0.022

1912 to 1961 segment:

Lower 1918>-0.068 1940>-0.050 1917>-0.032 1953<-0.026 1955<-0.020 1919<-0.018 Higher 1935 0.048 1956 0.035

[E] Outliers 1 3.0 SD above or -4.5 SD below mean for year

1918 +4.1 SD

====================================================================================================================================

Ab09p32 1912 to 2012 101 years Series 15

[B] Entire series, effect on correlation ( 0.389) is:

Lower 2003>-0.018 1962>-0.016 2010<-0.013 1940>-0.011 2004>-0.011 1994>-0.011 Higher 1981 0.054 1935 0.023

====================================================================================================================================

Ab11p11 1851 to 2010 160 years Series 16

[A] Segment High -10 -9 -8 -7 -6 -5 -4 -3 -2 -1 0 +1 +2 +3 +4 +5 +6 +7 +8 +9 +10

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1875 1924 0 -.14 .08 -.15 -.08 .09 -.20 -.01 .18 .13 -.13 .30\*-.24 .09 -.17 -.26 .22 .07 -.09 .11 .20 -.20

1900 1949 -3 -.09 .15 -.21 .00 -.01 -.03 -.25 .29\* .17 -.08 .27|-.24 .15 -.03 -.32 .21 .04 -.12 .19 .03 -.15

[B] Entire series, effect on correlation ( 0.451) is:

Lower 1920<-0.062 1996>-0.012 1900<-0.011 1925>-0.009 1990<-0.008 1945<-0.006 Higher 2003 0.020 1909 0.013

1875 to 1924 segment:

Lower 1920<-0.105 1900<-0.027 1882>-0.018 1917>-0.017 1914>-0.013 1881>-0.012 Higher 1909 0.051 1892 0.031

1900 to 1949 segment:

Lower 1920<-0.102 1900<-0.026 1925>-0.022 1945<-0.014 1917>-0.013 1914>-0.011 Higher 1909 0.049 1940 0.037

[C] Year-to-year changes diverging by over 4.0 std deviations:

1919 1920 -4.7 SD

[E] Outliers 1 3.0 SD above or -4.5 SD below mean for year

1920 -4.9 SD

====================================================================================================================================

Ab11p12 1851 to 2010 160 years Series 17

[B] Entire series, effect on correlation ( 0.626) is:

Lower 1899<-0.010 1860<-0.010 2010<-0.009 1996>-0.009 1981>-0.008 1983<-0.007 Higher 2003 0.034 1956 0.018

====================================================================================================================================

Ab11p21 1828 to 2012 185 years Series 18

[A] Segment High -10 -9 -8 -7 -6 -5 -4 -3 -2 -1 0 +1 +2 +3 +4 +5 +6 +7 +8 +9 +10

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1850 1899 6 -.08 .00 .18 -.21 -.04 .05 .03 -.13 -.07 .03 .26|-.02 -.12 .27 -.08 -.11 .34\*-.14 -.02 -.01 -.16

[B] Entire series, effect on correlation ( 0.478) is:

Lower 1948>-0.019 2003>-0.018 1887>-0.015 1994>-0.010 1832<-0.009 1902>-0.008 Higher 1956 0.026 1981 0.020

1850 to 1899 segment:

Lower 1887>-0.082 1863<-0.020 1897>-0.019 1871>-0.013 1882>-0.011 1878<-0.011 Higher 1876 0.056 1869 0.030

====================================================================================================================================

Ab11p22 1828 to 2012 185 years Series 19

[A] Segment High -10 -9 -8 -7 -6 -5 -4 -3 -2 -1 0 +1 +2 +3 +4 +5 +6 +7 +8 +9 +10

--------- ---- --- --- --- --- --- --- --- --- --- --- --- --- --- --- --- --- --- --- --- --- ---

1850 1899 8 -.19 -.06 -.10 -.04 -.11 .03 -.17 -.09 -.04 .05 .24|-.06 -.10 .12 .18 -.13 .16 -.12 .27\*-.10 -.16

[B] Entire series, effect on correlation ( 0.459) is:

Lower 1948>-0.023 1894<-0.016 1962>-0.016 2003>-0.015 1882>-0.010 1887>-0.010 Higher 1844 0.020 1935 0.015

1850 to 1899 segment:

Lower 1894<-0.056 1882>-0.049 1887>-0.044 1886<-0.033 1897>-0.025 1895>-0.022 Higher 1893 0.064 1876 0.044

====================================================================================================================================

Ab11p31 1922 to 2012 91 years Series 20

[B] Entire series, effect on correlation ( 0.396) is:

Lower 1931<-0.028 1981>-0.020 1971<-0.019 1924<-0.015 1935>-0.012 1925>-0.012 Higher 1940 0.034 1956 0.032

[E] Outliers 1 3.0 SD above or -4.5 SD below mean for year

1940 -4.6 SD

====================================================================================================================================

Ab11p32 1922 to 2012 91 years Series 21

[B] Entire series, effect on correlation ( 0.470) is:

Lower 1956>-0.024 1985<-0.016 1994>-0.013 1935>-0.012 1941<-0.012 1968>-0.012 Higher 1948 0.021 1940 0.018

====================================================================================================================================

Ab11p52 1837 to 2012 176 years Series 22

[A] Segment High -10 -9 -8 -7 -6 -5 -4 -3 -2 -1 0 +1 +2 +3 +4 +5 +6 +7 +8 +9 +10

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1837 1886 0 .00 .14 -.25 -.10 .23 -.08 .18 .19 -.34 .04 .31\*-.05 -.04 .08 .02 .22 .03 -.13 .03 -.09 .09

1850 1899 0 -.14 -.02 -.15 -.07 .14 .13 -.04 -.12 -.05 -.06 .21\* .01 -.08 .13 -.04 -.01 .20 .03 -.01 -.10 .21

1875 1924 0 -.05 -.05 .16 -.10 .06 .18 -.27 .00 -.06 -.28 .31\*-.07 -.06 .15 .01 -.08 .30 -.19 .18 -.08 .08

[B] Entire series, effect on correlation ( 0.512) is:

Lower 1892<-0.015 1966>-0.012 1849>-0.011 1950<-0.010 1901<-0.009 1909>-0.009 Higher 2003 0.046 1940 0.015

1837 to 1886 segment:

Lower 1849>-0.046 1874<-0.027 1848<-0.025 1869>-0.020 1856<-0.019 1850<-0.015 Higher 1886 0.072 1847 0.062

1850 to 1899 segment:

Lower 1892<-0.075 1897>-0.042 1874<-0.029 1869>-0.025 1856<-0.020 1852>-0.019 Higher 1886 0.106 1887 0.096

1875 to 1924 segment:

Lower 1892<-0.061 1911>-0.032 1909>-0.031 1897>-0.030 1903<-0.022 1901<-0.019 Higher 1886 0.065 1887 0.059

[E] Outliers 1 3.0 SD above or -4.5 SD below mean for year

1860 +3.2 SD

====================================================================================================================================

Bi06p11 1927 to 2012 86 years Series 23

[B] Entire series, effect on correlation ( 0.505) is:

Lower 1948>-0.027 1971<-0.026 1995<-0.011 1989>-0.010 1988<-0.010 1931<-0.009 Higher 1996 0.039 2003 0.036

====================================================================================================================================

Bi06p12 1927 to 2012 86 years Series 24

[B] Entire series, effect on correlation ( 0.554) is:

Lower 1981>-0.047 1988<-0.032 1971<-0.020 1948>-0.012 1986>-0.009 1965>-0.007 Higher 2003 0.084 1956 0.031

====================================================================================================================================

Bi06p21 1955 to 2012 58 years Series 25

[B] Entire series, effect on correlation ( 0.355) is:

Lower 1955<-0.088 2003>-0.020 1980<-0.014 1977>-0.013 1982>-0.011 1956>-0.011 Higher 1996 0.027 2001 0.016

====================================================================================================================================

Bi06p22 1955 to 2012 58 years Series 26

[B] Entire series, effect on correlation ( 0.537) is:

Lower 1996>-0.054 1955<-0.025 1962>-0.021 2004>-0.020 1975<-0.018 1982>-0.018 Higher 1981 0.080 2003 0.034

====================================================================================================================================

Bi06p31 1947 to 2012 66 years Series 27

[B] Entire series, effect on correlation ( 0.371) is:

Lower 1981>-0.071 2003>-0.032 1956>-0.030 2002<-0.013 1976<-0.012 2006<-0.011 Higher 1996 0.040 1971 0.019

====================================================================================================================================

Bi06p32 1947 to 2012 66 years Series 28

[A] Segment High -10 -9 -8 -7 -6 -5 -4 -3 -2 -1 0 +1 +2 +3 +4 +5 +6 +7 +8 +9 +10

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1963 2012 0 .19 -.17 .17 -.07 -.04 -.08 -.10 .27 .05 -.07 .31\* - - - - - - - - - -

[B] Entire series, effect on correlation ( 0.378) is:

Lower 2003>-0.088 2007<-0.018 1960>-0.016 1957<-0.012 1967<-0.012 2005>-0.010 Higher 1948 0.070 2001 0.020

1963 to 2012 segment:

Lower 2003>-0.124 2007<-0.023 1967<-0.015 2005>-0.015 2004>-0.014 1989>-0.013 Higher 2001 0.034 1987 0.023

====================================================================================================================================

Bi06p41 1939 to 2012 74 years Series 29

[A] Segment High -10 -9 -8 -7 -6 -5 -4 -3 -2 -1 0 +1 +2 +3 +4 +5 +6 +7 +8 +9 +10

--------- ---- --- --- --- --- --- --- --- --- --- --- --- --- --- --- --- --- --- --- --- --- ---

1939 1988 -3 .09 -.15 .07 -.07 -.05 -.10 -.04 .28\*-.15 -.14 .27|-.07 -.02 -.24 -.04 .13 .00 .03 -.02 .07 .13

[B] Entire series, effect on correlation ( 0.446) is:

Lower 1981>-0.044 1975<-0.019 1948>-0.018 1961<-0.014 2006<-0.011 2004>-0.011 Higher 1996 0.063 2003 0.029

1939 to 1988 segment:

Lower 1981>-0.067 1975<-0.032 1961<-0.023 1948>-0.022 1943>-0.015 1962>-0.014 Higher 1956 0.044 1971 0.024

====================================================================================================================================

Bi06p42 1939 to 2012 74 years Series 30

[B] Entire series, effect on correlation ( 0.414) is:

Lower 1981>-0.031 2001<-0.027 1952<-0.022 1948>-0.012 1972<-0.011 1974<-0.009 Higher 2003 0.036 1956 0.020

====================================================================================================================================

Bi06p51 1931 to 2012 82 years Series 31

[A] Segment High -10 -9 -8 -7 -6 -5 -4 -3 -2 -1 0 +1 +2 +3 +4 +5 +6 +7 +8 +9 +10

--------- ---- --- --- --- --- --- --- --- --- --- --- --- --- --- --- --- --- --- --- --- --- ---

1931 1980 10 .05 -.19 -.05 .02 .05 -.09 -.16 .10 -.03 -.24 .05|-.08 -.03 .03 -.02 -.09 .14 .19 -.09 .06 .31\*

[B] Entire series, effect on correlation ( 0.364) is:

Lower 1956>-0.038 1948>-0.029 1971<-0.028 1935>-0.025 2001<-0.016 1932<-0.015 Higher 2003 0.106 1962 0.028

1931 to 1980 segment:

Lower 1956>-0.062 1971<-0.047 1948>-0.041 1935>-0.040 1932<-0.025 1940>-0.019 Higher 1962 0.131 1980 0.049

====================================================================================================================================

Bi06p52 1931 to 2012 82 years Series 32

[A] Segment High -10 -9 -8 -7 -6 -5 -4 -3 -2 -1 0 +1 +2 +3 +4 +5 +6 +7 +8 +9 +10

--------- ---- --- --- --- --- --- --- --- --- --- --- --- --- --- --- --- --- --- --- --- --- ---

1931 1980 -6 -.06 -.22 .07 -.05 .28\*-.24 .12 -.15 -.15 -.17 .22|-.28 .25 -.15 -.15 -.07 .25 -.18 .23 -.01 .16

[B] Entire series, effect on correlation ( 0.561) is:

Lower 1954<-0.061 1956>-0.028 1935>-0.026 1940>-0.020 2011<-0.012 1977>-0.010 Higher 2003 0.092 1981 0.036

1931 to 1980 segment:

Lower 1954<-0.104 1935>-0.045 1956>-0.041 1940>-0.032 1977>-0.016 1932<-0.014 Higher 1948 0.050 1958 0.038

====================================================================================================================================

Bi08p11 1930 to 2012 83 years Series 33

[B] Entire series, effect on correlation ( 0.541) is:

Lower 1989<-0.031 1975<-0.018 1996>-0.017 1994>-0.016 2012<-0.014 1948>-0.012 Higher 2003 0.056 1981 0.040

====================================================================================================================================

Bi08p12 1930 to 2012 83 years Series 34

[A] Segment High -10 -9 -8 -7 -6 -5 -4 -3 -2 -1 0 +1 +2 +3 +4 +5 +6 +7 +8 +9 +10

--------- ---- --- --- --- --- --- --- --- --- --- --- --- --- --- --- --- --- --- --- --- --- ---

1930 1979 0 -.16 .07 -.07 -.26 .22 .06 -.06 .00 -.11 .00 .29\*-.12 .02 -.08 .03 -.15 -.02 -.02 .07 -.18 .15

[B] Entire series, effect on correlation ( 0.417) is:

Lower 1949<-0.029 1996>-0.023 1930<-0.019 1987<-0.018 1968>-0.014 1975<-0.013 Higher 2003 0.053 1981 0.050

1930 to 1979 segment:

Lower 1949<-0.060 1930<-0.035 1975<-0.027 1968>-0.025 1943>-0.017 1976>-0.017 Higher 1962 0.074 1958 0.049

====================================================================================================================================

Bi08p21 1910 to 2012 103 years Series 35

[A] Segment High -10 -9 -8 -7 -6 -5 -4 -3 -2 -1 0 +1 +2 +3 +4 +5 +6 +7 +8 +9 +10

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1910 1959 -7 -.07 -.15 .11 .30\*-.10 .13 .14 -.16 .12 -.13 .24|-.09 -.09 -.08 -.02 -.17 .10 -.24 .02 -.08 .18

1925 1974 0 -.16 -.07 .11 .15 -.10 .14 .07 -.21 .07 -.08 .30\*-.02 -.06 -.13 -.06 -.19 .13 -.07 .10 -.09 .09

[B] Entire series, effect on correlation ( 0.398) is:

Lower 2006<-0.025 2004>-0.019 1924<-0.019 1947<-0.018 1911>-0.018 1930<-0.012 Higher 1996 0.026 1981 0.016

1910 to 1959 segment:

Lower 1924<-0.042 1947<-0.038 1911>-0.037 1930<-0.025 1941<-0.015 1917>-0.014 Higher 1940 0.035 1910 0.028

1925 to 1974 segment:

Lower 1947<-0.040 1930<-0.027 1972>-0.017 1967<-0.016 1941<-0.016 1954<-0.011 Higher 1940 0.029 1960 0.027

====================================================================================================================================

Bi08p22 1910 to 2012 103 years Series 36

[A] Segment High -10 -9 -8 -7 -6 -5 -4 -3 -2 -1 0 +1 +2 +3 +4 +5 +6 +7 +8 +9 +10

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1910 1959 0 .03 -.11 -.02 .01 .10 .01 .19 -.10 .21 -.18 .32\*-.25 -.17 -.03 .02 -.21 .14 -.20 .08 -.07 .01

[B] Entire series, effect on correlation ( 0.531) is:

Lower 1948>-0.021 1935>-0.016 1989<-0.016 1924<-0.016 1956>-0.013 1921<-0.012 Higher 2003 0.056 1971 0.013

1910 to 1959 segment:

Lower 1948>-0.038 1924<-0.036 1935>-0.032 1921<-0.029 1957<-0.028 1941<-0.024 Higher 1940 0.051 1910 0.028

====================================================================================================================================

Bi08p31 1927 to 2012 86 years Series 37

[A] Segment High -10 -9 -8 -7 -6 -5 -4 -3 -2 -1 0 +1 +2 +3 +4 +5 +6 +7 +8 +9 +10

--------- ---- --- --- --- --- --- --- --- --- --- --- --- --- --- --- --- --- --- --- --- --- ---

1927 1976 4 .10 -.08 .06 -.04 .09 -.27 -.06 -.12 .26 -.09 .22|-.01 -.18 -.17 .46\*-.11 .15 .07 .06 -.10 -.02

[B] Entire series, effect on correlation ( 0.331) is:

Lower 1958<-0.060 1948>-0.029 1940>-0.028 1936<-0.018 1992<-0.017 1975<-0.016 Higher 1956 0.045 1981 0.035

1927 to 1976 segment:

Lower 1958<-0.100 1948>-0.055 1940>-0.051 1975<-0.027 1961<-0.021 1933>-0.015 Higher 1956 0.106 1971 0.045

====================================================================================================================================

Bi08p32 1927 to 2012 86 years Series 38

[A] Segment High -10 -9 -8 -7 -6 -5 -4 -3 -2 -1 0 +1 +2 +3 +4 +5 +6 +7 +8 +9 +10

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1950 1999 7 .03 -.13 -.06 .05 .04 -.06 -.07 -.25 .02 -.27 .38| .02 -.03 .00 .03 -.12 -.10 .53\* .11 .21 .05

[B] Entire series, effect on correlation ( 0.431) is:

Lower 1981>-0.033 1984>-0.030 1948>-0.020 2012<-0.020 1975<-0.013 1961<-0.011 Higher 1996 0.062 1956 0.030

1950 to 1999 segment:

Lower 1981>-0.065 1984>-0.050 1975<-0.020 1982>-0.019 1961<-0.016 1988<-0.013 Higher 1996 0.146 1956 0.054

[E] Outliers 1 3.0 SD above or -4.5 SD below mean for year

1984 +3.3 SD

====================================================================================================================================

Bi08p41 1959 to 2012 54 years Series 39

[B] Entire series, effect on correlation ( 0.453) is:

Lower 1969<-0.029 1981>-0.026 1962>-0.019 2012<-0.017 1963<-0.015 1976>-0.013 Higher 2003 0.104 1996 0.020

====================================================================================================================================

Bi08p42 1959 to 2012 54 years Series 40

[B] Entire series, effect on correlation ( 0.437) is:

Lower 1971<-0.076 1990<-0.039 2012<-0.036 1976>-0.030 1988<-0.026 1972>-0.012 Higher 2003 0.211 1962 0.028

[E] Outliers 1 3.0 SD above or -4.5 SD below mean for year

1976 +3.9 SD

====================================================================================================================================

Bi09p11 1869 to 2012 144 years Series 41

[A] Segment High -10 -9 -8 -7 -6 -5 -4 -3 -2 -1 0 +1 +2 +3 +4 +5 +6 +7 +8 +9 +10

--------- ---- --- --- --- --- --- --- --- --- --- --- --- --- --- --- --- --- --- --- --- --- ---

1869 1918 -1 .14 -.10 -.16 .13 -.08 .05 .00 .08 -.22 .26\*-.08| .01 .01 .10 .02 .02 -.10 -.06 -.17 .07 .12

1875 1924 -1 .10 -.13 -.20 .09 .00 .11 -.07 .16 -.14 .27\*-.14|-.01 .09 .03 -.05 .02 -.06 -.04 -.19 -.06 .07

1900 1949 -3 -.04 .03 -.22 -.07 .03 -.02 .09 .34\* .09 .03 -.25|-.13 .06 -.03 .19 -.07 .03 -.25 -.09 .04 .22

1925 1974 4 -.05 -.05 .06 -.18 .18 -.33 .09 .03 .16 -.12 .23|-.23 .00 .02 .33\*-.20 .16 -.09 .05 -.14 .11

[B] Entire series, effect on correlation ( 0.367) is:

Lower 1948>-0.023 1935>-0.021 2001<-0.020 1887>-0.017 1911>-0.017 1892<-0.013 Higher 2003 0.117 1981 0.024

1869 to 1918 segment:

Lower 1892<-0.047 1911>-0.046 1887>-0.040 1908<-0.026 1912<-0.025 1918>-0.023 Higher 1890 0.037 1916 0.037

1875 to 1924 segment:

Lower 1911>-0.048 1887>-0.044 1892<-0.039 1924<-0.029 1918>-0.026 1921<-0.023 Higher 1890 0.041 1916 0.041

1900 to 1949 segment:

Lower 1935>-0.043 1911>-0.036 1948>-0.026 1924<-0.025 1932<-0.023 1921<-0.020 Higher 1916 0.043 1910 0.040

1925 to 1974 segment:

Lower 1948>-0.067 1935>-0.064 1938<-0.032 1932<-0.026 1972>-0.023 1970<-0.021 Higher 1962 0.087 1956 0.059

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Bi09p12 1869 to 2012 144 years Series 42

[A] Segment High -10 -9 -8 -7 -6 -5 -4 -3 -2 -1 0 +1 +2 +3 +4 +5 +6 +7 +8 +9 +10

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1869 1918 -1 -.13 .04 -.03 .08 -.12 .04 .11 .18 -.30 .20\* .13|-.22 -.03 .13 -.04 -.06 -.02 -.19 .08 -.11 .17

1875 1924 -1 -.11 .00 -.01 .05 -.08 .09 .07 .15 -.17 .23\* .02|-.18 .00 .12 -.12 -.07 .05 -.19 .03 -.18 .13

1900 1949 -9 -.06 .18\* .01 .04 .01 -.09 -.14 .13 .07 .04 .00|-.11 .01 -.01 .18 -.12 .16 -.22 .08 -.17 .09

1925 1974 4 .06 -.01 .08 -.06 .12 -.41 .08 -.04 .07 -.26 .36|-.14 -.06 -.04 .48\*-.32 .15 -.01 .08 -.26 .23

[B] Entire series, effect on correlation ( 0.460) is:

Lower 1940>-0.024 1948>-0.022 1911>-0.021 1893>-0.019 1909>-0.014 1887>-0.013 Higher 2003 0.108 1981 0.028

1869 to 1918 segment:

Lower 1911>-0.062 1893>-0.054 1909>-0.035 1887>-0.026 1918>-0.025 1917>-0.021 Higher 1870 0.042 1886 0.039

1875 to 1924 segment:

Lower 1911>-0.061 1893>-0.053 1924<-0.035 1909>-0.034 1918>-0.025 1887>-0.024 Higher 1886 0.050 1890 0.044

1900 to 1949 segment:

Lower 1940>-0.065 1911>-0.061 1924<-0.042 1948>-0.035 1909>-0.031 1932<-0.030 Higher 1935 0.066 1916 0.039

1925 to 1974 segment:

Lower 1940>-0.079 1948>-0.073 1968>-0.022 1932<-0.021 1938<-0.013 1952<-0.012 Higher 1962 0.068 1956 0.067

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Bi09p22 1944 to 2012 69 years Series 43

[B] Entire series, effect on correlation ( 0.530) is:

Lower 1949<-0.030 1948>-0.019 1975<-0.014 1999<-0.013 1984>-0.012 1969>-0.011 Higher 2003 0.129 1981 0.022

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Bi09p31 1886 to 2012 127 years Series 44

[A] Segment High -10 -9 -8 -7 -6 -5 -4 -3 -2 -1 0 +1 +2 +3 +4 +5 +6 +7 +8 +9 +10

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1925 1974 0 -.03 -.03 .01 -.15 .32 -.26 -.02 -.01 -.04 -.20 .32\*-.11 .10 -.11 -.02 -.15 .03 -.04 .17 .00 .14

[B] Entire series, effect on correlation ( 0.488) is:

Lower 1956>-0.021 1898<-0.020 1940>-0.016 1890<-0.012 1985<-0.012 1918>-0.010 Higher 2003 0.039 1996 0.034

1925 to 1974 segment:

Lower 1956>-0.062 1940>-0.051 1943>-0.031 1932<-0.028 1951<-0.024 1954<-0.018 Higher 1962 0.043 1958 0.035

[E] Outliers 1 3.0 SD above or -4.5 SD below mean for year

1898 -4.6 SD

====================================================================================================================================

Bi09p32 1886 to 2012 127 years Series 45

[B] Entire series, effect on correlation ( 0.521) is:

Lower 1982>-0.020 1886<-0.019 2003>-0.017 1984>-0.015 1915<-0.008 1901<-0.008 Higher 1996 0.028 1948 0.026

[E] Outliers 1 3.0 SD above or -4.5 SD below mean for year

1982 +3.1 SD

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Bi09p41 1733 to 2012 280 years Series 46

[A] Segment High -10 -9 -8 -7 -6 -5 -4 -3 -2 -1 0 +1 +2 +3 +4 +5 +6 +7 +8 +9 +10

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1733 1782 1 -.01 -.14 -.18 -.03 .18 .09 .25 -.04 .11 .07 .10| .29\*-.17 .00 .18 -.16 .10 -.18 .01 -.14 -.13

1750 1799 -6 -.22 -.15 -.08 .08 .28\* .03 .17 .17 .01 .22 .13| .21 -.12 -.09 .14 -.11 -.25 -.05 .03 -.19 -.08

1775 1824 -6 .01 .00 .06 .17 .28\*-.02 .04 .21 -.06 .12 .12| .09 -.07 -.08 -.03 -.32 -.10 .00 -.18 .04 -.20

1800 1849 -3 .03 .12 -.06 .06 .18 .02 .09 .34\* .05 .04 .27| .09 -.14 -.03 -.07 -.38 .00 -.05 -.15 .03 -.27

1825 1874 -3 -.06 .12 -.08 .13 .19 .00 .14 .40\* .04 -.06 .39| .04 -.15 .03 -.08 -.03 -.05 -.34 -.12 .00 -.27

