[] Dendrochronology Program Library Run ABBA 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

Title of run: ABBA\_full

File of DATED series: All.ABBA.Afix\_USE.raw

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 1895 to 2012 118 years

Continuous time span is 1895 to 2012 118 years

Portion with two or more series is 1896 to 2012 117 years

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

\*C\* Number of dated series 242 \*C\*

\*O\* Master series 1895 2012 118 yrs \*O\*

\*F\* Total rings in all series 16225 \*F\*

\*E\* Total dated rings checked 16224 \*E\*

\*C\* Series intercorrelation 0.476 \*C\*

\*H\* Average mean sensitivity 0.209 \*H\*

\*A\* Segments, possible problems 120 \*A\*

\*\*\* Mean length of series 67.0 \*\*\*

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

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

No ring measurements of zero value

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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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. . . . . . . . . . . . . . . . . . . <===> . Ol11a42 213 1972 2012 41

. . . . . . . . . . . . . . . . . . <=====> . Su07a21 214 1954 2012 59

. . . . . . . . . . . . . . . . . . <=====> . Su07a31 215 1951 2012 62

. . . . . . . . . . . . . . . . . . <=====> . Su07a32 216 1952 2012 61

. . . . . . . . . . . . . . . . . . <======> . Su07a11 217 1949 2012 64

. . . . . . . . . . . . . . . . . . <======> . Su07a12 218 1949 2012 64

. . . . . . . . . . . . . . . . . . <=======> . Su08a11 219 1939 2012 74

. . . . . . . . . . . . . . . . . . <=======> . Su08a12 220 1939 2012 74

. . . . . . . . . . . . . . . . . . <=======> . Su08a21 221 1936 2012 77

. . . . . . . . . . . . . . . . . . <=======> . Su08a22 222 1936 2012 77

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. . . . . . . . . . . . . . . . . . <======> . Su10a11 224 1940 2012 73

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. . . . . . . . . . . . . . . . . . <=======> . Su10a21 226 1937 2012 76

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. . . . . . . . . . . . . . . . . . <=======> . Su11a11 234 1931 2012 82

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. . . . . . . . . . . . . . . . . . <======> . Su11a41 238 1943 2012 70

. . . . . . . . . . . . . . . . . . <======> . Su11a42 239 1943 2012 70

. . . . . . . . . . . . . . . . . . <======> . Su11a51 240 1947 2012 66

. . . . . . . . . . . . . . . . . . <======> . Su11a52 241 1943 2012 70

. . . . . . . . . . . . . . . . . . <======> . Su11a62 242 1949 2012 64

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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: ABBA\_full 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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1900 0.622 5 1950 -0.378 141 2000 -0.080 240

1901 -0.140 5 1951 -0.413 142 2001 1.451 240

1902 -0.952 5 1952 -0.281 145 2002 -0.354 240

1903 -0.685 5 1953 0.127 148 2003 -1.480 240

1904 -0.252 5 1954 0.640 151 2004 1.203 240

1905 0.441 7 1955 1.313 156 2005 0.571 240

1906 0.959 7 1956 -2.927 161 2006 -2.656 240

1907 -0.154 7 1957 0.810 165 2007 1.007 240

1908 -0.348 8 1958 -0.022 175 2008 0.162 240

1909 0.446 9 1959 -0.007 180 2009 0.045 240

1910 0.279 11 1960 -0.887 184 2010 1.092 241

1911 0.214 11 1961 0.878 193 2011 -0.776 241

1912 0.271 11 1962 -0.939 195 2012 0.662 241

1913 0.853 11 1963 -0.074 200

1914 -0.668 13 1964 1.500 206

1915 -0.238 17 1965 1.189 210

1916 0.609 17 1966 -0.134 211

1917 -0.706 19 1967 0.033 219

1918 -0.462 19 1968 0.250 222

1919 0.210 23 1969 -0.722 226

1920 -0.071 26 1970 0.297 226

1921 1.046 26 1971 0.403 228

1922 -1.212 28 1972 -0.618 231

1923 -0.165 32 1973 0.138 231

1924 0.705 33 1974 -0.991 233

1925 0.624 36 1975 0.059 233

1926 -0.056 41 1976 0.103 233

1927 0.698 45 1977 -1.197 233

1928 0.283 46 1978 -1.293 235

1929 -0.788 46 1979 -1.010 235

1930 0.177 48 1980 1.697 236

1931 0.047 51 1981 -1.262 236

1932 1.081 54 1982 -1.130 236

1933 1.012 60 1983 0.607 238

1934 0.099 66 1984 -0.536 238

1935 -1.182 68 1985 1.092 240

1936 -0.963 73 1986 0.879 240

1937 -0.052 77 1987 1.687 240

1938 0.660 80 1988 0.572 240

1939 0.359 86 1989 -0.312 240

1940 -1.063 89 1990 0.994 240

1941 0.309 93 1991 0.479 240

1942 -0.255 97 1992 0.211 240

1943 0.456 104 1993 1.568 240

1944 -0.012 109 1994 -1.290 240

1895 -5.169 1 1945 0.497 111 1995 0.290 240

1896 2.475 3 1946 0.123 121 1996 -1.546 240

1897 1.418 3 1947 -0.694 127 1997 -0.448 239

1898 -0.882 3 1948 -0.741 133 1998 -1.365 239

1899 0.734 3 1949 0.941 138 1999 0.383 240

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PART 4: Master Bar Plot: ABBA\_full 00:00 ®¯® 00 0000 Page 8

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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

1900--------B 1950---b 2000----@

1901----a 1951---b 2001----------F

1902-d 1952---a 2002---a

1903--c 1953-----A 2003f

1904---a 1954--------C 2004---------E

1905-------B 1955----------E 2005--------B

1906---------D 1956l 2006k

1907----a 1957--------C 2007---------D

1908---a 1958----@ 2008-----A

1909-------B 1959----@ 2009-----@

1910------A 1960-d 2010---------D

1911------A 1961---------D 2011--c

1912------A 1962-d 2012--------C

1913---------C 1963----@

1914--c 1964----------F

1915---a 1965---------E

1916--------B 1966----a

1917--c 1967-----@

1918---b 1968------A

1919------A 1969--c

1920----@ 1970------A

1921---------D 1971-------B

1922e 1972--b

1923----a 1973-----A

1924--------C 1974-d

1925--------B 1975-----@

1926----@ 1976-----@

1927--------C 1977e

1928------A 1978e

1929--c 1979-d

1930-----A 1980----------G

1931-----@ 1981e

1932---------D 1982-e

1933---------D 1983--------B

1934-----@ 1984--b

1935e 1985---------D

1936-d 1986---------D

1937----@ 1987----------G

1938--------C 1988--------B

1939------A 1989---a

1940-d 1990---------D

1941------A 1991-------B

1942---a 1992------A

1943-------B 1993----------F

1944----@ 1994e

1895u 1945-------B 1995------A

1896----------J 1946-----@ 1996f

1897----------F 1947--c 1997---b

1898-d 1948--c 1998e

1899--------C 1949---------D 1999-------B

PART 5: CORRELATION OF SERIES BY SEGMENTS: ABBA\_full 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 1875 1900 1925 1950 1975 2000

1924 1949 1974 1999 2024 2049

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

1 Ab08a21 1941 2012 .27B .22B .22B

2 Ab08a31 1933 2012 .36 .43 .21A

3 Ab08a32 1933 2012 .25B .21B .30A

4 Ab09a21 1915 2012 .35B .40B .46 .50

5 Ab09a22 1915 2012 .61 .62 .65 .57

6 Ab09a31 1949 2012 .51 .51 .37

7 Ab09a32 1949 2012 .40 .45 .36

8 Ab09a41 1920 2012 .40 .43 .44 .42

9 Ab09a42 1920 2012 .45 .42 .61 .30A

10 Ab09a51 1939 2012 .49 .44B .25A

11 Ab09a52 1939 2012 .36 .24B .24B

12 Ab11a12 1939 2012 .01B .13B .58

13 Ab11a51 1967 2012 .41

14 Ab11a22 1967 2012 .52

15 Ab11a31 1895 2012 .15B .12B .41 .51 .60

16 Bi09a11 1934 2012 .52 .65 .38B

17 Bi09a12 1934 2012 .35 .55 .45

18 Bi09a21 1956 2012 .45 .50

19 Bi09a22 1956 2012 .44 .42

20 Bi09a31 1936 2012 .40 .41 .38

21 Bi09a32 1936 2012 .56 .68 .52

22 Bi09a41 1917 2012 .45 .40 .57 .57

23 Bi09a42 1917 2012 .54 .60 .58 .37

24 Bi09a51 1943 2012 .60 .60 .45

25 Bi09a52 1943 2012 .60 .67 .69

26 Bi10a11 1961 2012 .47 .51

27 Bi10a12 1961 2012 .38 .50

28 Bi10a21 1963 2012 .55

29 Bi10a22 1963 2012 .51

30 Bi10a31 1900 2012 .21B .37 .56 .71

31 Bi10a32 1900 2012 .07B .31B .54 .66

32 Bi10a41 1961 2012 .58 .62

33 Bi10a42 1961 2012 .47 .52

34 Bi10a51 1960 2012 .45 .48

35 Bi10a52 1960 2012 .54 .57

36 Bi11a22 1965 2012 .44

37 Bi11a32 1968 2012 .40

38 Bi11a41 1964 2012 .33A

39 Bi11a42 1964 2012 .51

40 Bi11a51 1963 2012 .43

41 Bi11a52 1963 2012 .38

42 Bi11a11 1965 2012 .29B

43 Bi11a12 1966 2012 .29B

44 Di09a11 1957 2012 .58 .54

45 Di09a12 1957 2012 .20B .29B

46 Di09a31 1923 2012 .29B .31B .33B .20B

47 Di09a32 1923 2012 .20B .23B .24B .39B

48 Di09a41 1922 2012 .34 .33 .45 .60

49 Di09a42 1922 2012 .18B .16B .31A .43

50 Di09a21 1958 2012 .44 .44

51 Di09a51 1980 2012 .56

52 Di09a52 1950 2012 .20B .54

53 Di10a11 1950 2012 .64 .51

54 Di10a12 1950 2012 .45 .41

55 Di10a21 1948 2012 .26B .27B .57

56 Di10a22 1948 2012 .35B .35B .46

57 Di10a31 1934 2012 .38 .34 .41

58 Di10a32 1934 2012 .53 .39 .39

59 Di10a41 1958 2012 .38 .47

60 Di10a42 1958 2012 .61 .61

61 Di10a51 1946 2012 .50 .56 .60

62 Di10a52 1946 2012 .49 .52 .55

63 Di12a21 1972 2012 .62

64 Di12a22 1972 2012 .54

65 Di12a31 1942 2012 .41 .50 .57

66 Di12a32 1942 2012 .43 .51 .64

67 Di12a41 1915 2012 .52 .52 .55 .57

68 Di12a42 1915 2012 .12B .15B .40 .48

69 Di12a51 1910 2012 .30A .28A .44 .42

70 Di12a52 1910 2012 .56 .59 .57 .62

71 Ja08a11 1959 2012 .60 .57

72 Ja08a31 1919 2012 .17B .21B .65 .61

73 Ja08a32 1919 2012 .24B .30B .61 .55

74 Ja08a52 1939 2012 .30A .33 .45

75 Ja09a51 1938 2012 .76 .72 .56

76 Ja09a52 1938 2012 .65 .74 .68

77 Ja09a11 1925 2012 .23B .49 .36

78 Ja09a12 1925 2012 .24A .54 .44

79 Ja09a31 1946 2012 .56 .56 .44

80 Ja09a32 1935 2012 .60 .66 .50

81 Ja09a41 2010 2012 .99

82 Ja09a42 1956 2012 .51 .49

83 Ja10a21 1933 2012 .77 .74 .42

84 Ja10a22 1933 2012 .81 .73 .36

85 Ja10a31 1931 2012 .73 .76 .58

86 Ja10a32 1931 2012 .56 .54 .48

87 Ja10a41 1926 2012 .48 .46 .35B

88 Ja10a42 1926 2012 .62 .60 .51

89 Ja10a51 1935 2012 .66 .78 .74

90 Ki09a41 1944 2012 .59 .52 .23A

91 Ki09a42 1944 2012 .51 .45 .31A

92 Ki09a51 1947 2012 .36 .37 .50

93 Ki09a52 1947 2012 .26B .30A .39

94 Ki09a31 1936 2012 .23B .28A .57

95 Ki11a11 1962 2012 .56 .56

96 Ki11a12 1962 2012 .62 .62

97 Ki11a21 1967 2012 .54

98 Ki11a22 1967 2012 .46

99 Ki11a31 1958 2012 .51 .53

100 Ki11a32 1958 2012 .58 .60

101 Ki11a51 1958 2012 .56 .61

102 Ki11a52 1958 2012 .65 .67

103 Ki11a41 1963 2012 .58

104 Ki11a42 1953 2012 .27A .47

105 Ki12a11 1974 2012 .72

106 Ki12a12 1974 2012 .60

107 Ki12a21 1971 2012 .55

108 Ki12a22 1971 2012 .42

109 Ki12a41 1934 2012 .69 .72 .51

110 Ki12a42 1934 2012 .59 .62 .50

111 Ki12a51 1969 2012 .62

112 Ki12a52 1969 2012 .60

113 Ki12a31 1926 2012 .29B .47 .51

114 Ki12a32 1926 2012 .23B .38 .43

115 Md09a11 1956 2012 .09B .34

116 Md09a12 1956 2012 .25A .47

117 Md09a31 1959 2012 .39 .44

118 Md09a32 1959 2012 .53 .55

119 Md09a51 1914 2012 .29A .27B .37 .49

120 Md09a52 1914 2012 .29A .28A .47 .59

121 Md09a21 1938 2012 .09B .10B .63

122 Md09a22 1958 2012 .42 .43

123 Md10a21 1964 2012 .61

124 Md10a22 1964 2012 .61

125 Md10a31 1937 2012 .24B .34 .49

126 Md10a32 1937 2012 .35 .41 .62

127 Md10a11 1924 2012 .07B .03B .26B .40

128 Md10a12 1923 2012 .31A .29A .47 .59

129 Md10a51 1927 2012 .26A .36 .37

130 Md10a52 1926 2012 .21B .45 .47

131 Md10a41 1920 2012 .31A .20B .45 .61

132 Md10a42 1923 2012 .27A .26A .44 .65

133 Md12a11 1932 2012 .47 .42 .57

134 Md12a12 1932 2012 .64 .61 .47

135 Md12a31 1908 2012 .15B .34 .55 .60

136 Md12a32 1909 2012 .46 .51 .70 .57

137 Md12a41 1905 2012 .03B .30B .37 .45

138 Md12a42 1905 2012 -.01B .27B .31B .50

139 Md12a51 1944 2012 .31A .34 .40

140 Ma08a31 1952 2012 .48 .48

141 Ma08a32 1952 2012 .44 .51

142 Ma08a51 1959 2012 .46 .42

143 Ma08a21 1927 2012 .55 .59 .48

144 Ma08a22 1927 2012 .64 .69 .50

145 Ma08a41 1925 2012 .20B .64 .45

146 Ma10a21 1967 2012 .68

147 Ma10a22 1967 2012 .46

148 Ma10a31 1964 2012 .53

149 Ma10a32 1964 2012 .69

150 Ma10a41 1967 2012 .58

151 Ma10a42 1967 2012 .71

152 Ma10a51 1985 2012 .50

153 Ma10a52 1985 2012 .54

154 Ma10a11 1940 2012 .75 .74 .70

155 Ma10a12 1959 2012 .45 .36

156 Ma11a31 1983 2012 .60

157 Ma11a32 1983 2012 .53

158 Ma11a41 1965 2012 .49

159 Ma11a42 1965 2012 .30A

160 Ma11a51 1969 2012 .55

161 Ma11a52 1969 2012 .61

162 Ma11a21 1961 2012 .27A .35B

163 Ma11a22 1961 2012 .26A .32B

164 Ma11a11 1968 2012 .57

165 Ma11a12 1968 2012 .60

166 Mo08a21 1944 2012 .29A .32A .45

167 Mo08a22 1944 2012 .51 .52 .56

168 Mo08a12 1947 2012 .68 .68 .48

169 Mo10a11 1955 2012 .33B .40

170 Mo10a12 1955 2012 .54 .45

171 Mo10a21 1978 2012 .38

172 Mo10a22 1978 2012 .31B

173 Mo10a31 1946 2012 .00B-.02B .34

174 Mo10a32 1945 2012 .12B .13B .40

175 Mo10a52 1954 2012 .47 .40

176 Mo10a42 1930 2012 .32A .50 .52

177 Mo10a41 1930 2012 .16B .30B .52

178 Mo12a11 1946 2012 .62 .64 .56

179 Mo12a12 1946 2012 .61 .62 .64

180 Mo12a21 1948 2012 .54 .53 .46

181 Mo12a22 1948 2012 .44 .43 .61

182 Mo12a31 1961 2012 .38 .40

183 Mo12a32 1961 2012 .39 .45

184 Mo12a51 1946 2012 .53 .52 .56

185 Mo12a52 1946 2012 .72 .71 .53

186 Mo12a41 1943 2012 .49 .59 .46

187 Mo12a42 1943 2012 .51 .64 .53

188 Ol08a21 1941 2012 .53 .56 .36

189 Ol08a22 1941 2012 .64 .65 .47

190 Ol08a41 1919 2012 .42 .45 .41 .39

191 Ol08a42 1919 2012 .43 .37 .49 .53

192 Ol08a12 1941 2012 .43 .52 .47

193 Ol09a11 1955 2012 .42 .42

194 Ol09a12 1955 2012 .53 .49

195 Ol09a31 1933 2012 .41 .53 .66

196 Ol09a32 1933 2012 .45 .47 .59

197 Ol09a51 1896 2012 .00B-.11B .40 .47 .50

198 Ol09a52 1896 2012 .38 .34 .48 .57 .62

199 Ol09a21 1928 2012 .61 .68 .64

200 Ol09a22 1927 2012 .57 .58 .59

201 Ol09a41 1945 2012 .69 .76 .69

202 Ol09a42 1961 2012 .62 .62

203 Ol11a11 1958 2012 .62 .59

204 Ol11a12 1958 2012 .56 .56

205 Ol11a21 1960 2012 .36 .33B

206 Ol11a22 1960 2012 .52 .52

207 Ol11a51 1957 2012 .67 .71

208 Ol11a52 1957 2012 .64 .66

209 Ol11a31 1999 2012 .69

210 Ol11a33 1953 1996 .54

211 Ol11a32 1953 2012 .36B .65

212 Ol11a41 1955 2012 .69 .59

213 Ol11a42 1972 2012 .41

214 Su07a21 1954 2012 .46 .25B

215 Su07a31 1951 2012 .44 .35

216 Su07a32 1952 2012 .62 .40

217 Su07a11 1949 2012 .44B .46 .56

218 Su07a12 1949 2012 .36 .40 .49

219 Su08a11 1939 2012 .44 .38 .33A

220 Su08a12 1939 2012 .45 .38 .11B

221 Su08a21 1936 2012 .46 .47 .43

222 Su08a22 1936 2012 .47 .49 .30A

223 Su08a32 1954 2012 .31A .31A

224 Su10a11 1940 2012 .60 .64 .48

225 Su10a12 1940 2012 .57 .66 .58

226 Su10a21 1937 2012 .50 .53 .43

227 Su10a22 1937 2012 .55 .59 .44

228 Su10a31 1948 2012 .57 .57 .32A

229 Su10a32 1948 2012 .41 .41 .51

230 Su10a41 1942 2012 .66 .70 .53

231 Su10a42 1942 2012 .61 .57 .39

232 Su10a51 1947 2012 .64 .65 .53

233 Su10a52 1947 2012 .54 .52 .34

234 Su11a11 1931 2012 .60 .62 .44

235 Su11a21 1932 2012 .66 .68 .50

236 Su11a31 1946 2012 .64 .64 .47

237 Su11a32 1946 2012 .66 .71 .61

238 Su11a41 1943 2012 .69 .71 .52

239 Su11a42 1943 2012 .53 .58 .39

240 Su11a51 1947 2012 .41 .41 .39

241 Su11a52 1943 2012 .53 .59 .36

242 Su11a62 1949 2012 .68 .67 .49

Av segment correlation 0.18 0.28 0.45 0.50 0.49 0.99

PART 6: POTENTIAL PROBLEMS: ABBA\_full 00:00 ®¯® 00 0000 Page 9

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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

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

Ab08a21 1941 to 2012 72 years Series 1

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

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

1941 1990 3 .04 .02 -.20 -.08 .14 -.02 .12 .03 .12 -.06 .27|-.20 -.18 .36\* .00 -.17 .30 -.01 -.18 -.01 .05

1950 1999 3 .03 -.04 -.17 -.10 .17 .09 .04 .18 .05 .07 .22|-.13 -.27 .34\*-.02 -.16 .25 .10 -.25 .06 .07

1963 2012 -2 -.03 -.15 -.02 -.13 -.04 .20 .02 .22 .30\*-.15 .22| - - - - - - - - - -

[B] Entire series, effect on correlation ( 0.213) is:

Lower 1956>-0.045 2006>-0.039 1999<-0.019 2008<-0.013 1953<-0.013 1998>-0.009 Higher 1962 0.031 1981 0.027

