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APPENDIX A

Division of Reference Cycles into Stages

TABLE A 1
Division of Monthly Reference Cycles into Nine Stages, Four Countries

Stage	Period covered ^a	No. of months in stage	Interval from stage to stage ^b (mos.)	Stage	Period covered ^a	No. of months in stage	Interval from stage to stage ^b (mos.)
United States							
I	Nov. 1854 - Jan. 1855	3	...	I	Apr. 1885 - June 1885	3	...
II	Jan. 1855 - Oct. 1855	10	5.5	II	June 1885 - Dec. 1885	7	4.0
III	Nov. 1855 - July 1856	9	9.5	III	Jan. 1886 - July 1886	7	7.0
IV	Aug. 1856 - May 1857	10	9.5	IV	Aug. 1886 - Feb. 1887	7	7.0
V	May 1857 - July 1857	3	5.5	V	Feb. 1887 - Apr. 1887	3	4.0
VI	July 1857 - Dec. 1857	6	3.5	VI	Apr. 1887 - July 1887	4	2.5
VII	Jan. 1858 - May 1858	5	5.5	VII	Aug. 1887 - Nov. 1887	4	4.0
VIII	June 1858 - Nov. 1858	6	5.5	VIII	Dec. 1887 - Mar. 1888	4	4.0
IX	Nov. 1858 - Jan. 1859	3	3.5	IX	Mar. 1888 - May 1888	3	2.5
I	Nov. 1858 - Jan. 1859	3	...	I	Mar. 1888 - May 1888	3	...
II	Jan. 1859 - July 1859	7	4.0	II	May 1888 - Jan. 1889	9	5.0
III	Aug. 1859 - Feb. 1860	7	7.0	III	Feb. 1889 - Sep. 1889	8	8.5
IV	Mar. 1860 - Sep. 1860	7	7.0	IV	Oct. 1889 - June 1890	9	8.5
V	Sep. 1860 - Nov. 1860	3	4.0	V	June 1890 - Aug. 1890	3	5.0
VI	Nov. 1860 - Dec. 1860	2	1.5	VI	Aug. 1890 - Oct. 1890	3	2.0
VII	Jan. 1861 - Mar. 1861	3	2.5	VII	Nov. 1890 - Jan. 1891	3	3.0
VIII	Apr. 1861 - May 1861	2	2.5	VIII	Feb. 1891 - Apr. 1891	3	3.0
IX	May 1861 - July 1861	3	1.5	IX	Apr. 1891 - June 1891	3	2.0
I	May 1861 - July 1861	3	...	I	Apr. 1891 - June 1891	3	...
II	July 1861 - Sep. 1862	15	8.0	II	June 1891 - Nov. 1891	6	3.5
III	Oct. 1862 - Dec. 1863	15	15.0	III	Dec. 1891 - June 1892	7	6.5
IV	Jan. 1864 - Mar. 1865	15	15.0	IV	July 1892 - Dec. 1892	6	6.5
V	Mar. 1865 - May 1865	3	8.0	V	Dec. 1892 - Feb. 1893	3	3.5
VI	May 1865 - Feb. 1866	10	5.5	VI	Feb. 1893 - June 1893	5	3.0
VII	Mar. 1866 - Jan. 1867	11	10.5	VII	July 1893 - Dec. 1893	6	5.5
VIII	Feb. 1867 - Nov. 1867	10	10.5	VIII	Jan. 1894 - May 1894	5	5.5
IX	Nov. 1867 - Jan. 1868	3	5.5	IX	May 1894 - July 1894	3	3.0
I	Nov. 1867 - Jan. 1868	3	...	I	May 1894 - July 1894	3	...
II	Jan. 1868 - June 1868	6	3.5	II	July 1894 - Dec. 1894	6	3.5
III	July 1868 - Nov. 1868	5	5.5	III	Jan. 1895 - May 1895	5	5.5
IV	Dec. 1868 - May 1869	6	5.5	IV	June 1895 - Nov. 1895	6	5.5
V	May 1869 - July 1869	3	3.5	V	Nov. 1895 - Jan. 1896	3	3.5
VI	July 1869 - Dec. 1869	6	3.5	VI	Jan. 1896 - June 1896	6	3.5
VII	Jan. 1870 - May 1870	5	5.5	VII	July 1896 - Nov. 1896	5	5.5
VIII	June 1870 - Nov. 1870	6	5.5	VIII	Dec. 1896 - May 1897	6	5.5
IX	Nov. 1870 - Jan. 1871	3	3.5	IX	May 1897 - July 1897	3	3.5
I	Nov. 1870 - Jan. 1871	3	...	I	May 1897 - July 1897	3	...
II	Jan. 1871 - Nov. 1871	11	6.0	II	July 1897 - Feb. 1898	8	4.5
III	Dec. 1871 - Oct. 1872	11	11.0	III	Mar. 1898 - Sep. 1898	7	7.5
IV	Nov. 1872 - Sep. 1873	11	11.0	IV	Oct. 1898 - May 1899	8	7.5
V	Sep. 1873 - Nov. 1873	3	6.0	V	May 1899 - July 1899	3	4.5
VI	Nov. 1873 - July 1875	21	11.0	VI	July 1899 - Dec. 1899	6	3.5
VII	Aug. 1875 - May 1877	22	21.5	VII	Jan. 1900 - May 1900	5	5.5
VIII	June 1877 - Feb. 1879	21	21.5	VIII	June 1900 - Nov. 1900	6	5.5
IX	Feb. 1879 - Apr. 1879	3	11.0	IX	Nov. 1900 - Jan. 1901	3	3.5
I	Feb. 1879 - Apr. 1879	3	...	I	Nov. 1900 - Jan. 1901	3	...
II	Apr. 1879 - Mar. 1880	12	6.5	II	Jan. 1901 - July 1901	7	4.0
III	Apr. 1880 - Feb. 1881	11	11.5	III	Aug. 1901 - Jan. 1902	6	6.5
IV	Mar. 1881 - Feb. 1882	12	11.5	IV	Feb. 1902 - Aug. 1902	7	6.5
V	Feb. 1882 - Apr. 1882	3	6.5	V	Aug. 1902 - Oct. 1902	3	4.0
VI	Apr. 1882 - Mar. 1883	12	6.5	VI	Oct. 1902 - Apr. 1903	7	4.0
VII	Apr. 1883 - Apr. 1884	13	12.5	VII	May 1903 - Dec. 1903	8	7.5
VIII	May 1884 - Apr. 1885	12	12.5	VIII	Jan. 1904 - July 1904	7	7.5
IX	Apr. 1885 - June 1885	3	6.5	IX	July 1904 - Sep. 1904	3	4.0