[B] Entire series, effect on correlation ( 0.329) is:

Lower 1755>-0.028 1796>-0.017 1740>-0.017 1747>-0.011 1751<-0.010 1777<-0.009 Higher 2003 0.020 1948 0.016

1733 to 1782 segment:

Lower 1755>-0.058 1740>-0.045 1747>-0.032 1751<-0.031 1777<-0.024 1748>-0.023 Higher 1771 0.064 1778 0.048

1750 to 1799 segment:

Lower 1755>-0.067 1751<-0.049 1796>-0.048 1777<-0.037 1774<-0.030 1754<-0.015 Higher 1771 0.081 1778 0.063

1775 to 1824 segment:

Lower 1796>-0.078 1777<-0.043 1816>-0.024 1807<-0.021 1822<-0.020 1813<-0.019 Higher 1778 0.077 1817 0.028

1800 to 1849 segment:

Lower 1816>-0.048 1807<-0.047 1822<-0.028 1813<-0.027 1846<-0.017 1821>-0.016 Higher 1817 0.032 1810 0.031

1825 to 1874 segment:

Lower 1846<-0.030 1827<-0.027 1869>-0.027 1860<-0.026 1845<-0.025 1848<-0.019 Higher 1834 0.029 1829 0.029

[C] Year-to-year changes diverging by over 4.0 std deviations:

1739 1740 4.8 SD 1754 1755 5.2 SD

[E] Outliers 3 3.0 SD above or -4.5 SD below mean for year

1748 +3.4 SD; 1755 +3.5 SD; 1948 -5.5 SD

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Bi09p42 1800 to 2012 213 years Series 47

[A] Segment High -10 -9 -8 -7 -6 -5 -4 -3 -2 -1 0 +1 +2 +3 +4 +5 +6 +7 +8 +9 +10

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1800 1849 -1 .20 -.11 .02 .04 .03 .03 .05 -.13 -.27 .47\*-.07|-.06 -.01 -.14 .12 -.18 -.03 .06 .14 -.03 .01

1825 1874 -1 .31 -.07 .18 .35 -.20 .00 .31 -.20 -.15 .42\*-.25|-.10 .14 -.19 .14 -.02 -.13 -.14 .20 -.12 -.04

1850 1899 0 .13 -.04 .12 -.01 .15 -.09 .17 -.05 .23 -.14 .31\*-.16 .13 .01 .24 -.18 .05 -.06 .06 -.08 -.15

[B] Entire series, effect on correlation ( 0.398) is:

Lower 1844>-0.037 1836<-0.018 1802<-0.018 1826>-0.012 1833<-0.011 1816>-0.009 Higher 2003 0.070 1996 0.012

1800 to 1849 segment:

Lower 1844>-0.089 1836<-0.042 1833<-0.026 1816>-0.020 1827<-0.020 1845<-0.019 Higher 1817 0.048 1807 0.040

1825 to 1874 segment:

Lower 1844>-0.120 1836<-0.056 1833<-0.034 1827<-0.029 1845<-0.028 1830<-0.018 Higher 1867 0.037 1829 0.036

1850 to 1899 segment:

Lower 1887>-0.043 1868>-0.033 1874<-0.026 1879<-0.025 1882>-0.021 1878<-0.021 Higher 1893 0.076 1886 0.060

[C] Year-to-year changes diverging by over 4.0 std deviations:

1844 1845 -4.4 SD

[E] Outliers 2 3.0 SD above or -4.5 SD below mean for year

1802 -4.6 SD; 1844 +4.2 SD

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Bi09p51 1815 to 2012 198 years Series 48

[A] Segment High -10 -9 -8 -7 -6 -5 -4 -3 -2 -1 0 +1 +2 +3 +4 +5 +6 +7 +8 +9 +10

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1825 1874 -2 -.17 -.30 .12 -.01 -.07 .09 -.18 .00 .49\*-.05 .13| .09 .06 .34 -.02 -.01 -.01 .13 -.19 .06 -.02

1850 1899 2 .03 -.20 .19 .00 -.03 .05 .05 -.18 .28 -.34 .18|-.03 .28\*-.18 .18 -.19 .25 .01 .13 -.20 .19

[B] Entire series, effect on correlation ( 0.417) is:

Lower 1840<-0.018 1874<-0.018 1933<-0.014 1846<-0.014 1870<-0.013 1847>-0.012 Higher 2003 0.029 1844 0.017

1825 to 1874 segment:

Lower 1840<-0.063 1874<-0.055 1870<-0.045 1847>-0.045 1846<-0.043 1834<-0.030 Higher 1844 0.127 1826 0.121

1850 to 1899 segment:

Lower 1874<-0.080 1870<-0.066 1892<-0.054 1857>-0.026 1889<-0.019 1869>-0.018 Higher 1886 0.090 1893 0.069

[C] Year-to-year changes diverging by over 4.0 std deviations:

1846 1847 4.5 SD

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Bi09p52 1954 to 2012 59 years Series 49

[B] Entire series, effect on correlation ( 0.662) is:

Lower 1956>-0.026 1959<-0.023 2001<-0.023 1967<-0.018 1984>-0.011 1977<-0.010 Higher 2003 0.097 1981 0.036

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Bi09p53 1814 to 1934 121 years Series 50

[A] Segment High -10 -9 -8 -7 -6 -5 -4 -3 -2 -1 0 +1 +2 +3 +4 +5 +6 +7 +8 +9 +10

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1814 1863 7 .04 .20 .20 -.04 -.26 -.02 -.16 -.13 -.17 -.10 .08| .32 -.01 .06 .12 .08 .08 .43\*-.17 .18 .11

1825 1874 7 -.05 -.03 .22 -.24 -.24 .06 -.15 -.24 .22 -.15 .00| .20 .05 .10 .04 .11 .15 .30\*-.09 -.03 .07

[B] Entire series, effect on correlation ( 0.322) is:

Lower 1817<-0.044 1870<-0.042 1837<-0.021 1874<-0.019 1840<-0.014 1816>-0.013 Higher 1887 0.035 1893 0.021

1814 to 1863 segment:

Lower 1817<-0.080 1837<-0.034 1840<-0.027 1816>-0.023 1847>-0.020 1829>-0.016 Higher 1819 0.065 1845 0.031

1825 to 1874 segment:

Lower 1870<-0.089 1874<-0.040 1837<-0.030 1840<-0.028 1847>-0.025 1829>-0.019 Higher 1845 0.042 1830 0.038

[C] Year-to-year changes diverging by over 4.0 std deviations:

1816 1817 -4.2 SD

[E] Outliers 1 3.0 SD above or -4.5 SD below mean for year

1819 -5.6 SD

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Ca07p12 1707 to 2012 306 years Series 51

[\*] Early part of series cannot be checked from 1707 to 1732 -- not matched by another series

[A] Segment High -10 -9 -8 -7 -6 -5 -4 -3 -2 -1 0 +1 +2 +3 +4 +5 +6 +7 +8 +9 +10

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1733 1782 -1 -.12 -.19 .03 -.22 .07 -.18 .12 .02 -.25 .23\* .08| .06 .02 .09 .10 .15 .09 .04 -.20 .00 -.22

1750 1799 -1 .01 -.21 .03 -.09 .06 -.05 .03 .19 -.23 .32\* .04| .23 -.03 .21 -.05 .18 -.01 .10 -.23 -.17 -.24

1775 1824 -3 -.02 -.12 .12 -.10 -.09 -.02 .10 .29\*-.04 .26 .09| .18 -.14 .11 .10 -.11 .06 -.24 -.04 -.28 -.02

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1825 1874 -5 .05 .14 -.08 -.16 -.04 .33\*-.27 .21 .08 -.27 .29|-.10 -.24 -.08 -.02 -.17 .25 .06 -.18 -.07 .17

[B] Entire series, effect on correlation ( 0.236) is:

Lower 1755<-0.017 1796>-0.016 1740<-0.014 1751>-0.012 1747<-0.012 1778>-0.008 Higher 1771 0.016 1981 0.009

1733 to 1782 segment:

Lower 1755<-0.054 1740<-0.042 1747<-0.030 1751>-0.027 1748<-0.022 1774>-0.018 Higher 1771 0.064 1741 0.034

1750 to 1799 segment:

Lower 1755<-0.060 1796>-0.049 1751>-0.033 1795<-0.022 1776>-0.021 1774>-0.021 Higher 1771 0.080 1764 0.042

1775 to 1824 segment:

Lower 1796>-0.076 1795<-0.038 1776>-0.031 1816>-0.017 1792>-0.017 1819>-0.011 Higher 1817 0.067 1807 0.060

1825 to 1874 segment:

Lower 1826>-0.089 1831<-0.043 1862<-0.039 1839>-0.024 1868>-0.016 1866>-0.016 Higher 1844 0.057 1829 0.029

[C] Year-to-year changes diverging by over 4.0 std deviations:

1739 1740 -5.3 SD 1754 1755 -4.7 SD 1795 1796 4.1 SD

[E] Outliers 1 3.0 SD above or -4.5 SD below mean for year

1739 +3.0 SD

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Ca07p21 1861 to 2012 152 years Series 52

[A] Segment High -10 -9 -8 -7 -6 -5 -4 -3 -2 -1 0 +1 +2 +3 +4 +5 +6 +7 +8 +9 +10

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1950 1999 7 .10 -.09 .19 -.04 .09 .13 .11 -.15 -.27 -.06 .36|-.17 -.10 -.09 .11 -.05 -.08 .38\* .07 .06 -.37

1963 2012 0 .16 -.15 .24 .04 -.04 .16 .02 -.11 -.18 -.06 .32\* - - - - - - - - - -

[B] Entire series, effect on correlation ( 0.396) is:

Lower 2003>-0.026 1888<-0.023 1904<-0.015 1987<-0.013 1981>-0.011 1956>-0.010 Higher 1887 0.022 1971 0.015

1950 to 1999 segment:

Lower 1987<-0.038 1981>-0.032 1956>-0.029 1990<-0.024 1982>-0.022 1959>-0.020 Higher 1971 0.049 1958 0.030

1963 to 2012 segment:

Lower 2003>-0.054 1987<-0.033 1981>-0.022 1990<-0.021 2007<-0.020 1982>-0.018 Higher 1971 0.047 1996 0.028

[E] Outliers 1 3.0 SD above or -4.5 SD below mean for year

1888 -6.6 SD

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Ca07p22 1861 to 2012 152 years Series 53

[A] Segment High -10 -9 -8 -7 -6 -5 -4 -3 -2 -1 0 +1 +2 +3 +4 +5 +6 +7 +8 +9 +10

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1861 1910 0 -.07 -.02 -.08 -.12 .14 .17 .03 -.19 .04 -.27 .31\*-.16 -.01 -.01 .10 -.06 -.08 -.02 .00 -.05 .04

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1950 1999 6 .15 -.30 -.10 -.16 .10 .07 -.15 -.07 -.05 -.15 .27| .07 .15 .13 .08 -.23 .29\* .08 .11 .13 -.14

1963 2012 -5 -.04 -.28 -.12 .07 -.02 .22\* .08 -.10 -.23 -.11 .16| - - - - - - - - - -

[B] Entire series, effect on correlation ( 0.338) is:

Lower 2007<-0.017 1921<-0.014 1988<-0.014 1981>-0.011 1861<-0.010 1958<-0.010 Higher 1887 0.026 1948 0.017

1861 to 1910 segment:

Lower 1909>-0.033 1861<-0.031 1876>-0.029 1868>-0.018 1869>-0.018 1910<-0.018 Higher 1887 0.138 1893 0.052

1950 to 1999 segment:

Lower 1988<-0.048 1958<-0.032 1981>-0.025 1984>-0.025 1975<-0.025 1999<-0.022 Higher 1962 0.042 1971 0.039

1963 to 2012 segment:

Lower 2007<-0.052 1988<-0.041 1975<-0.022 1999<-0.020 1984>-0.018 2010<-0.017 Higher 1971 0.039 2003 0.035

[E] Outliers 1 3.0 SD above or -4.5 SD below mean for year

2006 +3.3 SD

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Ca07p31 1914 to 2012 99 years Series 54

[A] Segment High -10 -9 -8 -7 -6 -5 -4 -3 -2 -1 0 +1 +2 +3 +4 +5 +6 +7 +8 +9 +10

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1925 1974 0 -.07 -.08 -.14 -.01 .08 -.04 .25 -.03 .07 -.16 .30\* .14 .15 -.12 .15 -.05 -.02 -.15 .22 -.16 -.05

1950 1999 2 .05 .04 -.17 -.06 .12 -.01 .06 -.15 -.05 -.03 .15| .12 .24\* .18 .05 -.22 -.10 .01 -.11 -.02 -.09

1963 2012 0 -.09 -.17 .17 .09 .18 .05 -.08 -.06 -.17 -.23 .27\* - - - - - - - - - -

[B] Entire series, effect on correlation ( 0.327) is:

Lower 1956>-0.026 1987<-0.025 2005>-0.019 1989>-0.019 1980<-0.018 1921<-0.009 Higher 2003 0.034 1917 0.022

1925 to 1974 segment:

Lower 1956>-0.066 1939<-0.026 1968>-0.023 1932<-0.023 1929>-0.020 1926>-0.016 Higher 1940 0.054 1948 0.037

1950 to 1999 segment:

Lower 1987<-0.059 1956>-0.052 1980<-0.043 1989>-0.042 1988<-0.021 1968>-0.021 Higher 1981 0.091 1955 0.025

1963 to 2012 segment:

Lower 1987<-0.040 2005>-0.032 1989>-0.032 1980<-0.029 1968>-0.016 1988<-0.014 Higher 2003 0.073 1981 0.039

[E] Outliers 1 3.0 SD above or -4.5 SD below mean for year

2005 +3.1 SD

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Ca07p32 1914 to 2012 99 years Series 55

[B] Entire series, effect on correlation ( 0.499) is:

Lower 1940>-0.035 1956>-0.018 1914>-0.013 2007<-0.011 1980<-0.011 1975<-0.010 Higher 2003 0.056 1948 0.040

[E] Outliers 1 3.0 SD above or -4.5 SD below mean for year

1948 -4.8 SD

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Ca07p41 1833 to 2012 180 years Series 56

[A] Segment High -10 -9 -8 -7 -6 -5 -4 -3 -2 -1 0 +1 +2 +3 +4 +5 +6 +7 +8 +9 +10

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1833 1882 -7 .20 .01 .06 .34\*-.18 .13 .14 -.27 .09 .07 -.23| .00 -.11 -.27 .03 -.05 .13 .01 -.28 -.07 -.10

1850 1899 6 .13 -.17 .09 .05 .07 .01 -.02 -.29 .21 -.24 .30|-.07 -.07 -.20 .12 -.15 .34\* .02 -.13 -.22 -.09

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1900 1949 -6 -.19 .00 .19 -.33 .24\*-.01 .11 .06 -.06 -.13 .24|-.16 .08 .09 .12 .01 -.13 -.12 -.09 .16 -.05

1925 1974 -6 -.18 .01 .10 -.23 .26\*-.01 .02 .16 -.16 -.06 .26|-.15 -.02 -.02 .13 .11 -.03 -.07 -.09 .23 -.25

[B] Entire series, effect on correlation ( 0.252) is:

Lower 2003>-0.035 1870<-0.033 1931<-0.026 1844>-0.025 1833<-0.017 1847>-0.009 Higher 1887 0.023 2004 0.018

1833 to 1882 segment:

Lower 1870<-0.090 1844>-0.062 1833<-0.048 1847>-0.023 1869>-0.018 1841>-0.016 Higher 1876 0.049 1867 0.047

1850 to 1899 segment:

Lower 1870<-0.156 1869>-0.042 1882>-0.024 1873>-0.019 1863>-0.016 1850<-0.012 Higher 1887 0.120 1886 0.087

1900 to 1949 segment:

Lower 1931<-0.114 1935>-0.033 1915<-0.023 1919<-0.019 1909>-0.017 1936>-0.014 Higher 1903 0.037 1948 0.032

1925 to 1974 segment:

Lower 1931<-0.121 1935>-0.030 1957<-0.021 1952>-0.018 1959>-0.018 1955<-0.018 Higher 1962 0.040 1948 0.033

[C] Year-to-year changes diverging by over 4.0 std deviations:

1862 1863 4.1 SD 1869 1870 -4.4 SD

[E] Outliers 2 3.0 SD above or -4.5 SD below mean for year

1844 +3.5 SD; 2003 +3.3 SD

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Ca07p51 1888 to 2012 125 years Series 57

[A] Segment High -10 -9 -8 -7 -6 -5 -4 -3 -2 -1 0 +1 +2 +3 +4 +5 +6 +7 +8 +9 +10

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1888 1937 0 -.05 .10 -.13 .05 .00 -.15 -.06 .15 -.32 .08 .24\* .19 -.09 .21 -.03 .05 -.23 -.15 .01 .02 .06

1900 1949 1 -.12 .01 -.05 .00 -.01 -.24 .06 .13 -.32 -.01 .17| .21\*-.09 .16 .00 .04 -.16 -.12 -.03 .19 .09

[B] Entire series, effect on correlation ( 0.381) is:

Lower 1909>-0.021 2003>-0.016 1981>-0.013 1989>-0.012 1948>-0.012 1932<-0.012 Higher 1956 0.053 1996 0.026

1888 to 1937 segment:

Lower 1909>-0.090 1932<-0.045 1921<-0.035 1911>-0.030 1934<-0.026 1894<-0.021 Higher 1913 0.049 1903 0.047

1900 to 1949 segment:

Lower 1909>-0.066 1932<-0.040 1921<-0.032 1934<-0.024 1948>-0.020 1911>-0.020 Higher 1903 0.048 1913 0.047

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Di07p11 1923 to 2012 90 years Series 58

[A] Segment High -10 -9 -8 -7 -6 -5 -4 -3 -2 -1 0 +1 +2 +3 +4 +5 +6 +7 +8 +9 +10

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1923 1972 0 .20 -.22 .07 .03 .14 -.35 .12 .14 -.07 -.05 .27\*-.24 -.10 .07 .24 -.16 .01 .09 -.11 .12 -.08

1925 1974 0 .19 -.20 .07 -.01 .15 -.35 .12 .17 -.07 -.06 .30\*-.28 -.07 .08 .23 -.17 .02 .08 -.15 .09 -.07

[B] Entire series, effect on correlation ( 0.344) is:

Lower 2003>-0.031 1970<-0.025 1948>-0.024 2002<-0.019 1924<-0.018 1940>-0.014 Higher 1996 0.031 1962 0.021

1923 to 1972 segment:

Lower 1948>-0.053 1970<-0.043 1924<-0.032 1940>-0.031 1969<-0.016 1935>-0.014 Higher 1962 0.050 1957 0.039

1925 to 1974 segment:

Lower 1948>-0.055 1970<-0.049 1940>-0.032 1969<-0.021 1932<-0.016 1935>-0.015 Higher 1962 0.048 1957 0.040

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Di07p12 1923 to 2012 90 years Series 59

[A] Segment High -10 -9 -8 -7 -6 -5 -4 -3 -2 -1 0 +1 +2 +3 +4 +5 +6 +7 +8 +9 +10

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1923 1972 0 .08 -.08 -.03 .07 .15 -.30 -.04 .16 .04 -.10 .27\*-.01 -.31 .08 .20 -.05 -.01 .19 -.16 .04 -.02

1925 1974 7 .03 -.06 .01 .02 .23 -.23 -.09 .03 .08 -.06 .30|-.15 -.22 .10 .15 -.03 -.10 .35\*-.13 -.03 .04

[B] Entire series, effect on correlation ( 0.388) is:

Lower 1948>-0.020 1955<-0.017 1935>-0.017 1923>-0.014 1960>-0.010 2002<-0.010 Higher 1996 0.025 1962 0.025

1923 to 1972 segment:

Lower 1955<-0.038 1948>-0.033 1935>-0.030 1923>-0.025 1949<-0.022 1932<-0.019 Higher 1962 0.096 1958 0.028

1925 to 1974 segment:

Lower 1948>-0.041 1955<-0.034 1935>-0.033 1960>-0.020 1949<-0.019 1932<-0.017 Higher 1962 0.080 1958 0.027

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Di07p21 1856 to 2012 157 years Series 60

[A] Segment High -10 -9 -8 -7 -6 -5 -4 -3 -2 -1 0 +1 +2 +3 +4 +5 +6 +7 +8 +9 +10

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1856 1905 10 -.06 -.13 -.11 -.03 .31 -.03 .17 -.11 .16 -.11 .32|-.21 .10 -.10 .09 -.28 .25 -.05 .13 -.31 .33\*

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1925 1974 0 -.24 .11 .15 -.02 .02 -.07 -.05 .19 -.23 -.26 .32\*-.09 -.25 .15 .04 -.07 .11 -.04 .13 .13 .01

1950 1999 0 -.29 .16 .01 -.09 -.01 -.09 .01 .10 -.15 -.16 .25\*-.11 -.16 .15 -.04 -.01 .15 .12 -.08 .24 .11

1963 2012 0 -.11 .04 .01 -.16 .00 .00 .12 -.18 .09 .07 .17\* - - - - - - - - - -

[B] Entire series, effect on correlation ( 0.304) is:

Lower 1981>-0.032 1990<-0.015 2003>-0.011 1927<-0.011 1982>-0.011 1966>-0.010 Higher 1887 0.024 1948 0.018

1856 to 1905 segment:

Lower 1876>-0.035 1870<-0.034 1867<-0.025 1879<-0.023 1875<-0.021 1872>-0.019 Higher 1887 0.121 1886 0.056

1925 to 1974 segment:

Lower 1959<-0.044 1927<-0.035 1966>-0.031 1935>-0.021 1971<-0.020 1932<-0.016 Higher 1948 0.051 1958 0.037

1950 to 1999 segment:

Lower 1981>-0.083 1990<-0.037 1982>-0.027 1966>-0.024 1971<-0.017 1984>-0.014 Higher 1958 0.031 1996 0.027

1963 to 2012 segment:

Lower 1981>-0.084 1990<-0.042 1982>-0.031 1966>-0.028 1984>-0.016 1971<-0.015 Higher 1996 0.039 2012 0.037

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Di07p22 1856 to 2012 157 years Series 61

[A] Segment High -10 -9 -8 -7 -6 -5 -4 -3 -2 -1 0 +1 +2 +3 +4 +5 +6 +7 +8 +9 +10

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1856 1905 10 -.03 .04 -.01 -.02 .10 -.05 .23 -.13 .12 -.12 .18|-.07 .10 -.16 .10 .01 .18 -.12 -.13 -.21 .30\*

[B] Entire series, effect on correlation ( 0.483) is:

Lower 1870<-0.017 1989>-0.016 2002<-0.015 1856<-0.014 1895>-0.012 1867<-0.011 Higher 1956 0.030 2003 0.024

1856 to 1905 segment:

Lower 1870<-0.066 1856<-0.054 1895>-0.042 1867<-0.042 1889<-0.024 1892<-0.019 Higher 1886 0.078 1882 0.047

====================================================================================================================================

Di07p31 1940 to 2012 73 years Series 62

[B] Entire series, effect on correlation ( 0.521) is:

Lower 1943<-0.041 2003>-0.037 1967<-0.022 1948>-0.018 1953<-0.017 1989>-0.014 Higher 1981 0.033 1996 0.030

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Di07p32 1940 to 2012 73 years Series 63

[B] Entire series, effect on correlation ( 0.426) is:

Lower 2003>-0.042 1967<-0.027 1994<-0.025 2004>-0.013 1989>-0.012 1947<-0.011 Higher 1956 0.026 1981 0.021

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Di07p41 1892 to 2012 121 years Series 64

[B] Entire series, effect on correlation ( 0.362) is:

Lower 1970<-0.026 1940>-0.020 1981>-0.016 1946<-0.012 1912<-0.011 1892<-0.011 Higher 1935 0.025 1948 0.017

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Di07p42 1954 to 2012 59 years Series 65

[B] Entire series, effect on correlation ( 0.491) is:

Lower 1970<-0.040 1981>-0.027 1989>-0.021 1979>-0.020 1966>-0.014 1996>-0.012 Higher 2003 0.049 1962 0.022

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Di07p51 1930 to 2012 83 years Series 66

[A] Segment High -10 -9 -8 -7 -6 -5 -4 -3 -2 -1 0 +1 +2 +3 +4 +5 +6 +7 +8 +9 +10

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1963 2012 -5 -.07 -.05 .14 -.14 -.07 .36\* .03 .08 .15 -.23 .29| - - - - - - - - - -

[B] Entire series, effect on correlation ( 0.351) is:

Lower 2008<-0.071 2003>-0.024 1988<-0.016 1940>-0.013 1947<-0.012 1970<-0.011 Higher 1948 0.018 1962 0.016

1963 to 2012 segment:

Lower 2008<-0.095 2003>-0.040 1988<-0.021 2004>-0.018 1970<-0.014 1989>-0.011 Higher 2001 0.026 1980 0.024

====================================================================================================================================

Di07p52 1930 to 2012 83 years Series 67

[A] Segment High -10 -9 -8 -7 -6 -5 -4 -3 -2 -1 0 +1 +2 +3 +4 +5 +6 +7 +8 +9 +10

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1930 1979 0 -.07 -.26 .16 -.11 .23 -.29 .22 .02 .09 -.18 .31\*-.03 .22 -.14 -.03 -.18 .17 -.10 -.11 .08 .10

[B] Entire series, effect on correlation ( 0.358) is:

Lower 1946<-0.038 1986<-0.019 1989>-0.016 1948>-0.015 1964<-0.015 1935>-0.011 Higher 1981 0.022 1971 0.016

1930 to 1979 segment:

Lower 1946<-0.062 1948>-0.032 1964<-0.023 1935>-0.023 1941<-0.021 1977>-0.012 Higher 1956 0.032 1971 0.032