1941 to 1990 segment:

Lower 1956>-0.101 1953<-0.020 1971<-0.012 1975<-0.011 1964<-0.011 1989>-0.011 Higher 1962 0.045 1981 0.037

1950 to 1999 segment:

Lower 1956>-0.073 1999<-0.030 1953<-0.022 1998>-0.014 1971<-0.012 1975<-0.012 Higher 1962 0.045 1981 0.039

1963 to 2012 segment:

Lower 2006>-0.066 1999<-0.032 2008<-0.024 1998>-0.015 1971<-0.013 1975<-0.012 Higher 1981 0.045 2007 0.037

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

Ab08a31 1933 to 2012 80 years Series 2

[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 -.04 -.17 -.23 .02 .04 .07 .05 -.01 -.01 .21\* - - - - - - - - - -

[B] Entire series, effect on correlation ( 0.277) is:

Lower 2006>-0.046 1935>-0.021 1970<-0.016 1999<-0.016 2012<-0.016 1998>-0.014 Higher 1956 0.047 1987 0.023

1963 to 2012 segment:

Lower 2006>-0.073 1970<-0.029 2012<-0.028 1999<-0.028 1998>-0.023 1974>-0.020 Higher 1987 0.044 1977 0.040

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

Ab08a32 1933 to 2012 80 years Series 3

[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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1933 1982 7 .04 -.17 .01 -.23 .03 .03 .09 -.02 -.15 -.11 .25|-.08 .08 -.08 .22 -.17 .22 .30\*-.07 -.13 .00

1950 1999 6 .05 -.16 .00 -.10 -.17 -.01 .04 .02 -.02 .00 .21| .08 -.05 .08 .19 -.16 .32\* .13 -.25 -.04 -.11

1963 2012 0 -.04 -.12 .01 -.27 .09 .06 .07 .03 .03 -.04 .30\* - - - - - - - - - -

[B] Entire series, effect on correlation ( 0.284) is:

Lower 2000<-0.026 1970<-0.026 1998>-0.023 1935>-0.018 1983<-0.016 1993<-0.015 Higher 1987 0.031 1977 0.022

1933 to 1982 segment:

Lower 1970<-0.054 1935>-0.032 1969>-0.027 1949<-0.022 1933<-0.021 1960>-0.020 Higher 1977 0.041 1980 0.040

1950 to 1999 segment:

Lower 1970<-0.048 1998>-0.036 1983<-0.029 1993<-0.027 1999<-0.026 1969>-0.024 Higher 1987 0.063 1977 0.044

1963 to 2012 segment:

Lower 2000<-0.037 1970<-0.036 1998>-0.036 1969>-0.024 1993<-0.023 1983<-0.023 Higher 1987 0.044 1977 0.034

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

Ab09a21 1915 to 2012 98 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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1915 1964 6 .10 -.14 -.17 -.06 .20 -.12 -.05 .09 -.01 -.25 .35|-.01 -.19 .07 -.09 -.14 .46\*-.04 -.10 .01 .09

1925 1974 6 .11 -.20 -.11 .01 .28 -.25 -.04 .02 -.01 -.21 .40| .02 -.21 -.03 -.05 -.09 .52\*-.18 -.04 -.03 .07

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

Lower 1986<-0.024 1998>-0.019 2011>-0.016 2004<-0.016 1919<-0.013 1926>-0.013 Higher 2006 0.088 1956 0.034

1915 to 1964 segment:

Lower 1919<-0.029 1926>-0.027 1932<-0.022 1955<-0.019 1918>-0.014 1922>-0.013 Higher 1956 0.125 1962 0.030

1925 to 1974 segment:

Lower 1926>-0.029 1932<-0.026 1972>-0.023 1955<-0.022 1950<-0.020 1928<-0.015 Higher 1956 0.119 1962 0.029

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Ab09a22 1915 to 2012 98 years Series 5

[B] Entire series, effect on correlation ( 0.580) is:

Lower 1994>-0.017 2011>-0.016 1982>-0.012 1986<-0.009 1932<-0.009 1944>-0.007 Higher 1956 0.034 1981 0.022

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Ab09a31 1949 to 2012 64 years Series 6

[B] Entire series, effect on correlation ( 0.473) is:

Lower 1981>-0.038 2012<-0.023 1955<-0.023 1953<-0.020 2010<-0.020 1990<-0.017 Higher 1956 0.131 1964 0.018

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

Ab09a32 1949 to 2012 64 years Series 7

[B] Entire series, effect on correlation ( 0.385) is:

Lower 1981>-0.040 2004<-0.030 1949<-0.028 1969>-0.022 1966<-0.012 2006>-0.011 Higher 1956 0.023 1998 0.021

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

Ab09a41 1920 to 2012 93 years Series 8

[B] Entire series, effect on correlation ( 0.392) is:

Lower 2003>-0.022 1980<-0.021 1943<-0.015 1931<-0.013 1957<-0.012 1924<-0.012 Higher 1956 0.055 1935 0.019

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

Ab09a42 1920 to 2012 93 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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1963 2012 0 .06 -.14 -.10 .16 .24 -.07 .05 .09 .14 -.11 .30\* - - - - - - - - - -

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

Lower 2006>-0.060 2012<-0.048 1927<-0.033 1929<-0.015 1994>-0.014 2004<-0.009 Higher 1956 0.034 1981 0.028

1963 to 2012 segment:

Lower 2006>-0.124 2012<-0.100 1994>-0.028 1979>-0.015 2004<-0.013 1970<-0.012 Higher 1981 0.064 2007 0.034

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

Ab09a51 1939 to 2012 74 years Series 10

[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 6 .13 -.04 -.07 -.06 .22 -.03 .15 .00 -.06 -.19 .44|-.21 -.12 -.01 .00 -.19 .46\*-.09 -.08 -.03 .08

1963 2012 0 .11 -.13 .06 .13 .02 .02 .20 -.02 -.11 -.03 .25\* - - - - - - - - - -

[B] Entire series, effect on correlation ( 0.442) is:

Lower 1973<-0.031 1946<-0.026 1996>-0.023 2004<-0.021 2011>-0.018 1950<-0.018 Higher 1956 0.130 2006 0.025

1950 to 1999 segment:

Lower 1973<-0.048 1996>-0.033 1950<-0.031 1994>-0.023 1987<-0.022 1985<-0.017 Higher 1956 0.212 1980 0.031

1963 to 2012 segment:

Lower 1973<-0.065 2004<-0.041 1996>-0.035 2011>-0.029 1987<-0.026 1985<-0.022 Higher 2006 0.110 1980 0.056

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

Ab09a52 1939 to 2012 74 years Series 11

[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 -6 .08 -.08 .18 -.13 .28\*-.09 .16 .02 .02 -.06 .24|-.09 -.25 .03 .01 -.02 .21 -.04 -.15 -.23 .09

1963 2012 -8 -.11 -.08 .36\*-.07 .14 .21 .08 -.01 .05 -.15 .24| - - - - - - - - - -

[B] Entire series, effect on correlation ( 0.297) is:

Lower 2006>-0.025 1998>-0.023 1994>-0.022 1985<-0.021 1969>-0.021 1996>-0.018 Higher 1980 0.024 1981 0.021

1950 to 1999 segment:

Lower 1998>-0.031 1985<-0.031 1994>-0.029 1969>-0.028 1996>-0.024 1964<-0.022 Higher 1980 0.037 1981 0.035

1963 to 2012 segment:

Lower 1998>-0.037 2006>-0.035 1994>-0.034 1969>-0.034 1985<-0.032 1996>-0.028 Higher 1980 0.041 1981 0.039

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

Ab11a12 1939 to 2012 74 years Series 12

[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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1939 1988 -7 .01 .03 -.08 .23\*-.30 .08 .12 .10 -.04 .21 .01| .08 .05 .06 -.30 .11 -.03 -.21 .13 -.22 -.23

1950 1999 -7 -.08 .00 -.14 .26\*-.14 .12 .14 .12 .02 .18 .13| .06 .01 -.07 -.22 .10 -.01 -.35 .16 -.09 -.27

[B] Entire series, effect on correlation ( 0.306) is:

Lower 1956>-0.057 1957<-0.039 1961<-0.037 1996>-0.024 1940>-0.021 1962>-0.019 Higher 2006 0.105 1981 0.027

1939 to 1988 segment:

Lower 1957<-0.051 1961<-0.047 1956>-0.040 1940>-0.028 1962>-0.026 1982>-0.021 Higher 1977 0.067 1981 0.066

1950 to 1999 segment:

Lower 1957<-0.056 1956>-0.054 1961<-0.052 1996>-0.031 1962>-0.025 1982>-0.021 Higher 1981 0.054 1977 0.051

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

1956 1957 -4.0 SD

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

Ab11a51 1967 to 2012 46 years Series 13

[B] Entire series, effect on correlation ( 0.405) is:

Lower 2006>-0.061 1981>-0.029 2012<-0.025 1973<-0.019 1982>-0.013 1975<-0.012 Higher 1980 0.034 1996 0.029

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

Ab11a22 1967 to 2012 46 years Series 14

[B] Entire series, effect on correlation ( 0.522) is:

Lower 1976<-0.040 2011>-0.030 1982>-0.028 1998>-0.026 1996>-0.023 1979>-0.023 Higher 2006 0.150 1977 0.020

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

Ab11a31 1895 to 2012 118 years Series 15

[\*] Early part of series cannot be checked from 1895 to 1895 -- 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

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

1896 1945 8 - - - - - - - - - -.10 .15|-.21 -.05 .01 .06 .12 -.07 -.13 .16\*-.06 -.12

1900 1949 -4 - - - - - -.19 .35\* .09 -.11 -.06 .12|-.21 .09 -.07 .14 .16 -.05 -.21 .18 -.23 .11

[B] Entire series, effect on correlation ( 0.429) is:

Lower 1945<-0.028 1947>-0.013 1922>-0.013 1962>-0.011 1982>-0.010 1898>-0.010 Higher 2006 0.035 1956 0.034

1896 to 1945 segment:

Lower 1945<-0.056 1922>-0.029 1917>-0.026 1898>-0.022 1934>-0.014 1928>-0.014 Higher 1896 0.048 1940 0.029

1900 to 1949 segment:

Lower 1945<-0.061 1947>-0.038 1922>-0.037 1917>-0.030 1901>-0.014 1934>-0.014 Higher 1940 0.031 1949 0.031

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

Bi09a11 1934 to 2012 79 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

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

1963 2012 -5 -.17 -.14 -.10 -.08 -.23 .41\*-.21 -.03 -.01 -.07 .38| - - - - - - - - - -

[B] Entire series, effect on correlation ( 0.457) is:

Lower 2006>-0.071 2001<-0.032 1969>-0.016 1995<-0.015 1958<-0.014 1935>-0.012 Higher 1956 0.134 1994 0.022

1963 to 2012 segment:

Lower 2006>-0.117 2001<-0.052 1969>-0.027 1995<-0.025 1973<-0.014 2002>-0.010 Higher 1994 0.048 2011 0.028

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

Bi09a12 1934 to 2012 79 years Series 17

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

Lower 2006>-0.035 1981>-0.021 1961<-0.014 1941<-0.013 1972>-0.011 2010<-0.010 Higher 1956 0.045 1994 0.037

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

Bi09a21 1956 to 2012 57 years Series 18

[B] Entire series, effect on correlation ( 0.475) is:

Lower 2003<-0.047 1996>-0.020 1956>-0.016 1981>-0.015 1960>-0.012 1994>-0.011 Higher 1964 0.017 1998 0.016

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Bi09a22 1956 to 2012 57 years Series 19

[B] Entire series, effect on correlation ( 0.469) is:

Lower 1979<-0.044 1981>-0.031 1988<-0.029 1960>-0.017 1969>-0.015 1996>-0.013 Higher 1956 0.064 1994 0.035

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

Bi09a31 1936 to 2012 77 years Series 20

[B] Entire series, effect on correlation ( 0.392) is:

Lower 1995<-0.016 1972>-0.015 2006>-0.015 1980<-0.015 2011>-0.014 1998>-0.010 Higher 1956 0.026 1993 0.023

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

Bi09a32 1936 to 2012 77 years Series 21

[B] Entire series, effect on correlation ( 0.562) is:

Lower 1974<-0.031 1940>-0.020 2006>-0.020 2011>-0.019 1977>-0.017 2001<-0.016 Higher 1956 0.142 1994 0.014

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

Bi09a41 1917 to 2012 96 years Series 22

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

Lower 1945<-0.075 1936<-0.013 1972>-0.010 1980<-0.010 1994>-0.009 1982<-0.009 Higher 1956 0.061 1922 0.015

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

Bi09a42 1917 to 2012 96 years Series 23

[B] Entire series, effect on correlation ( 0.436) is:

Lower 2006>-0.042 2009<-0.041 1982<-0.025 1945<-0.025 1980<-0.017 1921<-0.011 Higher 1956 0.061 1922 0.025

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

Bi09a51 1943 to 2012 70 years Series 24

[B] Entire series, effect on correlation ( 0.546) is:

Lower 1982<-0.068 2006>-0.039 1998>-0.015 2010<-0.013 1944<-0.009 1977>-0.008 Higher 1956 0.114 1994 0.016

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

Bi09a52 1943 to 2012 70 years Series 25

[B] Entire series, effect on correlation ( 0.675) is:

Lower 1952<-0.033 1983<-0.015 1981>-0.015 1962>-0.012 1978>-0.012 1988<-0.010 Higher 1956 0.067 1994 0.018

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

Bi10a11 1961 to 2012 52 years Series 26

[B] Entire series, effect on correlation ( 0.500) is:

Lower 1996>-0.030 1981>-0.029 1974>-0.026 1990<-0.025 1998>-0.021 1992<-0.020 Higher 1994 0.041 2001 0.023

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

Bi10a12 1961 to 2012 52 years Series 27

[B] Entire series, effect on correlation ( 0.409) is:

Lower 1961<-0.076 1990<-0.030 1998>-0.024 1978>-0.023 1962>-0.017 1977>-0.014 Higher 2011 0.031 1980 0.023

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

Bi10a21 1963 to 2012 50 years Series 28

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

Lower 1996>-0.034 1981>-0.024 1978>-0.017 1970<-0.016 1974>-0.015 2008>-0.014 Higher 2006 0.053 1994 0.046

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

Bi10a22 1963 to 2012 50 years Series 29

[B] Entire series, effect on correlation ( 0.508) is:

Lower 1971<-0.098 2011>-0.040 1981>-0.039 1978>-0.025 1995<-0.020 1966>-0.015 Higher 2006 0.058 1994 0.031

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

Bi10a31 1900 to 2012 113 years Series 30

[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 - - - - - -.22 .10 .11 -.14 -.07 .21|-.11 .05 -.04 -.13 .25\* .02 -.01 .01 -.10 -.13

[B] Entire series, effect on correlation ( 0.558) is:

Lower 1985<-0.022 1969>-0.017 1912<-0.011 1904>-0.009 1910>-0.009 1996>-0.009 Higher 2006 0.060 1994 0.021

1900 to 1949 segment:

Lower 1912<-0.038 1932<-0.028 1904>-0.027 1910>-0.026 1947>-0.020 1946>-0.017 Higher 1917 0.040 1902 0.027

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Bi10a32 1900 to 2012 113 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

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1900 1949 6 - - - - - .11 -.07 .01 -.13 -.08 .07| .07 -.12 -.10 -.01 .11 .12\* .05 .06 -.13 -.01

1925 1974 6 .05 -.04 -.10 -.13 .16 -.11 .00 .08 -.19 -.13 .31| .01 -.05 -.15 .11 .09 .35\*-.07 -.20 .02 .13

[B] Entire series, effect on correlation ( 0.462) is:

Lower 1902>-0.055 1930<-0.012 1968<-0.011 1909<-0.011 1974>-0.010 1996>-0.008 Higher 1994 0.026 2006 0.026

1900 to 1949 segment:

Lower 1902>-0.158 1909<-0.031 1930<-0.030 1912<-0.019 1900<-0.015 1908>-0.015 Higher 1922 0.104 1927 0.031

1925 to 1974 segment:

Lower 1930<-0.040 1968<-0.036 1974>-0.021 1949<-0.019 1954<-0.015 1958>-0.014 Higher 1956 0.081 1957 0.030

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

1901 1902 4.4 SD

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Bi10a41 1961 to 2012 52 years Series 32

[B] Entire series, effect on correlation ( 0.600) is:

Lower 2006>-0.054 1981>-0.038 1961<-0.016 1972<-0.016 1984>-0.010 1974>-0.010 Higher 1994 0.035 1980 0.019

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

Bi10a42 1961 to 2012 52 years Series 33

[B] Entire series, effect on correlation ( 0.498) is:

Lower 2006>-0.128 1981>-0.024 1974>-0.019 1985<-0.014 1961<-0.009 1962>-0.009 Higher 1994 0.051 1980 0.027

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

2006 +3.0 SD

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

Bi10a51 1960 to 2012 53 years Series 34

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

Lower 1981>-0.071 1962>-0.032 2011>-0.024 1996>-0.020 1961<-0.018 1992<-0.014 Higher 1994 0.060 2006 0.030

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Bi10a52 1960 to 2012 53 years Series 35

[B] Entire series, effect on correlation ( 0.547) is:

Lower 1981>-0.040 1996>-0.028 1997<-0.024 1962>-0.021 1992<-0.019 2009<-0.014 Higher 2006 0.027 1977 0.016

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Bi11a22 1965 to 2012 48 years Series 36

[B] Entire series, effect on correlation ( 0.436) is:

Lower 2001<-0.044 1981>-0.030 1971<-0.021 1969>-0.021 1989<-0.017 2002>-0.016 Higher 1994 0.069 1980 0.030

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

Bi11a32 1968 to 2012 45 years Series 37

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

Lower 1998>-0.042 2011>-0.038 1978>-0.034 1972>-0.030 1994>-0.017 1987<-0.015 Higher 1996 0.060 1981 0.021

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Bi11a41 1964 to 2012 49 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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1964 2012 0 .05 -.14 -.11 .10 .08 .25 -.13 .21 .13 -.27 .33\* - - - - - - - - - -

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

Lower 1999<-0.060 1976<-0.053 2006>-0.049 1964<-0.026 2003>-0.015 1998>-0.009 Higher 1994 0.037 2011 0.029

1964 to 2012 segment:

Lower 1999<-0.060 1976<-0.053 2006>-0.049 1964<-0.026 2003>-0.015 1998>-0.009 Higher 1994 0.037 2011 0.029

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

Bi11a42 1964 to 2012 49 years Series 39

[B] Entire series, effect on correlation ( 0.513) is:

Lower 1969<-0.053 1972>-0.026 1977>-0.026 1965<-0.025 1998>-0.022 2006>-0.018 Higher 1981 0.027 1994 0.020

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

Bi11a51 1963 to 2012 50 years Series 40

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

Lower 1972<-0.073 2006>-0.028 1978>-0.023 2009<-0.016 1998>-0.014 1981>-0.014 Higher 1994 0.032 1996 0.027

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

Bi11a52 1963 to 2012 50 years Series 41

[B] Entire series, effect on correlation ( 0.383) is:

Lower 1981>-0.048 1997<-0.038 2006>-0.031 2009<-0.026 1973<-0.020 1974>-0.020 Higher 1996 0.036 1994 0.033

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Bi11a11 1965 to 2012 48 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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1965 2012 -7 .07 .11 .00 .38\* .16 .11 -.23 .35 -.33 -.10 .29| - - - - - - - - - -

[B] Entire series, effect on correlation ( 0.292) is:

Lower 1998>-0.033 1994>-0.026 1987<-0.023 1978>-0.020 1996>-0.017 1965<-0.014 Higher 2003 0.049 2007 0.029

1965 to 2012 segment:

Lower 1998>-0.033 1994>-0.026 1987<-0.023 1978>-0.020 1996>-0.017 1965<-0.014 Higher 2003 0.049 2007 0.029

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Bi11a12 1966 to 2012 47 years Series 43

[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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1966 2012 -3 .10 -.06 -.24 .16 .13 -.09 -.07 .41\*-.15 -.20 .29| - - - - - - - - - -

[B] Entire series, effect on correlation ( 0.291) is:

Lower 2009<-0.076 2006>-0.039 2012<-0.032 1974>-0.030 1986<-0.030 1998>-0.021 Higher 1981 0.045 1996 0.037

1966 to 2012 segment:

Lower 2009<-0.076 2006>-0.039 2012<-0.032 1974>-0.030 1986<-0.030 1998>-0.021 Higher 1981 0.045 1996 0.037

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

Di09a11 1957 to 2012 56 years Series 44

[B] Entire series, effect on correlation ( 0.533) is:

Lower 2009<-0.052 1987<-0.024 1977>-0.022 1961<-0.016 2011>-0.015 2003>-0.014 Higher 2006 0.033 1981 0.033

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Di09a12 1957 to 2012 56 years Series 45

[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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1957 2006 -10 .51\*-.04 -.06 .01 .21 -.13 .12 .00 -.25 -.21 .20|-.13 -.15 -.02 .04 .01 -.03 - - - -

1963 2012 -10 .46\*-.06 -.03 -.01 .29 -.19 .05 .16 -.22 -.36 .29| - - - - - - - - - -

[B] Entire series, effect on correlation ( 0.241) is:

Lower 1981>-0.035 1977>-0.029 1987<-0.025 1966<-0.023 1996>-0.017 1994>-0.017 Higher 2006 0.056 1998 0.030

1957 to 2006 segment:

Lower 1981>-0.036 1977>-0.030 1987<-0.026 1966<-0.018 1996>-0.018 1994>-0.017 Higher 2006 0.065 1980 0.035

1963 to 2012 segment:

Lower 1981>-0.042 1966<-0.035 1977>-0.035 1987<-0.026 1994>-0.022 1996>-0.022 Higher 2006 0.051 1980 0.030

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

Di09a31 1923 to 2012 90 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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1923 1972 -4 -.06 .08 -.03 .01 .02 -.15 .39\* .01 -.11 -.13 .29|-.05 .06 .04 -.04 -.08 -.10 -.14 .04 .04 .16

1925 1974 -4 -.06 .11 .00 -.02 .01 -.15 .37\* .04 -.15 -.14 .31|-.05 .06 .05 -.07 -.12 -.09 -.11 .03 .06 .17

1950 1999 -4 -.02 .25 -.01 .04 .00 -.10 .49\* .18 -.04 -.14 .33|-.17 -.02 .00 -.07 -.24 -.08 -.08 -.09 -.10 .04

1963 2012 -9 .03 .33\*-.13 .17 .13 -.08 .15 .17 .01 .05 .20| - - - - - - - - - -

[B] Entire series, effect on correlation ( 0.244) is:

Lower 2011>-0.026 1929>-0.022 1985<-0.022 1955<-0.016 1996>-0.015 1924<-0.015 Higher 1956 0.049 1998 0.022

1923 to 1972 segment:

Lower 1929>-0.044 1955<-0.029 1924<-0.027 1962>-0.021 1943<-0.018 1944>-0.010 Higher 1956 0.068 1960 0.027

1925 to 1974 segment:

Lower 1929>-0.041 1955<-0.033 1943<-0.021 1962>-0.019 1927<-0.011 1974>-0.010 Higher 1956 0.066 1960 0.022

1950 to 1999 segment:

Lower 1985<-0.044 1955<-0.033 1996>-0.028 1994>-0.024 1986<-0.020 1962>-0.017 Higher 1956 0.080 1998 0.033

1963 to 2012 segment:

Lower 2011>-0.051 1985<-0.049 1996>-0.025 1986<-0.022 1994>-0.019 2012<-0.018 Higher 1998 0.053 2003 0.036

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Di09a32 1923 to 2012 90 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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1923 1972 3 -.15 .18 .02 .03 -.03 -.04 .29 -.02 -.16 -.05 .20|-.05 -.10 .29\*-.12 .15 -.21 -.03 -.14 .07 -.04

1925 1974 3 -.17 .20 .04 .00 -.03 -.05 .29 .02 -.25 -.03 .23|-.04 -.11 .31\*-.14 .12 -.18 -.03 -.11 .09 -.05

1950 1999 -4 -.07 .15 .00 .07 -.01 .09 .37\* .14 -.14 -.01 .24| .04 -.11 .13 -.22 .00 -.18 .00 -.12 -.11 -.06

1963 2012 -4 .07 .03 .12 .08 .05 -.07 .40\* .10 -.05 -.08 .39| - - - - - - - - - -

[B] Entire series, effect on correlation ( 0.297) is:

Lower 1955<-0.047 1924<-0.026 1962>-0.017 2011>-0.016 1943<-0.013 1985<-0.013 Higher 2006 0.062 1956 0.057

1923 to 1972 segment:

Lower 1955<-0.076 1924<-0.042 1962>-0.029 1969>-0.022 1943<-0.020 1964<-0.018 Higher 1956 0.135 1940 0.024

1925 to 1974 segment:

Lower 1955<-0.085 1962>-0.029 1943<-0.023 1964<-0.021 1969>-0.021 1957<-0.018 Higher 1956 0.132 1940 0.024

1950 to 1999 segment:

Lower 1955<-0.094 1962>-0.029 1985<-0.024 1969>-0.022 1987<-0.021 1953<-0.019 Higher 1956 0.137 1981 0.049

1963 to 2012 segment:

Lower 2011>-0.033 1985<-0.032 1987<-0.030 1964<-0.028 1969>-0.026 1994>-0.021 Higher 2006 0.131 1981 0.048

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Di09a41 1922 to 2012 91 years Series 48

[B] Entire series, effect on correlation ( 0.507) is:

Lower 1994>-0.019 1957<-0.015 1936>-0.015 1987<-0.013 1969>-0.012 1944>-0.012 Higher 2006 0.083 1996 0.021

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Di09a42 1922 to 2012 91 years Series 49

[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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1922 1971 10 -.08 .04 -.14 .13 .13 -.31 .01 .06 -.10 -.08 .18|-.17 .14 -.06 .11 .01 .03 -.18 .01 .10 .27\*

1925 1974 10 -.08 .06 -.15 .16 .16 -.31 .01 .03 -.05 -.08 .16|-.21 .15 -.07 .09 .03 .01 -.16 -.03 .04 .28\*

1950 1999 0 .09 -.03 -.21 .20 -.07 -.12 .04 -.11 .16 -.10 .31\*-.07 .19 .05 -.05 -.08 -.11 .01 -.10 -.11 .28

[B] Entire series, effect on correlation ( 0.325) is:

Lower 1956>-0.035 2001<-0.032 1962>-0.026 1994>-0.015 1965<-0.014 1946<-0.013 Higher 1996 0.043 2007 0.019

1922 to 1971 segment:

Lower 1962>-0.051 1956>-0.050 1965<-0.028 1954<-0.022 1936>-0.013 1946<-0.012 Higher 1961 0.031 1940 0.029

1925 to 1974 segment:

Lower 1962>-0.054 1956>-0.052 1965<-0.028 1954<-0.023 1936>-0.014 1960>-0.013 Higher 1961 0.035 1940 0.031

1950 to 1999 segment:

Lower 1956>-0.056 1962>-0.041 1965<-0.025 1993<-0.024 1994>-0.022 1954<-0.020 Higher 1996 0.079 1998 0.029

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Di09a21 1958 to 2012 55 years Series 50

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

Lower 1975<-0.033 2006>-0.027 2011>-0.025 2004<-0.021 1977>-0.021 1994>-0.017 Higher 1998 0.029 1962 0.025

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

1970 +3.2 SD

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

Di09a51 1980 to 2012 33 years Series 51

[B] Entire series, effect on correlation ( 0.559) is:

Lower 1998<-0.074 2011>-0.042 2007<-0.034 1994>-0.025 1983<-0.010 2000>-0.009 Higher 2006 0.058 2003 0.018

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Di09a52 1950 to 2012 63 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 5 .01 -.02 -.20 .18 -.18 -.17 -.05 .09 -.10 .07 .20| .03 .00 .13 -.15 .33\*-.10 .02 .05 .07 -.06

[B] Entire series, effect on correlation ( 0.310) is:

Lower 1956>-0.112 1955<-0.048 1977>-0.023 2011>-0.017 1951<-0.014 1960>-0.012 Higher 2006 0.102 1994 0.020

1950 to 1999 segment:

Lower 1956>-0.136 1955<-0.058 1977>-0.027 1960>-0.015 1970<-0.014 1981>-0.012 Higher 1969 0.035 1994 0.032

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

1955 1956 4.6 SD

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

Di10a11 1950 to 2012 63 years Series 53

[B] Entire series, effect on correlation ( 0.609) is:

Lower 1994>-0.037 2011>-0.030 1974<-0.014 1953<-0.012 1951>-0.011 1970<-0.009 Higher 1956 0.116 2006 0.012

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Di10a12 1950 to 2012 63 years Series 54

[B] Entire series, effect on correlation ( 0.424) is:

Lower 1994>-0.032 2006>-0.022 1974<-0.022 1977>-0.020 2011>-0.019 2005<-0.018 Higher 1996 0.020 1998 0.019

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Di10a21 1948 to 2012 65 years Series 55

[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 10 .06 -.14 .17 .11 .13 -.10 -.17 -.10 .22 -.21 .26|-.34 .27 -.08 .04 -.02 .02 .12 .07 -.13 .29\*

1950 1999 10 .09 -.14 .15 .13 .13 -.10 -.16 -.09 .21 -.24 .27|-.32 .26 -.10 .03 .00 .05 .11 -.02 -.10 .29\*

[B] Entire series, effect on correlation ( 0.427) is:

Lower 1956>-0.090 1964<-0.036 1954<-0.025 1965<-0.020 1994>-0.020 1960>-0.015 Higher 2006 0.105 1996 0.033

1948 to 1997 segment:

Lower 1956>-0.104 1964<-0.046 1954<-0.031 1965<-0.025 1994>-0.023 1960>-0.019 Higher 1996 0.071 1955 0.026

1950 to 1999 segment:

Lower 1956>-0.101 1964<-0.050 1954<-0.035 1965<-0.028 1994>-0.021 1960>-0.018 Higher 1996 0.070 1955 0.026

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

Di10a22 1948 to 2012 65 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

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

1948 1997 10 -.09 -.25 .08 -.11 -.09 -.05 -.14 -.07 .23 -.21 .35|-.18 .12 -.02 .23 -.14 -.01 .05 .26 -.13 .45\*

1950 1999 10 -.06 -.23 .00 -.07 -.12 -.04 -.15 -.05 .26 -.28 .35|-.12 .10 -.04 .24 -.14 .01 .18 .05 -.07 .49\*

[B] Entire series, effect on correlation ( 0.421) is:

Lower 1956>-0.041 1962>-0.018 1977>-0.017 1948<-0.016 2011>-0.013 1965<-0.013 Higher 2006 0.037 1996 0.032

1948 to 1997 segment:

Lower 1956>-0.055 1962>-0.023 1977>-0.022 1978>-0.016 1981>-0.016 1965<-0.015 Higher 1996 0.069 1957 0.024

1950 to 1999 segment:

Lower 1956>-0.048 1962>-0.023 1977>-0.022 1965<-0.018 1978>-0.016 1981>-0.014 Higher 1996 0.065 1957 0.026

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

Di10a31 1934 to 2012 79 years Series 57

[B] Entire series, effect on correlation ( 0.441) is:

Lower 1995<-0.029 1977>-0.021 1981>-0.019 1996>-0.015 1971<-0.013 1962>-0.013 Higher 2006 0.073 1956 0.031

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

Di10a32 1934 to 2012 79 years Series 58

[B] Entire series, effect on correlation ( 0.469) is:

Lower 1998>-0.030 1996>-0.026 1977>-0.020 2011>-0.020 2004<-0.015 1950<-0.013 Higher 2006 0.068 1956 0.029

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

Di10a41 1958 to 2012 55 years Series 59

[B] Entire series, effect on correlation ( 0.395) is:

Lower 2000<-0.142 1962>-0.036 1960>-0.026 1981>-0.025 1994>-0.019 1971<-0.010 Higher 2006 0.042 1996 0.028

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

Di10a42 1958 to 2012 55 years Series 60

[B] Entire series, effect on correlation ( 0.597) is:

Lower 1963<-0.062 1981>-0.023 1978<-0.015 2011>-0.014 2004<-0.013 2012<-0.006 Higher 2006 0.110 1980 0.011

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

Di10a51 1946 to 2012 67 years Series 61

[B] Entire series, effect on correlation ( 0.573) is:

Lower 1955<-0.032 1966<-0.024 1981>-0.019 2011>-0.015 1973<-0.014 1952>-0.014 Higher 1956 0.025 1996 0.017

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

Di10a52 1946 to 2012 67 years Series 62

[B] Entire series, effect on correlation ( 0.506) is:

Lower 1955<-0.039 1966<-0.027 1947>-0.026 1968<-0.019 1972>-0.014 2006>-0.013 Higher 1981 0.019 1987 0.018

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

Di12a21 1972 to 2012 41 years Series 63

[B] Entire series, effect on correlation ( 0.616) is:

Lower 2011>-0.040 1981>-0.034 1993<-0.018 2007<-0.016 1979>-0.014 1983<-0.012 Higher 2006 0.027 1980 0.024

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

Di12a22 1972 to 2012 41 years Series 64

[B] Entire series, effect on correlation ( 0.543) is:

Lower 1983<-0.125 1981>-0.036 2011>-0.031 2007<-0.026 1974>-0.016 1993<-0.012 Higher 2006 0.109 1980 0.022

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

Di12a31 1942 to 2012 71 years Series 65

[B] Entire series, effect on correlation ( 0.485) is:

Lower 1981>-0.023 1953<-0.020 1947>-0.018 1949<-0.016 2011>-0.015 1972>-0.010 Higher 1964 0.018 1980 0.015

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

Di12a32 1942 to 2012 71 years Series 66

[B] Entire series, effect on correlation ( 0.596) is:

Lower 1981>-0.032 1977>-0.016 1982>-0.016 1966<-0.013 1975<-0.013 1962>-0.012 Higher 2006 0.075 1994 0.016

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

Di12a41 1915 to 2012 98 years Series 67

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

Lower 2011>-0.020 1996>-0.020 1978<-0.014 1920<-0.013 1972>-0.011 1922>-0.010 Higher 2006 0.055 1956 0.028

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

Di12a42 1915 to 2012 98 years Series 68

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

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

1915 1964 -10 .15\*-.03 -.04 -.01 .05 -.04 -.20 .05 .05 -.13 .12| .02 .07 -.09 .01 -.22 .07 -.03 -.01 .13 .13

1925 1974 -9 .13 .18\*-.14 .04 .03 .06 -.18 .10 .00 -.22 .15|-.02 .00 -.08 .03 -.18 -.10 .04 -.06 .02 .11

[B] Entire series, effect on correlation ( 0.297) is:

Lower 1927<-0.059 1965<-0.034 1983<-0.034 1916<-0.025 1917>-0.014 1925<-0.013 Higher 2006 0.036 1994 0.034

1915 to 1964 segment:

Lower 1927<-0.103 1916<-0.045 1917>-0.025 1932<-0.023 1925<-0.022 1918>-0.016 Higher 1956 0.054 1964 0.040

1925 to 1974 segment:

Lower 1927<-0.103 1965<-0.061 1932<-0.022 1925<-0.022 1940>-0.017 1969>-0.017 Higher 1964 0.042 1956 0.035

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

Di12a51 1910 to 2012 103 years Series 69

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

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

1910 1959 0 -.12 -.01 .15 .02 .03 .05 -.10 .09 -.16 -.15 .30\*-.11 -.10 .01 -.01 .00 .10 -.07 .14 -.05 -.09

1925 1974 0 .00 .19 .11 -.06 .10 -.04 .12 -.02 -.11 -.32 .28\*-.17 -.02 .04 -.07 -.19 .20 .02 .08 -.06 -.02

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

Lower 1965<-0.027 2011>-0.023 1922>-0.015 1943<-0.014 1982>-0.012 1985<-0.012 Higher 1981 0.024 1977 0.016

1910 to 1959 segment:

Lower 1943<-0.031 1922>-0.030 1918<-0.017 1910>-0.017 1956>-0.013 1938<-0.013 Higher 1940 0.034 1957 0.032

1925 to 1974 segment:

Lower 1965<-0.060 1943<-0.031 1972>-0.013 1947>-0.013 1962>-0.012 1938<-0.012 Higher 1957 0.035 1940 0.035

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

Di12a52 1910 to 2012 103 years Series 70

[B] Entire series, effect on correlation ( 0.581) is:

Lower 1962>-0.019 1996>-0.018 2011>-0.017 1910>-0.017 2010<-0.016 1982>-0.014 Higher 2006 0.060 1956 0.034

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Ja08a11 1959 to 2012 54 years Series 71

[B] Entire series, effect on correlation ( 0.574) is:

Lower 1994>-0.038 1998>-0.033 2011>-0.032 1960>-0.022 1996>-0.015 2000<-0.014 Higher 2006 0.131 1962 0.017

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Ja08a31 1919 to 2012 94 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

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

1919 1968 10 -.05 -.05 -.01 -.01 .12 -.20 .25 .04 .09 -.17 .17|-.02 -.02 -.18 .02 .10 .00 -.10 -.23 .03 .27\*

1925 1974 10 .01 -.03 .00 -.01 .12 -.19 .21 .05 .12 -.22 .21|-.05 .01 -.16 -.01 .06 -.03 -.05 -.31 .11 .31\*

[B] Entire series, effect on correlation ( 0.370) is:

Lower 1946<-0.047 1936>-0.029 2003>-0.025 1940>-0.016 1994>-0.014 1935>-0.012 Higher 1996 0.029 1981 0.027

1919 to 1968 segment:

Lower 1936>-0.043 1940>-0.027 1946<-0.026 1935>-0.020 1921<-0.018 1923<-0.014 Higher 1956 0.063 1962 0.033

1925 to 1974 segment:

Lower 1946<-0.047 1936>-0.044 1940>-0.027 1935>-0.019 1930<-0.017 1929>-0.013 Higher 1956 0.059 1962 0.034

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

1936 +3.3 SD

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Ja08a32 1919 to 2012 94 years Series 73

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

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

1919 1968 -4 -.02 -.01 -.02 -.03 .24 -.34 .49\* .05 -.04 -.29 .24|-.07 .04 -.18 -.12 -.05 .08 -.01 -.15 .09 .14

1925 1974 -4 .03 .02 -.01 .02 .25 -.32 .44\* .05 -.02 -.34 .30|-.12 .03 -.14 -.14 -.08 .01 .01 -.22 .16 .18

[B] Entire series, effect on correlation ( 0.410) is:

Lower 2006>-0.037 1936>-0.024 1956>-0.019 2004<-0.015 1921<-0.015 1965<-0.011 Higher 1981 0.031 1994 0.024

1919 to 1968 segment:

Lower 1936>-0.043 1921<-0.025 1965<-0.019 1956>-0.017 1929>-0.016 1943<-0.016 Higher 1962 0.040 1957 0.034

1925 to 1974 segment:

Lower 1936>-0.042 1956>-0.028 1965<-0.024 1943<-0.020 1939<-0.020 1929>-0.015 Higher 1962 0.038 1957 0.031

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Ja08a52 1939 to 2012 74 years Series 74

[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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1939 1988 0 .05 .05 -.24 .10 -.01 -.01 .17 .09 -.31 .17 .30\*-.01 -.13 .10 -.19 -.02 -.06 -.03 -.11 .04 -.08

[B] Entire series, effect on correlation ( 0.320) is:

Lower 1956>-0.050 2003>-0.045 1957<-0.039 1994>-0.031 2004<-0.029 1941<-0.027 Higher 1981 0.051 1996 0.044

1939 to 1988 segment:

Lower 1956>-0.093 1957<-0.065 1941<-0.044 1974>-0.018 1950>-0.017 1984>-0.010 Higher 1981 0.096 1985 0.028

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

1956 1957 -4.1 SD

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

2003 +3.3 SD

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Ja09a51 1938 to 2012 75 years Series 75

[B] Entire series, effect on correlation ( 0.639) is:

Lower 2011>-0.023 1994>-0.018 1940>-0.015 1955<-0.015 2004<-0.014 2006>-0.013 Higher 1956 0.086 1981 0.020

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Ja09a52 1938 to 2012 75 years Series 76

[B] Entire series, effect on correlation ( 0.620) is:

Lower 1944<-0.033 2004<-0.021 2011>-0.016 1940>-0.016 1955<-0.014 1972>-0.011 Higher 1981 0.021 1996 0.017

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Ja09a11 1925 to 2012 88 years Series 77

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

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

1925 1974 -9 -.05 .23\*-.10 -.05 .05 -.20 .18 .15 -.19 -.20 .23|-.17 .06 .05 .14 -.20 .01 .08 -.01 .09 .04

[B] Entire series, effect on correlation ( 0.298) is:

Lower 1938<-0.065 2006>-0.044 1970<-0.020 2011>-0.015 1935>-0.015 1999<-0.010 Higher 1981 0.034 1994 0.032

1925 to 1974 segment:

Lower 1938<-0.096 1970<-0.029 1935>-0.028 1965<-0.015 1936>-0.013 1955<-0.012 Higher 1964 0.040 1940 0.039

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Ja09a12 1925 to 2012 88 years Series 78

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

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

1925 1974 0 .15 .03 -.18 .19 .07 -.25 .13 .08 -.29 -.12 .24\*-.20 .03 .06 -.06 -.16 .19 .08 .07 -.05 -.07

[B] Entire series, effect on correlation ( 0.316) is:

Lower 2006>-0.053 1929<-0.045 1932<-0.034 1935>-0.019 1974>-0.010 1953<-0.009 Higher 1996 0.020 1987 0.019

1925 to 1974 segment:

Lower 1932<-0.053 1935>-0.032 1974>-0.016 1929<-0.015 1953<-0.012 1970<-0.010 Higher 1964 0.026 1949 0.024

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

1928 1929 -4.3 SD 1929 1930 4.3 SD

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

1929 -5.9 SD

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Ja09a31 1946 to 2012 67 years Series 79

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

Lower 1998>-0.036 1947<-0.028 2007<-0.028 2008<-0.016 1994>-0.014 1973<-0.012 Higher 1956 0.033 1981 0.024

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Ja09a32 1935 to 2012 78 years Series 80