Stage	Period
I	July
II	Sep.
III	Aug.
IV	June
V	Apr.
VI	June
VII	Oct.
VIII	Feb.
IX	May
I	May
II	July
III	Jan.
IV	July
V	Dec.
VI	Feb.
VII	Oct.
VIII	May
IX	Dec.
I	Dec.
II	Feb.
III	June
IV	Sep.
V	Dec.
VI	Feb.
VII	Sep.
VIII	May
IX	Nov.
I	Nov.
II	Jan.
III	Mar.
IV	June
V	July
VI	Sep.
VII	Nov.
VIII	Feb.
IX	Mar.
I	Mar.
II	May
III	Aug.
IV	Oct.
V	Dec.
VI	Feb.
VII	Aug.
VIII	Mar.
IX	Aug.
I	Aug.
II	Oct.
III	Apr.
IV	Nov.
V	Apr.
VI	June
VII	Oct.
VIII	Mar.
IX	June

TABLE A1 - Continued
 Division of Monthly Reference Cycles into Nine Stages, Four Countries

Interval from stage to stage ^b (mos.)	Stage	Period covered ^a	No. of months in stage	Interval from stage to stage ^b (mos.)	Stage	Period covered ^a	No. of months in stage	Interval from stage to stage ^b (mos.)
United States - Continued								
...	I	July 1904 - Sep. 1904	3	...	I	June 1924 - Aug. 1924	3	...
4.0	II	Sep. 1904 - July 1905	11	6.0	II	Aug. 1924 - Apr. 1925	9	5.0
7.0	III	Aug. 1905 - May 1906	10	10.5	III	May 1925 - Dec. 1925	8	8.5
7.0	IV	June 1906 - Apr. 1907	11	10.5	IV	Jan. 1926 - Sep. 1926	9	8.5
4.0	V	Apr. 1907 - June 1907	3	6.0	V	Sep. 1926 - Nov. 1926	3	5.0
2.5	VI	June 1907 - Sep. 1907	4	2.5	VI	Nov. 1926 - Feb. 1927	4	2.5
4.0	VII	Oct. 1907 - Jan. 1908	4	4.0	VII	Mar. 1927 - July 1927	5	4.5
4.0	VIII	Feb. 1908 - May 1908	4	4.0	VIII	Aug. 1927 - Nov. 1927	4	4.5
2.5	IX	May 1908 - July 1908	3	2.5	IX	Nov. 1927 - Jan. 1928	3	2.5
...	I	May 1908 - July 1908	3	...	I	Nov. 1927 - Jan. 1928	3	...
5.0	II	July 1908 - Dec. 1908	6	3.5	II	Jan. 1928 - June 1928	6	3.5
8.5	III	Jan. 1909 - June 1909	6	6.0	III	July 1928 - Nov. 1928	5	5.5
8.5	IV	July 1909 - Dec. 1909	6	6.0	IV	Dec. 1928 - May 1929	6	5.5
5.0	V	Dec. 1909 - Feb. 1910	3	3.5	V	May 1929 - July 1929	3	3.5
2.0	VI	Feb. 1910 - Sep. 1910	8	4.5	VI	July 1929 - Sep. 1930	15	8.0
3.0	VII	Oct. 1910 - Apr. 1911	7	7.5	VII	Oct. 1930 - Nov. 1931	14	14.5