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Di09p22 1956 to 2012 57 years Series 68

[B] Entire series, effect on correlation ( 0.510) is:

Lower 1960>-0.024 1989>-0.022 1966>-0.022 1957<-0.021 1958<-0.020 1962>-0.020 Higher 1981 0.075 1996 0.055

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Di09p21 1956 to 2012 57 years Series 69

[B] Entire series, effect on correlation ( 0.453) is:

Lower 1970<-0.086 1957<-0.030 1962>-0.028 1960>-0.020 1989>-0.019 1958<-0.017 Higher 2003 0.123 1981 0.026

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Di09p31 1920 to 2012 93 years Series 70

[B] Entire series, effect on correlation ( 0.564) is:

Lower 1924<-0.027 1989>-0.023 1935>-0.021 1947<-0.015 1922>-0.013 1953<-0.013 Higher 2003 0.111 1981 0.036

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Di09p32 1920 to 2012 93 years Series 71

[B] Entire series, effect on correlation ( 0.452) is:

Lower 2003>-0.051 1935>-0.026 2004>-0.017 1978<-0.016 1940>-0.013 1934<-0.012 Higher 1996 0.048 1948 0.040

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Di09p41 1930 to 2012 83 years Series 72

[A] Segment High -10 -9 -8 -7 -6 -5 -4 -3 -2 -1 0 +1 +2 +3 +4 +5 +6 +7 +8 +9 +10

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1930 1979 -8 -.05 -.13 .42\*-.07 .02 -.02 .16 .10 -.03 -.12 .40|-.23 .05 -.07 -.09 .04 .04 -.24 .14 .05 -.30

1950 1999 9 .21 .04 .15 -.02 -.10 .11 -.03 -.14 -.08 -.34 .25|-.33 .26 .07 -.16 .08 .08 -.12 -.11 .34\* .06

[B] Entire series, effect on correlation ( 0.362) is:

Lower 1935>-0.046 1996>-0.031 1956>-0.030 1991<-0.018 1962>-0.013 1990<-0.013 Higher 1948 0.075 2010 0.014

1930 to 1979 segment:

Lower 1935>-0.102 1956>-0.072 1962>-0.032 1953<-0.012 1970<-0.011 1947<-0.010 Higher 1948 0.171 1958 0.026

1950 to 1999 segment:

Lower 1996>-0.052 1956>-0.050 1991<-0.031 1990<-0.024 1962>-0.021 1982>-0.018 Higher 1981 0.030 1994 0.030

[E] Outliers 1 3.0 SD above or -4.5 SD below mean for year

1935 +3.6 SD

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Di09p42 1930 to 2012 83 years Series 73

[B] Entire series, effect on correlation ( 0.495) is:

Lower 1935>-0.043 1968<-0.016 2003>-0.015 2011>-0.012 1966>-0.011 1982>-0.010 Higher 1948 0.051 1940 0.020

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Di09p51 1957 to 2012 56 years Series 74

[B] Entire series, effect on correlation ( 0.438) is:

Lower 1972<-0.037 1970<-0.036 1957<-0.026 1987<-0.026 1968>-0.013 2011>-0.011 Higher 1981 0.071 1996 0.029

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Di09p52 1957 to 2012 56 years Series 75

[B] Entire series, effect on correlation ( 0.406) is:

Lower 1957<-0.113 1960>-0.026 1988<-0.024 1990<-0.022 1989>-0.018 2012<-0.016 Higher 1981 0.126 1996 0.046

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Di11p11 1863 to 2012 150 years Series 76

[A] Segment High -10 -9 -8 -7 -6 -5 -4 -3 -2 -1 0 +1 +2 +3 +4 +5 +6 +7 +8 +9 +10

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1863 1912 5 -.13 .22 -.10 -.11 .16 -.05 -.14 .02 -.06 -.03 .01| .06 .05 .08 -.12 .25\*-.13 .04 -.26 .13 .02

1875 1924 5 -.20 .20 .00 .00 .09 -.18 .04 -.22 -.21 .15 .13|-.01 -.01 .14 -.05 .22\*-.18 .17 -.20 .11 -.03

[B] Entire series, effect on correlation ( 0.396) is:

Lower 1887>-0.046 1935>-0.019 1888<-0.012 1869>-0.012 2010<-0.010 1874<-0.010 Higher 2003 0.022 1996 0.021

1863 to 1912 segment:

Lower 1887>-0.157 1869>-0.039 1888<-0.033 1874<-0.029 1878<-0.016 1901>-0.015 Higher 1870 0.085 1886 0.044

1875 to 1924 segment:

Lower 1887>-0.170 1888<-0.040 1913<-0.031 1878<-0.019 1901>-0.018 1890<-0.016 Higher 1924 0.052 1918 0.045

[E] Outliers 1 3.0 SD above or -4.5 SD below mean for year

1887 +3.4 SD

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Di11p12 1863 to 2012 150 years Series 77

[B] Entire series, effect on correlation ( 0.481) is:

Lower 1960<-0.023 2003>-0.021 1876>-0.020 1935>-0.014 1970<-0.013 1913<-0.010 Higher 1948 0.020 1996 0.015

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Di11p21 1938 to 2012 75 years Series 78

[B] Entire series, effect on correlation ( 0.551) is:

Lower 1940>-0.069 2010<-0.039 2004>-0.028 1949<-0.022 1980<-0.013 1984>-0.008 Higher 2003 0.085 1981 0.036

[E] Outliers 1 3.0 SD above or -4.5 SD below mean for year

1940 +4.1 SD

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Di11p22 1938 to 2012 75 years Series 79

[B] Entire series, effect on correlation ( 0.502) is:

Lower 1956>-0.042 1955<-0.038 1958<-0.035 1940>-0.026 1993<-0.012 1978<-0.012 Higher 2003 0.097 1981 0.045

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Di11p31 1798 to 2012 215 years Series 80

[A] Segment High -10 -9 -8 -7 -6 -5 -4 -3 -2 -1 0 +1 +2 +3 +4 +5 +6 +7 +8 +9 +10

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1850 1899 -8 .10 .17 .26\*-.27 .25 -.06 .25 .04 -.01 -.17 .26|-.05 .01 -.20 -.01 .07 -.10 -.06 -.03 .05 .04

[B] Entire series, effect on correlation ( 0.479) is:

Lower 2011>-0.009 1887>-0.009 1802>-0.007 1847>-0.007 1886<-0.007 1981>-0.007 Higher 1844 0.016 1807 0.011

1850 to 1899 segment:

Lower 1887>-0.059 1886<-0.049 1893>-0.044 1874<-0.042 1869>-0.032 1857<-0.014 Higher 1892 0.054 1870 0.052

[E] Outliers 1 3.0 SD above or -4.5 SD below mean for year

1918 -4.6 SD

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Di11p32 1806 to 2012 207 years Series 81

[A] Segment High -10 -9 -8 -7 -6 -5 -4 -3 -2 -1 0 +1 +2 +3 +4 +5 +6 +7 +8 +9 +10

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1850 1899 0 .21 -.22 .20 -.15 .09 -.06 .09 -.24 -.02 -.18 .29\*-.11 -.18 -.18 .13 -.05 .18 .04 -.11 -.07 .09

[B] Entire series, effect on correlation ( 0.480) is:

Lower 1981>-0.017 1857<-0.014 1948>-0.010 1847>-0.009 1960<-0.008 1886<-0.007 Higher 1844 0.019 2003 0.018

1850 to 1899 segment:

Lower 1857<-0.060 1886<-0.048 1893>-0.029 1882>-0.026 1869>-0.019 1888<-0.013 Higher 1870 0.053 1892 0.042

[E] Outliers 1 3.0 SD above or -4.5 SD below mean for year

1960 -4.7 SD

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Di11p41 1785 to 2012 228 years Series 82

[A] Segment High -10 -9 -8 -7 -6 -5 -4 -3 -2 -1 0 +1 +2 +3 +4 +5 +6 +7 +8 +9 +10

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1850 1899 -6 -.20 .06 .03 -.15 .33\*-.21 .05 -.03 -.05 -.02 .31|-.30 .17 -.01 .02 .10 .04 -.04 .12 .00 -.13

1875 1924 0 -.19 .04 .14 .07 .05 -.28 .10 -.09 -.17 .18 .32\*-.24 .17 -.11 .05 .14 -.19 .14 .15 -.07 .04

[B] Entire series, effect on correlation ( 0.430) is:

Lower 1785>-0.017 1796<-0.016 1911>-0.013 1887>-0.012 1802>-0.010 1790<-0.010 Higher 1807 0.016 1844 0.015

1850 to 1899 segment:

Lower 1887>-0.103 1875<-0.031 1868>-0.029 1853<-0.023 1880<-0.022 1860<-0.021 Higher 1886 0.071 1892 0.053

1875 to 1924 segment:

Lower 1911>-0.069 1887>-0.068 1912<-0.020 1915<-0.019 1923>-0.019 1875<-0.016 Higher 1918 0.054 1886 0.045

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Di11p42 1785 to 2012 228 years Series 83

[A] Segment High -10 -9 -8 -7 -6 -5 -4 -3 -2 -1 0 +1 +2 +3 +4 +5 +6 +7 +8 +9 +10

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1785 1834 6 .12 -.20 -.10 -.06 -.07 -.12 .19 -.34 -.02 -.19 .39| .02 .06 .02 -.15 -.07 .40\*-.03 .16 .08 .05

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1850 1899 4 -.19 -.18 .06 -.19 .17 -.08 -.03 -.21 -.03 .00 .21|-.23 -.15 .18 .22\*-.01 .09 .02 -.07 .05 .14

[B] Entire series, effect on correlation ( 0.443) is:

Lower 1789<-0.022 1802>-0.014 1911>-0.011 1882>-0.010 1785>-0.008 1803<-0.007 Higher 1844 0.018 1796 0.014

1785 to 1834 segment:

Lower 1789<-0.090 1802>-0.049 1803<-0.028 1785>-0.028 1824>-0.012 1799>-0.011 Higher 1796 0.065 1807 0.052

1850 to 1899 segment:

Lower 1882>-0.066 1888<-0.026 1852>-0.023 1868>-0.020 1851>-0.020 1850<-0.018 Higher 1886 0.075 1870 0.063

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Di11p52 1772 to 2012 241 years Series 84

[A] Segment High -10 -9 -8 -7 -6 -5 -4 -3 -2 -1 0 +1 +2 +3 +4 +5 +6 +7 +8 +9 +10

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1772 1821 -7 -.08 -.17 -.02 .35\*-.14 -.02 .01 .21 -.04 .27 .20| .11 -.25 .00 -.03 .04 -.05 -.01 -.11 -.12 -.08

1775 1824 -1 -.07 -.18 -.02 .32 -.12 .01 .00 .22 -.09 .34\* .19| .12 -.25 .00 -.04 .05 -.09 .02 -.14 -.12 -.08

- - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -

1850 1899 0 .15 -.02 .25 -.09 -.04 -.01 .24 -.22 .15 -.44 .28\*-.37 -.21 .05 .14 -.13 .07 -.11 .19 -.01 .05

[B] Entire series, effect on correlation ( 0.434) is:

Lower 1796>-0.033 1777>-0.021 1819>-0.010 1791<-0.009 1849>-0.009 1893>-0.007 Higher 2003 0.017 1981 0.015

1772 to 1821 segment:

Lower 1796>-0.077 1777>-0.051 1819>-0.023 1791<-0.023 1818>-0.016 1781>-0.015 Higher 1807 0.051 1778 0.045

1775 to 1824 segment:

Lower 1796>-0.079 1777>-0.051 1819>-0.024 1791<-0.024 1818>-0.016 1781>-0.015 Higher 1807 0.054 1778 0.051

1850 to 1899 segment:

Lower 1893>-0.062 1882>-0.047 1861<-0.047 1889<-0.025 1886<-0.020 1859<-0.019 Higher 1887 0.092 1870 0.055

[C] Year-to-year changes diverging by over 4.0 std deviations:

1777 1778 -4.1 SD

[E] Outliers 1 3.0 SD above or -4.5 SD below mean for year

1777 +3.8 SD

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Ja08p11 1954 to 2012 59 years Series 85

[B] Entire series, effect on correlation ( 0.372) is:

Lower 1955<-0.070 1956>-0.024 2012<-0.019 1981>-0.018 1975<-0.015 1988<-0.014 Higher 2003 0.078 1962 0.024

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Ja08p12 1954 to 2012 59 years Series 86

[B] Entire series, effect on correlation ( 0.477) is:

Lower 1966<-0.049 1955<-0.036 1962>-0.032 2012<-0.019 2000>-0.011 1975<-0.010 Higher 1981 0.038 1996 0.031

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Ja08p22 1958 to 2012 55 years Series 87

[B] Entire series, effect on correlation ( 0.666) is:

Lower 2010<-0.036 1974>-0.023 2001<-0.021 1967<-0.014 1984>-0.012 2009>-0.009 Higher 2003 0.068 1996 0.039

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Ja08p31 1900 to 2012 113 years Series 88

[B] Entire series, effect on correlation ( 0.480) is:

Lower 1900<-0.037 1917>-0.022 1968<-0.017 1921<-0.011 1981>-0.011 1903<-0.010 Higher 1956 0.035 2003 0.029

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Ja08p32 1900 to 2012 113 years Series 89

[A] Segment High -10 -9 -8 -7 -6 -5 -4 -3 -2 -1 0 +1 +2 +3 +4 +5 +6 +7 +8 +9 +10

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1900 1949 0 .13 -.01 .08 -.23 -.03 .05 .02 -.13 .10 -.15 .30\*-.17 .07 .05 .09 -.34 .24 -.03 .17 -.06 -.28

[B] Entire series, effect on correlation ( 0.434) is:

Lower 1903<-0.027 1902>-0.017 1916<-0.016 1959>-0.012 1917>-0.012 1966>-0.012 Higher 1948 0.015 2004 0.013

1900 to 1949 segment:

Lower 1903<-0.063 1916<-0.039 1902>-0.037 1917>-0.029 1921<-0.023 1918>-0.022 Higher 1911 0.073 1948 0.051

[E] Outliers 1 3.0 SD above or -4.5 SD below mean for year

1930 +3.2 SD

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Ja08p41 1947 to 2012 66 years Series 90

[B] Entire series, effect on correlation ( 0.491) is:

Lower 1949<-0.081 1994>-0.017 1977<-0.014 1991<-0.013 2007<-0.013 2011>-0.011 Higher 1981 0.068 1962 0.018

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Ja08p42 1947 to 2012 66 years Series 91

[A] Segment High -10 -9 -8 -7 -6 -5 -4 -3 -2 -1 0 +1 +2 +3 +4 +5 +6 +7 +8 +9 +10

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1947 1996 0 .09 .13 .09 -.22 .11 -.08 .03 .04 -.07 .28 .29\*-.29 .00 -.13 .24 -.01 .04 .08 .01 -.29 -.13

[B] Entire series, effect on correlation ( 0.369) is:

Lower 1949<-0.089 1996>-0.020 1989>-0.020 1981>-0.017 1994>-0.015 1975<-0.014 Higher 2003 0.051 1956 0.026

1947 to 1996 segment:

Lower 1949<-0.110 1996>-0.025 1989>-0.025 1981>-0.020 1975<-0.018 1994>-0.018 Higher 1956 0.040 1962 0.026

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Ja09p11 1921 to 2012 92 years Series 92

[B] Entire series, effect on correlation ( 0.660) is:

Lower 1930<-0.037 1962>-0.013 2004>-0.012 1957<-0.011 1947<-0.010 1922>-0.009 Higher 1948 0.027 1996 0.026

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Ja09p12 1921 to 2012 92 years Series 93

[B] Entire series, effect on correlation ( 0.568) is:

Lower 1990<-0.018 1934<-0.016 1942>-0.011 1943>-0.011 1939>-0.010 1994>-0.010 Higher 1956 0.029 1981 0.028

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Ja09p21 1923 to 2012 90 years Series 94

[B] Entire series, effect on correlation ( 0.585) is:

Lower 1958<-0.020 1940>-0.019 1949<-0.014 1956>-0.011 1928<-0.010 1947<-0.009 Higher 1981 0.051 1948 0.033

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Ja09p22 1923 to 2012 90 years Series 95

[B] Entire series, effect on correlation ( 0.577) is:

Lower 1924<-0.032 2003>-0.028 1986<-0.016 1960>-0.014 1947<-0.013 1961<-0.012 Higher 1948 0.038 1981 0.024

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Ja09p31 1930 to 2012 83 years Series 96

[A] Segment High -10 -9 -8 -7 -6 -5 -4 -3 -2 -1 0 +1 +2 +3 +4 +5 +6 +7 +8 +9 +10

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1930 1979 0 .18 -.26 .16 .03 .08 -.04 .30 -.20 .00 -.11 .31\*-.27 .04 -.11 .23 -.23 .21 -.07 -.06 .14 .10

[B] Entire series, effect on correlation ( 0.557) is:

Lower 1935>-0.035 1948>-0.020 1946<-0.014 1944<-0.014 1981>-0.011 1993<-0.011 Higher 2003 0.124 1987 0.012

1930 to 1979 segment:

Lower 1935>-0.072 1948>-0.032 1946<-0.022 1944<-0.020 1959>-0.015 1931<-0.014 Higher 1949 0.040 1958 0.030

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Ja09p32 1930 to 2012 83 years Series 97

[B] Entire series, effect on correlation ( 0.633) is:

Lower 1981>-0.040 1932<-0.024 1941<-0.014 1963<-0.013 1943>-0.012 1982<-0.010 Higher 2003 0.066 1996 0.019

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Ja09p41 1918 to 2012 95 years Series 98

[A] Segment High -10 -9 -8 -7 -6 -5 -4 -3 -2 -1 0 +1 +2 +3 +4 +5 +6 +7 +8 +9 +10

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1918 1967 4 .15 -.05 .11 -.17 .19 -.11 .19 .06 -.10 -.12 .16|-.17 -.14 -.28 .25\* .00 -.01 -.09 .07 -.10 .18

1925 1974 0 .11 .02 .15 -.17 .18 -.12 .07 -.06 -.10 -.08 .28\*-.17 -.18 -.18 .18 .01 -.03 .00 .11 -.05 .22

[B] Entire series, effect on correlation ( 0.452) is:

Lower 1921<-0.033 1948>-0.031 1940>-0.018 1937>-0.017 1960>-0.015 1918>-0.014 Higher 2003 0.158 1956 0.024

1918 to 1967 segment:

Lower 1921<-0.068 1948>-0.055 1940>-0.032 1960>-0.030 1918>-0.028 1957<-0.024 Higher 1956 0.105 1962 0.040

1925 to 1974 segment:

Lower 1948>-0.066 1940>-0.037 1937>-0.035 1960>-0.034 1957<-0.032 1930<-0.026 Higher 1956 0.100 1962 0.039

[E] Outliers 1 3.0 SD above or -4.5 SD below mean for year

1937 +3.0 SD

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Ja09p42 1918 to 2012 95 years Series 99

[B] Entire series, effect on correlation ( 0.447) is:

Lower 1924<-0.033 1991<-0.021 1960>-0.017 1971<-0.015 1988<-0.013 2010<-0.012 Higher 2003 0.053 1956 0.048

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Ja09p51 1937 to 2012 76 years Series 100

[B] Entire series, effect on correlation ( 0.534) is:

Lower 2012<-0.029 2005<-0.029 2003>-0.019 2004>-0.017 1949<-0.015 1956>-0.009 Higher 1981 0.040 1948 0.035

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Ja09p52 1936 to 2012 77 years Series 101

[B] Entire series, effect on correlation ( 0.456) is:

Lower 1941<-0.035 1996>-0.031 1960>-0.019 2010<-0.017 2001<-0.016 1994>-0.013 Higher 1981 0.089 1940 0.030

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Ja10p11 1921 to 2012 92 years Series 102

[B] Entire series, effect on correlation ( 0.574) is:

Lower 1926<-0.034 1971<-0.015 1966>-0.014 1994>-0.013 1958<-0.012 1990<-0.011 Higher 2003 0.097 1948 0.031

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Ja10p12 1921 to 2012 92 years Series 103

[B] Entire series, effect on correlation ( 0.486) is:

Lower 1923<-0.060 1948>-0.025 1990<-0.020 1939>-0.012 1926<-0.012 1961<-0.010 Higher 2003 0.034 1981 0.027

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Ki09p11 1958 to 2012 55 years Series 104

[B] Entire series, effect on correlation ( 0.628) is:

Lower 1958<-0.030 1960>-0.026 1996>-0.020 1966>-0.013 2011>-0.012 1987<-0.010 Higher 1981 0.069 2003 0.068

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Ki09p12 1958 to 2012 55 years Series 105

[B] Entire series, effect on correlation ( 0.659) is:

Lower 1958<-0.026 1982>-0.025 1984>-0.019 1965>-0.015 1993<-0.012 1960>-0.010 Higher 2003 0.153 1996 0.016

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Ki09p21 1941 to 2012 72 years Series 106

[B] Entire series, effect on correlation ( 0.511) is:

Lower 1941<-0.039 1996>-0.022 1975<-0.020 1984>-0.012 1943>-0.010 1974>-0.009 Higher 1948 0.057 1981 0.029

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Ki09p22 1941 to 2012 72 years Series 107

[B] Entire series, effect on correlation ( 0.592) is:

Lower 1941<-0.041 2003>-0.026 1942>-0.022 2007<-0.011 1978<-0.011 2011>-0.011 Higher 1948 0.043 1981 0.039

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Ki09p31 1934 to 2012 79 years Series 108

[A] Segment High -10 -9 -8 -7 -6 -5 -4 -3 -2 -1 0 +1 +2 +3 +4 +5 +6 +7 +8 +9 +10

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1934 1983 0 .10 .17 -.01 .14 .04 -.07 .09 -.03 .11 -.12 .26\*-.09 -.29 .12 .03 -.03 -.04 -.03 .05 -.09 -.06

1950 1999 0 .11 -.03 -.10 .07 -.10 -.16 .02 .08 .14 -.12 .32\*-.03 -.15 .18 -.04 .03 .09 -.03 .01 .03 -.14

[B] Entire series, effect on correlation ( 0.499) is:

Lower 1940>-0.034 1969<-0.031 1996>-0.030 1962>-0.022 1982>-0.019 1935>-0.013 Higher 2003 0.174 1987 0.011

1934 to 1983 segment:

Lower 1940>-0.063 1969<-0.054 1962>-0.040 1982>-0.034 1983<-0.019 1935>-0.018 Higher 1948 0.043 1971 0.035

1950 to 1999 segment:

Lower 1996>-0.048 1969<-0.047 1962>-0.041 1982>-0.036 1988<-0.019 1986>-0.018 Higher 1987 0.029 1971 0.027

[E] Outliers 1 3.0 SD above or -4.5 SD below mean for year

2003 -5.3 SD

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Ki09p32 1934 to 2012 79 years Series 109

[A] Segment High -10 -9 -8 -7 -6 -5 -4 -3 -2 -1 0 +1 +2 +3 +4 +5 +6 +7 +8 +9 +10

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1934 1983 0 .01 -.21 .10 .23 -.05 .00 .01 -.04 -.04 -.06 .31\* .01 -.19 .17 -.12 -.18 .15 -.23 -.06 .02 -.02

[B] Entire series, effect on correlation ( 0.514) is:

Lower 1962>-0.027 1963<-0.023 1996>-0.023 1980<-0.020 1983<-0.016 1935>-0.016 Higher 2003 0.124 1981 0.035

1934 to 1983 segment:

Lower 1962>-0.044 1963<-0.037 1980<-0.034 1983<-0.025 1935>-0.024 1982>-0.020 Higher 1981 0.100 1956 0.066

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Ki09p41 1958 to 2012 55 years Series 110

[B] Entire series, effect on correlation ( 0.572) is:

Lower 1958<-0.073 1967<-0.024 1982>-0.021 1960>-0.018 2004>-0.013 1975<-0.011 Higher 2003 0.200 1971 0.016

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Ki09p42 1958 to 2012 55 years Series 111

[B] Entire series, effect on correlation ( 0.650) is:

Lower 1987<-0.026 1967<-0.024 1958<-0.023 1980<-0.014 1989>-0.011 1996>-0.009 Higher 2003 0.163 1981 0.029

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Ki09p51 1897 to 2012 116 years Series 112

[B] Entire series, effect on correlation ( 0.553) is:

Lower 1973<-0.020 1960>-0.017 1940>-0.016 1917>-0.014 2011>-0.013 1984>-0.010 Higher 2003 0.062 1981 0.036

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Ki09p52 1897 to 2012 116 years Series 113

[B] Entire series, effect on correlation ( 0.547) is:

Lower 1906<-0.020 2011>-0.016 1924<-0.016 1925>-0.013 1953<-0.010 1911>-0.010 Higher 1956 0.023 1935 0.017

====================================================================================================================================

Ki10p11 1921 to 2012 92 years Series 114

[B] Entire series, effect on correlation ( 0.593) is:

Lower 1931<-0.037 1960>-0.032 1925>-0.019 1932<-0.015 1982>-0.011 1944>-0.010 Higher 1948 0.036 1935 0.018

[E] Outliers 1 3.0 SD above or -4.5 SD below mean for year

1960 +3.1 SD

====================================================================================================================================

Ki10p12 1921 to 2012 92 years Series 115

[B] Entire series, effect on correlation ( 0.564) is:

Lower 2003>-0.033 1924<-0.019 1925>-0.018 1931<-0.014 1926>-0.013 1963<-0.012 Higher 1981 0.055 1948 0.015

[E] Outliers 1 3.0 SD above or -4.5 SD below mean for year

1981 -5.1 SD

====================================================================================================================================

Ki10p21 1960 to 2012 53 years Series 116

[B] Entire series, effect on correlation ( 0.460) is:

Lower 2010<-0.057 2003>-0.053 1996>-0.027 1992<-0.022 1960>-0.011 1961<-0.010 Higher 1981 0.080 1971 0.015

====================================================================================================================================

Ki10p22 1960 to 2012 53 years Series 117

[B] Entire series, effect on correlation ( 0.463) is:

Lower 1996>-0.035 2012<-0.027 1960>-0.022 1992<-0.019 2003>-0.017 2010<-0.016 Higher 1981 0.061 1961 0.016

====================================================================================================================================

Ki10p31 1956 to 2012 57 years Series 118

[B] Entire series, effect on correlation ( 0.688) is:

Lower 2011>-0.020 1989>-0.018 1994>-0.018 1974>-0.016 2002<-0.012 1959>-0.012 Higher 2003 0.105 1981 0.038

====================================================================================================================================

Ki10p32 1956 to 2012 57 years Series 119

[B] Entire series, effect on correlation ( 0.461) is:

Lower 1958<-0.081 1996>-0.026 2003>-0.025 1960>-0.021 1989>-0.017 2002<-0.014 Higher 1981 0.106 1956 0.029

====================================================================================================================================

Ki10p41 1889 to 2012 124 years Series 120

[B] Entire series, effect on correlation ( 0.512) is:

Lower 1958<-0.017 1955<-0.016 1911>-0.012 1966>-0.008 1948>-0.008 1900<-0.008 Higher 1956 0.029 1981 0.019

====================================================================================================================================

Ki10p42 1889 to 2012 124 years Series 121

[B] Entire series, effect on correlation ( 0.562) is:

Lower 1948>-0.018 1957<-0.017 1892<-0.016 1916<-0.012 1959>-0.010 1936>-0.007 Higher 1956 0.027 1996 0.025

[E] Outliers 1 3.0 SD above or -4.5 SD below mean for year

1940 -4.7 SD

====================================================================================================================================

Ki10p51 1902 to 2012 111 years Series 122

[B] Entire series, effect on correlation ( 0.580) is:

Lower 1940>-0.018 1960>-0.017 1966>-0.012 2007<-0.010 1957<-0.009 1915<-0.009 Higher 1981 0.043 1996 0.029

====================================================================================================================================

Ki10p52 1902 to 2012 111 years Series 123

[B] Entire series, effect on correlation ( 0.502) is:

Lower 1948>-0.015 1982>-0.015 1931<-0.012 1966>-0.010 1950<-0.010 1957<-0.010 Higher 2003 0.038 1956 0.036

====================================================================================================================================

Ki11p11 1841 to 2012 172 years Series 124

[A] Segment High -10 -9 -8 -7 -6 -5 -4 -3 -2 -1 0 +1 +2 +3 +4 +5 +6 +7 +8 +9 +10

--------- ---- --- --- --- --- --- --- --- --- --- --- --- --- --- --- --- --- --- --- --- --- ---

1841 1890 8 .13 -.06 -.08 -.02 .30 .08 -.12 .01 -.03 -.01 .12|-.25 .13 .08 -.26 .08 -.18 -.12 .30\* .12 -.27

1850 1899 8 .13 -.10 -.06 -.05 .26 -.09 .01 .04 -.07 -.03 .12|-.18 .18 -.05 -.22 .16 -.21 -.12 .31\* .10 -.25

[B] Entire series, effect on correlation ( 0.450) is:

Lower 1976<-0.027 1887>-0.016 1851>-0.015 1877>-0.011 1847>-0.010 1874<-0.009 Higher 1996 0.032 1956 0.031

1841 to 1890 segment:

Lower 1887>-0.056 1851>-0.052 1877>-0.039 1874<-0.037 1847>-0.035 1853<-0.017 Higher 1882 0.049 1844 0.049

1850 to 1899 segment:

Lower 1887>-0.077 1851>-0.071 1877>-0.053 1874<-0.039 1866>-0.017 1853<-0.016 Higher 1882 0.062 1876 0.049

[E] Outliers 2 3.0 SD above or -4.5 SD below mean for year

1851 +3.2 SD; 1976 -5.2 SD

====================================================================================================================================

Ki11p12 1841 to 2012 172 years Series 125

[B] Entire series, effect on correlation ( 0.476) is:

Lower 1976<-0.039 1842>-0.010 1909>-0.009 1957<-0.009 1887>-0.006 1913<-0.006 Higher 1956 0.026 2003 0.023

[E] Outliers 1 3.0 SD above or -4.5 SD below mean for year

1976 -5.8 SD

====================================================================================================================================

Ki11p21 1902 to 2012 111 years Series 126

[A] Segment High -10 -9 -8 -7 -6 -5 -4 -3 -2 -1 0 +1 +2 +3 +4 +5 +6 +7 +8 +9 +10

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1902 1951 8 .16 -.01 .15 -.23 -.18 .11 -.08 -.03 .13 .19 .21|-.27 .00 -.06 -.10 .00 .00 -.06 .40\*-.27 -.04

[B] Entire series, effect on correlation ( 0.417) is:

Lower 1963<-0.026 1905>-0.019 1903<-0.018 1912<-0.017 1957<-0.015 1917>-0.015 Higher 2003 0.087 1948 0.052

1902 to 1951 segment:

Lower 1903<-0.039 1905>-0.037 1912<-0.036 1917>-0.035 1909>-0.029 1925>-0.026 Higher 1948 0.237 1940 0.053

[E] Outliers 1 3.0 SD above or -4.5 SD below mean for year

1905 +3.0 SD

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Ki11p22 1902 to 2012 111 years Series 127

[A] Segment High -10 -9 -8 -7 -6 -5 -4 -3 -2 -1 0 +1 +2 +3 +4 +5 +6 +7 +8 +9 +10

--------- ---- --- --- --- --- --- --- --- --- --- --- --- --- --- --- --- --- --- --- --- --- ---

1902 1951 8 .21 -.13 .28 -.09 -.20 .06 -.05 -.02 .08 .09 .24|-.24 .13 -.13 .08 -.03 .15 -.18 .36\*-.20 .01

[B] Entire series, effect on correlation ( 0.384) is:

Lower 1919<-0.037 1903<-0.027 1911>-0.020 1925>-0.019 1981>-0.015 2005>-0.012 Higher 2003 0.112 1948 0.030

1902 to 1951 segment:

Lower 1919<-0.073 1903<-0.064 1911>-0.049 1925>-0.044 1938<-0.018 1905>-0.017 Higher 1948 0.104 1940 0.058

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Ki11p31 1879 to 2012 134 years Series 128

[A] Segment High -10 -9 -8 -7 -6 -5 -4 -3 -2 -1 0 +1 +2 +3 +4 +5 +6 +7 +8 +9 +10

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1879 1928 0 -.11 .12 .13 .16 -.12 .01 -.11 .07 -.23 -.06 .25\* .11 -.06 -.05 .06 -.03 .06 -.22 .07 .05 .18

[B] Entire series, effect on correlation ( 0.450) is:

Lower 1892<-0.018 1956>-0.017 1994>-0.015 1887>-0.014 1911>-0.014 1912<-0.011 Higher 2003 0.036 1948 0.024

1879 to 1928 segment:

Lower 1892<-0.060 1911>-0.046 1887>-0.046 1912<-0.035 1896<-0.022 1908<-0.015 Higher 1918 0.048 1925 0.045

====================================================================================================================================

Ki11p32 1870 to 2012 143 years Series 129

[A] Segment High -10 -9 -8 -7 -6 -5 -4 -3 -2 -1 0 +1 +2 +3 +4 +5 +6 +7 +8 +9 +10

--------- ---- --- --- --- --- --- --- --- --- --- --- --- --- --- --- --- --- --- --- --- --- ---

1870 1919 0 .21 .00 -.07 -.11 .16 -.04 -.03 -.05 -.12 .17 .29\*-.11 .00 -.11 -.09 .08 .06 -.17 -.02 -.06 .04

1875 1924 0 .15 .07 -.05 -.20 .24 -.08 -.10 .00 -.16 .22 .31\*-.18 .06 -.08 -.15 .07 .10 -.16 .00 -.09 .08

[B] Entire series, effect on correlation ( 0.432) is:

Lower 1981>-0.024 1940>-0.012 1909>-0.012 1903<-0.011 1993<-0.010 1945<-0.009 Higher 1948 0.046 2003 0.023

1870 to 1919 segment:

Lower 1909>-0.039 1903<-0.032 1876>-0.026 1912<-0.024 1911>-0.021 1914>-0.021 Higher 1882 0.063 1918 0.046

1875 to 1924 segment:

Lower 1909>-0.037 1903<-0.032 1876>-0.025 1912<-0.024 1892<-0.021 1914>-0.020 Higher 1882 0.056 1918 0.044

[E] Outliers 1 3.0 SD above or -4.5 SD below mean for year

1948 -4.9 SD

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Ki11p41 1841 to 2012 172 years Series 130

[B] Entire series, effect on correlation ( 0.523) is:

Lower 1844>-0.018 1962>-0.015 1893>-0.011 2011>-0.011 1998<-0.009 1994>-0.009 Higher 1948 0.024 2003 0.022

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Ki11p42 1841 to 2012 172 years Series 131

[A] Segment High -10 -9 -8 -7 -6 -5 -4 -3 -2 -1 0 +1 +2 +3 +4 +5 +6 +7 +8 +9 +10

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1841 1890 -8 .05 .20 .37\*-.11 -.04 .22 -.04 .27 -.11 -.04 .22|-.25 -.11 .06 .05 .25 -.15 -.12 -.18 -.11 .24

1850 1899 -8 -.02 .23 .36\*-.01 -.04 -.03 .01 .14 .02 .15 .12|-.33 -.20 .12 .09 .23 -.05 -.09 -.19 -.06 .25

1875 1924 5 -.24 .20 .15 -.14 .10 -.13 .08 .05 -.02 .15 .09|-.35 -.13 .03 .00 .24\* .09 .04 -.10 -.02 .16

1900 1949 8 -.01 -.03 -.23 -.03 -.02 .15 .05 .03 -.07 -.14 .37|-.34 .10 .09 -.10 .03 -.02 -.05 .41\*-.26 .18

[B] Entire series, effect on correlation ( 0.378) is:

Lower 1932<-0.021 1844>-0.020 1893>-0.013 1887>-0.012 1917>-0.012 1962>-0.011 Higher 1956 0.025 1940 0.024

1841 to 1890 segment:

Lower 1844>-0.083 1887>-0.049 1878<-0.023 1881>-0.022 1843>-0.017 1888<-0.015 Higher 1847 0.065 1886 0.041

1850 to 1899 segment:

Lower 1893>-0.061 1887>-0.051 1881>-0.026 1878<-0.022 1888<-0.016 1868>-0.015 Higher 1886 0.054 1877 0.044

1875 to 1924 segment:

Lower 1893>-0.047 1917>-0.039 1887>-0.038 1918>-0.031 1910<-0.028 1881>-0.019 Higher 1911 0.056 1886 0.049

1900 to 1949 segment:

Lower 1932<-0.067 1917>-0.042 1948>-0.032 1918>-0.032 1910<-0.027 1914>-0.016 Higher 1940 0.116 1935 0.059

[E] Outliers 1 3.0 SD above or -4.5 SD below mean for year

1940 -4.7 SD

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Ki11p52 1857 to 2012 156 years Series 132

[A] Segment High -10 -9 -8 -7 -6 -5 -4 -3 -2 -1 0 +1 +2 +3 +4 +5 +6 +7 +8 +9 +10

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1857 1906 0 .01 -.21 .08 .02 -.02 .12 .08 -.19 -.12 -.13 .27\*-.10 -.13 .10 .05 -.16 .15 .09 .18 -.07 .06

[B] Entire series, effect on correlation ( 0.442) is:

Lower 2012<-0.023 1957<-0.020 1962>-0.019 1917>-0.012 1959>-0.009 1914>-0.009 Higher 2003 0.026 1956 0.024

1857 to 1906 segment:

Lower 1874<-0.040 1857>-0.037 1870<-0.033 1892<-0.029 1893>-0.018 1877>-0.018 Higher 1887 0.098 1869 0.028

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Ma08p11 1920 to 2012 93 years Series 133

[A] Segment High -10 -9 -8 -7 -6 -5 -4 -3 -2 -1 0 +1 +2 +3 +4 +5 +6 +7 +8 +9 +10

--------- ---- --- --- --- --- --- --- --- --- --- --- --- --- --- --- --- --- --- --- --- --- ---

1920 1969 1 -.08 -.05 .13 .14 .00 -.01 -.12 .07 .05 -.18 .17| .21\*-.24 -.13 -.07 .16 .16 .11 .00 .05 .08

1925 1974 5 -.05 -.07 .05 .17 .03 -.08 -.10 .14 .05 -.08 .13| .17 -.18 -.23 -.05 .18\* .15 .05 .01 -.05 -.02

[B] Entire series, effect on correlation ( 0.395) is:

Lower 1948>-0.040 1940>-0.033 1999<-0.016 2003>-0.015 1927<-0.014 1962>-0.013 Higher 1981 0.032 1935 0.018

1920 to 1969 segment:

Lower 1948>-0.081 1940>-0.068 1927<-0.026 1962>-0.025 1955<-0.022 1923>-0.017 Higher 1935 0.060 1921 0.028

1925 to 1974 segment:

Lower 1948>-0.081 1940>-0.069 1927<-0.026 1962>-0.025 1972>-0.025 1955<-0.022 Higher 1935 0.066 1971 0.035

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Ma08p12 1920 to 2012 93 years Series 134

[B] Entire series, effect on correlation ( 0.399) is:

Lower 2003>-0.055 1956>-0.021 2001<-0.018 1924<-0.017 1962>-0.016 1999<-0.015 Higher 1935 0.034 1981 0.034

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Ma08p31 1917 to 2012 96 years Series 135

[A] Segment High -10 -9 -8 -7 -6 -5 -4 -3 -2 -1 0 +1 +2 +3 +4 +5 +6 +7 +8 +9 +10

--------- ---- --- --- --- --- --- --- --- --- --- --- --- --- --- --- --- --- --- --- --- --- ---

1963 2012 0 -.06 -.19 .06 .00 .10 .00 -.02 .27 .02 .03 .33\* - - - - - - - - - -

[B] Entire series, effect on correlation ( 0.425) is:

Lower 1981>-0.032 2003>-0.020 1996>-0.016 1999<-0.010 1922<-0.010 1925>-0.009 Higher 1935 0.026 1956 0.024

1963 to 2012 segment:

Lower 1981>-0.057 1999<-0.033 1985<-0.027 1996>-0.020 1987<-0.017 2002<-0.010 Higher 1993 0.028 2012 0.026

[C] Year-to-year changes diverging by over 4.0 std deviations:

1935 1936 4.1 SD

[E] Outliers 1 3.0 SD above or -4.5 SD below mean for year

1935 -5.6 SD

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Ma08p32 1958 to 2012 55 years Series 136

[B] Entire series, effect on correlation ( 0.372) is:

Lower 1999<-0.104 1996>-0.043 1958<-0.036 1981>-0.026 1982>-0.017 1960>-0.015 Higher 2003 0.223 1980 0.015

====================================================================================================================================

Ma08p41 1921 to 2012 92 years Series 137

[A] Segment High -10 -9 -8 -7 -6 -5 -4 -3 -2 -1 0 +1 +2 +3 +4 +5 +6 +7 +8 +9 +10

--------- ---- --- --- --- --- --- --- --- --- --- --- --- --- --- --- --- --- --- --- --- --- ---

1921 1970 6 .09 .06 -.04 .03 -.01 -.15 .23 -.21 .00 -.17 .22| .05 -.04 .03 .12 -.34 .26\*-.05 .11 .16 -.20

1925 1974 -4 .15 -.02 -.07 .08 .02 -.18 .28\*-.24 -.02 -.14 .22| .05 -.03 -.03 .17 -.34 .22 -.06 .09 .19 -.29

[B] Entire series, effect on correlation ( 0.333) is:

Lower 1947<-0.033 1943>-0.022 1940>-0.021 1975<-0.019 2004>-0.018 1944<-0.012 Higher 2003 0.040 1996 0.024

1921 to 1970 segment:

Lower 1947<-0.055 1940>-0.039 1943>-0.035 1935>-0.019 1968>-0.017 1944<-0.016 Higher 1960 0.046 1957 0.040

1925 to 1974 segment:

Lower 1947<-0.056 1940>-0.041 1943>-0.036 1935>-0.021 1968>-0.018 1944<-0.017 Higher 1971 0.046 1960 0.043

[E] Outliers 1 3.0 SD above or -4.5 SD below mean for year

1943 +3.1 SD

====================================================================================================================================

Ma08p42 1921 to 2012 92 years Series 138

[A] Segment High -10 -9 -8 -7 -6 -5 -4 -3 -2 -1 0 +1 +2 +3 +4 +5 +6 +7 +8 +9 +10

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1921 1970 6 -.12 .09 -.10 .11 .19 -.23 -.08 -.05 .24 -.23 .18|-.04 .14 -.07 -.06 -.19 .46\*-.26 .13 .04 .04

1925 1974 6 -.11 -.01 -.11 .12 .20 -.21 -.03 -.08 .20 -.16 .23|-.07 .10 -.08 .00 -.21 .41\*-.24 .16 .00 -.12

- - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -

1963 2012 0 -.09 -.01 -.22 .03 -.02 .24 -.14 .04 -.11 -.05 .27\* - - - - - - - - - -

[B] Entire series, effect on correlation ( 0.226) is:

Lower 2010<-0.027 2004>-0.024 2001<-0.022 1954<-0.017 1999<-0.015 1947<-0.015 Higher 1981 0.063 1971 0.023

1921 to 1970 segment:

Lower 1954<-0.037 1947<-0.032 1948>-0.026 1956>-0.023 1943>-0.023 1940>-0.019 Higher 1957 0.037 1955 0.027

1925 to 1974 segment:

Lower 1954<-0.039 1948>-0.033 1947<-0.033 1956>-0.029 1943>-0.024 1940>-0.023 Higher 1971 0.055 1957 0.036

1963 to 2012 segment:

Lower 2010<-0.049 2004>-0.045 2001<-0.040 1999<-0.027 1978<-0.017 2003>-0.016 Higher 1981 0.110 1971 0.039

[E] Outliers 1 3.0 SD above or -4.5 SD below mean for year

2004 +3.2 SD

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Ma09p11 1927 to 2012 86 years Series 139

[A] Segment High -10 -9 -8 -7 -6 -5 -4 -3 -2 -1 0 +1 +2 +3 +4 +5 +6 +7 +8 +9 +10

--------- ---- --- --- --- --- --- --- --- --- --- --- --- --- --- --- --- --- --- --- --- --- ---

1950 1999 5 -.11 .06 .10 .03 -.04 -.17 .07 -.08 -.12 .04 .13|-.24 .06 -.08 -.08 .22\* .18 .05 .09 -.15 -.12

1963 2012 -8 -.11 .06 .26\*-.05 .03 -.15 -.13 -.19 .00 .10 .25| - - - - - - - - - -

[B] Entire series, effect on correlation ( 0.413) is:

Lower 1981>-0.059 1990<-0.038 1932<-0.015 2002<-0.015 1982>-0.014 1988<-0.011 Higher 1948 0.039 1935 0.033

1950 to 1999 segment:

Lower 1981>-0.109 1990<-0.077 1982>-0.029 1988<-0.022 1968>-0.018 1994>-0.018 Higher 1956 0.047 1960 0.046

1963 to 2012 segment:

Lower 1981>-0.098 1990<-0.070 2002<-0.026 1982>-0.025 1988<-0.019 1968>-0.016 Higher 2003 0.051 2004 0.044

====================================================================================================================================

Ma09p12 1927 to 2012 86 years Series 140

[A] Segment High -10 -9 -8 -7 -6 -5 -4 -3 -2 -1 0 +1 +2 +3 +4 +5 +6 +7 +8 +9 +10

--------- ---- --- --- --- --- --- --- --- --- --- --- --- --- --- --- --- --- --- --- --- --- ---

1927 1976 -4 -.03 -.33 .03 -.04 .00 -.23 .33\* .05 -.06 -.26 .29| .01 .20 .05 .06 -.03 .02 -.11 -.02 .24 -.11

[B] Entire series, effect on correlation ( 0.416) is:

Lower 1933<-0.049 1939<-0.045 1948>-0.020 1947<-0.017 1963<-0.012 1954<-0.011 Higher 1940 0.026 2003 0.021

1927 to 1976 segment:

Lower 1948>-0.039 1939<-0.036 1933<-0.034 1947<-0.023 1963<-0.015 1954<-0.015 Higher 1940 0.057 1955 0.027

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Ma09p21 1919 to 2012 94 years Series 141

[B] Entire series, effect on correlation ( 0.415) is:

Lower 2003>-0.073 1921<-0.048 1935>-0.025 1987<-0.015 1961<-0.013 1922>-0.008 Higher 1956 0.055 2004 0.018

[C] Year-to-year changes diverging by over 4.0 std deviations:

1921 1922 4.3 SD

[E] Outliers 2 3.0 SD above or -4.5 SD below mean for year

1921 -5.0 SD; 2003 +3.3 SD

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Ma09p22 1919 to 2012 94 years Series 142

[B] Entire series, effect on correlation ( 0.436) is:

Lower 2003>-0.038 1935>-0.028 1920<-0.017 1981>-0.014 1921<-0.014 1925>-0.012 Higher 1948 0.056 1996 0.018

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Ma09p31 1901 to 2012 112 years Series 143

[B] Entire series, effect on correlation ( 0.472) is:

Lower 2003>-0.043 1904<-0.035 1996>-0.023 1917>-0.016 1963<-0.011 1918>-0.011 Higher 1948 0.024 1981 0.022

[C] Year-to-year changes diverging by over 4.0 std deviations:

2003 2004 -4.8 SD

[E] Outliers 1 3.0 SD above or -4.5 SD below mean for year

2004 -4.6 SD

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Ma09p32 1901 to 2012 112 years Series 144

[B] Entire series, effect on correlation ( 0.474) is:

Lower 1909>-0.027 2003>-0.022 1908<-0.022 1918>-0.018 1907<-0.016 1917>-0.016 Higher 1981 0.052 1948 0.023

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Ma09p41 1937 to 2012 76 years Series 145

[B] Entire series, effect on correlation ( 0.462) is:

Lower 2003>-0.052 1940>-0.050 1944<-0.024 2007<-0.018 1962>-0.011 1968>-0.011 Higher 1956 0.054 1996 0.019

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Ma09p42 1937 to 2012 76 years Series 146

[A] Segment High -10 -9 -8 -7 -6 -5 -4 -3 -2 -1 0 +1 +2 +3 +4 +5 +6 +7 +8 +9 +10

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1937 1986 0 .03 .03 -.02 -.15 .01 -.06 .15 .05 -.12 -.09 .31\* .18 -.25 .26 .19 -.11 -.11 .04 -.17 .16 -.32

[B] Entire series, effect on correlation ( 0.414) is:

Lower 2003>-0.053 1940>-0.031 1947<-0.028 1939<-0.023 1965<-0.022 1978<-0.022 Higher 1996 0.058 1956 0.019

1937 to 1986 segment:

Lower 1940>-0.052 1947<-0.043 1978<-0.029 1965<-0.029 1939<-0.028 1981>-0.017 Higher 1957 0.037 1956 0.036

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Ma09p51 1834 to 2012 179 years Series 147

[A] Segment High -10 -9 -8 -7 -6 -5 -4 -3 -2 -1 0 +1 +2 +3 +4 +5 +6 +7 +8 +9 +10

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1834 1883 -5 .10 -.08 .10 -.23 .20 .29\*-.11 -.02 -.13 .01 .21| .19 -.36 .08 -.03 .06 .07 -.31 .08 .20 -.01

[B] Entire series, effect on correlation ( 0.427) is:

Lower 1834<-0.027 1981>-0.013 1990<-0.011 1932<-0.011 1982>-0.010 1927<-0.007 Higher 1948 0.036 2003 0.015

1834 to 1883 segment:

Lower 1834<-0.120 1860<-0.024 1877>-0.019 1839>-0.018 1847>-0.015 1842>-0.015 Higher 1870 0.042 1840 0.041

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Ma09p52 1834 to 2012 179 years Series 148

[B] Entire series, effect on correlation ( 0.468) is:

Lower 1843<-0.022 1945<-0.017 2011>-0.011 1956>-0.011 1839>-0.010 1996>-0.009 Higher 1981 0.032 1948 0.020

[E] Outliers 1 3.0 SD above or -4.5 SD below mean for year

1843 -5.3 SD

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Md07p12 1909 to 2012 104 years Series 149

[B] Entire series, effect on correlation ( 0.568) is:

Lower 1959<-0.037 1944<-0.025 1971<-0.018 1910<-0.014 1978<-0.013 1921<-0.012 Higher 2003 0.031 1948 0.021

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Md08p11 1946 to 2012 67 years Series 150

[A] Segment High -10 -9 -8 -7 -6 -5 -4 -3 -2 -1 0 +1 +2 +3 +4 +5 +6 +7 +8 +9 +10

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1946 1995 4 -.11 .05 .04 -.21 -.23 .10 .13 .05 .06 -.23 .38| .00 -.02 -.05 .53\*-.08 -.22 -.01 .05 -.12 .15

1950 1999 4 -.11 .10 .04 -.18 -.24 .11 .13 .00 .02 -.16 .34| .06 -.08 .01 .39\*-.09 -.24 .03 .01 -.11 .13

[B] Entire series, effect on correlation ( 0.366) is:

Lower 2010<-0.036 1977<-0.026 1996>-0.023 1955<-0.020 1960>-0.017 1989>-0.016 Higher 1981 0.037 2004 0.026

1946 to 1995 segment:

Lower 1977<-0.041 1955<-0.033 1960>-0.028 1989>-0.027 1982>-0.015 1966>-0.014 Higher 1981 0.061 1957 0.029