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

Lower 1947<-0.049 1999<-0.027 1939<-0.026 2007<-0.019 2011>-0.010 1998>-0.008 Higher 1956 0.070 1980 0.018

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Ja09a41 2010 to 2012 3 years Series 81

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Ja09a42 1956 to 2012 57 years Series 82

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

Lower 1970<-0.093 1964<-0.023 1960>-0.016 1977>-0.014 2009<-0.013 2011>-0.007 Higher 1994 0.034 1956 0.020

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Ja10a21 1933 to 2012 80 years Series 83

[B] Entire series, effect on correlation ( 0.603) is:

Lower 2006>-0.072 1947<-0.024 2001<-0.012 1962>-0.011 2002>-0.010 1999<-0.010 Higher 1956 0.133 2007 0.012

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Ja10a22 1933 to 2012 80 years Series 84

[B] Entire series, effect on correlation ( 0.594) is:

Lower 2006>-0.076 2010<-0.018 1993<-0.015 1998>-0.014 1999<-0.012 2011>-0.011 Higher 1956 0.142 1980 0.010

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Ja10a31 1931 to 2012 82 years Series 85

[B] Entire series, effect on correlation ( 0.648) is:

Lower 2006>-0.072 1945<-0.019 1993<-0.016 1990<-0.016 1972>-0.012 1984>-0.008 Higher 1956 0.114 1994 0.017

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

Ja10a32 1931 to 2012 82 years Series 86

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

Lower 1972>-0.021 1996>-0.019 1990<-0.016 1998>-0.015 1984>-0.013 1945<-0.013 Higher 1956 0.044 1994 0.015

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Ja10a41 1926 to 2012 87 years Series 87

[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 -6 -.02 .07 -.03 -.01 .36\*-.03 -.02 .21 -.21 -.04 .35| - - - - - - - - - -

[B] Entire series, effect on correlation ( 0.412) is:

Lower 2012<-0.051 1998>-0.044 1927<-0.033 1972>-0.017 1985<-0.016 1959<-0.010 Higher 1956 0.060 2006 0.028

1963 to 2012 segment:

Lower 2012<-0.108 1998>-0.092 1972>-0.035 1985<-0.029 2009<-0.018 1989>-0.015 Higher 2006 0.076 1964 0.026

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

1998 +3.2 SD

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Ja10a42 1926 to 2012 87 years Series 88

[B] Entire series, effect on correlation ( 0.577) is:

Lower 1972>-0.019 1927<-0.018 1999<-0.018 1939<-0.017 2007<-0.016 1926>-0.016 Higher 1956 0.124 2006 0.030

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Ja10a51 1935 to 2012 78 years Series 89

[B] Entire series, effect on correlation ( 0.700) is:

Lower 1940>-0.038 1955<-0.014 2002>-0.014 2011>-0.013 1943<-0.012 2007<-0.011 Higher 2006 0.046 1956 0.038

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Ki09a41 1944 to 2012 69 years Series 90

[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 -.02 .09 -.21 .22 .14 .04 .16 .18 -.04 -.02 .23\* - - - - - - - - - -

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

Lower 2006>-0.062 1994>-0.035 1996>-0.031 2012<-0.025 2001<-0.015 1975<-0.013 Higher 1956 0.082 1981 0.022

1963 to 2012 segment:

Lower 2006>-0.084 1994>-0.053 1996>-0.047 2012<-0.039 2001<-0.022 1975<-0.019 Higher 1981 0.057 1964 0.047

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Ki09a42 1944 to 2012 69 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

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

1963 2012 0 .17 .10 .00 .01 -.04 -.07 .04 .16 .11 .00 .31\* - - - - - - - - - -

[B] Entire series, effect on correlation ( 0.425) is:

Lower 2004<-0.042 1996>-0.036 1980<-0.020 2005<-0.019 2003>-0.018 1994>-0.018 Higher 2006 0.033 1998 0.019

1963 to 2012 segment:

Lower 2004<-0.059 1996>-0.051 1980<-0.027 2003>-0.025 2005<-0.023 1994>-0.023 Higher 2006 0.071 1977 0.043

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Ki09a51 1947 to 2012 66 years Series 92

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

Lower 1956>-0.045 1994>-0.033 1996>-0.020 2003>-0.017 1993<-0.013 1982>-0.011 Higher 2006 0.094 1981 0.018

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Ki09a52 1947 to 2012 66 years Series 93

[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 6 .04 -.05 -.12 .21 .11 -.20 .03 .16 -.10 -.03 .26|-.17 -.20 .10 .16 -.12 .30\*-.02 -.02 -.02 -.07

1950 1999 0 .05 .01 -.19 .23 .10 -.25 .14 .08 .00 -.08 .30\*-.18 -.17 .02 .18 -.05 .21 .00 .06 -.10 -.05

[B] Entire series, effect on correlation ( 0.413) is:

Lower 1963<-0.062 1994>-0.036 2012<-0.030 1956>-0.025 1982>-0.024 1996>-0.022 Higher 2006 0.073 1998 0.021

1947 to 1996 segment:

Lower 1963<-0.077 1994>-0.046 1982>-0.030 1996>-0.027 1975<-0.019 1990<-0.015 Higher 1977 0.034 1962 0.032

1950 to 1999 segment:

Lower 1963<-0.073 1994>-0.045 1982>-0.029 1996>-0.027 1975<-0.018 1956>-0.015 Higher 1998 0.039 1977 0.030

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Ki09a31 1936 to 2012 77 years Series 94

[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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1936 1985 3 -.09 .10 -.01 .05 .06 -.09 .07 -.07 .07 -.07 .23|-.10 .01 .35\*-.03 -.21 .02 .04 -.17 -.14 .01

1950 1999 0 -.14 .10 -.10 .06 .05 -.16 .23 -.04 .22 -.03 .28\*-.08 .06 .12 .00 -.04 -.08 -.07 .06 -.25 -.08

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

Lower 1956>-0.058 1983<-0.020 1994>-0.016 1996>-0.016 1982>-0.009 1954<-0.009 Higher 2006 0.113 1998 0.018

1936 to 1985 segment:

Lower 1956>-0.062 1983<-0.038 1954<-0.016 1982>-0.016 1953<-0.014 1974>-0.012 Higher 1957 0.052 1964 0.031

1950 to 1999 segment:

Lower 1956>-0.049 1983<-0.036 1996>-0.017 1954<-0.016 1994>-0.016 1953<-0.014 Higher 1998 0.051 1957 0.037

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Ki11a11 1962 to 2012 51 years Series 95

[B] Entire series, effect on correlation ( 0.569) is:

Lower 1970<-0.053 1983<-0.044 1982>-0.027 2011>-0.024 2007<-0.021 1996>-0.016 Higher 2006 0.118 1980 0.022

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Ki11a12 1962 to 2012 51 years Series 96

[B] Entire series, effect on correlation ( 0.616) is:

Lower 1983<-0.102 1979>-0.023 1977>-0.017 1970<-0.015 1978>-0.013 2011>-0.009 Higher 2006 0.105 1994 0.024

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Ki11a21 1967 to 2012 46 years Series 97

[B] Entire series, effect on correlation ( 0.543) is:

Lower 1981>-0.051 1994>-0.036 1983<-0.027 1972>-0.024 1979>-0.020 1998<-0.011 Higher 2006 0.056 1996 0.026

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Ki11a22 1967 to 2012 46 years Series 98

[B] Entire series, effect on correlation ( 0.457) is:

Lower 1983<-0.089 1994>-0.030 1972>-0.023 2012<-0.017 2006>-0.016 1975<-0.015 Higher 1980 0.032 2003 0.023

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Ki11a31 1958 to 2012 55 years Series 99

[B] Entire series, effect on correlation ( 0.520) is:

Lower 1987<-0.025 1994>-0.023 1962<-0.019 2003>-0.013 1985<-0.013 1965<-0.013 Higher 2006 0.061 1981 0.023

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Ki11a32 1958 to 2012 55 years Series 100

[B] Entire series, effect on correlation ( 0.583) is:

Lower 1984<-0.035 1972>-0.029 2007<-0.016 1977>-0.016 1979>-0.016 2011>-0.010 Higher 2006 0.030 1981 0.030

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

Ki11a51 1958 to 2012 55 years Series 101

[B] Entire series, effect on correlation ( 0.565) is:

Lower 1973<-0.130 1962>-0.030 1987<-0.010 2002>-0.010 1978>-0.009 1960>-0.008 Higher 2006 0.082 1981 0.036

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Ki11a52 1958 to 2012 55 years Series 102

[B] Entire series, effect on correlation ( 0.627) is:

Lower 1962>-0.035 1973<-0.029 2011>-0.028 1994>-0.026 1979>-0.011 2007<-0.010 Higher 2006 0.096 1981 0.032

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Ki11a41 1963 to 2012 50 years Series 103

[B] Entire series, effect on correlation ( 0.580) is:

Lower 1967<-0.121 2002>-0.024 1982>-0.018 1974>-0.015 1973<-0.009 2000<-0.009 Higher 2006 0.056 1994 0.032

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Ki11a42 1953 to 2012 60 years Series 104

[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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1953 2002 0 -.17 -.03 -.11 .20 .04 -.07 .07 -.21 .09 -.22 .27\*-.03 .02 -.20 -.13 .00 .02 .09 .11 -.17 .24

[B] Entire series, effect on correlation ( 0.397) is:

Lower 1967<-0.113 1956>-0.064 1994>-0.025 1955<-0.021 1977>-0.018 1990<-0.017 Higher 2006 0.051 1981 0.036

1953 to 2002 segment:

Lower 1967<-0.103 1956>-0.068 1994>-0.030 1955<-0.024 1977>-0.022 1990<-0.019 Higher 1981 0.055 1996 0.049

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Ki12a11 1974 to 2012 39 years Series 105

[B] Entire series, effect on correlation ( 0.721) is:

Lower 2011>-0.040 1989>-0.025 2010<-0.014 1997<-0.014 1983<-0.011 1975>-0.011 Higher 2006 0.084 1981 0.025

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Ki12a12 1974 to 2012 39 years Series 106

[B] Entire series, effect on correlation ( 0.602) is:

Lower 1989>-0.022 1979<-0.020 1982>-0.020 2011>-0.020 1986<-0.019 1977>-0.015 Higher 2006 0.106 1981 0.018

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Ki12a21 1971 to 2012 42 years Series 107

[B] Entire series, effect on correlation ( 0.546) is:

Lower 1981>-0.037 2002>-0.020 1998<-0.013 1993<-0.013 1985<-0.011 1982>-0.011 Higher 1980 0.022 1977 0.018

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Ki12a22 1971 to 2012 42 years Series 108

[B] Entire series, effect on correlation ( 0.425) is:

Lower 1972<-0.034 1981>-0.031 1985<-0.031 1982>-0.024 2006>-0.018 1979>-0.015 Higher 1998 0.028 1980 0.026

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

Ki12a41 1934 to 2012 79 years Series 109

[B] Entire series, effect on correlation ( 0.577) is:

Lower 2006>-0.077 2001<-0.018 1952<-0.017 1935>-0.012 1934<-0.012 1973<-0.009 Higher 1956 0.065 1981 0.024

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

Ki12a42 1934 to 2012 79 years Series 110

[B] Entire series, effect on correlation ( 0.525) is:

Lower 2006>-0.057 1935>-0.017 1934<-0.015 1983<-0.012 2002>-0.009 1953<-0.008 Higher 1956 0.040 1981 0.027

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Ki12a51 1969 to 2012 44 years Series 111

[B] Entire series, effect on correlation ( 0.619) is:

Lower 2006>-0.033 1989>-0.020 1978>-0.016 1993<-0.015 1983<-0.015 2008<-0.012 Higher 1981 0.036 2004 0.016

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

Ki12a52 1969 to 2012 44 years Series 112

[B] Entire series, effect on correlation ( 0.599) is:

Lower 2006>-0.033 1977<-0.029 1989>-0.022 1969>-0.022 1970<-0.015 1992<-0.012 Higher 1996 0.024 1980 0.018

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

Ki12a31 1926 to 2012 87 years Series 113

[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 9 -.01 .10 -.09 .06 .03 -.26 .20 .12 -.02 -.05 .29|-.21 -.05 -.04 .16 -.08 .07 -.35 .08 .35\*-.09

[B] Entire series, effect on correlation ( 0.433) is:

Lower 1926<-0.029 1956>-0.028 1973<-0.023 1999<-0.023 2006>-0.019 1940>-0.013 Higher 1980 0.021 1994 0.021

1926 to 1975 segment:

Lower 1956>-0.042 1973<-0.038 1926<-0.029 1940>-0.024 1954<-0.016 1974>-0.015 Higher 1964 0.032 1955 0.030

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

Ki12a32 1926 to 2012 87 years Series 114

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

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

1926 1975 8 -.22 .08 -.02 -.02 -.03 -.16 .09 .13 -.03 .01 .23|-.10 -.05 .05 .11 -.19 .11 -.07 .32\*-.13 -.06

[B] Entire series, effect on correlation ( 0.356) is:

Lower 1973<-0.027 1949<-0.024 1935>-0.015 1947>-0.014 1999<-0.013 1943<-0.011 Higher 2011 0.021 1980 0.019

1926 to 1975 segment:

Lower 1949<-0.040 1973<-0.039 1935>-0.027 1947>-0.024 1943<-0.018 1955<-0.011 Higher 1964 0.043 1940 0.035

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

Md09a11 1956 to 2012 57 years Series 115

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

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

1956 2005 -2 .26 -.18 .16 .17 -.06 .07 -.27 -.01 .36\*-.13 .09|-.08 .10 -.23 .04 .06 -.27 -.01 - - -

[B] Entire series, effect on correlation ( 0.147) is:

Lower 1956>-0.091 1958<-0.033 2004<-0.023 2003>-0.021 2005<-0.020 1998>-0.015 Higher 2006 0.047 1987 0.017

1956 to 2005 segment:

Lower 1956>-0.103 2004<-0.024 2003>-0.024 2005<-0.019 1958<-0.017 1998>-0.017 Higher 1987 0.021 1993 0.020

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

Md09a12 1956 to 2012 57 years Series 116

[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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1956 2005 0 .17 -.11 .07 .14 .01 .00 -.24 .07 .19 -.25 .25\*-.04 -.03 -.11 -.07 .00 -.07 .02 - - -

[B] Entire series, effect on correlation ( 0.333) is:

Lower 1956>-0.065 1998>-0.028 1958<-0.022 2005<-0.022 1994>-0.020 1962>-0.020 Higher 1981 0.040 2006 0.037

1956 to 2005 segment:

Lower 1956>-0.071 1998>-0.032 1962>-0.023 1994>-0.023 2005<-0.022 1958<-0.016 Higher 1981 0.053 2001 0.024

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

Md09a31 1959 to 2012 54 years Series 117

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

Lower 1994>-0.061 1999<-0.035 1998>-0.024 2007<-0.021 1961<-0.021 2011>-0.020 Higher 2006 0.069 1981 0.067

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

Md09a32 1959 to 2012 54 years Series 118

[B] Entire series, effect on correlation ( 0.520) is:

Lower 1994>-0.047 2007<-0.043 1998>-0.042 1986<-0.024 2011>-0.022 1961<-0.022 Higher 2006 0.135 1981 0.044

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

Md09a51 1914 to 2012 99 years Series 119

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

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

1914 1963 0 -.20 -.02 .24 -.06 .20 -.08 .01 -.31 .23 -.11 .29\*-.11 -.21 -.05 .09 -.11 -.06 -.05 .13 -.10 .27

1925 1974 -6 -.06 -.06 .08 -.04 .36\*-.18 -.01 -.22 .21 -.01 .27|-.11 -.12 -.11 .03 -.07 -.14 -.13 .13 -.13 .29

[B] Entire series, effect on correlation ( 0.394) is:

Lower 1956>-0.054 1996>-0.017 2001<-0.014 1940>-0.013 1969>-0.013 2007<-0.011 Higher 2006 0.030 1922 0.027

1914 to 1963 segment:

Lower 1956>-0.127 1940>-0.027 1917>-0.020 1916<-0.014 1947>-0.013 1918>-0.012 Higher 1922 0.077 1935 0.025

1925 to 1974 segment:

Lower 1956>-0.118 1940>-0.028 1969>-0.028 1947>-0.013 1957<-0.012 1958<-0.011 Higher 1935 0.033 1964 0.026

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

Md09a52 1914 to 2012 99 years Series 120

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

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

1914 1963 0 -.12 -.01 .06 -.03 .20 -.19 .19 -.26 -.01 -.04 .29\*-.05 -.19 -.11 .03 -.04 -.06 .04 -.04 .04 .15

1925 1974 0 -.08 .00 .01 -.02 .21 -.19 .16 -.27 .10 -.01 .28\*-.04 -.10 -.14 -.03 -.08 -.09 .10 -.20 -.05 .21

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

Lower 1956>-0.041 1933<-0.023 1930<-0.016 1957<-0.012 1928<-0.010 1969>-0.009 Higher 1981 0.030 2006 0.021

1914 to 1963 segment:

Lower 1956>-0.071 1933<-0.046 1930<-0.032 1957<-0.023 1928<-0.018 1940>-0.014 Higher 1935 0.044 1932 0.034

1925 to 1974 segment:

Lower 1956>-0.068 1933<-0.048 1930<-0.033 1957<-0.024 1969>-0.019 1928<-0.017 Higher 1935 0.050 1932 0.035

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

Md09a21 1938 to 2012 75 years Series 121

[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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1938 1987 1 .04 -.12 .10 .02 -.08 .05 -.10 -.05 .27 -.08 .09| .32\*-.25 .02 .09 .04 -.37 .07 -.04 -.15 .00

1950 1999 -2 .09 -.09 .07 .02 -.12 .05 -.12 .01 .30\*-.13 .10| .28 -.18 .02 .06 .02 -.33 .08 -.06 -.12 -.01

[B] Entire series, effect on correlation ( 0.196) is:

Lower 1955<-0.058 1958<-0.056 1956>-0.040 1957<-0.029 1962>-0.008 1940>-0.008 Higher 1981 0.044 2006 0.026

1938 to 1987 segment:

Lower 1955<-0.068 1956>-0.050 1957<-0.036 1958<-0.024 1962>-0.011 1940>-0.011 Higher 1981 0.069 1954 0.026

1950 to 1999 segment:

Lower 1955<-0.066 1956>-0.054 1957<-0.033 1958<-0.033 1962>-0.013 1998>-0.012 Higher 1981 0.061 1980 0.026

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

1957 1958 -4.5 SD 1959 1960 4.4 SD

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

1958 -6.2 SD; 1959 -5.2 SD

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

Md09a22 1958 to 2012 55 years Series 122

[B] Entire series, effect on correlation ( 0.419) is:

Lower 1964<-0.052 1960>-0.036 1996>-0.021 1977>-0.014 2011>-0.012 1965<-0.009 Higher 1981 0.065 1962 0.025

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

Md10a21 1964 to 2012 49 years Series 123

[B] Entire series, effect on correlation ( 0.608) is:

Lower 1969>-0.051 2003>-0.038 1984>-0.019 2005<-0.017 1996>-0.011 1965<-0.011 Higher 2006 0.129 1981 0.023

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

Md10a22 1964 to 2012 49 years Series 124

[B] Entire series, effect on correlation ( 0.608) is:

Lower 1969>-0.054 2003>-0.037 1984>-0.017 2005<-0.013 1975<-0.011 1965<-0.011 Higher 2006 0.130 1981 0.024

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

Md10a31 1937 to 2012 76 years Series 125

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

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

1937 1986 3 .19 -.13 -.07 .03 .17 .02 -.21 .04 .03 .00 .24|-.37 .26 .33\*-.14 .02 -.02 .01 -.09 -.05 .07

[B] Entire series, effect on correlation ( 0.321) is:

Lower 1953<-0.052 1956>-0.034 1945<-0.021 1954<-0.018 2004<-0.011 1960>-0.010 Higher 1993 0.021 2001 0.016

1937 to 1986 segment:

Lower 1953<-0.062 1956>-0.055 1945<-0.028 1954<-0.025 1960>-0.015 1938<-0.009 Higher 1964 0.018 1961 0.018

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

Md10a32 1937 to 2012 76 years Series 126

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

Lower 1956>-0.074 1981>-0.027 1991<-0.025 1972<-0.022 1969>-0.014 1940>-0.012 Higher 2006 0.072 1996 0.016

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

Md10a11 1924 to 2012 89 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

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

1924 1973 -8 .07 -.08 .48\*-.29 .02 -.03 .00 -.16 .21 -.15 .07|-.10 .02 -.08 -.05 -.09 .05 .00 .01 -.08 .23

1925 1974 -8 .12 -.07 .46\*-.27 .03 -.05 .01 -.19 .25 -.16 .03|-.10 .04 -.12 -.07 -.08 .07 -.04 -.03 -.08 .22

1950 1999 -10 .31\*-.15 .25 .04 -.08 .02 -.09 -.19 .16 -.36 .26|-.25 .00 -.02 -.09 -.07 .07 .06 .02 -.10 .18

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

Lower 1964<-0.109 1991<-0.029 1937<-0.018 1988<-0.015 2003>-0.015 1938<-0.013 Higher 2006 0.077 1996 0.024

1924 to 1973 segment:

Lower 1964<-0.197 1938<-0.022 1937<-0.019 1960>-0.017 1972>-0.015 1962>-0.014 Higher 1956 0.142 1957 0.023