3.0	VIII	May 1911 - Dec. 1911	8	7.5	VIII	Dec. 1931 - Feb. 1933	15	14.5
2.0	IX	Dec. 1911 - Feb. 1912	3	4.5	IX	Feb. 1933 - Apr. 1933	3	8.0
...	I	Dec. 1911 - Feb. 1912	3	...	I	Feb. 1933 - Apr. 1933	3	...
3.5	II	Feb. 1912 - May 1912	4	2.5	II	Apr. 1933 - July 1934	16	8.5
6.5	III	June 1912 - Aug. 1912	3	3.5	III	Aug. 1934 - Dec. 1935	17	16.5
6.5	IV	Sep. 1912 - Dec. 1912	4	3.5	IV	Jan. 1936 - Apr. 1937	16	16.5
3.5	V	Dec. 1912 - Feb. 1913	3	2.5	V	Apr. 1937 - June 1937	3	8.5
3.0	VI	Feb. 1913 - Aug. 1913	7	4.0	VI	June 1937 - Sep. 1937	4	2.5
5.5	VII	Sep. 1913 - Apr. 1914	8	7.5	VII	Oct. 1937 - Dec. 1937	3	3.5
5.5	VIII	May 1914 - Nov. 1914	7	7.5	VIII	Jan. 1938 - Apr. 1938	4	3.5
3.0	IX	Nov. 1914 - Jan. 1915	3	4.0	IX	Apr. 1938 - June 1938	3	2.5
...	I	Nov. 1914 - Jan. 1915	3	...				
3.5	II	Jan. 1915 - Feb. 1916	14	7.5				
5.5	III	Mar. 1916 - May 1917	15	14.5				
5.5	IV	June 1917 - July 1918	14	14.5				
3.5	V	July 1918 - Sep. 1918	3	7.5				
3.5	VI	Sep. 1918 - Oct. 1918	2	1.5				
5.5	VII	Nov. 1918 - Jan. 1919	3	2.5				
5.5	VIII	Feb. 1919 - Mar. 1919	2	2.5				
3.5	IX	Mar. 1919 - May 1919	3	1.5				
...	I	Mar. 1919 - May 1919	3	...				
4.5	II	May 1919 - July 1919	3	2.0				
7.5	III	Aug. 1919 - Sep. 1919	2	2.5				
7.5	IV	Oct. 1919 - Dec. 1919	3	2.5				
4.5	V	Dec. 1919 - Feb. 1920	3	2.0				
3.5	VI	Feb. 1920 - July 1920	6	3.5				
5.5	VII	Aug. 1920 - Feb. 1921	7	6.5				
5.5	VIII	Mar. 1921 - Aug. 1921	6	6.5				
3.5	IX	Aug. 1921 - Oct. 1921	3	3.5				
...	I	Aug. 1921 - Oct. 1921	3	...				
4.0	II	Oct. 1921 - Mar. 1922	6	3.5				
6.5	III	Apr. 1922 - Oct. 1922	7	6.5				
6.5	IV	Nov. 1922 - Apr. 1923	6	6.5				
4.0	V	Apr. 1923 - June 1923	3	3.5				
4.0	VI	June 1923 - Sep. 1923	4	2.5				
7.5	VII	Oct. 1923 - Feb. 1924	5	4.5				
7.5	VIII	Mar. 1924 - June 1924	4	4.5				
4.0	IX	June 1924 - Aug. 1924	3	2.5				