1950 to 1999 segment:

Lower 1977<-0.039 1996>-0.037 1955<-0.034 1960>-0.027 1989>-0.026 1982>-0.014 Higher 1981 0.068 1957 0.032

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Md08p12 1946 to 2012 67 years Series 151

[A] Segment High -10 -9 -8 -7 -6 -5 -4 -3 -2 -1 0 +1 +2 +3 +4 +5 +6 +7 +8 +9 +10

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1950 1999 0 -.11 .13 -.22 .00 -.09 .10 .11 -.04 -.09 -.08 .29\* .15 -.17 .03 .03 -.08 -.09 .02 .09 .16 .17

[B] Entire series, effect on correlation ( 0.367) is:

Lower 1955<-0.057 2003>-0.052 1962>-0.024 1989>-0.018 1971<-0.017 2005>-0.013 Higher 1948 0.048 1956 0.030

1950 to 1999 segment:

Lower 1955<-0.091 1962>-0.039 1989>-0.030 1971<-0.027 1960>-0.020 1959>-0.018 Higher 1956 0.059 1981 0.050

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Md09p11 1899 to 2012 114 years Series 152

[B] Entire series, effect on correlation ( 0.531) is:

Lower 1903<-0.043 1963<-0.022 1962>-0.015 1902>-0.013 1956>-0.012 1955<-0.011 Higher 2003 0.091 1948 0.025

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Md09p12 1899 to 2012 114 years Series 153

[A] Segment High -10 -9 -8 -7 -6 -5 -4 -3 -2 -1 0 +1 +2 +3 +4 +5 +6 +7 +8 +9 +10

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1925 1974 -5 -.31 -.14 -.03 -.09 -.20 .25\* .00 -.03 .01 .01 .24| .06 -.07 .09 .18 -.07 -.04 -.10 .20 .01 -.16

[B] Entire series, effect on correlation ( 0.451) is:

Lower 1961<-0.038 1956>-0.024 1912<-0.020 2001<-0.018 1931<-0.016 1962>-0.013 Higher 2003 0.093 1981 0.044

1925 to 1974 segment:

Lower 1961<-0.091 1956>-0.055 1931<-0.036 1962>-0.029 1941<-0.025 1943>-0.013 Higher 1940 0.108 1958 0.034

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Md09p21 1895 to 2012 118 years Series 154

[A] Segment High -10 -9 -8 -7 -6 -5 -4 -3 -2 -1 0 +1 +2 +3 +4 +5 +6 +7 +8 +9 +10

--------- ---- --- --- --- --- --- --- --- --- --- --- --- --- --- --- --- --- --- --- --- --- ---

1950 1999 0 -.09 -.11 .04 -.01 -.28 .06 -.16 .12 -.09 .00 .24\* .22 -.14 .21 -.11 .06 .05 .09 -.02 .02 -.22

[B] Entire series, effect on correlation ( 0.440) is:

Lower 1956>-0.027 1962>-0.025 1947<-0.022 1996>-0.020 1959<-0.018 1955<-0.017 Higher 1948 0.033 2003 0.032

1950 to 1999 segment:

Lower 1962>-0.055 1956>-0.052 1955<-0.037 1996>-0.035 1961<-0.034 1980<-0.015 Higher 1971 0.042 1987 0.035

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Md09p22 1895 to 2012 118 years Series 155

[A] Segment High -10 -9 -8 -7 -6 -5 -4 -3 -2 -1 0 +1 +2 +3 +4 +5 +6 +7 +8 +9 +10

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1950 1999 0 -.04 -.14 .01 .00 -.22 .22 -.10 .16 -.13 -.13 .28\* .13 .09 .11 -.22 -.09 -.18 .03 -.14 .20 .00

[B] Entire series, effect on correlation ( 0.377) is:

Lower 1896<-0.051 1956>-0.038 1955<-0.017 1962>-0.014 2002<-0.013 1974>-0.012 Higher 1948 0.043 1935 0.024

1950 to 1999 segment:

Lower 1956>-0.101 1955<-0.048 1962>-0.035 1974>-0.032 1951<-0.027 1971<-0.020 Higher 1958 0.030 1957 0.028

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Md09p31 1900 to 2012 113 years Series 156

[B] Entire series, effect on correlation ( 0.518) is:

Lower 1902<-0.034 1918>-0.024 1972>-0.022 1940>-0.013 1931<-0.012 1910<-0.010 Higher 1981 0.036 1948 0.019

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Md09p32 1900 to 2012 113 years Series 157

[A] Segment High -10 -9 -8 -7 -6 -5 -4 -3 -2 -1 0 +1 +2 +3 +4 +5 +6 +7 +8 +9 +10

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1900 1949 9 -.22 -.01 -.02 .00 -.01 .00 -.08 .09 .03 -.14 .17|-.02 .10 -.18 -.10 .09 .03 .03 -.12 .24\*-.25

[B] Entire series, effect on correlation ( 0.371) is:

Lower 1900<-0.141 1918>-0.020 1940>-0.018 1937<-0.010 1956>-0.009 1901>-0.009 Higher 1981 0.022 1948 0.022

1900 to 1949 segment:

Lower 1900<-0.198 1918>-0.040 1940>-0.040 1901>-0.014 1921<-0.012 1910<-0.008 Higher 1948 0.057 1935 0.042

[C] Year-to-year changes diverging by over 4.0 std deviations:

1900 1901 6.0 SD

[E] Outliers 2 3.0 SD above or -4.5 SD below mean for year

1900 -6.8 SD; 1937 -5.0 SD

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Md09p41 1896 to 2012 117 years Series 158

[B] Entire series, effect on correlation ( 0.504) is:

Lower 2007<-0.025 1956>-0.023 1946<-0.020 1980<-0.014 1994>-0.013 2012<-0.012 Higher 2003 0.090 1948 0.029

[D] 1 Absent rings: Year Master N series Absent

1948 -1.590 210 1

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Md09p42 1896 to 2012 117 years Series 159

[A] Segment High -10 -9 -8 -7 -6 -5 -4 -3 -2 -1 0 +1 +2 +3 +4 +5 +6 +7 +8 +9 +10

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1950 1999 7 -.13 -.22 .09 .00 -.10 -.06 -.09 .06 -.22 -.12 .23| .08 .11 .04 .05 .04 -.15 .25\* .16 .24 -.08

[B] Entire series, effect on correlation ( 0.417) is:

Lower 1980<-0.028 1962>-0.018 1956>-0.017 1935>-0.017 1981>-0.014 1896<-0.012 Higher 1948 0.039 2003 0.028

1950 to 1999 segment:

Lower 1980<-0.057 1962>-0.039 1956>-0.032 1951<-0.022 1970<-0.021 1984>-0.021 Higher 1996 0.043 1958 0.041

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Md10p11 1874 to 2012 139 years Series 160

[B] Entire series, effect on correlation ( 0.603) is:

Lower 1956>-0.016 1941<-0.015 1886<-0.008 1881>-0.008 1997>-0.007 1960>-0.007 Higher 1981 0.025 1996 0.022

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Md10p12 1874 to 2012 139 years Series 161

[B] Entire series, effect on correlation ( 0.520) is:

Lower 1904<-0.020 2004>-0.020 1901<-0.019 1971<-0.014 1895>-0.011 1980<-0.008 Higher 2003 0.079 1996 0.017

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Md10p21 1886 to 2012 127 years Series 162

[B] Entire series, effect on correlation ( 0.467) is:

Lower 1953<-0.020 1918>-0.018 2001<-0.014 1960>-0.012 2004>-0.011 1989>-0.010 Higher 2003 0.118 1981 0.015

[C] Year-to-year changes diverging by over 4.0 std deviations:

2003 2004 4.0 SD

[E] Outliers 1 3.0 SD above or -4.5 SD below mean for year

2003 -5.5 SD

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Md10p22 1886 to 2012 127 years Series 163

[A] Segment High -10 -9 -8 -7 -6 -5 -4 -3 -2 -1 0 +1 +2 +3 +4 +5 +6 +7 +8 +9 +10

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1886 1935 -2 -.07 -.07 .05 .10 -.06 .10 .01 -.22 .29\*-.30 .23|-.38 .21 -.10 .16 -.13 .18 .03 -.17 .01 -.03

1900 1949 0 -.08 -.08 .06 -.12 -.02 .16 -.08 .02 .03 -.16 .31\*-.22 .12 -.03 .01 .00 -.04 .01 -.02 .02 -.09

[B] Entire series, effect on correlation ( 0.435) is:

Lower 2004>-0.017 1918>-0.015 1916<-0.014 1889<-0.014 1901>-0.013 1903<-0.012 Higher 1948 0.035 1996 0.032

1886 to 1935 segment:

Lower 1918>-0.045 1916<-0.043 1903<-0.037 1901>-0.035 1889<-0.035 1900<-0.019 Higher 1911 0.045 1886 0.033

1900 to 1949 segment:

Lower 1916<-0.043 1918>-0.043 1903<-0.036 1901>-0.033 1949<-0.025 1938<-0.020 Higher 1948 0.162 1911 0.034

[E] Outliers 1 3.0 SD above or -4.5 SD below mean for year

1901 +3.1 SD

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Md10p31 1834 to 2012 179 years Series 164

[A] Segment High -10 -9 -8 -7 -6 -5 -4 -3 -2 -1 0 +1 +2 +3 +4 +5 +6 +7 +8 +9 +10

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1834 1883 0 -.15 -.25 -.05 -.09 .09 .09 .03 .12 -.08 -.02 .29\* .03 .17 -.11 .02 .12 -.17 -.01 .17 -.24 .09

1850 1899 5 -.21 -.09 -.11 -.07 .05 -.24 .06 .04 -.03 .14 .17| .07 -.06 -.10 .04 .28\*-.22 .03 .00 -.19 .18

[B] Entire series, effect on correlation ( 0.426) is:

Lower 1940>-0.040 1844>-0.012 1887>-0.011 1838>-0.010 1918>-0.009 1893>-0.009 Higher 1996 0.024 1948 0.021

1834 to 1883 segment:

Lower 1844>-0.060 1838>-0.042 1852>-0.034 1876>-0.029 1836<-0.022 1880<-0.020 Higher 1849 0.042 1847 0.038

1850 to 1899 segment:

Lower 1887>-0.050 1893>-0.044 1852>-0.038 1886<-0.032 1896<-0.032 1876>-0.029 Higher 1869 0.047 1870 0.044

[E] Outliers 2 3.0 SD above or -4.5 SD below mean for year

1909 -4.5 SD; 1940 +4.1 SD

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Md10p32 1834 to 2012 179 years Series 165

[A] Segment High -10 -9 -8 -7 -6 -5 -4 -3 -2 -1 0 +1 +2 +3 +4 +5 +6 +7 +8 +9 +10

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1834 1883 -8 -.13 -.18 .26\*-.27 .03 .12 .23 -.01 -.27 .10 .22|-.01 .20 -.35 -.03 .19 -.11 .14 -.12 -.23 .16

1850 1899 0 -.05 -.28 .18 -.33 .20 -.15 .28 -.20 .00 .02 .28\*-.08 .01 -.20 -.02 .21 -.09 .01 -.03 -.11 .09

[B] Entire series, effect on correlation ( 0.479) is:

Lower 1844>-0.012 1855<-0.011 1981>-0.011 1838>-0.009 1887>-0.009 1886<-0.008 Higher 1996 0.016 1935 0.016

1834 to 1883 segment:

Lower 1844>-0.045 1855<-0.037 1838>-0.036 1870<-0.033 1836<-0.028 1851>-0.017 Higher 1847 0.062 1882 0.028

1850 to 1899 segment:

Lower 1886<-0.047 1855<-0.046 1870<-0.043 1887>-0.041 1851>-0.021 1859<-0.015 Higher 1892 0.035 1882 0.035

====================================================================================================================================

Md10p41 1970 to 2012 43 years Series 166

[B] Entire series, effect on correlation ( 0.756) is:

Lower 1977>-0.020 1972<-0.019 1974>-0.015 1993<-0.012 1979>-0.009 2012<-0.008 Higher 2003 0.088 1981 0.014

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Md10p42 1970 to 2012 43 years Series 167

[B] Entire series, effect on correlation ( 0.508) is:

Lower 1994<-0.059 1981>-0.053 1971<-0.040 1996>-0.026 1974>-0.014 1979>-0.013 Higher 2003 0.108 2001 0.016

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Md10p51 1861 to 2012 152 years Series 168

[B] Entire series, effect on correlation ( 0.583) is:

Lower 1923<-0.015 1893>-0.015 1962>-0.013 1960>-0.013 2007<-0.007 1883<-0.007 Higher 1981 0.030 1948 0.026

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Md10p52 1924 to 2012 89 years Series 169

[B] Entire series, effect on correlation ( 0.579) is:

Lower 1968<-0.036 2009<-0.018 1960>-0.012 2005>-0.010 1939>-0.009 1925>-0.009 Higher 1948 0.020 1996 0.017

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Md12p11 1860 to 2012 153 years Series 170

[A] Segment High -10 -9 -8 -7 -6 -5 -4 -3 -2 -1 0 +1 +2 +3 +4 +5 +6 +7 +8 +9 +10

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1860 1909 2 .11 -.03 .07 -.19 -.03 -.22 .17 .03 .10 -.44 .13| .00 .18\*-.14 .08 .09 .07 -.07 .07 -.11 -.01

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1900 1949 -8 .13 -.23 .46\*-.04 -.10 -.02 -.04 .09 -.07 -.41 .40| .11 -.09 -.10 .09 -.03 -.15 -.25 .11 .07 .14

1925 1974 0 .05 -.17 .29 -.01 .01 -.13 .11 .24 -.03 -.28 .29\*-.07 -.15 -.17 .02 -.02 -.12 -.29 .01 .03 .17

[B] Entire series, effect on correlation ( 0.427) is:

Lower 1951<-0.025 1869>-0.024 1940>-0.018 1911>-0.012 2007<-0.007 1980<-0.006 Higher 1996 0.041 2003 0.025

1860 to 1909 segment:

Lower 1869>-0.115 1882>-0.022 1876>-0.018 1875<-0.016 1880<-0.015 1879<-0.014 Higher 1909 0.064 1887 0.059

1900 to 1949 segment:

Lower 1940>-0.055 1911>-0.036 1930<-0.014 1942>-0.013 1923>-0.013 1937>-0.013 Higher 1917 0.060 1924 0.027

1925 to 1974 segment:

Lower 1951<-0.066 1940>-0.055 1942>-0.014 1962>-0.014 1937>-0.013 1960>-0.011 Higher 1958 0.032 1925 0.027

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Md12p12 1833 to 2012 180 years Series 171

[A] Segment High -10 -9 -8 -7 -6 -5 -4 -3 -2 -1 0 +1 +2 +3 +4 +5 +6 +7 +8 +9 +10

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1833 1882 -3 .08 .01 -.26 .03 .21 -.14 -.14 .27\* .02 -.17 .24| .03 .06 .04 -.03 .25 .08 -.27 -.13 .06 -.16

1850 1899 -2 .07 -.30 .06 .02 .22 -.24 -.12 .09 .25\*-.18 .11| .13 .03 -.01 .06 .18 -.09 -.27 .01 .01 -.24

[B] Entire series, effect on correlation ( 0.506) is:

Lower 1887>-0.025 1869>-0.013 1843>-0.012 1951<-0.011 1952<-0.011 2011>-0.008 Higher 1981 0.033 1996 0.029

1833 to 1882 segment:

Lower 1869>-0.063 1843>-0.054 1879<-0.031 1850<-0.031 1852>-0.029 1862>-0.025 Higher 1844 0.044 1836 0.029

1850 to 1899 segment:

Lower 1887>-0.131 1869>-0.067 1850<-0.031 1852>-0.031 1879<-0.030 1862>-0.025 Higher 1893 0.077 1886 0.045

[E] Outliers 1 3.0 SD above or -4.5 SD below mean for year

1952 -5.1 SD

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Md12p22 1952 to 2012 61 years Series 172

[B] Entire series, effect on correlation ( 0.504) is:

Lower 1994<-0.030 2009<-0.028 1954<-0.026 1995<-0.021 2004>-0.015 1961<-0.014 Higher 1981 0.027 1996 0.021

[D] 3 Absent rings: Year Master N series Absent

1994 -0.156 239 1 >> WARNING: Ring is not usually narrow

1995 0.468 239 1 >> WARNING: Ring is not usually narrow

1996 -1.690 239 1

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Md12p31 1859 to 2012 154 years Series 173

[A] Segment High -10 -9 -8 -7 -6 -5 -4 -3 -2 -1 0 +1 +2 +3 +4 +5 +6 +7 +8 +9 +10

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1925 1974 -6 .03 -.02 -.08 -.08 .27\* .00 -.10 .15 .06 -.14 .19|-.04 -.07 .13 -.08 -.08 .07 .13 .07 -.15 -.15

[B] Entire series, effect on correlation ( 0.434) is:

Lower 1956>-0.027 1870<-0.018 1925>-0.013 1941<-0.011 1935>-0.010 1869<-0.010 Higher 1996 0.023 1887 0.016

1925 to 1974 segment:

Lower 1956>-0.082 1925>-0.040 1941<-0.037 1935>-0.024 1945<-0.021 1972>-0.021 Higher 1948 0.051 1955 0.043

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Md12p32 1859 to 2012 154 years Series 174

[A] Segment High -10 -9 -8 -7 -6 -5 -4 -3 -2 -1 0 +1 +2 +3 +4 +5 +6 +7 +8 +9 +10

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1859 1908 4 .06 -.05 -.18 .19 -.02 -.13 .10 -.08 -.04 .01 .25|-.14 .07 -.06 .26\*-.25 .09 .03 .13 -.27 -.03

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1900 1949 0 -.13 -.20 .27 -.24 -.06 .16 -.01 .12 -.09 -.20 .33\*-.05 -.07 .07 -.09 -.01 .12 -.27 .20 .12 -.08

1925 1974 0 .11 -.32 -.06 .00 .08 -.14 .18 .19 -.07 -.09 .27\*-.07 -.03 .14 .05 -.19 .23 -.14 -.02 -.08 -.04

[B] Entire series, effect on correlation ( 0.423) is:

Lower 1935>-0.040 1861<-0.012 1877>-0.010 1956>-0.010 1882>-0.009 1918>-0.009 Higher 1996 0.026 2003 0.017

1859 to 1908 segment:

Lower 1882>-0.038 1877>-0.036 1861<-0.034 1893>-0.027 1870<-0.027 1906<-0.016 Higher 1869 0.061 1887 0.050

1900 to 1949 segment:

Lower 1935>-0.151 1918>-0.033 1925>-0.030 1930<-0.024 1910<-0.023 1906<-0.021 Higher 1917 0.075 1909 0.070

1925 to 1974 segment:

Lower 1935>-0.151 1925>-0.028 1930<-0.028 1974>-0.023 1956>-0.021 1941<-0.015 Higher 1962 0.051 1948 0.049

[E] Outliers 1 3.0 SD above or -4.5 SD below mean for year

1935 +3.8 SD

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Md12p41 1911 to 2012 102 years Series 175

[A] Segment High -10 -9 -8 -7 -6 -5 -4 -3 -2 -1 0 +1 +2 +3 +4 +5 +6 +7 +8 +9 +10

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1925 1974 0 -.05 .15 -.01 -.33 .12 .15 .02 .15 -.04 .01 .33\*-.27 -.17 .21 .00 -.21 .10 -.09 .14 -.16 -.11

[B] Entire series, effect on correlation ( 0.518) is:

Lower 1999<-0.021 1935>-0.019 1911>-0.018 1992<-0.015 1972>-0.012 1925>-0.011 Higher 2003 0.082 1996 0.029

1925 to 1974 segment:

Lower 1935>-0.041 1961<-0.028 1972>-0.027 1925>-0.025 1938<-0.021 1950>-0.018 Higher 1956 0.125 1940 0.063

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Md12p42 1810 to 2012 203 years Series 176

[B] Entire series, effect on correlation ( 0.516) is:

Lower 1852>-0.012 2003>-0.012 2010<-0.011 1948>-0.008 1938<-0.008 1992<-0.008 Higher 1996 0.020 1981 0.013

[E] Outliers 1 3.0 SD above or -4.5 SD below mean for year

1960 -4.7 SD

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Md12p51 1910 to 2012 103 years Series 177

[B] Entire series, effect on correlation ( 0.565) is:

Lower 1920<-0.038 1940>-0.017 1918>-0.014 2002<-0.014 1910<-0.013 1913<-0.012 Higher 2003 0.084 1996 0.020

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Mo07p11 1915 to 2012 98 years Series 178

[A] Segment High -10 -9 -8 -7 -6 -5 -4 -3 -2 -1 0 +1 +2 +3 +4 +5 +6 +7 +8 +9 +10

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1915 1964 -8 .00 -.24 .42\*-.32 .12 .06 .08 -.13 .19 -.08 .25|-.14 .01 -.04 .22 .02 -.13 -.12 .13 -.03 -.05

1925 1974 0 -.05 -.08 .22 -.25 .23 -.01 .10 .02 .11 -.21 .33\*-.07 .10 -.21 .23 .17 -.23 -.22 .07 .12 -.12

[B] Entire series, effect on correlation ( 0.389) is:

Lower 1919<-0.035 1931<-0.033 1956>-0.028 1964<-0.021 1917>-0.016 1918>-0.012 Higher 1981 0.053 2003 0.040

1915 to 1964 segment:

Lower 1956>-0.053 1931<-0.047 1919<-0.045 1917>-0.029 1964<-0.026 1918>-0.023 Higher 1948 0.068 1935 0.045

1925 to 1974 segment:

Lower 1956>-0.067 1931<-0.067 1964<-0.040 1960>-0.022 1974>-0.021 1959>-0.018 Higher 1948 0.072 1935 0.047

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Mo07p12 1915 to 2012 98 years Series 179

[A] Segment High -10 -9 -8 -7 -6 -5 -4 -3 -2 -1 0 +1 +2 +3 +4 +5 +6 +7 +8 +9 +10

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1915 1964 0 .05 -.04 .22 -.27 .00 .05 .06 -.21 .17 -.03 .26\*-.19 .03 -.01 .21 .06 -.12 -.13 .19 -.15 .18

1925 1974 0 -.03 .03 .06 -.20 .03 .04 .08 -.15 .16 -.06 .29\*-.08 .00 -.14 .27 .12 -.16 -.23 .20 -.13 .07

[B] Entire series, effect on correlation ( 0.495) is:

Lower 1964<-0.032 1956>-0.025 1931<-0.020 1930<-0.016 1919<-0.013 1925>-0.012 Higher 2003 0.122 1935 0.023

1915 to 1964 segment:

Lower 1956>-0.045 1964<-0.042 1931<-0.032 1930<-0.026 1925>-0.023 1960>-0.020 Higher 1935 0.085 1940 0.050

1925 to 1974 segment:

Lower 1956>-0.052 1964<-0.052 1931<-0.037 1930<-0.030 1925>-0.026 1960>-0.023 Higher 1935 0.091 1940 0.053

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Mo07p21 1930 to 2012 83 years Series 180

[A] Segment High -10 -9 -8 -7 -6 -5 -4 -3 -2 -1 0 +1 +2 +3 +4 +5 +6 +7 +8 +9 +10

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1930 1979 -4 .19 -.11 .16 .09 .01 -.28 .63\*-.18 .02 -.12 .19|-.27 -.01 -.03 .01 -.01 -.17 -.08 .05 -.13 .10

1950 1999 -4 .27 -.13 .09 .20 .19 -.11 .39\*-.08 .03 -.04 .13|-.28 -.03 -.12 -.10 -.16 -.17 -.03 .08 -.13 .01

1963 2012 -10 .37\*-.23 .26 .16 -.03 .06 .07 -.03 -.02 .22 .25| - - - - - - - - - -

[B] Entire series, effect on correlation ( 0.228) is:

Lower 1981>-0.033 1935>-0.025 1956>-0.022 1996>-0.019 1987<-0.019 1983<-0.015 Higher 2004 0.035 1958 0.021

1930 to 1979 segment:

Lower 1935>-0.049 1956>-0.044 1942>-0.015 1968>-0.015 1970<-0.014 1944<-0.014 Higher 1958 0.046 1948 0.041

1950 to 1999 segment:

Lower 1981>-0.055 1956>-0.036 1987<-0.035 1996>-0.030 1983<-0.022 1988<-0.021 Higher 1958 0.045 1989 0.043

1963 to 2012 segment:

Lower 1981>-0.056 1987<-0.034 1996>-0.032 1983<-0.028 1988<-0.021 1968>-0.013 Higher 2004 0.058 2003 0.031

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Mo07p42 1900 to 2012 113 years Series 181

[B] Entire series, effect on correlation ( 0.471) is:

Lower 1956>-0.023 1935>-0.018 2007<-0.014 1988<-0.010 1910<-0.010 1994>-0.009 Higher 2003 0.052 1940 0.023

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Mo07p51 1907 to 2012 106 years Series 182

[B] Entire series, effect on correlation ( 0.578) is:

Lower 1996>-0.039 1916<-0.017 1989>-0.012 1956>-0.011 1939>-0.011 1969<-0.010 Higher 2003 0.083 1981 0.024

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Mo08p11 1913 to 2012 100 years Series 183

[A] Segment High -10 -9 -8 -7 -6 -5 -4 -3 -2 -1 0 +1 +2 +3 +4 +5 +6 +7 +8 +9 +10

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1963 2012 -8 .10 -.09 .28\* .22 .01 .11 -.24 -.01 -.04 -.25 .27| - - - - - - - - - -

[B] Entire series, effect on correlation ( 0.393) is:

Lower 2003>-0.036 1939<-0.019 2004>-0.018 2010<-0.018 1981>-0.017 1971<-0.016 Higher 1940 0.031 1948 0.022