1925 to 1974 segment:

Lower 1964<-0.191 1938<-0.022 1974>-0.019 1937<-0.018 1960>-0.016 1972>-0.014 Higher 1956 0.152 1957 0.025

1950 to 1999 segment:

Lower 1964<-0.178 1991<-0.043 1988<-0.023 1974>-0.017 1960>-0.014 1962>-0.013 Higher 1956 0.054 1996 0.046

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

Md10a12 1923 to 2012 90 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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1923 1972 0 .09 -.12 -.01 -.14 .21 -.07 .07 .10 -.05 -.05 .31\*-.10 -.07 -.17 -.13 -.09 .05 -.03 -.06 .22 .12

1925 1974 0 .10 -.12 -.04 -.12 .24 -.07 .07 .05 .03 -.04 .29\*-.15 -.06 -.19 -.14 -.05 .04 -.03 -.11 .17 .13

[B] Entire series, effect on correlation ( 0.496) is:

Lower 1956>-0.052 1991<-0.047 2003>-0.017 1961<-0.016 1977>-0.011 1969>-0.011 Higher 2006 0.046 1981 0.030

1923 to 1972 segment:

Lower 1956>-0.082 1961<-0.039 1969>-0.026 1938<-0.026 1929>-0.018 1928<-0.017 Higher 1955 0.033 1962 0.021

1925 to 1974 segment:

Lower 1956>-0.079 1961<-0.039 1969>-0.028 1938<-0.026 1929>-0.019 1928<-0.018 Higher 1955 0.038 1932 0.022

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

Md10a51 1927 to 2012 86 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

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1927 1976 0 .19 -.04 -.05 -.23 .13 .05 .02 -.03 .24 -.31 .26\*-.27 .13 -.15 .01 -.04 .17 -.14 -.13 .13 .07

[B] Entire series, effect on correlation ( 0.352) is:

Lower 1969>-0.028 1965<-0.025 1932<-0.018 1958<-0.016 1938<-0.012 1984>-0.011 Higher 1994 0.025 1980 0.016

1927 to 1976 segment:

Lower 1969>-0.047 1965<-0.038 1932<-0.028 1956>-0.020 1938<-0.018 1962>-0.016 Higher 1955 0.030 1949 0.026

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

Md10a52 1926 to 2012 87 years Series 130

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

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

1926 1975 -2 .19 -.05 -.16 -.09 .10 .14 .01 -.09 .27\*-.29 .21|-.23 .08 -.22 .11 -.09 .14 -.11 -.17 .12 -.02

[B] Entire series, effect on correlation ( 0.393) is:

Lower 1956>-0.033 2011>-0.028 1933<-0.025 2012<-0.014 1926>-0.013 1981>-0.012 Higher 1994 0.044 2004 0.017

1926 to 1975 segment:

Lower 1933<-0.053 1956>-0.031 1965<-0.026 1926>-0.026 1961<-0.025 1969>-0.020 Higher 1955 0.038 1949 0.029

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

Md10a41 1920 to 2012 93 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

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

1920 1969 0 -.12 .08 .17 -.17 -.01 .09 .00 -.02 .17 -.17 .31\* .02 -.19 -.07 .04 -.26 .05 .04 -.16 .13 -.02

1925 1974 9 -.01 .21 -.02 -.15 .19 .00 -.05 .06 .20 -.16 .20| .04 -.07 -.13 -.14 -.20 .10 -.11 -.29 .22\* .13

[B] Entire series, effect on correlation ( 0.516) is:

Lower 1956>-0.034 2003>-0.027 1964<-0.015 1974>-0.015 1940>-0.014 1938<-0.013 Higher 2006 0.085 1994 0.021

1920 to 1969 segment:

Lower 1940>-0.031 1964<-0.030 1956>-0.030 1938<-0.028 1961<-0.022 1969>-0.021 Higher 1922 0.087 1932 0.031

1925 to 1974 segment:

Lower 1964<-0.034 1974>-0.032 1938<-0.032 1940>-0.030 1961<-0.025 1969>-0.020 Higher 1932 0.043 1935 0.039

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

Md10a42 1923 to 2012 90 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

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

1923 1972 0 .04 .12 -.05 -.14 .20 -.03 .04 -.17 .17 -.03 .27\*-.09 -.11 -.13 .09 -.12 .12 -.16 -.09 .10 .13

1925 1974 0 .08 .17 -.04 -.13 .21 -.03 .01 -.18 .23 -.08 .26\*-.12 -.08 -.14 .04 -.13 .09 -.09 -.18 .07 .17

[B] Entire series, effect on correlation ( 0.454) is:

Lower 1944<-0.064 1956>-0.047 1961<-0.021 1940>-0.013 1946<-0.013 2003>-0.011 Higher 2006 0.054 1994 0.023

1923 to 1972 segment:

Lower 1956>-0.086 1944<-0.061 1961<-0.033 1940>-0.024 1969>-0.016 1964<-0.013 Higher 1935 0.037 1955 0.027

1925 to 1974 segment:

Lower 1956>-0.077 1944<-0.061 1961<-0.034 1940>-0.022 1969>-0.014 1964<-0.014 Higher 1935 0.036 1955 0.027

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

Md12a11 1932 to 2012 81 years Series 133

[B] Entire series, effect on correlation ( 0.519) is:

Lower 1994>-0.056 1956>-0.019 1980<-0.017 1949<-0.016 1996>-0.015 2003>-0.013 Higher 2006 0.090 1981 0.028

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

Md12a12 1932 to 2012 81 years Series 134

[B] Entire series, effect on correlation ( 0.601) is:

Lower 1996>-0.036 1980<-0.020 1994>-0.016 1992<-0.014 2004<-0.013 1967<-0.013 Higher 1956 0.120 2006 0.044

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

Md12a31 1908 to 2012 105 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

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

1908 1957 9 -.16 -.07 .01 -.11 -.03 .23 .00 -.19 .23 -.07 .15|-.04 -.19 .07 .04 -.15 .03 -.01 -.05 .26\* .13

[B] Entire series, effect on correlation ( 0.380) is:

Lower 1919<-0.092 2011>-0.029 1956>-0.025 1913<-0.013 1968<-0.010 1960>-0.010 Higher 1996 0.029 2006 0.024

1908 to 1957 segment:

Lower 1919<-0.160 1913<-0.024 1929>-0.018 1909<-0.018 1917>-0.016 1956>-0.011 Higher 1922 0.031 1932 0.024

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

Md12a32 1909 to 2012 104 years Series 136

[B] Entire series, effect on correlation ( 0.519) is:

Lower 1922>-0.024 2006>-0.021 1910<-0.016 1968<-0.014 1933<-0.013 1935>-0.011 Higher 1956 0.056 1996 0.021

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

Md12a41 1905 to 2012 108 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

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

1905 1954 5 -.09 .13 -.15 -.06 -.10 .13 .34 -.04 -.21 .19 .03| .04 -.09 -.32 .13 .37\*-.26 .17 .02 -.10 .04

1925 1974 5 .00 .00 -.22 -.11 .08 .04 .16 -.01 -.22 .00 .30| .02 -.09 -.26 .17 .33\* .01 -.09 -.03 .00 -.03

[B] Entire series, effect on correlation ( 0.341) is:

Lower 1951<-0.022 1992<-0.020 1973<-0.018 1941<-0.016 1960>-0.014 1974>-0.014 Higher 1956 0.061 2006 0.032

1905 to 1954 segment:

Lower 1914>-0.035 1917>-0.035 1941<-0.034 1924<-0.031 1921<-0.025 1947>-0.021 Higher 1940 0.036 1932 0.031

1925 to 1974 segment:

Lower 1951<-0.048 1973<-0.042 1941<-0.036 1960>-0.031 1974>-0.030 1939<-0.018 Higher 1956 0.179 1940 0.019

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

Md12a42 1905 to 2012 108 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

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

1905 1954 4 .02 .20 .04 .00 .01 -.01 -.16 .06 -.05 .15 -.01| .09 -.22 -.23 .34\* .01 .01 .12 -.02 .06 .00

1925 1974 4 .09 -.03 -.16 -.10 .14 .07 -.06 -.12 -.05 -.05 .27|-.04 -.16 -.20 .34\* .05 .13 .02 -.01 .05 .06

1950 1999 4 .13 -.17 -.11 -.13 .05 -.01 -.15 -.17 .00 -.26 .31|-.10 .04 -.13 .46\* .07 .16 .07 -.01 -.08 .09

[B] Entire series, effect on correlation ( 0.320) is:

Lower 1910<-0.053 1922>-0.023 1981>-0.023 1942>-0.012 1967<-0.012 1973<-0.012 Higher 2006 0.067 1977 0.019

1905 to 1954 segment:

Lower 1910<-0.063 1922>-0.055 1913<-0.025 1942>-0.023 1926>-0.023 1921<-0.015 Higher 1935 0.059 1933 0.036

1925 to 1974 segment:

Lower 1967<-0.032 1973<-0.031 1942>-0.029 1960>-0.024 1926>-0.023 1941<-0.017 Higher 1957 0.038 1935 0.033

1950 to 1999 segment:

Lower 1981>-0.051 1967<-0.032 1973<-0.028 1982>-0.024 1960>-0.023 1991<-0.023 Higher 1977 0.037 1957 0.031

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

Md12a51 1944 to 2012 69 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

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

1944 1993 0 .23 -.18 .06 -.07 -.10 -.29 -.04 -.02 -.11 -.29 .31\*-.20 .00 -.12 .09 .29 .05 .13 .22 -.05 -.05

[B] Entire series, effect on correlation ( 0.383) is:

Lower 1992<-0.040 1956>-0.033 1991<-0.030 1970<-0.022 1951<-0.021 1994>-0.019 Higher 2006 0.038 1996 0.017

1944 to 1993 segment:

Lower 1956>-0.057 1992<-0.041 1991<-0.030 1970<-0.024 1978>-0.022 1951<-0.015 Higher 1957 0.024 1969 0.024

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

Ma08a31 1952 to 2012 61 years Series 140

[B] Entire series, effect on correlation ( 0.435) is:

Lower 2006>-0.070 1955<-0.040 1956>-0.022 1998>-0.018 1977>-0.017 1984>-0.014 Higher 1994 0.034 1996 0.033

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

Ma08a32 1952 to 2012 61 years Series 141

[B] Entire series, effect on correlation ( 0.402) is:

Lower 1956>-0.084 2006>-0.041 2009<-0.017 1962>-0.014 1972<-0.012 1984>-0.010 Higher 1996 0.022 1981 0.021

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

Ma08a51 1959 to 2012 54 years Series 142

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

Lower 2006>-0.055 2007<-0.047 1994>-0.030 2011>-0.022 1977>-0.020 1974>-0.015 Higher 1981 0.063 1998 0.018

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Ma08a21 1927 to 2012 86 years Series 143

[B] Entire series, effect on correlation ( 0.533) is:

Lower 1998>-0.032 2010<-0.021 2003>-0.020 1936>-0.018 1994>-0.011 1992<-0.010 Higher 1956 0.064 2006 0.025

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

Ma08a22 1927 to 2012 86 years Series 144

[B] Entire series, effect on correlation ( 0.593) is:

Lower 2003>-0.032 1970<-0.013 1999<-0.012 1991<-0.011 1984>-0.010 1968<-0.009 Higher 1956 0.122 1996 0.011

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

Ma08a41 1925 to 2012 88 years Series 145

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

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

1925 1974 -6 -.01 -.07 .12 -.15 .34\*-.10 -.01 .04 .12 -.31 .20| .02 -.05 .00 -.18 -.24 .11 .08 .02 -.07 -.01

[B] Entire series, effect on correlation ( 0.326) is:

Lower 1928<-0.124 2006>-0.046 1935>-0.016 1936>-0.010 2004<-0.010 1964<-0.010 Higher 1956 0.060 1981 0.019

1925 to 1974 segment:

Lower 1928<-0.169 1935>-0.028 1936>-0.016 1964<-0.015 1933<-0.013 1955<-0.012 Higher 1956 0.146 1949 0.030

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

1927 1928 -4.6 SD

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

1928 -5.1 SD

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Ma10a21 1967 to 2012 46 years Series 146

[B] Entire series, effect on correlation ( 0.683) is:

Lower 2002>-0.026 1977>-0.024 2004<-0.015 1974>-0.013 1994>-0.012 1967<-0.009 Higher 2006 0.094 1993 0.007

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

Ma10a22 1967 to 2012 46 years Series 147

[B] Entire series, effect on correlation ( 0.461) is:

Lower 1985<-0.051 1989<-0.046 1987<-0.031 1998>-0.028 1994>-0.022 1979>-0.018 Higher 2006 0.138 1981 0.034

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

Ma10a31 1964 to 2012 49 years Series 148

[B] Entire series, effect on correlation ( 0.528) is:

Lower 2000<-0.035 1981>-0.033 1980<-0.031 1969>-0.027 1994>-0.025 2003>-0.022 Higher 2006 0.127 2007 0.019

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

1988 +3.1 SD

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

Ma10a32 1964 to 2012 49 years Series 149

[B] Entire series, effect on correlation ( 0.692) is:

Lower 1969<-0.038 1993<-0.020 1970<-0.017 1984>-0.015 1979>-0.015 1977>-0.014 Higher 2006 0.043 1981 0.025

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Ma10a41 1967 to 2012 46 years Series 150

[B] Entire series, effect on correlation ( 0.578) is:

Lower 1998<-0.029 1971<-0.023 1983<-0.022 1984>-0.021 2008<-0.013 2011>-0.012 Higher 2006 0.025 1996 0.021

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

Ma10a42 1967 to 2012 46 years Series 151

[B] Entire series, effect on correlation ( 0.714) is:

Lower 1994>-0.032 2010<-0.025 2011>-0.018 1977>-0.017 1969>-0.017 1983<-0.015 Higher 2006 0.085 1996 0.016

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

Ma10a51 1985 to 2012 28 years Series 152

[B] Entire series, effect on correlation ( 0.498) is:

Lower 1993<-0.084 1994>-0.061 1998>-0.047 1996>-0.023 2003>-0.019 1992<-0.017 Higher 2006 0.352 2007 0.019

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

Ma10a52 1985 to 2012 28 years Series 153

[B] Entire series, effect on correlation ( 0.543) is:

Lower 2011>-0.072 1998>-0.051 1986<-0.044 1994>-0.038 1985<-0.025 2002>-0.015 Higher 2006 0.276 1996 0.044

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

Ma10a11 1940 to 2012 73 years Series 154

[B] Entire series, effect on correlation ( 0.710) is:

Lower 2003>-0.024 1978>-0.011 1942>-0.009 1973<-0.008 2005<-0.008 2009>-0.007 Higher 2006 0.032 1956 0.031

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

Ma10a12 1959 to 2012 54 years Series 155

[B] Entire series, effect on correlation ( 0.391) is:

Lower 2006>-0.053 2008<-0.039 2010<-0.024 2012<-0.022 1972>-0.013 2002>-0.012 Higher 2004 0.024 1987 0.024

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

Ma11a31 1983 to 2012 30 years Series 156

[B] Entire series, effect on correlation ( 0.600) is:

Lower 1993<-0.056 2001<-0.025 2002>-0.022 2003>-0.020 1983<-0.019 1986<-0.016 Higher 2006 0.220 2011 0.028

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Ma11a32 1983 to 2012 30 years Series 157

[B] Entire series, effect on correlation ( 0.533) is:

Lower 1994>-0.072 1985<-0.039 1986<-0.035 2002>-0.018 2001<-0.010 1996>-0.009 Higher 1998 0.034 2003 0.033

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

Ma11a41 1965 to 2012 48 years Series 158

[B] Entire series, effect on correlation ( 0.492) is:

Lower 1969<-0.042 1993<-0.038 2010<-0.026 2003>-0.025 1979>-0.017 1974>-0.014 Higher 1977 0.023 2011 0.020

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Ma11a42 1965 to 2012 48 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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1965 2012 0 -.14 -.06 -.19 .22 -.31 -.05 -.12 -.03 .16 -.37 .30\* - - - - - - - - - -

[B] Entire series, effect on correlation ( 0.303) is:

Lower 2006>-0.102 1973<-0.038 1982>-0.021 2010<-0.018 2003>-0.017 1978>-0.016 Higher 1996 0.043 1981 0.043

1965 to 2012 segment:

Lower 2006>-0.102 1973<-0.038 1982>-0.021 2010<-0.018 2003>-0.017 1978>-0.016 Higher 1996 0.043 1981 0.043

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

Ma11a51 1969 to 2012 44 years Series 160

[B] Entire series, effect on correlation ( 0.549) is:

Lower 1981>-0.051 1996>-0.036 1976<-0.025 1974>-0.024 1998>-0.015 2011<-0.014 Higher 2006 0.093 1994 0.016

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

Ma11a52 1969 to 2012 44 years Series 161

[B] Entire series, effect on correlation ( 0.613) is:

Lower 1996>-0.053 1998>-0.045 1974>-0.024 1980<-0.017 1972>-0.015 1976<-0.014 Higher 2006 0.125 1994 0.029

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

Ma11a21 1961 to 2012 52 years Series 162

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

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

1961 2010 0 .04 -.05 -.04 .07 -.30 .21 -.06 .07 .16 -.36 .27\* .12 -.20 - - - - - - - -

1963 2012 -5 -.09 .01 .07 -.06 -.24 .38\*-.15 .05 .14 -.40 .35| - - - - - - - - - -

[B] Entire series, effect on correlation ( 0.313) is:

Lower 2006>-0.078 1962>-0.022 2010<-0.021 1994>-0.021 1961<-0.018 2002>-0.017 Higher 1981 0.059 1996 0.043

1961 to 2010 segment:

Lower 2006>-0.081 2010<-0.029 1961<-0.025 1962>-0.024 2002>-0.019 1994>-0.019 Higher 1981 0.085 1996 0.063

1963 to 2012 segment:

Lower 2006>-0.086 1994>-0.023 2010<-0.022 2002>-0.018 2003>-0.016 1979>-0.015 Higher 1981 0.057 1996 0.042

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

Ma11a22 1961 to 2012 52 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

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

1961 2010 0 .00 -.06 .01 -.12 -.06 .18 -.17 -.01 .25 -.39 .26\* .09 -.22 - - - - - - - -

1963 2012 -5 -.10 -.01 .10 -.18 -.12 .35\*-.24 -.02 .21 -.42 .32| - - - - - - - - - -

[B] Entire series, effect on correlation ( 0.307) is:

Lower 2006>-0.066 1965<-0.033 2003>-0.026 1977>-0.022 1998>-0.018 1969>-0.018 Higher 1981 0.048 1996 0.047

1961 to 2010 segment:

Lower 2006>-0.064 1965<-0.040 2003>-0.027 1977>-0.022 1961<-0.019 1983<-0.019 Higher 1981 0.063 1996 0.061

1963 to 2012 segment:

Lower 2006>-0.069 1965<-0.035 2003>-0.026 1977>-0.022 1998>-0.019 1969>-0.018 Higher 1981 0.050 1996 0.048

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

Ma11a11 1968 to 2012 45 years Series 164

[B] Entire series, effect on correlation ( 0.574) is:

Lower 1981>-0.041 1997<-0.028 1979>-0.023 1972<-0.020 2010<-0.019 1993<-0.018 Higher 2006 0.091 1994 0.020

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

Ma11a12 1968 to 2012 45 years Series 165

[B] Entire series, effect on correlation ( 0.595) is:

Lower 1969<-0.042 1993<-0.030 1978>-0.026 1975<-0.024 1974>-0.017 1984>-0.011 Higher 2006 0.058 1994 0.027

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

Mo08a21 1944 to 2012 69 years Series 166

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

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

1944 1993 0 .22 -.23 .04 .04 -.15 .01 .14 .00 -.19 -.06 .29\*-.22 -.03 .21 -.15 .05 .02 .24 .09 .05 .10

1950 1999 0 .30 -.15 .04 .00 -.17 .01 .23 -.06 -.09 -.16 .32\*-.33 .05 .16 -.08 .05 -.01 .23 .20 -.11 .05

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

Lower 1956>-0.043 1970<-0.038 2005<-0.031 2003>-0.020 1964<-0.020 2002>-0.016 Higher 2006 0.108 1980 0.019

1944 to 1993 segment:

Lower 1970<-0.056 1956>-0.054 1964<-0.030 1958>-0.026 1977>-0.017 1987<-0.014 Higher 1980 0.038 1993 0.024

1950 to 1999 segment:

Lower 1970<-0.060 1956>-0.047 1964<-0.030 1958>-0.023 1988<-0.016 1987<-0.015 Higher 1980 0.034 1998 0.027

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

Mo08a22 1944 to 2012 69 years Series 167

[B] Entire series, effect on correlation ( 0.575) is:

Lower 2003>-0.029 1971<-0.021 1964<-0.019 1966>-0.011 1977>-0.008 1983<-0.008 Higher 2006 0.081 1981 0.018

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

Mo08a12 1947 to 2012 66 years Series 168

[B] Entire series, effect on correlation ( 0.622) is:

Lower 2003>-0.039 1969>-0.038 2005<-0.033 1996>-0.024 2007<-0.016 2002>-0.012 Higher 1956 0.108 2006 0.052