TABLE A1 - Continued
 Division of Monthly Reference Cycles into Nine Stages, Four Countries

Stage	Period covered ^a	No. of months in stage	Interval from stage to stage ^b (mos.)	Stage	Period covered ^a	No. of months in stage	Interval from stage to stage ^b (mos.)
Great Britain							
I	Nov. 1854 - Jan. 1855	3	...	I	Jan. 1895 - Mar. 1895	3	...
II	Jan. 1855 - Nov. 1855	11	6.0	II	Mar. 1895 - Nov. 1896	21	11.0
III	Dec. 1855 - Sep. 1856	10	10.5	III	Dec. 1896 - Aug. 1898	21	21.0
IV	Oct. 1856 - Aug. 1857	11	10.5	IV	Sep. 1898 - May 1900	21	21.0
V	Aug. 1857 - Oct. 1857	3	6.0	V	May 1900 - July 1900	3	11.0
VI	Oct. 1857 - Nov. 1857	2	1.5	VI	July 1900 - Nov. 1900	5	3.0
VII	Dec. 1857	1	1.5	VII	Dec. 1900 - Mar. 1901	4	4.5
VIII	Jan. 1858 - Feb. 1858	2	1.5	VIII	Apr. 1901 - Aug. 1901	5	4.5
IX	Feb. 1858 - Apr. 1858	3	1.5	IX	Aug. 1901 - Oct. 1901	3	3.0
I	Feb. 1858 - Apr. 1858	3	...	I	Aug. 1901 - Oct. 1901	3	...
II	Apr. 1858 - Jan. 1859	10	5.5	II	Oct. 1901 - Apr. 1902	7	4.0
III	Feb. 1859 - Oct. 1859	9	9.5	III	May 1902 - Oct. 1902	6	6.5
IV	Nov. 1859 - Aug. 1860	10	9.5	IV	Nov. 1902 - May 1903	7	6.5
V	Aug. 1860 - Oct. 1860	3	5.5	V	May 1903 - July 1903	3	4.0
VI	Oct. 1860 - June 1861	9	5.0	VI	July 1903 - Nov. 1903	5	3.0
VII	July 1861 - Feb. 1862	8	8.5	VII	Dec. 1903 - May 1904	6	5.5
VIII	Mar. 1862 - Nov. 1862	9	8.5	VIII	June 1904 - Oct. 1904	5	5.5
IX	Nov. 1862 - Jan. 1863	3	5.0	IX	Oct. 1904 - Dec. 1904	3	3.0
I	Nov. 1862 - Jan. 1863	3	...	I	Oct. 1904 - Dec. 1904	3	...
II	Jan. 1863 - Jan. 1864	13	7.0	II	Dec. 1904 - Sep. 1905	10	5.5
III	Feb. 1864 - Jan. 1865	12	12.5	III	Oct. 1905 - July 1906	10	10.0
IV	Feb. 1865 - Feb. 1866	13	12.5	IV	Aug. 1906 - May 1907	10	10.0
V	Feb. 1866 - Apr. 1866	3	7.0	V	May 1907 - July 1907	3	5.5
VI	Apr. 1866 - Nov. 1866	8	4.5	VI	July 1907 - Nov. 1907	5	3.0
VII	Dec. 1866 - June 1867	7	7.5	VII	Dec. 1907 - May 1908	6	5.5
VIII	July 1867 - Feb. 1868	8	7.5	VIII	June 1908 - Oct. 1908	5	5.5