1963 to 2012 segment:

Lower 2003>-0.053 2004>-0.033 2010<-0.029 1981>-0.025 1971<-0.024 1975<-0.015 Higher 1996 0.043 1989 0.028

[E] Outliers 1 3.0 SD above or -4.5 SD below mean for year

2004 +3.3 SD

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Mo08p12 1913 to 2012 100 years Series 184

[A] Segment High -10 -9 -8 -7 -6 -5 -4 -3 -2 -1 0 +1 +2 +3 +4 +5 +6 +7 +8 +9 +10

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1963 2012 0 -.01 -.19 .12 .18 -.10 .17 -.02 -.04 -.16 -.33 .27\* - - - - - - - - - -

[B] Entire series, effect on correlation ( 0.344) is:

Lower 2003>-0.040 2004>-0.037 2010<-0.016 1941<-0.010 1939<-0.010 1948>-0.007 Higher 1981 0.028 1940 0.015

1963 to 2012 segment:

Lower 2003>-0.071 2004>-0.064 2010<-0.024 2001<-0.009 1968>-0.009 1994>-0.009 Higher 1981 0.052 1987 0.027

[E] Outliers 1 3.0 SD above or -4.5 SD below mean for year

2004 +3.9 SD

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Mo08p21 1880 to 2012 133 years Series 185

[A] Segment High -10 -9 -8 -7 -6 -5 -4 -3 -2 -1 0 +1 +2 +3 +4 +5 +6 +7 +8 +9 +10

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1880 1929 3 -.17 .23 .04 .06 -.10 -.02 -.05 .14 -.04 .12 .15|-.15 -.43 .39\*-.31 .10 -.14 .16 -.10 .14 -.19

[B] Entire series, effect on correlation ( 0.480) is:

Lower 1893>-0.038 1886<-0.032 1884<-0.017 2010<-0.017 2004>-0.014 1887>-0.014 Higher 2003 0.083 1981 0.015

1880 to 1929 segment:

Lower 1893>-0.094 1886<-0.087 1887>-0.031 1917>-0.023 1890<-0.022 1884<-0.022 Higher 1911 0.046 1924 0.042

[E] Outliers 1 3.0 SD above or -4.5 SD below mean for year

1893 +3.6 SD

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Mo08p22 1880 to 2012 133 years Series 186

[A] Segment High -10 -9 -8 -7 -6 -5 -4 -3 -2 -1 0 +1 +2 +3 +4 +5 +6 +7 +8 +9 +10

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1950 1999 -8 .07 -.26 .33\*-.20 -.06 .09 .04 .07 -.25 -.07 .32|-.31 .17 -.02 .23 -.12 .03 .09 -.03 .02 -.17

1963 2012 -5 .02 -.27 .25 -.10 -.25 .38\* .07 .00 -.17 -.17 .19| - - - - - - - - - -

[B] Entire series, effect on correlation ( 0.336) is:

Lower 1996>-0.027 1970<-0.026 1999<-0.022 2003>-0.020 1984>-0.013 1914>-0.011 Higher 1940 0.019 1887 0.018

1950 to 1999 segment:

Lower 1996>-0.069 1970<-0.057 1999<-0.050 1984>-0.032 1956>-0.013 1976>-0.012 Higher 1989 0.035 1958 0.026

1963 to 2012 segment:

Lower 1996>-0.051 1970<-0.044 1999<-0.039 2003>-0.027 1984>-0.025 2010<-0.018 Higher 1989 0.039 2012 0.020

[E] Outliers 1 3.0 SD above or -4.5 SD below mean for year

1970 -4.7 SD

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Mo08p31 1936 to 2012 77 years Series 187

[B] Entire series, effect on correlation ( 0.536) is:

Lower 1963<-0.031 1974<-0.026 1964<-0.019 1941<-0.017 1996>-0.015 1948>-0.015 Higher 1981 0.058 2003 0.039

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Mo08p32 1907 to 2012 106 years Series 188

[B] Entire series, effect on correlation ( 0.623) is:

Lower 1948>-0.020 1956>-0.019 1963<-0.017 1941<-0.013 1964<-0.011 2004>-0.011 Higher 2003 0.082 1981 0.031

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Mo08p41 1906 to 2012 107 years Series 189

[B] Entire series, effect on correlation ( 0.549) is:

Lower 1962>-0.019 1917>-0.014 2006<-0.011 1950>-0.011 1969>-0.009 1975<-0.008 Higher 1981 0.051 2003 0.018

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Mo08p42 1907 to 2012 106 years Series 190

[B] Entire series, effect on correlation ( 0.668) is:

Lower 1963<-0.016 2010<-0.015 1929<-0.013 1962>-0.013 1941<-0.010 1974>-0.009 Higher 2003 0.055 1981 0.032

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Mo08p51 1828 to 2012 185 years Series 191

[A] Segment High -10 -9 -8 -7 -6 -5 -4 -3 -2 -1 0 +1 +2 +3 +4 +5 +6 +7 +8 +9 +10

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1828 1877 -7 -.01 -.04 -.12 .29\*-.27 -.01 .12 .04 .10 -.10 -.11|-.04 .18 -.25 .09 .08 -.21 .04 .18 -.07 -.08

1850 1899 -9 .02 .13\*-.07 .06 -.22 -.07 .12 .05 .02 -.06 -.11| .12 .12 -.14 .03 -.04 -.06 -.19 .06 .11 -.10

1875 1924 3 -.14 .18 .14 -.20 -.07 .04 -.11 .08 .05 -.08 .16|-.14 -.06 .19\*-.15 -.07 .07 .04 -.06 .06 -.19

[B] Entire series, effect on correlation ( 0.285) is:

Lower 1887>-0.029 1996>-0.026 1867<-0.018 1849>-0.016 1829>-0.013 1838>-0.013 Higher 2003 0.081 1980 0.012

1828 to 1877 segment:

Lower 1867<-0.052 1849>-0.048 1829>-0.039 1838>-0.032 1836<-0.025 1831<-0.024 Higher 1844 0.066 1834 0.034

1850 to 1899 segment:

Lower 1887>-0.125 1867<-0.073 1877>-0.030 1892<-0.018 1860<-0.013 1866>-0.012 Higher 1859 0.042 1851 0.042

1875 to 1924 segment:

Lower 1887>-0.137 1877>-0.034 1903<-0.033 1909>-0.029 1892<-0.027 1886<-0.022 Higher 1917 0.048 1924 0.040

[E] Outliers 1 3.0 SD above or -4.5 SD below mean for year

2011 -4.9 SD

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Mo08p52 1835 to 2012 178 years Series 192

[A] Segment High -10 -9 -8 -7 -6 -5 -4 -3 -2 -1 0 +1 +2 +3 +4 +5 +6 +7 +8 +9 +10

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1835 1884 5 .00 -.33 .00 -.01 -.35 -.01 -.05 -.09 -.02 .04 .04| .04 .01 .21 -.09 .27\*-.17 .17 .05 -.05 .01

1850 1899 3 -.06 -.19 .10 -.03 -.15 -.08 -.14 .01 -.09 -.07 .05|-.01 -.11 .29\*-.09 .16 -.19 .19 -.03 .07 -.10

1875 1924 -2 -.22 .19 -.05 -.16 -.03 .02 -.18 .12 .25\*-.20 .14|-.13 .02 -.02 -.11 .09 -.02 .14 -.27 .24 -.12

[B] Entire series, effect on correlation ( 0.380) is:

Lower 1920<-0.017 1887>-0.013 1916<-0.012 1890<-0.011 2010<-0.007 2004>-0.007 Higher 1948 0.019 1940 0.017

1835 to 1884 segment:

Lower 1870<-0.030 1861<-0.025 1877>-0.022 1859<-0.020 1876>-0.019 1874<-0.019 Higher 1844 0.050 1868 0.045

1850 to 1899 segment:

Lower 1887>-0.057 1890<-0.055 1870<-0.031 1877>-0.026 1861<-0.024 1881>-0.022 Higher 1886 0.072 1868 0.054

1875 to 1924 segment:

Lower 1916<-0.047 1890<-0.042 1887>-0.040 1920<-0.028 1913<-0.019 1877>-0.017 Higher 1924 0.053 1886 0.041

[C] Year-to-year changes diverging by over 4.0 std deviations:

1919 1920 -4.9 SD

[E] Outliers 1 3.0 SD above or -4.5 SD below mean for year

1920 -5.5 SD

====================================================================================================================================

Mo09p11 1909 to 2012 104 years Series 193

[A] Segment High -10 -9 -8 -7 -6 -5 -4 -3 -2 -1 0 +1 +2 +3 +4 +5 +6 +7 +8 +9 +10

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1909 1958 -8 -.08 -.12 .29\*-.28 .05 -.19 .16 -.07 .13 -.06 .20|-.09 -.03 -.06 .18 .11 .01 -.04 .03 -.18 .04

[B] Entire series, effect on correlation ( 0.306) is:

Lower 1913<-0.111 1996>-0.017 1911>-0.014 1925>-0.011 1942>-0.011 1919<-0.010 Higher 1948 0.024 2003 0.015

1909 to 1958 segment:

Lower 1913<-0.200 1911>-0.027 1925>-0.021 1942>-0.018 1909>-0.018 1919<-0.015 Higher 1948 0.056 1924 0.031

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Mo09p12 1909 to 2012 104 years Series 194

[A] Segment High -10 -9 -8 -7 -6 -5 -4 -3 -2 -1 0 +1 +2 +3 +4 +5 +6 +7 +8 +9 +10

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1909 1958 -2 -.11 -.03 .31 -.33 -.04 -.12 .02 -.15 .33\*-.09 .25|-.22 -.05 .16 .13 -.08 .20 -.16 .00 -.10 -.12

1925 1974 0 .09 -.14 .24 -.28 .18 -.31 .04 -.10 .23 -.10 .30\*-.32 .04 .18 .14 -.12 .24 -.14 .15 -.19 -.17

[B] Entire series, effect on correlation ( 0.412) is:

Lower 1940>-0.036 1937<-0.034 1970<-0.028 1913<-0.025 1919<-0.020 1925>-0.012 Higher 2003 0.057 1948 0.037

1909 to 1958 segment:

Lower 1940>-0.072 1913<-0.045 1937<-0.036 1919<-0.029 1925>-0.024 1958<-0.020 Higher 1948 0.106 1956 0.045

1925 to 1974 segment:

Lower 1940>-0.079 1970<-0.053 1937<-0.046 1925>-0.026 1958<-0.025 1960>-0.020 Higher 1948 0.107 1956 0.043

[E] Outliers 1 3.0 SD above or -4.5 SD below mean for year

1940 +3.2 SD

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Mo09p21 1905 to 2012 108 years Series 195

[A] Segment High -10 -9 -8 -7 -6 -5 -4 -3 -2 -1 0 +1 +2 +3 +4 +5 +6 +7 +8 +9 +10

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1905 1954 -8 -.10 -.03 .23\* .09 -.17 -.09 -.12 .07 -.23 -.16 .22| .04 .06 -.05 .00 .14 .13 -.28 .03 .08 .08

1925 1974 -8 -.23 -.22 .37\*-.03 -.23 .03 .02 .18 -.18 -.19 .19|-.07 .03 .11 -.09 .07 .28 -.43 .02 .17 .06

1950 1999 0 -.28 -.02 .18 -.24 -.08 -.06 .26 .05 -.15 .19 .30\*-.11 .06 .06 .00 -.26 -.10 -.16 -.06 .22 .04

1963 2012 0 -.36 .05 .24 -.10 -.19 -.06 .04 -.14 -.04 .14 .32\* - - - - - - - - - -

[B] Entire series, effect on correlation ( 0.306) is:

Lower 1934<-0.037 1987<-0.020 1948>-0.019 1911>-0.017 1989>-0.015 1993<-0.012 Higher 1981 0.040 2003 0.019

1905 to 1954 segment:

Lower 1934<-0.075 1948>-0.050 1911>-0.043 1909>-0.027 1951<-0.017 1914>-0.015 Higher 1918 0.055 1949 0.040

1925 to 1974 segment:

Lower 1934<-0.081 1948>-0.046 1970<-0.025 1962>-0.024 1951<-0.017 1974>-0.016 Higher 1958 0.052 1949 0.042

1950 to 1999 segment:

Lower 1987<-0.044 1989>-0.039 1984>-0.029 1962>-0.027 1993<-0.025 1970<-0.023 Higher 1981 0.102 1958 0.039

1963 to 2012 segment:

Lower 1987<-0.044 1989>-0.034 1993<-0.026 1970<-0.025 1984>-0.025 2004>-0.022 Higher 1981 0.093 2003 0.048

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Mo09p22 1905 to 2012 108 years Series 196

[A] Segment High -10 -9 -8 -7 -6 -5 -4 -3 -2 -1 0 +1 +2 +3 +4 +5 +6 +7 +8 +9 +10

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1905 1954 -8 -.09 -.17 .37\* .11 -.05 .04 -.12 .13 -.11 -.25 .18| .01 -.07 -.03 .06 .07 -.11 -.05 .10 -.11 .17

1925 1974 -8 -.21 -.17 .31\* .19 -.19 .05 -.06 .23 -.17 -.17 .24|-.05 -.10 .07 -.01 .08 -.03 -.26 .02 .00 .04

[B] Entire series, effect on correlation ( 0.333) is:

Lower 1963<-0.021 1909>-0.021 1925<-0.018 1974>-0.014 1911>-0.013 1966>-0.013 Higher 1981 0.038 2003 0.026

1905 to 1954 segment:

Lower 1909>-0.045 1911>-0.029 1917>-0.023 1913<-0.021 1914>-0.020 1951<-0.018 Higher 1925 0.064 1924 0.042

1925 to 1974 segment:

Lower 1963<-0.033 1974>-0.029 1966>-0.026 1962>-0.019 1948>-0.018 1951<-0.015 Higher 1958 0.037 1925 0.033

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Mo09p31 1813 to 2012 200 years Series 197

[A] Segment High -10 -9 -8 -7 -6 -5 -4 -3 -2 -1 0 +1 +2 +3 +4 +5 +6 +7 +8 +9 +10

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1813 1862 3 .10 -.48 -.02 .02 .04 -.04 -.02 -.05 .05 .13 .20|-.10 .12 .32\* .13 -.03 .06 -.03 .00 -.17 .24

1825 1874 -1 -.01 -.35 -.09 -.16 -.17 .12 -.01 .01 -.05 .28\* .20| .11 .09 .26 .05 -.04 .09 -.04 -.10 .02 -.04

1850 1899 0 .13 -.03 -.11 -.23 -.02 .15 .06 -.15 -.02 -.10 .30\*-.16 .21 -.03 .15 -.18 .24 -.06 -.07 .13 .07

[B] Entire series, effect on correlation ( 0.390) is:

Lower 1816<-0.025 1905<-0.019 1947<-0.011 1918>-0.009 1862<-0.008 1987<-0.007 Higher 1996 0.024 1956 0.017

1813 to 1862 segment:

Lower 1816<-0.080 1836<-0.021 1851>-0.017 1827<-0.016 1840<-0.016 1862<-0.015 Higher 1817 0.051 1844 0.019

1825 to 1874 segment:

Lower 1836<-0.030 1862<-0.030 1827<-0.023 1840<-0.023 1851>-0.023 1845<-0.015 Higher 1844 0.033 1870 0.021

1850 to 1899 segment:

Lower 1862<-0.042 1851>-0.031 1895>-0.029 1878<-0.020 1867<-0.019 1872>-0.015 Higher 1887 0.043 1890 0.020

[C] Year-to-year changes diverging by over 4.0 std deviations:

1904 1905 -4.0 SD

[E] Outliers 2 3.0 SD above or -4.5 SD below mean for year

1905 -5.0 SD; 1906 -6.1 SD

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Mo09p32 1870 to 2012 143 years Series 198

[A] Segment High -10 -9 -8 -7 -6 -5 -4 -3 -2 -1 0 +1 +2 +3 +4 +5 +6 +7 +8 +9 +10

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1963 2012 -8 .02 -.10 .43\*-.05 -.06 .02 -.09 -.20 -.11 .42 .35| - - - - - - - - - -

[B] Entire series, effect on correlation ( 0.435) is:

Lower 2003>-0.026 1932<-0.015 1996>-0.011 1909>-0.011 1913<-0.009 1911>-0.009 Higher 1956 0.035 1940 0.021

1963 to 2012 segment:

Lower 2003>-0.051 1996>-0.022 1971<-0.016 1981>-0.014 1977>-0.011 1963<-0.010 Higher 2007 0.023 1994 0.014

[C] Year-to-year changes diverging by over 4.0 std deviations:

2003 2004 -5.7 SD

[E] Outliers 1 3.0 SD above or -4.5 SD below mean for year

2004 -4.7 SD

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Mo09p42 1901 to 2012 112 years Series 199

[A] Segment High -10 -9 -8 -7 -6 -5 -4 -3 -2 -1 0 +1 +2 +3 +4 +5 +6 +7 +8 +9 +10

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1963 2012 -8 -.07 -.14 .47\*-.06 -.10 -.14 -.13 -.12 .09 -.05 .41| - - - - - - - - - -

[B] Entire series, effect on correlation ( 0.478) is:

Lower 1920<-0.049 2003>-0.023 1970<-0.016 1909>-0.015 1974>-0.009 1971<-0.009 Higher 1956 0.033 1948 0.014

1963 to 2012 segment:

Lower 1970<-0.041 2003>-0.029 1974>-0.024 2011<-0.019 1971<-0.019 1964<-0.018 Higher 1981 0.044 2001 0.021

[C] Year-to-year changes diverging by over 4.0 std deviations:

1919 1920 -4.0 SD

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Ol07p11 1936 to 2012 77 years Series 200

[B] Entire series, effect on correlation ( 0.482) is:

Lower 1936<-0.031 2004>-0.021 2003>-0.014 1966>-0.013 1960>-0.012 1995<-0.010 Higher 1996 0.025 1981 0.023

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Ol07p12 1936 to 2012 77 years Series 201

[B] Entire series, effect on correlation ( 0.533) is:

Lower 1936<-0.030 1995<-0.021 1939>-0.014 1986>-0.012 1961<-0.011 1976>-0.011 Higher 2003 0.029 1956 0.024

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Ol07p21 1945 to 2012 68 years Series 202

[B] Entire series, effect on correlation ( 0.571) is:

Lower 1951<-0.051 1956>-0.038 1965<-0.030 1947<-0.021 1962>-0.014 1960>-0.013 Higher 2003 0.133 1981 0.029

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Ol07p22 1945 to 2012 68 years Series 203

[A] Segment High -10 -9 -8 -7 -6 -5 -4 -3 -2 -1 0 +1 +2 +3 +4 +5 +6 +7 +8 +9 +10

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1945 1994 3 .11 -.08 .03 -.06 .01 .07 -.05 -.09 .00 -.32 .20|-.09 .02 .23\* .02 -.06 .13 -.01 .05 .05 .15

1950 1999 3 .13 -.10 .01 -.06 .08 .06 -.14 -.12 -.05 -.24 .25|-.11 .05 .31\*-.08 -.22 .09 .15 .11 .03 .18

[B] Entire series, effect on correlation ( 0.465) is:

Lower 2011<-0.033 1981>-0.026 1956>-0.021 1982>-0.017 1984>-0.017 1993<-0.016 Higher 2003 0.141 2007 0.013

1945 to 1994 segment:

Lower 1982>-0.031 1984>-0.031 1993<-0.029 1960>-0.023 1956>-0.021 1947<-0.021 Higher 1955 0.030 1957 0.027

1950 to 1999 segment:

Lower 1982>-0.032 1984>-0.031 1993<-0.031 1956>-0.024 1960>-0.023 1981>-0.022 Higher 1996 0.051 1955 0.028

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Ol07p32 1938 to 2012 75 years Series 204

[B] Entire series, effect on correlation ( 0.368) is:

Lower 1951<-0.023 2003>-0.022 1993<-0.021 1996>-0.018 1940>-0.018 1975<-0.013 Higher 1981 0.087 1958 0.014

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Ol07p51 1987 to 2012 26 years Series 205

[B] Entire series, effect on correlation ( 0.499) is:

Lower 1996>-0.119 2012<-0.065 1993<-0.047 1992<-0.026 2001<-0.020 1998>-0.016 Higher 2003 0.416 1989 0.019

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Ol07p52 1944 to 2012 69 years Series 206

[B] Entire series, effect on correlation ( 0.585) is:

Lower 1964<-0.029 1975<-0.023 1944<-0.022 1989>-0.020 1982>-0.014 1984>-0.011 Higher 2003 0.105 1981 0.033

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Ol08p11 1916 to 2012 97 years Series 207

[B] Entire series, effect on correlation ( 0.607) is:

Lower 1917>-0.028 1931<-0.024 1943>-0.016 1925>-0.010 2009<-0.010 1991<-0.007 Higher 2003 0.072 1996 0.014

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Ol08p12 1916 to 2012 97 years Series 208

[B] Entire series, effect on correlation ( 0.452) is:

Lower 1981>-0.045 1916<-0.022 1932<-0.017 1918>-0.016 1934<-0.013 1982>-0.010 Higher 2003 0.074 1996 0.023

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Ol08p21 1925 to 2012 88 years Series 209

[B] Entire series, effect on correlation ( 0.510) is:

Lower 1940>-0.024 1934<-0.015 2000<-0.015 1981>-0.014 1925>-0.012 1932<-0.007 Higher 2003 0.021 1956 0.017

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Ol08p22 1925 to 2012 88 years Series 210

[B] Entire series, effect on correlation ( 0.411) is:

Lower 2003>-0.059 2009<-0.036 1940>-0.024 1934<-0.022 1925>-0.018 2004>-0.010 Higher 1981 0.040 1996 0.034

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Ol08p31 1921 to 2012 92 years Series 211

[B] Entire series, effect on correlation ( 0.519) is:

Lower 1981>-0.024 2012<-0.018 1984>-0.015 1983<-0.014 1940>-0.011 1934<-0.011 Higher 2003 0.069 1996 0.023

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Ol08p32 1920 to 2012 93 years Series 212

[A] Segment High -10 -9 -8 -7 -6 -5 -4 -3 -2 -1 0 +1 +2 +3 +4 +5 +6 +7 +8 +9 +10

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1920 1969 0 -.01 -.13 .00 -.22 .09 -.12 .02 .04 .22 -.24 .31\*-.10 .11 -.03 .12 .04 -.06 .03 .21 -.25 .23

1925 1974 0 .04 -.23 -.04 -.09 .09 -.12 .07 -.05 .16 -.22 .29\* .05 .05 -.09 .22 .02 -.11 .00 .19 -.27 .22

[B] Entire series, effect on correlation ( 0.569) is:

Lower 1958<-0.034 1956>-0.025 1984>-0.021 1975<-0.015 1969<-0.012 1920<-0.011 Higher 2003 0.120 1981 0.025

1920 to 1969 segment:

Lower 1958<-0.079 1956>-0.050 1969<-0.019 1920<-0.016 1950>-0.012 1926>-0.012 Higher 1924 0.049 1935 0.026

1925 to 1974 segment:

Lower 1958<-0.088 1956>-0.046 1969<-0.022 1950>-0.012 1926>-0.012 1943>-0.010 Higher 1935 0.033 1940 0.028

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Ol08p41 1924 to 2012 89 years Series 213

[B] Entire series, effect on correlation ( 0.585) is:

Lower 1948>-0.033 1934<-0.016 1940>-0.016 1992<-0.016 1972>-0.015 1974>-0.010 Higher 2003 0.082 1996 0.025

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Ol08p42 1924 to 2012 89 years Series 214

[B] Entire series, effect on correlation ( 0.626) is:

Lower 1948>-0.014 1954<-0.014 2000>-0.013 1940>-0.012 1934<-0.011 2004>-0.009 Higher 2003 0.102 1981 0.026

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Ol08p51 1916 to 2012 97 years Series 215

[B] Entire series, effect on correlation ( 0.502) is:

Lower 2009<-0.037 1940>-0.014 1990<-0.012 1944<-0.011 1975<-0.009 1977>-0.009 Higher 1996 0.022 2003 0.020

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Ol08p52 1916 to 2012 97 years Series 216

[A] Segment High -10 -9 -8 -7 -6 -5 -4 -3 -2 -1 0 +1 +2 +3 +4 +5 +6 +7 +8 +9 +10

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1916 1965 -6 -.02 .05 .03 -.25 .37\*-.30 -.02 .19 .05 -.23 .32|-.37 -.01 -.06 .15 .03 .03 .04 .15 -.33 .18

[B] Entire series, effect on correlation ( 0.467) is:

Lower 1917>-0.019 1940>-0.015 1996>-0.014 1975<-0.013 1982>-0.012 1930<-0.010 Higher 2003 0.033 1981 0.017

1916 to 1965 segment:

Lower 1917>-0.035 1940>-0.026 1930<-0.022 1938<-0.019 1932<-0.018 1918>-0.018 Higher 1962 0.078 1957 0.032

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Ol09p11 1883 to 2012 130 years Series 217

[A] Segment High -10 -9 -8 -7 -6 -5 -4 -3 -2 -1 0 +1 +2 +3 +4 +5 +6 +7 +8 +9 +10

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1883 1932 0 -.01 -.10 -.10 .04 -.02 .03 -.11 .14 .03 -.12 .27\*-.18 -.03 -.24 .04 -.16 .27 .00 .18 -.16 .14

[B] Entire series, effect on correlation ( 0.441) is:

Lower 1981>-0.026 1948>-0.017 1893>-0.016 1977<-0.015 1982>-0.012 1917>-0.009 Higher 2003 0.021 1962 0.016

1883 to 1932 segment:

Lower 1893>-0.057 1918>-0.033 1917>-0.032 1925>-0.027 1891>-0.026 1910<-0.018 Higher 1887 0.066 1911 0.042