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

Mo10a11 1955 to 2012 58 years Series 169

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

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

1955 2004 4 -.07 -.15 .19 -.13 .13 -.01 .08 -.03 -.07 -.09 .33| .02 -.06 .04 .37\*-.19 .09 -.01 -.17 - -

[B] Entire series, effect on correlation ( 0.408) is:

Lower 2002<-0.071 1971<-0.048 1957<-0.037 1998>-0.017 1996>-0.016 1982>-0.013 Higher 1956 0.067 2006 0.035

1955 to 2004 segment:

Lower 2002<-0.051 1971<-0.048 1957<-0.041 1998>-0.019 1996>-0.019 1982>-0.015 Higher 1956 0.096 1981 0.024

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

Mo10a12 1955 to 2012 58 years Series 170

[B] Entire series, effect on correlation ( 0.546) is:

Lower 1970<-0.022 2002<-0.022 1971<-0.021 1994>-0.020 1996>-0.015 1982>-0.015 Higher 1956 0.079 1981 0.026

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

Mo10a21 1978 to 2012 35 years Series 171

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

Lower 1996>-0.085 1998>-0.036 1979>-0.029 1999<-0.015 2005<-0.011 1989>-0.011 Higher 1981 0.108 2007 0.029

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

Mo10a22 1978 to 2012 35 years Series 172

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

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

1978 2012 -8 .08 .05 .38\* .09 -.22 .23 .03 .09 .01 -.56 .31| - - - - - - - - - -

[B] Entire series, effect on correlation ( 0.310) is:

Lower 1996>-0.087 1998>-0.064 1986<-0.042 1978>-0.035 2010<-0.031 2005<-0.022 Higher 1981 0.087 2006 0.045

1978 to 2012 segment:

Lower 1996>-0.087 1998>-0.064 1986<-0.042 1978>-0.035 2010<-0.031 2005<-0.022 Higher 1981 0.087 2006 0.045

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

1996 +3.2 SD

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

Mo10a31 1946 to 2012 67 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

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

1946 1995 10 -.02 .12 -.26 -.20 -.04 -.01 .04 .04 -.07 .11 .00| .09 .15 .04 -.03 .13 .17 -.11 -.07 -.06 .30\*

1950 1999 -9 -.06 .17\*-.23 -.18 -.10 .04 .02 .05 -.11 .15 -.02| .04 .14 .15 -.07 .13 .15 -.12 .00 .03 .05

[B] Entire series, effect on correlation ( 0.124) is:

Lower 1956>-0.105 1971<-0.047 1957<-0.043 1962>-0.020 1981>-0.014 1996>-0.013 Higher 1994 0.047 2006 0.042

1946 to 1995 segment:

Lower 1956>-0.131 1957<-0.051 1971<-0.039 1962>-0.026 1981>-0.016 1947>-0.014 Higher 1994 0.077 1964 0.022

1950 to 1999 segment:

Lower 1956>-0.129 1957<-0.059 1971<-0.044 1962>-0.025 1981>-0.014 1996>-0.013 Higher 1994 0.088 1983 0.024

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

1956 1957 -4.4 SD

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

1956 +3.4 SD

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

Mo10a32 1945 to 2012 68 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

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

1945 1994 2 .23 -.13 .00 -.26 -.08 .04 .10 -.02 .00 .03 .12|-.12 .33\* .17 -.15 .03 .07 .20 .06 -.08 -.16

1950 1999 -10 .26\*-.17 .00 -.22 -.07 .06 .13 .01 -.03 .01 .13|-.14 .23 .18 -.05 .04 .04 .16 .06 .01 -.19

[B] Entire series, effect on correlation ( 0.235) is:

Lower 1956>-0.057 1970<-0.054 1996>-0.036 1947>-0.021 1949<-0.019 1999<-0.014 Higher 2006 0.035 2007 0.023

1945 to 1994 segment:

Lower 1956>-0.071 1970<-0.060 1947>-0.029 1949<-0.024 1969>-0.018 1945<-0.015 Higher 1994 0.039 1987 0.029

1950 to 1999 segment:

Lower 1956>-0.067 1970<-0.067 1996>-0.048 1999<-0.019 1969>-0.017 1964<-0.014 Higher 1994 0.038 1987 0.028

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

Mo10a52 1954 to 2012 59 years Series 175

[B] Entire series, effect on correlation ( 0.435) is:

Lower 1988<-0.105 1977>-0.029 1960>-0.025 1998>-0.025 2007<-0.019 1955<-0.014 Higher 1981 0.045 1956 0.044

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

Mo10a42 1930 to 2012 83 years Series 176

[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 .05 .10 -.07 -.10 .00 .01 -.03 .06 .13 -.18 .32\*-.14 .14 .20 -.12 -.03 -.16 .28 -.10 -.19 .01

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

Lower 1995<-0.023 1977>-0.023 1949<-0.019 1955<-0.019 2011>-0.013 1947>-0.012 Higher 1956 0.051 1996 0.024

1930 to 1979 segment:

Lower 1977>-0.037 1949<-0.034 1955<-0.033 1947>-0.017 1954<-0.017 1937<-0.017 Higher 1956 0.140 1935 0.041

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

Mo10a41 1930 to 2012 83 years Series 177

[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 2 .06 -.21 -.02 .01 .01 -.01 .16 -.01 -.04 .07 .16|-.30 .31\*-.06 -.11 -.02 .04 .04 .14 -.06 .07

1950 1999 2 .06 -.23 -.10 .07 -.11 .11 .12 -.10 .03 -.03 .30|-.36 .35\*-.02 -.04 -.13 .04 .14 .03 -.08 .15

[B] Entire series, effect on correlation ( 0.408) is:

Lower 1956>-0.082 1975<-0.017 1969>-0.016 1970<-0.016 1977>-0.014 2007<-0.013 Higher 2006 0.083 1996 0.022

1930 to 1979 segment:

Lower 1956>-0.132 1969>-0.028 1975<-0.026 1970<-0.026 1977>-0.024 1978>-0.014 Higher 1964 0.039 1955 0.030

1950 to 1999 segment:

Lower 1956>-0.117 1975<-0.029 1970<-0.027 1969>-0.024 1977>-0.020 1986<-0.014 Higher 1996 0.046 1994 0.045

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

Mo12a11 1946 to 2012 67 years Series 178

[B] Entire series, effect on correlation ( 0.650) is:

Lower 1977>-0.030 1968<-0.030 1970<-0.020 2010<-0.020 1950>-0.020 1972>-0.013 Higher 1956 0.108 2006 0.019

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Mo12a12 1946 to 2012 67 years Series 179

[B] Entire series, effect on correlation ( 0.681) is:

Lower 1968<-0.020 1982>-0.016 1946<-0.016 1981>-0.014 1998>-0.013 1964<-0.010 Higher 1956 0.059 2006 0.055

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

Mo12a21 1948 to 2012 65 years Series 180

[B] Entire series, effect on correlation ( 0.538) is:

Lower 1970<-0.026 1977>-0.026 1968<-0.025 1950>-0.022 1972>-0.018 2003>-0.016 Higher 1956 0.110 2006 0.036

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

Mo12a22 1948 to 2012 65 years Series 181

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

Lower 1970<-0.040 1956>-0.029 2010<-0.021 1957<-0.020 1958<-0.020 1977>-0.018 Higher 2006 0.083 1994 0.033

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Mo12a31 1961 to 2012 52 years Series 182

[B] Entire series, effect on correlation ( 0.402) is:

Lower 1981>-0.045 1979<-0.039 1964<-0.030 1977>-0.026 1965<-0.024 1969>-0.021 Higher 1994 0.047 1996 0.035

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

Mo12a32 1961 to 2012 52 years Series 183

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

Lower 2008<-0.032 1962>-0.030 1969>-0.027 1961<-0.019 2003>-0.017 1982>-0.015 Higher 1994 0.070 2004 0.025

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

Mo12a51 1946 to 2012 67 years Series 184

[B] Entire series, effect on correlation ( 0.532) is:

Lower 1962>-0.046 1973<-0.028 1998>-0.025 1950>-0.020 2012<-0.012 1978>-0.012 Higher 1956 0.082 2006 0.045

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

Mo12a52 1946 to 2012 67 years Series 185

[B] Entire series, effect on correlation ( 0.647) is:

Lower 2006>-0.033 2003>-0.019 1968<-0.016 1962>-0.014 1978>-0.013 1990<-0.011 Higher 1956 0.129 1981 0.017

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Mo12a41 1943 to 2012 70 years Series 186

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

Lower 1968<-0.070 1973<-0.021 1962>-0.018 1950>-0.016 1977>-0.012 1948>-0.012 Higher 1956 0.123 1981 0.024

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

Mo12a42 1943 to 2012 70 years Series 187

[B] Entire series, effect on correlation ( 0.525) is:

Lower 1968<-0.040 1962>-0.028 1943<-0.027 2012<-0.018 1950>-0.016 2001<-0.015 Higher 1956 0.117 1994 0.028

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

Ol08a21 1941 to 2012 72 years Series 188

[B] Entire series, effect on correlation ( 0.516) is:

Lower 2004<-0.028 1985<-0.023 1969>-0.023 1981>-0.021 1996>-0.014 2011>-0.014 Higher 1956 0.141 1993 0.015

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Ol08a22 1941 to 2012 72 years Series 189

[B] Entire series, effect on correlation ( 0.589) is:

Lower 2004<-0.028 1969>-0.026 1996>-0.019 1941<-0.017 1987<-0.013 1994>-0.012 Higher 1956 0.124 2006 0.019

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

Ol08a41 1919 to 2012 94 years Series 190

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

Lower 1963<-0.061 1964<-0.017 1981>-0.016 1922>-0.013 1984>-0.007 2008>-0.007 Higher 1956 0.027 1994 0.020

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Ol08a42 1919 to 2012 94 years Series 191

[B] Entire series, effect on correlation ( 0.518) is:

Lower 1963<-0.034 2004<-0.023 1956>-0.022 1934<-0.014 1937<-0.013 1964<-0.011 Higher 2006 0.024 1981 0.016

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

Ol08a12 1941 to 2012 72 years Series 192

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

Lower 1980<-0.044 1996>-0.024 1964<-0.019 2004<-0.018 1969>-0.017 1972>-0.016 Higher 1956 0.106 2006 0.070

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

Ol09a11 1955 to 2012 58 years Series 193

[B] Entire series, effect on correlation ( 0.413) is:

Lower 1969<-0.049 1955<-0.022 2004<-0.021 1981>-0.020 2005<-0.017 1994>-0.010 Higher 1996 0.027 1980 0.027

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

Ol09a12 1955 to 2012 58 years Series 194

[B] Entire series, effect on correlation ( 0.546) is:

Lower 1972<-0.041 1955<-0.023 1994>-0.017 1990<-0.016 2004<-0.016 1981>-0.015 Higher 1956 0.058 1996 0.019

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

Ol09a31 1933 to 2012 80 years Series 195

[B] Entire series, effect on correlation ( 0.594) is:

Lower 1956>-0.042 1964<-0.030 1944<-0.020 2003>-0.013 1973<-0.012 1967<-0.010 Higher 2006 0.051 1994 0.021

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

Ol09a32 1933 to 2012 80 years Series 196

[B] Entire series, effect on correlation ( 0.570) is:

Lower 1983<-0.026 1968<-0.019 1956>-0.019 1980<-0.016 1952<-0.010 1967<-0.009 Higher 2006 0.031 1994 0.015

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

Ol09a51 1896 to 2012 117 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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1896 1945 3 - - - - - - - - - -.11 .00|-.34 -.10 .24\*-.02 .04 -.01 -.03 -.13 .11 .11

1900 1949 -2 - - - - - .00 -.07 .05 .15\* .10 -.11|-.41 -.12 .14 -.13 .11 .14 -.03 -.09 -.01 -.11

[B] Entire series, effect on correlation ( 0.393) is:

Lower 1967<-0.035 1988<-0.033 1904<-0.024 1899<-0.019 1981>-0.015 1907>-0.012 Higher 2006 0.068 1956 0.056

1896 to 1945 segment:

Lower 1904<-0.059 1899<-0.037 1907>-0.037 1918>-0.032 1917>-0.031 1934>-0.020 Higher 1896 0.109 1922 0.060

1900 to 1949 segment:

Lower 1904<-0.067 1907>-0.032 1917>-0.027 1918>-0.023 1924<-0.022 1947>-0.016 Higher 1922 0.077 1921 0.031

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

Ol09a52 1896 to 2012 117 years Series 198

[B] Entire series, effect on correlation ( 0.517) is:

Lower 1940<-0.023 1981>-0.019 1996>-0.016 1910>-0.014 1911<-0.011 1906<-0.010 Higher 2006 0.049 1956 0.033

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

1940 -4.8 SD

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

Ol09a21 1928 to 2012 85 years Series 199

[B] Entire series, effect on correlation ( 0.630) is:

Lower 2012<-0.020 1991<-0.018 1968<-0.018 1978>-0.014 1937<-0.014 1984>-0.012 Higher 1956 0.067 2006 0.038

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

Ol09a22 1927 to 2012 86 years Series 200

[B] Entire series, effect on correlation ( 0.619) is:

Lower 1968<-0.029 1996>-0.015 1984>-0.013 1937<-0.013 1978>-0.012 1969>-0.012 Higher 1956 0.040 2006 0.036

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

Ol09a41 1945 to 2012 68 years Series 201

[B] Entire series, effect on correlation ( 0.707) is:

Lower 1947>-0.021 2011>-0.015 1946>-0.014 2000<-0.012 1990<-0.012 1996>-0.010 Higher 1956 0.083 2006 0.034

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

Ol09a42 1961 to 2012 52 years Series 202

[B] Entire series, effect on correlation ( 0.628) is:

Lower 1981>-0.047 1985<-0.042 1968<-0.021 1972>-0.008 1966>-0.007 1987<-0.007 Higher 2006 0.051 1994 0.033

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

Ol11a11 1958 to 2012 55 years Series 203

[B] Entire series, effect on correlation ( 0.589) is:

Lower 2006>-0.079 1960>-0.019 2002>-0.013 1974>-0.012 1971<-0.010 1980<-0.009 Higher 1994 0.028 1962 0.015

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

Ol11a12 1958 to 2012 55 years Series 204

[B] Entire series, effect on correlation ( 0.552) is:

Lower 2006>-0.075 1980<-0.033 1960>-0.026 1977>-0.024 1982>-0.010 1974>-0.008 Higher 1994 0.035 1962 0.018

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

Ol11a21 1960 to 2012 53 years Series 205

[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 -3 -.11 -.20 -.01 -.15 -.09 -.01 -.14 .35\*-.05 -.16 .33| - - - - - - - - - -

[B] Entire series, effect on correlation ( 0.356) is:

Lower 2006>-0.038 2002>-0.025 1985<-0.019 2009<-0.019 1978>-0.018 1966>-0.016 Higher 1994 0.056 1962 0.035

1963 to 2012 segment:

Lower 2006>-0.036 2002>-0.028 1985<-0.022 2009<-0.021 1978>-0.019 1966>-0.019 Higher 1994 0.068 1977 0.043

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Ol11a22 1960 to 2012 53 years Series 206

[B] Entire series, effect on correlation ( 0.524) is:

Lower 1981>-0.062 1960>-0.022 2002>-0.018 1980<-0.014 1992<-0.013 2010<-0.012 Higher 1994 0.047 1962 0.020

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

Ol11a51 1957 to 2012 56 years Series 207

[B] Entire series, effect on correlation ( 0.665) is:

Lower 1962>-0.026 1959<-0.023 1981>-0.018 1993<-0.018 1980<-0.012 1971<-0.012 Higher 2006 0.077 1994 0.025

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

Ol11a52 1957 to 2012 56 years Series 208

[B] Entire series, effect on correlation ( 0.647) is:

Lower 1980<-0.047 2003>-0.021 1960>-0.018 1975<-0.016 2010<-0.015 1984>-0.014 Higher 2006 0.070 1981 0.023

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

Ol11a31 1999 to 2012 14 years Series 209

[B] Entire series, effect on correlation ( 0.694) is:

Lower 2003>-0.063 2002>-0.035 2001<-0.022 2011<-0.014 1999<-0.014 2000<-0.012 Higher 2006 0.144 2004 0.034

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

Ol11a33 1953 to 1996 44 years Series 210

[B] Entire series, effect on correlation ( 0.540) is:

Lower 1956>-0.056 1978>-0.026 1993<-0.019 1979>-0.019 1972<-0.019 1954<-0.013 Higher 1994 0.045 1981 0.025

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

Ol11a32 1953 to 2012 60 years Series 211

[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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1953 2002 8 .12 -.24 -.14 -.10 -.04 -.22 .04 .00 .07 -.25 .36|-.21 .44 -.13 .22 -.04 .10 -.13 .45\* .02 -.10

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

Lower 1954<-0.083 1956>-0.059 1981>-0.021 1977>-0.015 1970<-0.013 1960>-0.011 Higher 2006 0.057 1994 0.037

1953 to 2002 segment:

Lower 1954<-0.093 1956>-0.059 1981>-0.023 1977>-0.018 1970<-0.014 1960>-0.014 Higher 1994 0.079 1998 0.028

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

Ol11a41 1955 to 2012 58 years Series 212

[B] Entire series, effect on correlation ( 0.642) is:

Lower 2011<-0.059 1993<-0.019 1973<-0.017 1977>-0.012 1966>-0.009 1975<-0.008 Higher 1956 0.049 1994 0.018

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

Ol11a42 1972 to 2012 41 years Series 213

[B] Entire series, effect on correlation ( 0.408) is:

Lower 1993<-0.128 2006>-0.035 1972>-0.024 1986<-0.023 1977>-0.021 1998>-0.017 Higher 1981 0.063 1996 0.040

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

Su07a21 1954 to 2012 59 years Series 214

[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 -7 .04 -.09 -.20 .45\*-.24 .09 -.11 .20 -.11 .01 .25| - - - - - - - - - -

[B] Entire series, effect on correlation ( 0.349) is:

Lower 1963<-0.092 2006>-0.079 1981>-0.020 2011>-0.017 1999<-0.013 1965<-0.011 Higher 1956 0.070 2003 0.025

1963 to 2012 segment:

Lower 2006>-0.101 1963<-0.084 1981>-0.026 2011>-0.021 1999<-0.014 1965<-0.012 Higher 2003 0.044 1987 0.025

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

Su07a31 1951 to 2012 62 years Series 215

[B] Entire series, effect on correlation ( 0.384) is:

Lower 2011>-0.024 1992<-0.023 1977>-0.022 1998>-0.020 1955<-0.014 2005<-0.013 Higher 1956 0.036 1981 0.034

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

Su07a32 1952 to 2012 61 years Series 216

[B] Entire series, effect on correlation ( 0.577) is:

Lower 1998>-0.042 2007<-0.041 1969>-0.024 1994>-0.021 2011>-0.016 1965<-0.013 Higher 1956 0.146 1996 0.016

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

Su07a11 1949 to 2012 64 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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1949 1998 4 .24 -.15 -.11 -.05 -.08 .01 -.10 -.01 -.01 -.07 .44|-.24 .05 -.07 .44\*-.05 -.05 .21 -.06 -.11 -.05

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

Lower 1952<-0.059 1981>-0.029 2011>-0.020 2007<-0.020 1991<-0.018 1949<-0.015 Higher 2006 0.078 1956 0.036

1949 to 1998 segment:

Lower 1952<-0.072 1981>-0.038 1991<-0.022 1949<-0.019 1970<-0.014 1984>-0.014 Higher 1956 0.059 1994 0.035

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

Su07a12 1949 to 2012 64 years Series 218

[B] Entire series, effect on correlation ( 0.382) is:

Lower 1956>-0.035 1952<-0.028 1949<-0.023 2002>-0.017 1965<-0.016 2005<-0.014 Higher 1994 0.027 1998 0.020

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

Su08a11 1939 to 2012 74 years Series 219

[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 -.05 -.10 .18 -.07 .11 .10 -.04 -.06 -.12 -.29 .33\* - - - - - - - - - -

[B] Entire series, effect on correlation ( 0.401) is:

Lower 2002<-0.018 1969>-0.016 1998>-0.013 1958>-0.012 1944<-0.011 1965<-0.011 Higher 1956 0.047 2007 0.017

1963 to 2012 segment:

Lower 2002<-0.037 1969>-0.028 1998>-0.020 1965<-0.018 1982>-0.017 1984>-0.017 Higher 2006 0.036 2007 0.032

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

Su08a12 1939 to 2012 74 years Series 220

[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 -6 .10 .02 -.24 .04 .13\*-.17 -.12 -.09 -.09 -.16 .11| - - - - - - - - - -

[B] Entire series, effect on correlation ( 0.281) is:

Lower 2012<-0.066 2010<-0.027 2006>-0.021 1998>-0.016 2011>-0.013 1981>-0.012 Higher 1956 0.050 2007 0.018

1963 to 2012 segment:

Lower 2012<-0.100 2010<-0.041 1998>-0.023 2011>-0.019 1995<-0.017 1965<-0.016 Higher 2007 0.038 2004 0.037

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

Su08a21 1936 to 2012 77 years Series 221

[B] Entire series, effect on correlation ( 0.441) is:

Lower 1945<-0.026 2007<-0.020 2006>-0.016 1998>-0.014 1984>-0.013 1940>-0.013 Higher 1964 0.013 1985 0.011