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Ol09p12 1884 to 2012 129 years Series 218

[B] Entire series, effect on correlation ( 0.516) is:

Lower 1893<-0.024 1923>-0.017 1902>-0.008 1933>-0.008 1985<-0.008 1910<-0.007 Higher 1956 0.017 2003 0.010

[E] Outliers 1 3.0 SD above or -4.5 SD below mean for year

1923 +3.0 SD

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Ol09p21 1927 to 2012 86 years Series 219

[B] Entire series, effect on correlation ( 0.516) is:

Lower 1984>-0.016 1992<-0.013 1989>-0.012 2000>-0.010 1959>-0.010 1993<-0.008 Higher 1981 0.028 1948 0.011

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Ol09p22 1927 to 2012 86 years Series 220

[B] Entire series, effect on correlation ( 0.601) is:

Lower 1977<-0.031 2009<-0.012 1961<-0.011 1945<-0.010 1968>-0.010 1988<-0.010 Higher 1981 0.050 1996 0.027

[E] Outliers 1 3.0 SD above or -4.5 SD below mean for year

1977 -4.7 SD

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Ol09p31 1940 to 2012 73 years Series 221

[B] Entire series, effect on correlation ( 0.587) is:

Lower 1981>-0.034 1982>-0.021 1985<-0.009 2002<-0.009 1958<-0.008 1984>-0.008 Higher 1956 0.023 1996 0.018

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Ol09p32 1940 to 2012 73 years Series 222

[B] Entire series, effect on correlation ( 0.646) is:

Lower 1964<-0.026 2003>-0.021 1989<-0.018 1982>-0.016 1944<-0.010 1974<-0.010 Higher 1996 0.025 1956 0.017

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Ol09p41 1921 to 2012 92 years Series 223

[A] Segment High -10 -9 -8 -7 -6 -5 -4 -3 -2 -1 0 +1 +2 +3 +4 +5 +6 +7 +8 +9 +10

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1921 1970 0 -.06 -.01 .15 -.23 .04 -.01 -.04 .08 .00 -.26 .27\*-.16 -.06 -.03 -.08 -.07 .26 -.09 .00 -.14 .09

1925 1974 0 .05 -.05 .09 -.20 .08 -.13 -.02 .13 -.03 -.21 .28\*-.20 .04 -.18 -.02 -.06 .25 -.14 -.01 -.08 .00

[B] Entire series, effect on correlation ( 0.523) is:

Lower 1935>-0.025 1940>-0.025 1925>-0.015 1928<-0.014 1929<-0.012 2004>-0.011 Higher 2003 0.115 1996 0.029

1921 to 1970 segment:

Lower 1935>-0.050 1940>-0.050 1925>-0.030 1928<-0.023 1959>-0.019 1961<-0.019 Higher 1956 0.039 1941 0.034

1925 to 1974 segment:

Lower 1940>-0.049 1935>-0.049 1925>-0.029 1928<-0.027 1961<-0.022 1959>-0.019 Higher 1971 0.051 1956 0.041

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Ol09p42 1921 to 2012 92 years Series 224

[B] Entire series, effect on correlation ( 0.511) is:

Lower 1948>-0.030 1981>-0.030 1930<-0.029 1955<-0.025 1959>-0.014 1960>-0.013 Higher 2003 0.094 1956 0.034

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Ol09p51 1888 to 2012 125 years Series 225

[A] Segment High -10 -9 -8 -7 -6 -5 -4 -3 -2 -1 0 +1 +2 +3 +4 +5 +6 +7 +8 +9 +10

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1925 1974 0 -.01 -.05 .02 .17 -.17 -.27 .09 .19 -.17 .08 .22\*-.03 -.03 -.06 .01 -.20 .05 -.20 -.03 -.01 .09

[B] Entire series, effect on correlation ( 0.394) is:

Lower 1981>-0.018 1963<-0.017 1917>-0.015 1951<-0.013 1948>-0.010 2009<-0.010 Higher 1996 0.020 1909 0.020

1925 to 1974 segment:

Lower 1963<-0.053 1951<-0.041 1949<-0.019 1948>-0.015 1956>-0.014 1934<-0.014 Higher 1961 0.036 1958 0.027

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Ol09p52 1900 to 2012 113 years Series 226

[A] Segment High -10 -9 -8 -7 -6 -5 -4 -3 -2 -1 0 +1 +2 +3 +4 +5 +6 +7 +8 +9 +10

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1900 1949 -5 -.11 -.10 -.05 -.09 -.14 .32\* .17 .11 .00 -.15 .29|-.12 -.27 .23 .05 -.20 .03 .01 .10 .08 -.30

1925 1974 0 .06 -.09 -.16 .08 .07 -.01 .11 .14 .06 .15 .22\*-.16 -.05 .12 .03 -.15 .03 -.13 .04 -.07 -.16

[B] Entire series, effect on correlation ( 0.455) is:

Lower 1922<-0.041 1956>-0.020 1963<-0.019 1900<-0.016 1917>-0.015 1935>-0.013 Higher 2003 0.066 1981 0.044

1900 to 1949 segment:

Lower 1917>-0.034 1922<-0.033 1900<-0.031 1935>-0.030 1948>-0.028 1918>-0.027 Higher 1940 0.059 1909 0.052

1925 to 1974 segment:

Lower 1963<-0.055 1956>-0.044 1935>-0.028 1945<-0.021 1960>-0.020 1925>-0.016 Higher 1940 0.097 1971 0.034

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Su07p11 1926 to 2012 87 years Series 227

[A] Segment High -10 -9 -8 -7 -6 -5 -4 -3 -2 -1 0 +1 +2 +3 +4 +5 +6 +7 +8 +9 +10

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1950 1999 7 -.14 .14 -.07 -.21 .10 -.25 -.09 -.10 -.11 -.27 .29| .10 .01 .22 .10 -.02 -.13 .32\* .21 -.01 .18

[B] Entire series, effect on correlation ( 0.340) is:

Lower 1942<-0.036 1993<-0.035 2011>-0.018 2004>-0.015 1984>-0.013 1995<-0.012 Higher 2003 0.055 1996 0.018

1950 to 1999 segment:

Lower 1993<-0.073 1984>-0.027 1995<-0.025 1957<-0.021 1970<-0.012 1966>-0.012 Higher 1996 0.047 1962 0.038

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Su07p12 1926 to 2012 87 years Series 228

[A] Segment High -10 -9 -8 -7 -6 -5 -4 -3 -2 -1 0 +1 +2 +3 +4 +5 +6 +7 +8 +9 +10

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1926 1975 0 -.23 .09 -.02 -.14 -.02 .17 -.01 .17 -.13 -.22 .31\* .29 -.14 .09 .04 -.10 -.12 .07 .00 .27 -.17

1950 1999 1 -.22 .11 -.17 -.08 -.15 .05 -.16 .04 -.12 -.17 .24| .30\*-.05 .14 .04 -.10 -.12 .27 .05 .17 -.03

[B] Entire series, effect on correlation ( 0.354) is:

Lower 1956>-0.029 1993<-0.024 2004>-0.021 2011>-0.020 1962>-0.019 1965<-0.017 Higher 2003 0.079 1996 0.020

1926 to 1975 segment:

Lower 1956>-0.061 1962>-0.039 1965<-0.023 1966>-0.012 1960>-0.012 1939<-0.012 Higher 1940 0.039 1971 0.023

1950 to 1999 segment:

Lower 1956>-0.048 1993<-0.037 1962>-0.032 1989>-0.017 1965<-0.017 1982>-0.012 Higher 1996 0.045 1981 0.029

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Su09p11 1953 to 2012 60 years Series 229

[A] Segment High -10 -9 -8 -7 -6 -5 -4 -3 -2 -1 0 +1 +2 +3 +4 +5 +6 +7 +8 +9 +10

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1963 2012 0 .05 .10 -.09 -.18 .00 -.17 -.02 -.28 .04 .12 .31\* - - - - - - - - - -

[B] Entire series, effect on correlation ( 0.384) is:

Lower 1995<-0.044 2003>-0.036 1984>-0.027 1956>-0.022 1989>-0.018 1981>-0.015 Higher 1962 0.033 2004 0.021

1963 to 2012 segment:

Lower 1995<-0.068 1984>-0.036 2003>-0.023 1989>-0.022 1991<-0.020 1966>-0.018 Higher 2004 0.036 1987 0.025

[E] Outliers 1 3.0 SD above or -4.5 SD below mean for year

1984 +3.2 SD

====================================================================================================================================

Su09p12 1953 to 2012 60 years Series 230

[A] Segment High -10 -9 -8 -7 -6 -5 -4 -3 -2 -1 0 +1 +2 +3 +4 +5 +6 +7 +8 +9 +10

--------- ---- --- --- --- --- --- --- --- --- --- --- --- --- --- --- --- --- --- --- --- --- ---

1953 2002 -9 -.12 .30\*-.01 .01 .01 -.09 -.10 -.23 -.20 .23 .27|-.19 .07 -.04 -.07 .06 -.10 .06 .21 .10 -.14

[B] Entire series, effect on correlation ( 0.330) is:

Lower 1957<-0.124 1956>-0.034 1984>-0.016 2003>-0.013 1959>-0.011 1954<-0.011 Higher 1981 0.046 2004 0.025

1953 to 2002 segment:

Lower 1957<-0.150 1956>-0.045 1984>-0.022 1959>-0.015 1962>-0.014 1954<-0.013 Higher 1981 0.070 1958 0.033

====================================================================================================================================

Su10p12 1933 to 2012 80 years Series 231

[B] Entire series, effect on correlation ( 0.569) is:

Lower 1935>-0.029 2009<-0.023 1968<-0.013 2005>-0.013 1953<-0.012 1959>-0.010 Higher 2003 0.084 1996 0.033

====================================================================================================================================

Su10p11 1934 to 2012 79 years Series 232

[A] Segment High -10 -9 -8 -7 -6 -5 -4 -3 -2 -1 0 +1 +2 +3 +4 +5 +6 +7 +8 +9 +10

--------- ---- --- --- --- --- --- --- --- --- --- --- --- --- --- --- --- --- --- --- --- --- ---

1934 1983 5 -.16 -.01 .20 -.20 .06 -.17 -.03 .09 -.07 -.08 .19|-.14 .11 -.07 -.10 .29\*-.09 -.29 .27 -.09 -.22

1950 1999 0 -.16 -.08 .22 -.11 .10 -.21 .05 .13 .02 .02 .30\*-.18 .16 -.21 -.09 .22 -.19 -.06 .10 -.15 -.26

[B] Entire series, effect on correlation ( 0.311) is:

Lower 1951<-0.125 1954<-0.020 1934<-0.017 2012<-0.015 2011>-0.015 1972>-0.014 Higher 1996 0.022 2003 0.020

1934 to 1983 segment:

Lower 1951<-0.166 1954<-0.028 1934<-0.024 1980<-0.020 1972>-0.019 1948>-0.019 Higher 1971 0.039 1949 0.028

1950 to 1999 segment:

Lower 1951<-0.197 1954<-0.028 1972>-0.025 1980<-0.020 1966>-0.015 1994>-0.012 Higher 1996 0.033 1971 0.032

[C] Year-to-year changes diverging by over 4.0 std deviations:

1950 1951 -4.1 SD

[E] Outliers 1 3.0 SD above or -4.5 SD below mean for year

1951 -5.3 SD

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Su11p11 1942 to 2012 71 years Series 233

[B] Entire series, effect on correlation ( 0.642) is:

Lower 1948>-0.040 1946<-0.033 1989>-0.013 1958<-0.011 1974>-0.011 1959>-0.008 Higher 1981 0.050 2003 0.028

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Su11p12 1942 to 2012 71 years Series 234

[B] Entire series, effect on correlation ( 0.479) is:

Lower 1958<-0.125 1948>-0.049 1989>-0.015 2009<-0.015 1959>-0.009 2011>-0.007 Higher 1996 0.050 1981 0.038

====================================================================================================================================

Su11p21 1942 to 2012 71 years Series 235

[B] Entire series, effect on correlation ( 0.379) is:

Lower 1958<-0.078 2009<-0.043 2003>-0.025 1945<-0.017 1962>-0.017 1992<-0.016 Higher 1981 0.067 1971 0.020

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Su11p22 1942 to 2012 71 years Series 236

[A] Segment High -10 -9 -8 -7 -6 -5 -4 -3 -2 -1 0 +1 +2 +3 +4 +5 +6 +7 +8 +9 +10

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1942 1991 0 .18 -.06 .00 -.16 -.10 -.02 .21 -.11 .16 -.16 .31\* .01 -.04 .09 .28 -.02 -.30 -.10 .23 -.08 -.17

[B] Entire series, effect on correlation ( 0.353) is:

Lower 2003>-0.044 2009<-0.042 1958<-0.037 1945<-0.020 1989>-0.019 1970<-0.014 Higher 1996 0.049 1981 0.032

1942 to 1991 segment:

Lower 1958<-0.066 1945<-0.033 1989>-0.030 1970<-0.024 1956>-0.017 1965<-0.016 Higher 1981 0.066 1957 0.029

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Su11p31 1931 to 2012 82 years Series 237

[B] Entire series, effect on correlation ( 0.541) is:

Lower 2003>-0.065 1954<-0.018 1999<-0.012 1968>-0.011 2010<-0.010 2009<-0.008 Higher 1956 0.033 1981 0.027

[E] Outliers 1 3.0 SD above or -4.5 SD below mean for year

1967 +3.1 SD

====================================================================================================================================

Su11p32 1929 to 2012 84 years Series 238

[A] Segment High -10 -9 -8 -7 -6 -5 -4 -3 -2 -1 0 +1 +2 +3 +4 +5 +6 +7 +8 +9 +10

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1963 2012 0 -.19 -.11 -.09 .01 .18 -.02 .12 -.04 .03 .04 .30\* - - - - - - - - - -

[B] Entire series, effect on correlation ( 0.403) is:

Lower 2003>-0.051 2009<-0.041 1948>-0.022 1954<-0.022 1998<-0.022 1970<-0.013 Higher 1956 0.058 1996 0.017

1963 to 2012 segment:

Lower 2009<-0.071 2003>-0.069 1998<-0.036 1970<-0.022 2004>-0.012 1980<-0.010 Higher 1996 0.041 1975 0.018

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Su11p41 1947 to 2012 66 years Series 239

[B] Entire series, effect on correlation ( 0.444) is:

Lower 1952<-0.119 2003>-0.017 2011>-0.013 1984>-0.011 1966>-0.011 1959>-0.010 Higher 1956 0.038 1996 0.017

[E] Outliers 1 3.0 SD above or -4.5 SD below mean for year

1952 -6.0 SD

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Su11p42 1947 to 2012 66 years Series 240

[B] Entire series, effect on correlation ( 0.699) is:

Lower 2009<-0.023 1992<-0.018 2011>-0.009 1959>-0.009 1984>-0.007 1969>-0.007 Higher 1981 0.029 1948 0.026

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PART 7: DESCRIPTIVE STATISTICS: 00:00 ®¯® 00 0000 Page 11

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Corr //-------- Unfiltered --------\\ //---- Filtered -----\\

No. No. No. with Mean Max Std Auto Mean Max Std Auto AR

Seq Series Interval Years Segmt Flags Master msmt msmt dev corr sens value dev corr ()

--- -------- --------- ----- ----- ----- ------ ----- ----- ----- ----- ----- ----- ----- ----- --

1 Ab08p11 1937 2012 76 3 0 0.434 1.49 3.37 0.684 0.855 0.203 2.75 0.441 0.021 2

2 Ab08p12 1937 2012 76 3 0 0.557 1.41 2.81 0.589 0.799 0.201 2.65 0.484 0.004 1

3 Ab08p21 1948 2012 65 3 0 0.598 1.58 4.10 0.864 0.864 0.201 2.50 0.491 -0.022 1

4 Ab08p22 1948 2012 65 3 1 0.491 1.83 3.28 0.749 0.867 0.187 2.51 0.519 0.105 1

5 Ab08p31 1880 2012 133 5 1 0.446 1.12 2.88 0.573 0.691 0.280 2.76 0.405 0.001 1

6 Ab08p32 1880 2012 133 5 0 0.453 0.66 1.96 0.358 0.706 0.299 2.71 0.324 -0.003 2

7 Ab08p42 1958 2012 55 2 0 0.369 1.97 3.26 0.460 0.703 0.139 2.89 0.533 0.197 1

8 Ab08p51 1919 2012 94 4 0 0.509 1.46 3.92 0.826 0.839 0.251 2.66 0.407 -0.033 2

9 Ab08p52 1919 2012 94 4 1 0.486 0.79 2.03 0.477 0.819 0.262 2.78 0.488 0.038 1

10 Ab09p11 1871 2012 142 6 0 0.605 0.88 2.73 0.584 0.886 0.252 2.66 0.436 -0.057 1

11 Ab09p12 1871 2012 142 6 0 0.614 1.12 3.54 0.759 0.917 0.242 2.71 0.347 0.030 1

12 Ab09p22 1849 2012 164 7 0 0.474 1.25 3.94 0.749 0.847 0.279 2.64 0.424 -0.014 1

13 Ab09p21 1849 2011 163 7 0 0.479 0.92 3.27 0.785 0.871 0.299 2.59 0.358 -0.046 1

14 Ab09p31 1912 2012 101 4 1 0.374 1.63 3.59 0.831 0.885 0.211 2.82 0.501 0.028 1

15 Ab09p32 1912 2012 101 4 0 0.389 1.12 2.72 0.614 0.897 0.208 2.59 0.494 -0.059 1

16 Ab11p11 1851 2010 160 6 2 0.451 0.77 1.81 0.402 0.872 0.224 2.52 0.314 -0.006 2

17 Ab11p12 1851 2010 160 6 0 0.626 0.77 1.94 0.398 0.826 0.241 2.55 0.391 -0.028 1

18 Ab11p21 1828 2012 185 7 1 0.478 0.51 1.77 0.294 0.869 0.215 2.72 0.491 -0.042 1

19 Ab11p22 1828 2012 185 7 1 0.459 0.60 1.86 0.357 0.885 0.220 2.79 0.542 -0.052 1

20 Ab11p31 1922 2012 91 4 0 0.396 0.86 2.67 0.475 0.684 0.308 2.60 0.397 -0.020 1

21 Ab11p32 1922 2012 91 4 0 0.470 0.98 2.36 0.462 0.753 0.254 2.69 0.566 0.054 1

22 Ab11p52 1837 2012 176 7 3 0.512 0.68 3.00 0.508 0.841 0.300 3.02 0.502 -0.049 1

23 Bi06p11 1927 2012 86 3 0 0.505 1.52 3.71 0.944 0.918 0.233 2.73 0.558 0.055 1

24 Bi06p12 1927 2012 86 3 0 0.554 1.68 3.96 1.026 0.903 0.229 2.62 0.390 -0.033 1

25 Bi06p21 1955 2012 58 2 0 0.355 1.95 3.73 0.810 0.793 0.244 2.77 0.558 -0.062 2

26 Bi06p22 1955 2012 58 2 0 0.537 1.69 3.04 0.608 0.862 0.181 2.52 0.501 -0.088 1

27 Bi06p31 1947 2012 66 3 0 0.371 1.73 4.37 0.570 0.479 0.246 2.63 0.551 -0.007 1

28 Bi06p32 1947 2012 66 3 1 0.378 2.43 5.14 1.036 0.755 0.248 2.83 0.489 -0.027 1

29 Bi06p41 1939 2012 74 3 1 0.446 2.28 5.71 1.143 0.922 0.171 2.44 0.401 -0.069 1

30 Bi06p42 1939 2012 74 3 0 0.414 2.19 5.17 0.996 0.892 0.174 2.53 0.544 -0.082 2

31 Bi06p51 1931 2012 82 3 1 0.364 1.90 5.67 1.285 0.942 0.197 2.77 0.509 0.013 2

32 Bi06p52 1931 2012 82 3 1 0.561 1.91 4.47 1.054 0.920 0.186 2.49 0.501 -0.036 1

33 Bi08p11 1930 2012 83 3 0 0.541 1.45 2.85 0.557 0.693 0.233 2.47 0.406 -0.080 1

34 Bi08p12 1930 2012 83 3 1 0.417 1.25 4.31 0.673 0.748 0.274 2.79 0.482 -0.057 1

35 Bi08p21 1910 2012 103 4 2 0.398 0.93 1.98 0.506 0.878 0.245 2.77 0.584 -0.081 1

36 Bi08p22 1910 2012 103 4 1 0.531 0.72 1.64 0.355 0.865 0.214 2.65 0.420 -0.103 1

37 Bi08p31 1927 2012 86 3 1 0.331 1.09 2.07 0.432 0.690 0.247 2.75 0.544 -0.015 2

38 Bi08p32 1927 2012 86 3 1 0.431 1.14 2.43 0.481 0.802 0.237 2.64 0.402 0.034 1

39 Bi08p41 1959 2012 54 2 0 0.453 1.73 2.65 0.558 0.772 0.172 2.70 0.591 -0.071 1

40 Bi08p42 1959 2012 54 2 0 0.437 1.72 3.15 0.575 0.816 0.173 2.91 0.476 -0.019 1

41 Bi09p11 1869 2012 144 6 4 0.367 0.66 2.16 0.577 0.904 0.293 2.52 0.358 -0.024 1

42 Bi09p12 1869 2012 144 6 4 0.460 0.84 2.73 0.766 0.915 0.279 2.53 0.329 -0.041 1

43 Bi09p22 1944 2012 69 3 0 0.530 1.71 4.14 0.992 0.864 0.252 2.60 0.470 -0.041 1

44 Bi09p31 1886 2012 127 5 1 0.488 0.94 3.39 0.715 0.902 0.295 2.72 0.515 -0.032 1

45 Bi09p32 1886 2012 127 5 0 0.521 1.25 4.65 0.779 0.848 0.250 2.95 0.534 0.006 1

46 Bi09p41 1733 2012 280 11 5 0.329 0.52 1.95 0.341 0.849 0.252 2.60 0.293 -0.052 1

47 Bi09p42 1800 2012 213 8 3 0.398 1.10 3.55 0.838 0.879 0.252 2.62 0.363 -0.059 1

48 Bi09p51 1815 2012 198 8 2 0.417 0.70 2.61 0.495 0.882 0.295 2.70 0.454 0.002 1

PART 7: DESCRIPTIVE STATISTICS: 00:00 ®¯® 00 0000 Page 12

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Corr //-------- Unfiltered --------\\ //---- Filtered -----\\

No. No. No. with Mean Max Std Auto Mean Max Std Auto AR

Seq Series Interval Years Segmt Flags Master msmt msmt dev corr sens value dev corr ()

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49 Bi09p52 1954 2012 59 2 0 0.662 0.56 1.75 0.426 0.845 0.361 2.71 0.516 -0.030 1