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Su08a22 1936 to 2012 77 years Series 222

[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 .22 -.10 -.08 -.13 .06 -.17 -.14 -.09 -.07 -.01 .30\* - - - - - - - - - -

[B] Entire series, effect on correlation ( 0.391) is:

Lower 2011>-0.028 2012<-0.025 1940>-0.020 2006>-0.019 1984>-0.015 1982>-0.013 Higher 1962 0.020 1993 0.015

1963 to 2012 segment:

Lower 2011>-0.048 2012<-0.045 1984>-0.026 1982>-0.022 1970<-0.022 1998>-0.019 Higher 1993 0.030 1964 0.028

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

Su08a32 1954 to 2012 59 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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1954 2003 0 .04 -.11 .12 -.21 .13 -.14 .00 -.13 -.22 -.19 .31\* .01 .08 -.08 .24 .03 .21 .05 -.17 .09 -

1963 2012 0 .03 -.15 .15 -.19 .07 -.08 -.11 -.08 -.20 -.20 .31\* - - - - - - - - - -

[B] Entire series, effect on correlation ( 0.360) is:

Lower 1992<-0.056 1981>-0.024 1984>-0.015 1982>-0.014 1958>-0.013 1968<-0.013 Higher 1956 0.031 2006 0.022

1954 to 2003 segment:

Lower 1992<-0.057 1981>-0.029 1984>-0.017 1982>-0.017 1974>-0.015 1965<-0.014 Higher 1956 0.040 1964 0.027

1963 to 2012 segment:

Lower 1992<-0.057 1981>-0.031 1984>-0.019 1982>-0.019 1974>-0.016 1965<-0.015 Higher 2006 0.031 1964 0.027

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Su10a11 1940 to 2012 73 years Series 224

[B] Entire series, effect on correlation ( 0.568) is:

Lower 1978>-0.019 1988<-0.017 2011>-0.013 1941<-0.012 1948>-0.012 1969>-0.010 Higher 1956 0.165 1964 0.011

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Su10a12 1940 to 2012 73 years Series 225

[B] Entire series, effect on correlation ( 0.596) is:

Lower 1990<-0.023 1941<-0.022 1978>-0.021 1994>-0.018 1947>-0.016 1940>-0.015 Higher 1956 0.140 1996 0.018

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

Su10a21 1937 to 2012 76 years Series 226

[B] Entire series, effect on correlation ( 0.445) is:

Lower 2006>-0.036 1989<-0.029 1994>-0.025 1937<-0.017 1986<-0.016 1948>-0.014 Higher 1956 0.055 1993 0.018

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Su10a22 1937 to 2012 76 years Series 227

[B] Entire series, effect on correlation ( 0.516) is:

Lower 2006>-0.032 1994>-0.030 1972>-0.013 1941<-0.012 2009<-0.012 1986<-0.011 Higher 1956 0.081 1993 0.016

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Su10a31 1948 to 2012 65 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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1963 2012 0 -.12 -.15 -.14 .14 -.01 .02 .01 -.18 -.17 -.12 .32\* - - - - - - - - - -

[B] Entire series, effect on correlation ( 0.487) is:

Lower 2006>-0.085 1952<-0.033 1990<-0.027 1967<-0.015 1960>-0.014 1962>-0.013 Higher 1956 0.192 1980 0.021

1963 to 2012 segment:

Lower 2006>-0.133 1990<-0.048 1967<-0.026 2010<-0.021 1978>-0.018 1975<-0.011 Higher 1980 0.050 1998 0.036

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Su10a32 1948 to 2012 65 years Series 229

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

Lower 1956>-0.049 1981>-0.038 1995<-0.023 1952<-0.022 2006>-0.018 1982>-0.018 Higher 1996 0.032 1993 0.017

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Su10a41 1942 to 2012 71 years Series 230

[B] Entire series, effect on correlation ( 0.632) is:

Lower 2010<-0.026 1969>-0.020 1946>-0.020 1951<-0.019 1995<-0.016 2006>-0.015 Higher 1956 0.127 1994 0.016

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Su10a42 1942 to 2012 71 years Series 231

[B] Entire series, effect on correlation ( 0.496) is:

Lower 1995<-0.061 2006>-0.049 1982<-0.020 1998>-0.019 1945<-0.018 1977>-0.017 Higher 1956 0.124 1981 0.017

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Su10a51 1947 to 2012 66 years Series 232

[B] Entire series, effect on correlation ( 0.591) is:

Lower 2006>-0.042 1978>-0.022 2011>-0.020 1964<-0.019 2010<-0.016 1960>-0.014 Higher 1956 0.049 1996 0.015

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Su10a52 1947 to 2012 66 years Series 233

[B] Entire series, effect on correlation ( 0.463) is:

Lower 2006>-0.040 2012<-0.027 1974>-0.021 1966<-0.020 1981>-0.019 1978>-0.012 Higher 1956 0.076 1996 0.026

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Su11a11 1931 to 2012 82 years Series 234

[B] Entire series, effect on correlation ( 0.544) is:

Lower 2006>-0.037 1984<-0.017 1998>-0.014 1978>-0.013 1972>-0.012 2003>-0.011 Higher 1956 0.096 1981 0.021

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Su11a21 1932 to 2012 81 years Series 235

[B] Entire series, effect on correlation ( 0.583) is:

Lower 2006>-0.056 1972>-0.021 1950>-0.017 1962>-0.015 1994>-0.014 1943<-0.013 Higher 1956 0.126 1996 0.016

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Su11a31 1946 to 2012 67 years Series 236

[B] Entire series, effect on correlation ( 0.599) is:

Lower 2006>-0.030 1977>-0.022 2009<-0.019 1972>-0.015 1986<-0.013 1947>-0.012 Higher 1956 0.158 1964 0.012

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Su11a32 1946 to 2012 67 years Series 237

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

Lower 2009<-0.039 1955<-0.032 2006>-0.020 1977>-0.014 1948>-0.014 1947>-0.011 Higher 1956 0.129 1994 0.016

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Su11a41 1943 to 2012 70 years Series 238

[B] Entire series, effect on correlation ( 0.609) is:

Lower 2006>-0.044 1994>-0.022 2004<-0.020 1972>-0.017 1948>-0.013 2001<-0.011 Higher 1956 0.081 1981 0.015

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Su11a42 1943 to 2012 70 years Series 239

[B] Entire series, effect on correlation ( 0.455) is:

Lower 2006>-0.081 1947<-0.018 1984<-0.016 2010<-0.014 1963<-0.008 1989>-0.008 Higher 1956 0.030 1998 0.017

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Su11a51 1947 to 2012 66 years Series 240

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

Lower 1982<-0.027 1995<-0.021 1962>-0.019 2006>-0.015 2012<-0.013 1954<-0.012 Higher 1956 0.061 2007 0.019

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Su11a52 1943 to 2012 70 years Series 241

[B] Entire series, effect on correlation ( 0.500) is:

Lower 2006>-0.060 1969>-0.028 1977>-0.025 1954<-0.019 1972>-0.014 1946>-0.013 Higher 1956 0.196 1987 0.016

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Su11a62 1949 to 2012 64 years Series 242

[B] Entire series, effect on correlation ( 0.617) is:

Lower 1972>-0.025 2012<-0.024 2006>-0.024 1952<-0.019 2011>-0.015 1974>-0.015 Higher 1956 0.092 1996 0.015

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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 Ab08a21 1941 2012 72 3 3 0.213 1.42 4.36 1.083 0.889 0.280 2.90 0.676 -0.022 2

2 Ab08a31 1933 2012 80 3 1 0.277 1.39 4.75 1.097 0.905 0.270 2.60 0.411 0.010 1

3 Ab08a32 1933 2012 80 3 3 0.284 1.22 3.67 0.933 0.894 0.242 3.15 0.528 0.032 1

4 Ab09a21 1915 2012 98 4 2 0.430 1.19 2.44 0.453 0.795 0.194 2.76 0.431 -0.008 1

5 Ab09a22 1915 2012 98 4 0 0.580 1.14 2.27 0.466 0.756 0.208 2.66 0.446 -0.015 1

6 Ab09a31 1949 2012 64 3 0 0.473 2.34 3.59 0.666 0.782 0.167 2.65 0.505 0.094 2

7 Ab09a32 1949 2012 64 3 0 0.385 2.00 3.12 0.630 0.842 0.133 2.48 0.475 -0.025 2

8 Ab09a41 1920 2012 93 4 0 0.392 1.31 2.37 0.475 0.866 0.161 2.63 0.500 0.008 1

9 Ab09a42 1920 2012 93 4 1 0.362 1.59 3.37 0.636 0.893 0.162 2.55 0.399 -0.066 1

10 Ab09a51 1939 2012 74 3 2 0.442 2.41 4.68 0.859 0.859 0.154 2.66 0.512 -0.096 1

11 Ab09a52 1939 2012 74 3 2 0.297 2.34 4.76 1.165 0.899 0.199 2.61 0.558 0.057 1

12 Ab11a12 1939 2012 74 3 2 0.306 1.00 3.09 0.597 0.871 0.304 2.66 0.551 -0.015 1

13 Ab11a51 1967 2012 46 1 0 0.405 1.66 2.72 0.466 0.671 0.187 2.47 0.400 -0.077 1

14 Ab11a22 1967 2012 46 1 0 0.522 1.63 2.48 0.441 0.696 0.176 2.52 0.493 0.067 1

15 Ab11a31 1895 2012 118 5 2 0.429 0.66 1.74 0.325 0.771 0.282 2.72 0.507 -0.036 1

16 Bi09a11 1934 2012 79 3 1 0.457 1.16 2.62 0.382 0.773 0.149 2.54 0.469 -0.083 1

17 Bi09a12 1934 2012 79 3 0 0.438 1.38 2.70 0.436 0.768 0.136 2.53 0.429 -0.104 1

18 Bi09a21 1956 2012 57 2 0 0.475 1.53 2.50 0.419 0.624 0.204 2.44 0.380 -0.062 1

19 Bi09a22 1956 2012 57 2 0 0.469 1.52 2.70 0.683 0.905 0.187 2.49 0.495 -0.061 1

20 Bi09a31 1936 2012 77 3 0 0.392 1.10 2.08 0.553 0.879 0.164 3.05 0.576 0.042 1

21 Bi09a32 1936 2012 77 3 0 0.562 1.71 2.71 0.670 0.848 0.178 2.37 0.388 -0.040 1

22 Bi09a41 1917 2012 96 4 0 0.505 1.46 2.82 0.513 0.814 0.187 2.51 0.477 -0.006 1

23 Bi09a42 1917 2012 96 4 0 0.436 1.90 3.08 0.458 0.764 0.135 2.47 0.413 0.000 1

24 Bi09a51 1943 2012 70 3 0 0.546 1.66 2.81 0.386 0.643 0.158 2.46 0.407 -0.026 1

25 Bi09a52 1943 2012 70 3 0 0.675 1.26 2.91 0.391 0.647 0.186 2.89 0.572 -0.089 3

26 Bi10a11 1961 2012 52 2 0 0.500 2.13 3.53 0.807 0.849 0.179 2.78 0.555 -0.041 1

27 Bi10a12 1961 2012 52 2 0 0.409 2.12 3.79 0.839 0.846 0.188 2.53 0.541 0.004 1

28 Bi10a21 1963 2012 50 1 0 0.554 1.95 4.69 0.903 0.902 0.170 2.69 0.554 -0.003 1

29 Bi10a22 1963 2012 50 1 0 0.508 2.12 4.49 1.292 0.947 0.172 2.68 0.560 -0.017 1

30 Bi10a31 1900 2012 113 4 1 0.558 0.90 2.61 0.567 0.878 0.242 2.71 0.433 -0.091 1

31 Bi10a32 1900 2012 113 4 2 0.462 1.15 4.45 0.777 0.835 0.228 2.79 0.479 -0.088 1

32 Bi10a41 1961 2012 52 2 0 0.600 1.94 2.74 0.355 0.257 0.188 2.59 0.548 -0.079 1

33 Bi10a42 1961 2012 52 2 0 0.498 2.34 3.88 0.490 0.384 0.191 2.70 0.555 -0.088 1

34 Bi10a51 1960 2012 53 2 0 0.434 2.08 3.64 0.805 0.678 0.272 2.65 0.579 -0.082 1

35 Bi10a52 1960 2012 53 2 0 0.547 2.57 4.74 0.874 0.638 0.254 2.73 0.625 -0.102 1

36 Bi11a22 1965 2012 48 1 0 0.436 1.79 3.67 1.047 0.932 0.218 2.71 0.537 -0.045 1

37 Bi11a32 1968 2012 45 1 0 0.398 1.94 4.26 1.071 0.882 0.197 2.42 0.428 0.020 1

38 Bi11a41 1964 2012 49 1 1 0.327 2.08 3.92 0.845 0.881 0.154 2.65 0.607 -0.052 1

39 Bi11a42 1964 2012 49 1 0 0.513 2.00 3.52 0.712 0.830 0.170 2.42 0.430 -0.111 2

40 Bi11a51 1963 2012 50 1 0 0.434 2.18 3.57 0.944 0.951 0.142 2.42 0.396 0.049 1

41 Bi11a52 1963 2012 50 1 0 0.383 2.06 3.31 0.891 0.940 0.140 2.58 0.641 -0.030 1

42 Bi11a11 1965 2012 48 1 1 0.292 1.96 4.23 0.803 0.898 0.131 2.44 0.419 -0.068 1

43 Bi11a12 1966 2012 47 1 1 0.291 1.75 2.49 0.264 0.187 0.146 2.70 0.485 -0.071 1

44 Di09a11 1957 2012 56 2 0 0.533 2.24 3.75 0.624 0.673 0.186 2.55 0.506 -0.099 1

45 Di09a12 1957 2012 56 2 2 0.241 1.85 2.97 0.609 0.756 0.211 2.49 0.436 -0.012 1

46 Di09a31 1923 2012 90 4 4 0.244 1.53 4.00 0.781 0.874 0.199 2.88 0.533 0.074 1

47 Di09a32 1923 2012 90 4 4 0.297 1.28 3.15 0.609 0.899 0.145 2.72 0.494 -0.071 1

48 Di09a41 1922 2012 91 4 0 0.507 1.30 4.14 0.961 0.944 0.203 2.56 0.406 -0.055 1

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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 Di09a42 1922 2012 91 4 3 0.325 1.10 3.38 0.705 0.835 0.265 2.73 0.413 -0.061 1

50 Di09a21 1958 2012 55 2 0 0.434 1.87 4.43 0.853 0.900 0.147 2.98 0.542 -0.119 1

51 Di09a51 1980 2012 33 1 0 0.559 1.75 2.57 0.441 0.782 0.150 2.39 0.443 -0.036 1

52 Di09a52 1950 2012 63 2 1 0.310 2.15 3.46 0.721 0.867 0.167 2.51 0.512 -0.012 2

53 Di10a11 1950 2012 63 2 0 0.609 2.10 3.38 0.562 0.686 0.186 2.64 0.479 -0.037 1

54 Di10a12 1950 2012 63 2 0 0.424 2.32 4.44 0.772 0.809 0.178 2.53 0.446 -0.011 1

55 Di10a21 1948 2012 65 3 2 0.427 2.32 3.88 0.465 0.158 0.176 2.71 0.504 -0.018 1

56 Di10a22 1948 2012 65 3 2 0.421 2.19 3.41 0.636 0.762 0.170 2.57 0.435 -0.044 1

57 Di10a31 1934 2012 79 3 0 0.441 2.01 3.08 0.553 0.740 0.168 2.53 0.502 -0.053 1

58 Di10a32 1934 2012 79 3 0 0.469 2.11 3.57 0.454 0.513 0.163 2.65 0.557 -0.093 1

59 Di10a41 1958 2012 55 2 0 0.395 2.12 3.53 0.596 0.740 0.157 2.41 0.385 -0.086 1

60 Di10a42 1958 2012 55 2 0 0.597 2.31 3.43 0.583 0.835 0.118 2.44 0.466 0.007 1

61 Di10a51 1946 2012 67 3 0 0.573 2.23 4.24 0.826 0.875 0.153 2.79 0.646 0.008 1

62 Di10a52 1946 2012 67 3 0 0.506 1.81 3.58 0.547 0.734 0.178 2.93 0.588 0.039 1

63 Di12a21 1972 2012 41 1 0 0.616 2.29 4.26 0.929 0.860 0.184 2.54 0.460 -0.090 1

64 Di12a22 1972 2012 41 1 0 0.543 2.19 3.52 0.661 0.679 0.198 2.57 0.655 -0.010 1

65 Di12a31 1942 2012 71 3 0 0.485 1.69 3.56 0.866 0.885 0.227 2.62 0.419 0.006 1

66 Di12a32 1942 2012 71 3 0 0.596 1.84 3.61 0.801 0.838 0.202 2.50 0.364 -0.008 1

67 Di12a41 1915 2012 98 4 0 0.537 1.40 3.32 0.790 0.899 0.203 2.68 0.475 0.032 1

68 Di12a42 1915 2012 98 4 2 0.297 1.41 3.14 0.742 0.890 0.212 2.54 0.495 -0.008 1

69 Di12a51 1910 2012 103 4 2 0.372 1.22 2.38 0.416 0.685 0.221 2.73 0.575 0.030 1

70 Di12a52 1910 2012 103 4 0 0.581 1.23 2.23 0.404 0.705 0.204 2.65 0.437 -0.026 1

71 Ja08a11 1959 2012 54 2 0 0.574 2.59 5.81 1.718 0.930 0.260 2.39 0.403 0.020 1

72 Ja08a31 1919 2012 94 4 2 0.370 2.04 5.41 1.257 0.869 0.250 2.76 0.394 0.011 1

73 Ja08a32 1919 2012 94 4 2 0.410 1.00 2.41 0.572 0.813 0.306 2.78 0.488 -0.028 1

74 Ja08a52 1939 2012 74 3 1 0.320 1.93 6.22 1.440 0.865 0.304 2.88 0.550 -0.044 1

75 Ja09a51 1938 2012 75 3 0 0.639 1.53 3.48 0.772 0.853 0.248 2.65 0.503 0.074 1

76 Ja09a52 1938 2012 75 3 0 0.620 1.51 3.93 0.747 0.797 0.273 2.89 0.631 -0.043 3

77 Ja09a11 1925 2012 88 3 1 0.298 1.06 3.37 0.796 0.928 0.270 2.65 0.503 -0.117 1

78 Ja09a12 1925 2012 88 3 1 0.316 1.25 2.53 0.636 0.885 0.261 2.43 0.316 -0.046 1

79 Ja09a31 1946 2012 67 3 0 0.495 2.00 4.61 0.946 0.801 0.260 2.67 0.488 0.029 1

80 Ja09a32 1935 2012 78 3 0 0.530 1.35 3.63 0.899 0.842 0.227 2.55 0.415 -0.038 1

81 Ja09a41 2010 2012 3 1 0 0.991 0.71 0.78 0.083 -1.000 0.203 2.03 0.112 -1.000 0

82 Ja09a42 1956 2012 57 2 0 0.491 1.88 3.25 0.649 0.755 0.219 2.57 0.533 -0.017 1

83 Ja10a21 1933 2012 80 3 0 0.603 1.77 4.62 0.839 0.845 0.217 2.45 0.350 -0.108 1

84 Ja10a22 1933 2012 80 3 0 0.594 1.72 4.20 0.813 0.803 0.240 2.39 0.333 -0.069 1

85 Ja10a31 1931 2012 82 3 0 0.648 1.39 3.32 0.734 0.867 0.229 2.49 0.346 -0.057 1

86 Ja10a32 1931 2012 82 3 0 0.512 1.83 3.44 0.715 0.832 0.182 2.49 0.369 -0.078 1

87 Ja10a41 1926 2012 87 3 1 0.412 1.52 4.03 0.697 0.733 0.257 3.00 0.638 0.025 1

88 Ja10a42 1926 2012 87 3 0 0.577 1.07 4.73 0.735 0.826 0.269 2.48 0.381 -0.007 1

89 Ja10a51 1935 2012 78 3 0 0.700 1.36 2.17 0.431 0.765 0.178 2.58 0.431 -0.010 1

90 Ki09a41 1944 2012 69 3 1 0.417 2.13 4.75 1.359 0.934 0.206 2.76 0.534 -0.049 1

91 Ki09a42 1944 2012 69 3 1 0.425 1.94 4.32 1.058 0.902 0.203 2.66 0.566 0.132 1

92 Ki09a51 1947 2012 66 3 0 0.491 2.38 5.09 1.255 0.862 0.244 2.52 0.469 0.017 1

93 Ki09a52 1947 2012 66 3 2 0.413 1.40 2.73 0.783 0.860 0.262 2.65 0.528 0.026 1

94 Ki09a31 1936 2012 77 3 2 0.453 2.07 7.24 1.620 0.858 0.286 2.63 0.392 -0.010 1

95 Ki11a11 1962 2012 51 2 0 0.569 1.74 2.71 0.495 0.802 0.156 2.58 0.497 0.033 1

96 Ki11a12 1962 2012 51 2 0 0.616 1.94 3.47 0.600 0.804 0.155 2.74 0.495 -0.008 1

PART 7: DESCRIPTIVE STATISTICS: ABBA\_full 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 ()

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

97 Ki11a21 1967 2012 46 1 0 0.543 1.91 2.77 0.373 0.467 0.172 2.38 0.462 -0.091 2

98 Ki11a22 1967 2012 46 1 0 0.457 1.70 2.40 0.371 0.521 0.172 2.67 0.572 0.050 1

99 Ki11a31 1958 2012 55 2 0 0.520 1.59 4.11 1.147 0.936 0.249 2.47 0.421 -0.131 1

100 Ki11a32 1958 2012 55 2 0 0.583 1.81 3.58 0.884 0.875 0.216 2.57 0.504 -0.015 1

101 Ki11a51 1958 2012 55 2 0 0.565 1.84 3.36 0.649 0.834 0.175 2.61 0.489 -0.003 1

102 Ki11a52 1958 2012 55 2 0 0.627 2.03 3.50 0.668 0.826 0.157 2.43 0.494 -0.102 1

103 Ki11a41 1963 2012 50 1 0 0.580 1.90 3.74 0.715 0.714 0.224 2.60 0.496 -0.017 1

104 Ki11a42 1953 2012 60 2 1 0.397 1.47 2.92 0.646 0.795 0.239 2.44 0.416 -0.015 1

105 Ki12a11 1974 2012 39 1 0 0.721 2.57 4.10 0.638 0.086 0.248 2.68 0.544 -0.074 1

106 Ki12a12 1974 2012 39 1 0 0.602 2.22 3.18 0.571 0.089 0.298 2.48 0.623 -0.004 1

107 Ki12a21 1971 2012 42 1 0 0.546 2.21 3.24 0.645 0.715 0.205 2.44 0.476 -0.029 1

108 Ki12a22 1971 2012 42 1 0 0.425 2.30 3.66 0.825 0.844 0.188 2.53 0.491 -0.015 1

109 Ki12a41 1934 2012 79 3 0 0.577 1.60 3.04 0.652 0.838 0.223 2.58 0.485 -0.047 1

110 Ki12a42 1934 2012 79 3 0 0.525 1.55 2.85 0.548 0.814 0.193 2.64 0.532 -0.118 1

111 Ki12a51 1969 2012 44 1 0 0.619 3.48 5.08 0.814 0.588 0.179 2.54 0.559 -0.091 1

112 Ki12a52 1969 2012 44 1 0 0.599 3.04 5.25 1.011 0.811 0.194 2.49 0.485 -0.002 2

113 Ki12a31 1926 2012 87 3 1 0.433 1.53 3.58 0.985 0.922 0.220 2.73 0.484 -0.072 1

114 Ki12a32 1926 2012 87 3 1 0.356 1.55 3.61 1.048 0.934 0.253 2.78 0.553 -0.043 1

115 Md09a11 1956 2012 57 2 1 0.147 1.53 3.28 0.697 0.825 0.225 2.47 0.414 0.017 1

116 Md09a12 1956 2012 57 2 1 0.333 1.80 3.35 0.734 0.830 0.207 2.57 0.564 -0.037 1

117 Md09a31 1959 2012 54 2 0 0.388 1.93 4.13 0.823 0.786 0.225 2.65 0.552 -0.001 1

118 Md09a32 1959 2012 54 2 0 0.520 1.43 3.33 0.845 0.848 0.247 2.48 0.468 0.065 1

119 Md09a51 1914 2012 99 4 2 0.394 1.09 2.52 0.626 0.849 0.264 2.67 0.579 -0.001 2

120 Md09a52 1914 2012 99 4 2 0.460 1.20 2.63 0.566 0.838 0.203 2.61 0.393 0.020 4

121 Md09a21 1938 2012 75 3 2 0.196 1.22 2.93 0.797 0.898 0.252 2.69 0.339 0.133 1

122 Md09a22 1958 2012 55 2 0 0.419 1.69 3.31 0.813 0.879 0.197 2.65 0.531 0.020 2

123 Md10a21 1964 2012 49 1 0 0.608 1.50 3.68 0.675 0.797 0.252 2.48 0.395 0.078 1

124 Md10a22 1964 2012 49 1 0 0.608 1.50 3.80 0.676 0.794 0.245 2.50 0.388 0.051 1

125 Md10a31 1937 2012 76 3 1 0.321 1.46 3.20 0.675 0.831 0.216 2.64 0.481 0.057 1

126 Md10a32 1937 2012 76 3 0 0.521 1.51 3.14 0.722 0.894 0.191 2.62 0.496 0.019 2

127 Md10a11 1924 2012 89 4 3 0.362 1.29 2.72 0.519 0.783 0.227 2.51 0.493 -0.060 1

128 Md10a12 1923 2012 90 4 2 0.496 0.81 2.06 0.380 0.757 0.227 2.62 0.441 -0.072 1

129 Md10a51 1927 2012 86 3 1 0.352 1.86 4.02 1.056 0.888 0.240 2.71 0.474 -0.156 1

130 Md10a52 1926 2012 87 3 1 0.393 1.51 3.02 0.788 0.877 0.235 2.65 0.384 -0.098 1

131 Md10a41 1920 2012 93 4 2 0.516 1.03 3.13 0.731 0.871 0.284 2.69 0.371 -0.008 1

132 Md10a42 1923 2012 90 4 2 0.454 1.22 3.54 0.886 0.916 0.260 2.58 0.403 -0.023 1

133 Md12a11 1932 2012 81 3 0 0.519 1.62 3.30 0.490 0.760 0.159 2.49 0.392 -0.081 1

134 Md12a12 1932 2012 81 3 0 0.601 1.49 2.58 0.375 0.701 0.137 2.47 0.393 -0.045 1

135 Md12a31 1908 2012 105 4 1 0.380 0.91 2.19 0.586 0.904 0.258 2.49 0.369 0.066 2

136 Md12a32 1909 2012 104 4 0 0.519 1.17 3.40 0.865 0.933 0.255 2.82 0.533 -0.005 1

137 Md12a41 1905 2012 108 4 2 0.341 1.00 2.21 0.524 0.880 0.204 2.61 0.480 0.028 2

138 Md12a42 1905 2012 108 4 3 0.320 0.88 3.01 0.779 0.938 0.252 2.68 0.430 -0.073 1

139 Md12a51 1944 2012 69 3 1 0.383 1.30 2.52 0.408 0.734 0.178 2.70 0.615 0.149 1

140 Ma08a31 1952 2012 61 2 0 0.435 1.71 3.48 0.847 0.902 0.233 2.59 0.531 0.047 1

141 Ma08a32 1952 2012 61 2 0 0.402 1.58 3.10 0.674 0.890 0.168 2.61 0.515 0.029 1

142 Ma08a51 1959 2012 54 2 0 0.443 1.58 2.40 0.410 0.807 0.124 2.50 0.435 -0.003 1

143 Ma08a21 1927 2012 86 3 0 0.533 1.13 2.62 0.617 0.783 0.324 2.56 0.445 -0.002 1

144 Ma08a22 1927 2012 86 3 0 0.593 1.29 2.51 0.597 0.842 0.247 2.53 0.376 -0.013 2

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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 Ma08a41 1925 2012 88 3 1 0.326 1.01 2.41 0.619 0.915 0.263 2.37 0.318 -0.044 1

146 Ma10a21 1967 2012 46 1 0 0.683 1.72 2.82 0.608 0.760 0.194 2.41 0.408 -0.041 1

147 Ma10a22 1967 2012 46 1 0 0.461 2.02 3.77 0.902 0.844 0.189 2.64 0.534 -0.052 1

148 Ma10a31 1964 2012 49 1 0 0.528 2.29 4.76 0.708 0.821 0.124 2.85 0.533 -0.197 1

149 Ma10a32 1964 2012 49 1 0 0.692 1.87 3.78 0.904 0.865 0.188 2.56 0.539 -0.086 1

150 Ma10a41 1967 2012 46 1 0 0.578 2.44 3.74 0.602 0.757 0.148 2.48 0.446 -0.041 1

151 Ma10a42 1967 2012 46 1 0 0.714 2.14 3.54 0.439 0.663 0.142 2.57 0.450 -0.052 1

152 Ma10a51 1985 2012 28 1 0 0.498 3.38 5.32 0.925 0.554 0.209 2.41 0.459 0.020 2

153 Ma10a52 1985 2012 28 1 0 0.543 2.73 4.47 0.940 0.850 0.168 2.35 0.497 -0.030 1

154 Ma10a11 1940 2012 73 3 0 0.710 1.18 3.75 0.696 0.831 0.254 2.56 0.504 -0.018 1

155 Ma10a12 1959 2012 54 2 0 0.391 2.59 5.85 0.957 0.846 0.164 2.62 0.504 -0.023 1

156 Ma11a31 1983 2012 30 1 0 0.600 3.79 6.12 1.340 0.915 0.128 2.57 0.491 -0.079 1

157 Ma11a32 1983 2012 30 1 0 0.533 3.37 6.22 1.623 0.929 0.149 2.66 0.620 -0.035 2

158 Ma11a41 1965 2012 48 1 0 0.492 1.90 3.46 0.515 0.742 0.158 2.53 0.443 0.000 1

159 Ma11a42 1965 2012 48 1 1 0.303 1.94 3.39 0.632 0.766 0.184 2.57 0.498 -0.075 1

160 Ma11a51 1969 2012 44 1 0 0.549 2.07 3.87 1.030 0.829 0.282 2.52 0.485 -0.039 1

161 Ma11a52 1969 2012 44 1 0 0.613 2.12 4.10 1.010 0.820 0.280 2.51 0.473 -0.086 1

162 Ma11a21 1961 2012 52 2 2 0.313 2.65 3.82 0.603 0.444 0.191 2.53 0.428 0.037 2

163 Ma11a22 1961 2012 52 2 2 0.307 2.70 4.43 0.569 0.434 0.178 2.77 0.528 -0.010 2

164 Ma11a11 1968 2012 45 1 0 0.574 2.55 4.71 1.103 0.868 0.182 2.55 0.624 -0.003 1

165 Ma11a12 1968 2012 45 1 0 0.595 2.78 4.96 1.126 0.866 0.186 2.50 0.509 -0.048 1

166 Mo08a21 1944 2012 69 3 2 0.398 1.78 4.02 1.020 0.821 0.271 2.81 0.498 0.105 1

167 Mo08a22 1944 2012 69 3 0 0.575 1.04 2.75 0.587 0.792 0.268 2.47 0.355 0.009 1

168 Mo08a12 1947 2012 66 3 0 0.622 1.40 2.76 0.672 0.786 0.268 2.63 0.478 0.021 1

169 Mo10a11 1955 2012 58 2 1 0.408 1.51 2.45 0.561 0.812 0.200 2.37 0.385 0.024 1

170 Mo10a12 1955 2012 58 2 0 0.546 1.47 2.78 0.740 0.922 0.211 2.85 0.585 -0.011 1

171 Mo10a21 1978 2012 35 1 0 0.381 2.59 4.94 1.224 0.903 0.211 2.49 0.480 0.038 1

172 Mo10a22 1978 2012 35 1 1 0.310 1.99 3.55 0.945 0.850 0.230 2.75 0.730 -0.050 1

173 Mo10a31 1946 2012 67 3 2 0.124 1.80 3.68 0.994 0.891 0.224 2.49 0.478 0.002 1

174 Mo10a32 1945 2012 68 3 2 0.235 1.79 4.45 1.318 0.917 0.291 2.66 0.503 0.078 1

175 Mo10a52 1954 2012 59 2 0 0.435 1.60 3.35 0.856 0.885 0.235 2.53 0.450 0.000 1

176 Mo10a42 1930 2012 83 3 1 0.459 1.64 4.94 1.487 0.958 0.244 2.69 0.538 -0.044 1

177 Mo10a41 1930 2012 83 3 2 0.408 1.55 3.69 1.012 0.889 0.232 2.68 0.546 -0.038 1

178 Mo12a11 1946 2012 67 3 0 0.650 1.31 4.44 0.971 0.938 0.215 2.53 0.442 -0.036 1

179 Mo12a12 1946 2012 67 3 0 0.681 1.62 4.79 1.299 0.932 0.219 2.54 0.442 -0.078 2

180 Mo12a21 1948 2012 65 3 0 0.538 1.45 4.03 0.675 0.801 0.223 2.71 0.548 -0.067 1

181 Mo12a22 1948 2012 65 3 0 0.510 1.49 3.00 0.545 0.753 0.198 2.83 0.539 -0.004 1

182 Mo12a31 1961 2012 52 2 0 0.402 1.70 2.86 0.471 0.728 0.154 2.65 0.462 -0.074 1

183 Mo12a32 1961 2012 52 2 0 0.398 1.70 3.16 0.564 0.870 0.142 2.69 0.551 -0.045 1

184 Mo12a51 1946 2012 67 3 0 0.532 2.21 4.71 0.887 0.838 0.178 2.65 0.493 -0.037 3

185 Mo12a52 1946 2012 67 3 0 0.647 1.89 5.55 1.164 0.904 0.199 2.43 0.360 -0.081 1

186 Mo12a41 1943 2012 70 3 0 0.531 1.64 4.16 1.097 0.964 0.156 2.54 0.494 -0.126 1

187 Mo12a42 1943 2012 70 3 0 0.525 1.50 4.29 1.275 0.963 0.174 2.68 0.515 -0.022 2

188 Ol08a21 1941 2012 72 3 0 0.516 1.75 4.34 0.801 0.786 0.254 2.60 0.448 -0.023 1

189 Ol08a22 1941 2012 72 3 0 0.589 1.12 4.64 1.057 0.942 0.244 2.85 0.434 -0.065 1

190 Ol08a41 1919 2012 94 4 0 0.460 1.77 3.52 0.760 0.773 0.250 2.59 0.438 0.092 2

191 Ol08a42 1919 2012 94 4 0 0.518 1.26 2.61 0.563 0.740 0.254 3.09 0.620 0.050 1

192 Ol08a12 1941 2012 72 3 0 0.551 1.81 3.43 0.695 0.793 0.200 2.61 0.499 -0.094 1

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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 Ol09a11 1955 2012 58 2 0 0.413 1.76 3.28 0.510 0.594 0.208 2.51 0.389 0.096 1

194 Ol09a12 1955 2012 58 2 0 0.546 1.85 2.81 0.428 0.611 0.164 2.65 0.494 -0.070 2

195 Ol09a31 1933 2012 80 3 0 0.594 1.54 2.54 0.433 0.473 0.227 2.72 0.535 -0.059 4

196 Ol09a32 1933 2012 80 3 0 0.570 1.59 2.75 0.449 0.584 0.201 2.43 0.430 0.029 3

197 Ol09a51 1896 2012 117 5 2 0.393 1.18 2.93 0.767 0.862 0.260 2.61 0.470 -0.013 1

198 Ol09a52 1896 2012 117 5 0 0.517 1.06 3.81 0.820 0.811 0.325 2.45 0.358 -0.073 2

199 Ol09a21 1928 2012 85 3 0 0.630 1.25 2.49 0.577 0.846 0.218 2.67 0.552 -0.045 1

200 Ol09a22 1927 2012 86 3 0 0.619 1.44 2.83 0.691 0.861 0.224 2.80 0.704 -0.007 1

201 Ol09a41 1945 2012 68 3 0 0.707 2.04 4.04 0.886 0.886 0.174 2.65 0.470 -0.073 2

202 Ol09a42 1961 2012 52 2 0 0.628 1.38 2.72 0.597 0.823 0.226 2.56 0.488 -0.059 2

203 Ol11a11 1958 2012 55 2 0 0.589 1.81 2.91 0.478 0.665 0.181 2.50 0.493 -0.009 1

204 Ol11a12 1958 2012 55 2 0 0.552 1.56 2.64 0.417 0.721 0.158 2.45 0.470 -0.059 1

205 Ol11a21 1960 2012 53 2 1 0.356 2.01 3.46 0.459 0.129 0.223 2.58 0.573 -0.068 1

206 Ol11a22 1960 2012 53 2 0 0.524 1.63 2.69 0.421 0.319 0.208 2.94 0.571 -0.024 1

207 Ol11a51 1957 2012 56 2 0 0.665 1.66 3.40 0.759 0.784 0.240 2.74 0.536 -0.032 3

208 Ol11a52 1957 2012 56 2 0 0.647 1.66 2.82 0.659 0.801 0.201 2.60 0.603 -0.110 1

209 Ol11a31 1999 2012 14 1 0 0.694 1.25 1.73 0.269 0.471 0.180 2.66 0.740 -0.173 1

210 Ol11a33 1953 1996 44 1 0 0.540 2.06 2.90 0.408 0.547 0.154 2.50 0.533 -0.027 1

211 Ol11a32 1953 2012 60 2 1 0.486 1.71 2.70 0.576 0.724 0.205 2.48 0.511 -0.071 1

212 Ol11a41 1955 2012 58 2 0 0.642 1.98 3.04 0.496 0.630 0.166 2.51 0.424 -0.063 1

213 Ol11a42 1972 2012 41 1 0 0.408 1.69 2.64 0.559 0.731 0.204 2.47 0.580 0.043 2

214 Su07a21 1954 2012 59 2 1 0.349 1.40 3.89 0.725 0.857 0.212 2.60 0.449 0.036 1

215 Su07a31 1951 2012 62 2 0 0.384 1.44 3.10 0.525 0.714 0.208 2.42 0.382 -0.036 1

216 Su07a32 1952 2012 61 2 0 0.577 1.62 2.31 0.439 0.602 0.211 2.47 0.434 -0.021 1

217 Su07a11 1949 2012 64 3 1 0.499 1.16 2.77 0.677 0.881 0.219 2.58 0.511 -0.078 1

218 Su07a12 1949 2012 64 3 0 0.382 1.54 3.50 0.734 0.838 0.221 2.64 0.597 -0.093 1

219 Su08a11 1939 2012 74 3 1 0.401 1.58 3.46 0.619 0.664 0.247 2.65 0.459 0.027 1

220 Su08a12 1939 2012 74 3 1 0.281 1.22 3.39 0.713 0.740 0.243 2.64 0.480 0.069 1

221 Su08a21 1936 2012 77 3 0 0.441 1.70 4.02 0.708 0.889 0.173 2.56 0.475 -0.044 1

222 Su08a22 1936 2012 77 3 1 0.391 1.60 2.83 0.409 0.715 0.161 2.54 0.545 -0.061 1

223 Su08a32 1954 2012 59 2 2 0.360 1.54 2.80 0.400 0.417 0.226 2.75 0.557 -0.066 1

224 Su10a11 1940 2012 73 3 0 0.568 1.98 3.69 1.034 0.915 0.187 2.35 0.337 -0.026 1

225 Su10a12 1940 2012 73 3 0 0.596 1.55 3.10 0.848 0.892 0.214 2.39 0.371 -0.009 1

226 Su10a21 1937 2012 76 3 0 0.445 1.64 3.15 0.608 0.802 0.187 2.68 0.493 -0.049 1

227 Su10a22 1937 2012 76 3 0 0.516 1.55 3.71 0.775 0.903 0.168 2.86 0.569 -0.033 1

228 Su10a31 1948 2012 65 3 1 0.487 2.39 4.15 0.875 0.872 0.149 2.49 0.391 -0.106 1

229 Su10a32 1948 2012 65 3 0 0.452 1.88 4.19 0.789 0.818 0.176 2.67 0.546 0.016 1

230 Su10a41 1942 2012 71 3 0 0.632 2.06 4.82 1.172 0.922 0.172 2.53 0.383 -0.061 2

231 Su10a42 1942 2012 71 3 0 0.496 1.56 5.14 1.199 0.943 0.206 2.47 0.515 0.038 1

232 Su10a51 1947 2012 66 3 0 0.591 2.30 3.86 0.687 0.752 0.146 2.53 0.545 -0.031 1

233 Su10a52 1947 2012 66 3 0 0.463 2.28 5.05 1.129 0.866 0.158 2.40 0.463 0.004 1

234 Su11a11 1931 2012 82 3 0 0.544 1.72 3.99 0.663 0.883 0.153 2.61 0.517 0.001 1

235 Su11a21 1932 2012 81 3 0 0.583 1.23 2.95 0.748 0.944 0.183 2.46 0.391 -0.082 1

236 Su11a31 1946 2012 67 3 0 0.599 1.82 2.91 0.557 0.802 0.164 2.36 0.334 -0.056 1

237 Su11a32 1946 2012 67 3 0 0.626 1.66 2.68 0.483 0.779 0.169 2.40 0.396 0.023 2

238 Su11a41 1943 2012 70 3 0 0.609 1.35 2.95 0.546 0.772 0.232 2.73 0.571 -0.071 1

239 Su11a42 1943 2012 70 3 0 0.455 1.68 2.79 0.482 0.547 0.213 2.57 0.499 -0.034 1

240 Su11a51 1947 2012 66 3 0 0.396 1.46 3.83 0.743 0.894 0.189 2.58 0.447 -0.002 2

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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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241 Su11a52 1943 2012 70 3 0 0.500 1.80 3.87 0.879 0.882 0.202 2.48 0.357 0.003 1

242 Su11a62 1949 2012 64 3 0 0.617 1.35 3.07 0.596 0.888 0.170 2.72 0.549 -0.053 1

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Total or mean: 16225 610 120 0.476 1.65 7.24 0.731 0.801 0.209 3.15 0.480 -0.025

- = [ COFECHA ABBA COF ] = -