50 Bi09p53 1814 1934 121 5 2 0.322 0.42 1.33 0.316 0.840 0.347 2.69 0.474 -0.040 1

51 Ca07p12 1707 2012 306 11 4 0.236 0.82 2.89 0.583 0.870 0.284 2.80 0.419 -0.043 1

52 Ca07p21 1861 2012 152 6 2 0.396 0.92 3.39 0.658 0.878 0.274 2.91 0.464 0.071 1

53 Ca07p22 1861 2012 152 6 3 0.338 1.01 3.23 0.658 0.861 0.273 2.73 0.424 -0.041 1

54 Ca07p31 1914 2012 99 4 3 0.327 1.39 4.86 1.108 0.904 0.260 2.57 0.394 -0.037 1

55 Ca07p32 1914 2012 99 4 0 0.499 1.10 2.59 0.638 0.862 0.271 2.47 0.329 -0.080 1

56 Ca07p41 1833 2012 180 7 4 0.252 0.58 2.39 0.443 0.842 0.316 2.83 0.445 -0.051 1

57 Ca07p51 1888 2012 125 5 2 0.381 1.06 3.84 0.843 0.887 0.268 2.57 0.349 -0.033 1

58 Di07p11 1923 2012 90 4 2 0.344 1.41 2.91 0.651 0.747 0.264 3.04 0.623 0.073 1

59 Di07p12 1923 2012 90 4 2 0.388 1.44 3.11 0.680 0.815 0.230 2.64 0.490 -0.059 2

60 Di07p21 1856 2012 157 6 4 0.304 0.83 3.48 0.787 0.918 0.287 2.51 0.371 -0.044 1

61 Di07p22 1856 2012 157 6 1 0.483 0.94 3.29 0.666 0.914 0.248 2.65 0.471 0.042 1

62 Di07p31 1940 2012 73 3 0 0.521 2.29 3.33 0.498 0.419 0.194 2.54 0.471 0.024 1

63 Di07p32 1940 2012 73 3 0 0.426 1.90 2.83 0.561 0.661 0.206 2.44 0.417 0.039 1

64 Di07p41 1892 2012 121 5 0 0.362 1.69 6.03 1.036 0.842 0.243 2.89 0.536 0.010 1

65 Di07p42 1954 2012 59 2 0 0.491 1.32 4.50 1.041 0.904 0.249 2.79 0.585 -0.112 1

66 Di07p51 1930 2012 83 3 1 0.351 1.34 3.35 0.786 0.854 0.266 2.61 0.380 -0.051 2

67 Di07p52 1930 2012 83 3 1 0.358 1.12 2.38 0.641 0.922 0.203 2.86 0.545 -0.076 1

68 Di09p22 1956 2012 57 2 0 0.510 1.48 2.93 0.614 0.828 0.177 2.82 0.592 -0.002 1

69 Di09p21 1956 2012 57 2 0 0.453 1.91 2.77 0.469 0.572 0.192 2.61 0.567 -0.042 1

70 Di09p31 1920 2012 93 4 0 0.564 0.97 2.18 0.490 0.912 0.225 2.47 0.391 0.022 1

71 Di09p32 1920 2012 93 4 0 0.452 1.28 2.38 0.603 0.901 0.206 2.65 0.527 0.018 1

72 Di09p41 1930 2012 83 3 2 0.362 2.01 4.25 0.858 0.869 0.169 2.57 0.445 -0.031 2

73 Di09p42 1930 2012 83 3 0 0.495 1.84 3.36 0.661 0.822 0.163 2.46 0.366 0.014 1

74 Di09p51 1957 2012 56 2 0 0.438 1.91 3.45 0.850 0.846 0.188 2.68 0.478 -0.104 1

75 Di09p52 1957 2012 56 2 0 0.406 1.59 3.74 0.992 0.932 0.200 2.77 0.476 0.050 1

76 Di11p11 1863 2012 150 6 2 0.396 0.66 1.50 0.337 0.775 0.261 2.87 0.407 -0.042 1

77 Di11p12 1863 2012 150 6 0 0.481 0.61 1.49 0.263 0.765 0.231 2.61 0.334 -0.059 1

78 Di11p21 1938 2012 75 3 0 0.551 1.57 2.87 0.542 0.582 0.256 2.89 0.569 0.056 1

79 Di11p22 1938 2012 75 3 0 0.502 1.12 2.70 0.496 0.812 0.213 2.81 0.559 -0.042 2

80 Di11p31 1798 2012 215 9 1 0.479 0.94 2.62 0.467 0.827 0.235 2.54 0.362 0.018 1

81 Di11p32 1806 2012 207 8 1 0.480 0.64 1.60 0.291 0.785 0.236 2.64 0.376 -0.039 1

82 Di11p41 1785 2012 228 9 2 0.430 0.55 1.64 0.282 0.887 0.188 2.70 0.319 -0.028 1

83 Di11p42 1785 2012 228 9 2 0.443 0.64 1.46 0.254 0.764 0.227 2.72 0.392 -0.007 1

84 Di11p52 1772 2012 241 10 3 0.434 0.81 2.42 0.473 0.855 0.237 2.57 0.302 -0.052 1

85 Ja08p11 1954 2012 59 2 0 0.372 1.80 3.97 0.944 0.695 0.320 2.73 0.550 -0.060 1

86 Ja08p12 1954 2012 59 2 0 0.477 1.67 4.36 1.036 0.813 0.286 2.77 0.438 0.001 1

87 Ja08p22 1958 2012 55 2 0 0.666 1.71 4.71 0.866 0.784 0.286 2.73 0.581 -0.011 1

88 Ja08p31 1900 2012 113 4 0 0.480 1.09 2.56 0.473 0.589 0.315 2.75 0.474 0.063 1

89 Ja08p32 1900 2012 113 4 1 0.434 1.07 2.80 0.505 0.554 0.317 2.93 0.477 -0.008 1

90 Ja08p41 1947 2012 66 3 0 0.491 1.67 4.10 1.123 0.874 0.285 2.48 0.534 0.001 3

91 Ja08p42 1947 2012 66 3 1 0.369 1.48 4.64 1.138 0.872 0.324 2.69 0.596 -0.027 1

92 Ja09p11 1921 2012 92 4 0 0.660 1.61 4.03 0.705 0.702 0.287 2.61 0.560 -0.016 1

93 Ja09p12 1921 2012 92 4 0 0.568 1.79 4.73 0.960 0.786 0.274 2.64 0.545 -0.092 1

94 Ja09p21 1923 2012 90 4 0 0.585 1.58 2.64 0.453 0.609 0.217 2.53 0.384 0.000 1

95 Ja09p22 1923 2012 90 4 0 0.577 1.60 3.99 0.782 0.837 0.222 2.79 0.472 -0.029 1

96 Ja09p31 1930 2012 83 3 1 0.557 1.48 3.42 0.753 0.784 0.243 2.58 0.390 -0.034 2

PART 7: DESCRIPTIVE STATISTICS: 00:00 ®¯® 00 0000 Page 13

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Corr //-------- Unfiltered --------\\ //---- Filtered -----\\

No. No. No. with Mean Max Std Auto Mean Max Std Auto AR

Seq Series Interval Years Segmt Flags Master msmt msmt dev corr sens value dev corr ()

--- -------- --------- ----- ----- ----- ------ ----- ----- ----- ----- ----- ----- ----- ----- --

97 Ja09p32 1930 2012 83 3 0 0.633 1.65 3.47 0.847 0.853 0.246 2.68 0.551 0.047 1

98 Ja09p41 1918 2012 95 4 2 0.452 1.33 3.38 0.840 0.917 0.211 2.64 0.344 -0.088 3

99 Ja09p42 1918 2012 95 4 0 0.447 1.35 2.81 0.853 0.931 0.251 2.56 0.446 0.003 1

100 Ja09p51 1937 2012 76 3 0 0.534 2.19 4.20 0.685 0.551 0.239 2.61 0.480 -0.032 1

101 Ja09p52 1936 2012 77 3 0 0.456 2.73 4.73 0.891 0.711 0.188 2.36 0.397 -0.018 2

102 Ja10p11 1921 2012 92 4 0 0.574 1.08 2.21 0.385 0.643 0.234 2.60 0.433 -0.061 1

103 Ja10p12 1921 2012 92 4 0 0.486 1.19 3.49 0.661 0.848 0.226 2.57 0.388 -0.043 1

104 Ki09p11 1958 2012 55 2 0 0.628 2.06 3.25 0.557 0.565 0.202 2.41 0.433 -0.051 1

105 Ki09p12 1958 2012 55 2 0 0.659 2.58 6.17 1.145 0.836 0.205 2.48 0.396 -0.073 1

106 Ki09p21 1941 2012 72 3 0 0.511 2.19 3.96 0.698 0.730 0.197 2.41 0.435 -0.009 1

107 Ki09p22 1941 2012 72 3 0 0.592 1.69 3.46 0.616 0.640 0.244 2.64 0.500 -0.063 1

108 Ki09p31 1934 2012 79 3 2 0.499 1.87 3.42 0.786 0.732 0.254 2.42 0.329 -0.023 1

109 Ki09p32 1934 2012 79 3 1 0.514 2.03 3.86 0.529 0.600 0.187 2.61 0.438 -0.055 1

110 Ki09p41 1958 2012 55 2 0 0.572 1.83 3.39 0.587 0.804 0.180 2.43 0.393 -0.064 1

111 Ki09p42 1958 2012 55 2 0 0.650 1.96 3.36 0.527 0.729 0.175 2.38 0.378 0.009 2

112 Ki09p51 1897 2012 116 5 0 0.553 1.04 3.02 0.812 0.947 0.217 2.87 0.532 -0.029 1

113 Ki09p52 1897 2012 116 5 0 0.547 1.19 3.69 0.979 0.952 0.229 2.59 0.487 -0.072 1

114 Ki10p11 1921 2012 92 4 0 0.593 1.15 3.15 0.582 0.705 0.286 2.75 0.488 -0.060 1

115 Ki10p12 1921 2012 92 4 0 0.564 1.65 3.86 0.738 0.758 0.237 2.58 0.362 -0.050 1

116 Ki10p21 1960 2012 53 2 0 0.460 2.51 4.26 0.637 0.560 0.184 2.72 0.590 -0.070 1

117 Ki10p22 1960 2012 53 2 0 0.463 2.60 3.85 0.603 0.623 0.157 2.59 0.568 -0.114 1

118 Ki10p31 1956 2012 57 2 0 0.688 2.05 4.26 0.627 0.731 0.160 2.46 0.467 -0.005 1

119 Ki10p32 1956 2012 57 2 0 0.461 1.89 3.59 0.702 0.810 0.178 2.50 0.452 -0.001 2

120 Ki10p41 1889 2012 124 5 0 0.512 1.02 4.26 0.694 0.869 0.264 2.76 0.442 -0.034 3

121 Ki10p42 1889 2012 124 5 0 0.562 0.94 4.78 0.633 0.806 0.264 2.45 0.356 0.005 2

122 Ki10p51 1902 2012 111 4 0 0.580 0.94 2.27 0.488 0.832 0.247 2.86 0.449 -0.036 1

123 Ki10p52 1902 2012 111 4 0 0.502 1.21 3.53 0.646 0.836 0.248 2.66 0.420 0.009 1

124 Ki11p11 1841 2012 172 7 2 0.450 0.63 1.93 0.280 0.635 0.288 2.74 0.404 -0.036 1

125 Ki11p12 1841 2012 172 7 0 0.476 1.04 3.23 0.589 0.796 0.265 2.50 0.359 -0.033 1

126 Ki11p21 1902 2012 111 4 1 0.417 1.07 2.49 0.519 0.804 0.258 2.77 0.448 -0.029 1

127 Ki11p22 1902 2012 111 4 1 0.384 1.08 2.62 0.574 0.831 0.248 2.75 0.445 -0.041 1

128 Ki11p31 1879 2012 134 5 1 0.450 0.79 2.16 0.473 0.872 0.258 2.57 0.363 -0.018 1

129 Ki11p32 1870 2012 143 6 2 0.432 1.13 3.37 0.720 0.840 0.325 2.63 0.375 0.000 1

130 Ki11p41 1841 2012 172 7 0 0.523 1.00 3.12 0.734 0.909 0.257 2.65 0.430 -0.030 1

131 Ki11p42 1841 2012 172 7 4 0.378 0.94 2.85 0.640 0.891 0.269 2.48 0.353 -0.017 2

132 Ki11p52 1857 2012 156 6 1 0.442 0.77 2.22 0.496 0.821 0.249 2.64 0.395 -0.009 2

133 Ma08p11 1920 2012 93 4 2 0.395 1.55 3.47 0.622 0.807 0.201 2.73 0.434 0.110 2

134 Ma08p12 1920 2012 93 4 0 0.399 1.62 3.66 0.748 0.808 0.242 2.70 0.511 -0.047 1

135 Ma08p31 1917 2012 96 4 1 0.425 1.09 3.23 0.534 0.839 0.225 2.48 0.382 -0.037 2

136 Ma08p32 1958 2012 55 2 0 0.372 1.34 3.98 0.896 0.891 0.267 2.62 0.487 0.001 1

137 Ma08p41 1921 2012 92 4 2 0.333 1.27 4.74 0.890 0.890 0.274 2.93 0.539 -0.044 1

138 Ma08p42 1921 2012 92 4 3 0.226 1.51 4.53 1.097 0.926 0.261 2.72 0.504 0.027 3

139 Ma09p11 1927 2012 86 3 2 0.413 1.26 2.67 0.672 0.903 0.186 2.60 0.398 -0.011 1

140 Ma09p12 1927 2012 86 3 1 0.416 1.39 2.24 0.481 0.741 0.193 2.48 0.420 0.071 1

141 Ma09p21 1919 2012 94 4 0 0.415 0.78 2.36 0.521 0.918 0.216 2.60 0.422 -0.084 1

142 Ma09p22 1919 2012 94 4 0 0.436 1.14 2.72 0.630 0.853 0.238 2.61 0.478 -0.042 3

143 Ma09p31 1901 2012 112 4 0 0.472 1.00 2.09 0.473 0.735 0.270 2.60 0.376 0.006 1

144 Ma09p32 1901 2012 112 4 0 0.474 0.80 1.72 0.434 0.827 0.269 2.60 0.505 0.046 1

PART 7: DESCRIPTIVE STATISTICS: 00:00 ®¯® 00 0000 Page 14

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Corr //-------- Unfiltered --------\\ //---- Filtered -----\\

No. No. No. with Mean Max Std Auto Mean Max Std Auto AR

Seq Series Interval Years Segmt Flags Master msmt msmt dev corr sens value dev corr ()

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145 Ma09p41 1937 2012 76 3 0 0.462 1.21 2.58 0.619 0.815 0.233 2.75 0.447 -0.075 1

146 Ma09p42 1937 2012 76 3 1 0.414 1.40 3.25 0.698 0.806 0.261 2.76 0.553 -0.038 1

147 Ma09p51 1834 2012 179 7 1 0.427 0.46 1.25 0.241 0.755 0.277 2.67 0.437 -0.005 1

148 Ma09p52 1834 2012 179 7 0 0.468 0.63 2.36 0.423 0.874 0.269 2.86 0.410 0.005 1

149 Md07p12 1909 2012 104 4 0 0.568 0.97 2.46 0.522 0.851 0.248 2.67 0.440 -0.018 1

150 Md08p11 1946 2012 67 3 2 0.366 1.65 3.75 0.790 0.913 0.163 2.70 0.505 0.095 1

151 Md08p12 1946 2012 67 3 1 0.367 1.82 4.35 0.888 0.904 0.170 2.73 0.614 0.055 1

152 Md09p11 1899 2012 114 5 0 0.531 1.14 4.60 0.936 0.920 0.246 2.53 0.418 -0.085 1

153 Md09p12 1899 2012 114 5 1 0.451 0.85 3.58 0.685 0.913 0.239 2.68 0.463 -0.028 1

154 Md09p21 1895 2012 118 5 1 0.440 1.31 3.05 0.553 0.817 0.215 2.67 0.447 -0.029 1

155 Md09p22 1895 2012 118 5 1 0.377 1.23 3.39 0.599 0.800 0.228 2.63 0.475 -0.069 1

156 Md09p31 1900 2012 113 4 0 0.518 0.74 3.65 0.514 0.840 0.251 2.71 0.414 -0.012 3

157 Md09p32 1900 2012 113 4 1 0.371 1.22 3.14 0.688 0.866 0.234 2.41 0.308 -0.062 1

158 Md09p41 1896 2012 117 5 0 0.504 1.36 3.72 0.700 0.841 0.229 2.55 0.431 0.006 1

159 Md09p42 1896 2012 117 5 1 0.417 1.05 2.38 0.495 0.763 0.272 2.94 0.558 0.010 1

160 Md10p11 1874 2012 139 6 0 0.603 0.76 1.60 0.321 0.726 0.251 2.72 0.505 -0.016 1

161 Md10p12 1874 2012 139 6 0 0.520 1.27 4.72 0.959 0.908 0.218 2.69 0.407 -0.057 3

162 Md10p21 1886 2012 127 5 0 0.467 1.03 2.66 0.558 0.819 0.278 2.44 0.327 -0.037 1

163 Md10p22 1886 2012 127 5 2 0.435 1.35 4.43 0.723 0.813 0.238 2.83 0.488 0.052 1

164 Md10p31 1834 2012 179 7 2 0.426 0.96 2.91 0.498 0.804 0.240 2.76 0.363 -0.003 1

165 Md10p32 1834 2012 179 7 2 0.479 0.72 2.25 0.450 0.872 0.257 2.66 0.420 -0.016 1

166 Md10p41 1970 2012 43 1 0 0.756 1.74 2.54 0.457 0.403 0.223 2.52 0.573 -0.011 1

167 Md10p42 1970 2012 43 1 0 0.508 2.10 3.69 0.655 0.593 0.196 2.49 0.464 -0.107 2

168 Md10p51 1861 2012 152 6 0 0.583 1.36 2.88 0.540 0.634 0.262 2.67 0.481 -0.013 1

169 Md10p52 1924 2012 89 4 0 0.579 1.21 2.71 0.501 0.582 0.290 2.74 0.463 0.015 1

170 Md12p11 1860 2012 153 6 3 0.427 0.85 3.35 0.651 0.902 0.237 2.76 0.397 0.022 1

171 Md12p12 1833 2012 180 7 2 0.506 0.54 1.35 0.278 0.785 0.275 2.78 0.389 0.049 1

172 Md12p22 1952 2012 61 2 0 0.504 1.09 2.69 0.798 0.902 0.323 2.54 0.459 0.031 1

173 Md12p31 1859 2012 154 6 1 0.434 0.63 1.77 0.393 0.868 0.233 2.69 0.398 0.008 1

174 Md12p32 1859 2012 154 6 3 0.423 0.91 2.64 0.618 0.922 0.219 2.72 0.398 -0.013 1

175 Md12p41 1911 2012 102 4 1 0.518 0.66 1.64 0.306 0.721 0.263 3.05 0.496 -0.018 1

176 Md12p42 1810 2012 203 8 0 0.516 0.92 2.43 0.537 0.869 0.233 2.65 0.368 -0.027 1

177 Md12p51 1910 2012 103 4 0 0.565 1.33 3.24 0.796 0.879 0.214 2.67 0.446 0.000 1

178 Mo07p11 1915 2012 98 4 2 0.389 1.48 2.37 0.396 0.698 0.172 2.55 0.551 -0.064 1

179 Mo07p12 1915 2012 98 4 2 0.495 1.62 2.67 0.429 0.740 0.140 2.51 0.388 -0.014 1

180 Mo07p21 1930 2012 83 3 3 0.228 0.49 1.74 0.379 0.885 0.312 2.71 0.534 -0.043 1

181 Mo07p42 1900 2012 113 4 0 0.471 1.21 4.73 0.833 0.757 0.322 2.68 0.483 -0.056 2

182 Mo07p51 1907 2012 106 4 0 0.578 1.05 2.82 0.597 0.868 0.235 2.60 0.426 0.040 1

183 Mo08p11 1913 2012 100 4 1 0.393 1.11 3.22 0.681 0.876 0.246 2.63 0.430 0.052 2

184 Mo08p12 1913 2012 100 4 1 0.344 1.27 3.39 0.824 0.865 0.239 2.60 0.356 -0.022 2

185 Mo08p21 1880 2012 133 5 1 0.480 0.95 2.75 0.576 0.803 0.298 2.84 0.429 -0.057 1

186 Mo08p22 1880 2012 133 5 2 0.336 0.96 2.55 0.591 0.851 0.265 2.83 0.533 -0.031 1

187 Mo08p31 1936 2012 77 3 0 0.536 1.99 3.68 0.809 0.739 0.241 2.64 0.505 0.101 1

188 Mo08p32 1907 2012 106 4 0 0.623 2.24 4.47 1.363 0.919 0.227 2.53 0.388 -0.037 1

189 Mo08p41 1906 2012 107 4 0 0.549 1.84 4.86 0.706 0.745 0.193 2.50 0.389 -0.009 1

190 Mo08p42 1907 2012 106 4 0 0.668 1.52 3.28 0.647 0.815 0.185 2.71 0.491 -0.007 1

191 Mo08p51 1828 2012 185 7 3 0.285 0.81 3.37 0.867 0.873 0.429 2.89 0.385 -0.051 1

192 Mo08p52 1835 2012 178 7 3 0.380 0.87 4.08 0.885 0.911 0.343 2.74 0.331 -0.039 1

PART 7: DESCRIPTIVE STATISTICS: 00:00 ®¯® 00 0000 Page 15

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Corr //-------- Unfiltered --------\\ //---- Filtered -----\\

No. No. No. with Mean Max Std Auto Mean Max Std Auto AR

Seq Series Interval Years Segmt Flags Master msmt msmt dev corr sens value dev corr ()

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193 Mo09p11 1909 2012 104 4 1 0.306 1.46 3.90 0.762 0.869 0.194 2.67 0.391 -0.082 1

194 Mo09p12 1909 2012 104 4 2 0.412 1.52 4.02 0.784 0.865 0.201 2.62 0.451 -0.001 2

195 Mo09p21 1905 2012 108 4 4 0.306 1.43 3.41 0.686 0.864 0.228 2.74 0.517 0.095 2

196 Mo09p22 1905 2012 108 4 2 0.333 1.36 3.24 0.712 0.881 0.224 2.41 0.322 -0.036 1

197 Mo09p31 1813 2012 200 8 3 0.390 1.18 4.60 1.048 0.938 0.243 2.61 0.355 -0.054 1

198 Mo09p32 1870 2012 143 6 1 0.435 1.56 5.29 1.146 0.900 0.229 2.64 0.357 0.011 1

199 Mo09p42 1901 2012 112 4 1 0.478 1.38 4.20 0.901 0.857 0.297 2.65 0.416 0.015 1

200 Ol07p11 1936 2012 77 3 0 0.482 1.63 3.92 0.969 0.824 0.305 2.75 0.563 0.018 1

201 Ol07p12 1936 2012 77 3 0 0.533 1.40 5.74 1.349 0.898 0.257 2.83 0.593 0.009 1

202 Ol07p21 1945 2012 68 3 0 0.571 1.06 2.38 0.480 0.871 0.192 2.57 0.427 0.033 1

203 Ol07p22 1945 2012 68 3 2 0.465 1.48 3.03 0.564 0.814 0.174 2.55 0.423 -0.127 1

204 Ol07p32 1938 2012 75 3 0 0.368 2.33 4.42 0.933 0.879 0.174 2.44 0.433 -0.094 1

205 Ol07p51 1987 2012 26 1 0 0.499 2.09 3.54 0.814 0.865 0.178 2.56 0.536 -0.007 1

206 Ol07p52 1944 2012 69 3 0 0.585 1.29 3.30 0.889 0.926 0.262 2.56 0.498 -0.054 1

207 Ol08p11 1916 2012 97 4 0 0.607 1.16 3.88 0.689 0.841 0.244 2.75 0.489 -0.003 2

208 Ol08p12 1916 2012 97 4 0 0.452 1.17 3.43 0.648 0.837 0.246 2.60 0.455 -0.037 1

209 Ol08p21 1925 2012 88 3 0 0.510 1.94 3.66 0.737 0.873 0.176 2.55 0.508 -0.041 1

210 Ol08p22 1925 2012 88 3 0 0.411 1.83 2.96 0.554 0.770 0.178 2.61 0.527 -0.014 1

211 Ol08p31 1921 2012 92 4 0 0.519 1.40 3.27 0.783 0.814 0.305 2.51 0.371 -0.029 1

212 Ol08p32 1920 2012 93 4 2 0.569 1.59 3.77 0.846 0.858 0.239 2.52 0.353 0.016 3

213 Ol08p41 1924 2012 89 4 0 0.585 1.79 4.56 0.995 0.880 0.224 2.58 0.497 -0.080 1

214 Ol08p42 1924 2012 89 4 0 0.626 1.83 4.26 0.996 0.870 0.222 2.46 0.367 0.001 1

215 Ol08p51 1916 2012 97 4 0 0.502 1.30 4.25 0.806 0.779 0.317 2.84 0.538 -0.060 1

216 Ol08p52 1916 2012 97 4 1 0.467 1.99 5.38 1.400 0.832 0.330 2.72 0.466 -0.050 2

217 Ol09p11 1883 2012 130 5 1 0.441 1.17 3.03 0.711 0.772 0.275 2.75 0.502 -0.036 1

218 Ol09p12 1884 2012 129 5 0 0.516 1.24 2.76 0.634 0.809 0.244 2.60 0.338 -0.078 1

219 Ol09p21 1927 2012 86 3 0 0.516 1.47 3.21 0.584 0.628 0.224 2.65 0.415 -0.054 1

220 Ol09p22 1927 2012 86 3 0 0.601 0.93 2.48 0.400 0.576 0.261 2.66 0.472 -0.028 1

221 Ol09p31 1940 2012 73 3 0 0.587 1.51 3.99 0.773 0.786 0.269 2.69 0.502 -0.029 1

222 Ol09p32 1940 2012 73 3 0 0.646 1.39 2.55 0.491 0.541 0.280 2.79 0.529 -0.061 1

223 Ol09p41 1921 2012 92 4 2 0.523 1.34 3.32 0.480 0.654 0.240 2.72 0.412 -0.072 1

224 Ol09p42 1921 2012 92 4 0 0.511 1.24 2.23 0.302 0.347 0.216 2.64 0.493 -0.006 1

225 Ol09p51 1888 2012 125 5 1 0.394 1.55 4.23 0.761 0.812 0.200 2.53 0.415 -0.012 1

226 Ol09p52 1900 2012 113 4 2 0.455 1.88 3.86 0.871 0.854 0.197 2.35 0.377 -0.028 1

227 Su07p11 1926 2012 87 3 1 0.340 1.59 3.75 0.899 0.873 0.270 2.54 0.388 -0.070 2

228 Su07p12 1926 2012 87 3 2 0.354 2.02 3.91 0.955 0.801 0.278 2.54 0.476 -0.034 4

229 Su09p11 1953 2012 60 2 1 0.384 1.78 4.18 0.922 0.918 0.189 2.52 0.474 -0.007 2

230 Su09p12 1953 2012 60 2 1 0.330 2.41 4.39 0.766 0.762 0.179 2.69 0.536 -0.008 1

231 Su10p12 1933 2012 80 3 0 0.569 1.79 4.17 0.914 0.871 0.229 2.51 0.535 -0.027 1

232 Su10p11 1934 2012 79 3 2 0.311 1.26 4.37 1.159 0.907 0.302 2.45 0.369 -0.011 2

233 Su11p11 1942 2012 71 3 0 0.642 1.75 2.95 0.562 0.726 0.190 2.66 0.479 0.020 1

234 Su11p12 1942 2012 71 3 0 0.479 1.65 3.47 0.869 0.839 0.257 2.66 0.538 -0.067 1

235 Su11p21 1942 2012 71 3 0 0.379 1.30 3.25 0.737 0.829 0.285 2.63 0.526 0.060 1

236 Su11p22 1942 2012 71 3 1 0.353 1.41 3.09 0.667 0.822 0.221 2.85 0.517 0.014 1

237 Su11p31 1931 2012 82 3 0 0.541 1.73 3.77 0.706 0.822 0.197 2.62 0.391 -0.056 1

238 Su11p32 1929 2012 84 3 1 0.403 1.71 4.38 0.821 0.874 0.199 2.47 0.467 -0.048 1

239 Su11p41 1947 2012 66 3 0 0.444 1.50 3.75 1.054 0.895 0.251 2.47 0.368 -0.035 2

240 Su11p42 1947 2012 66 3 0 0.699 2.14 4.55 1.174 0.890 0.209 2.52 0.511 -0.086 1

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Total or mean: 25450 1005 193 0.461 1.21 6.17 0.652 0.821 0.246 3.05 0.438 -0.021

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