IX	Feb. 1868 - Apr. 1868	3	4.5	IX	Oct. 1908 - Dec. 1908	3	3.0
I	Feb. 1868 - Apr. 1868	3	...	I	Oct. 1908 - Dec. 1908	3	...
II	Apr. 1868 - Sep. 1869	18	9.5	II	Dec. 1908 - Mar. 1910	16	8.5
III	Oct. 1869 - Feb. 1871	17	17.5	III	Apr. 1910 - July 1911	16	16.0
IV	Mar. 1871 - Aug. 1872	18	17.5	IV	Aug. 1911 - Nov. 1912	16	16.0
V	Aug. 1872 - Oct. 1872	3	9.5	V	Nov. 1912 - Jan. 1913	3	8.5
VI	Oct. 1872 - Dec. 1874	27	14.0	VI	Jan. 1913 - July 1913	7	4.0
VII	Jan. 1875 - Feb. 1877	26	26.5	VII	Aug. 1913 - Jan. 1914	6	6.5
VIII	Mar. 1877 - May 1879	27	26.5	VIII	Feb. 1914 - Aug. 1914	7	6.5
IX	May 1879 - July 1879	3	14.0	IX	Aug. 1914 - Oct. 1914	3	4.0
I	May 1879 - July 1879	3	...	I	Aug. 1914 - Oct. 1914	3	...
II	July 1879 - Aug. 1880	14	7.5	II	Oct. 1914 - Jan. 1916	16	8.5
III	Sep. 1880 - Sep. 1881	13	13.5	III	Feb. 1916 - May 1917	16	16.0
IV	Oct. 1881 - Nov. 1882	14	13.5	IV	June 1917 - Sep. 1918	16	16.0
V	Nov. 1882 - Jan. 1883	3	7.5	V	Sep. 1918 - Nov. 1918	3	8.5
VI	Jan. 1883 - Feb. 1884	14	7.5	VI	Nov. 1918 - Dec. 1918	2	1.5
VII	Mar. 1884 - Mar. 1885	13	13.5	VII	Jan. 1919	1	1.5
VIII	Apr. 1885 - May 1886	14	13.5	VIII	Feb. 1919 - Mar. 1919	2	1.5
IX	May 1886 - July 1886	3	7.5	IX	Mar. 1919 - May 1919	3	1.5
I	May 1886 - July 1886	3	...	I	Mar. 1919 - May 1919	3	...
II	July 1886 - Nov. 1887	17	9.0	II	May 1919 - July 1919	3	2.0
III	Dec. 1887 - Mar. 1889	16	16.5	III	Aug. 1919 - Nov. 1919	4	3.5
IV	Apr. 1889 - Aug. 1890	17	16.5	IV	Dec. 1919 - Feb. 1920	3	3.5
V	Aug. 1890 - Oct. 1890	3	9.0	V	Feb. 1920 - Apr. 1920	3	2.0
VI	Oct. 1890 - Feb. 1892	17	9.0	VI	Apr. 1920 - Aug. 1920	5	3.0
VII	Mar. 1892 - Aug. 1893	18	17.5	VII	Sep. 1920 - Dec. 1920	4	4.5
VIII	Sep. 1893 - Jan. 1895	17	17.5	VIII	Jan. 1921 - May 1921	5	4.5
IX	Jan. 1895 - Mar. 1895	3	9.0	IX	May 1921 - July 1921	3	3.0

Stage	Period
I	May
II	July
III	Aug.
IV	Oct.
V	Oct.
VI	Dec.
VII	June
VIII	Jan.
IX	June
I	June
II	Aug.
III	Oct.
IV	Jan.
V	Feb.
VI	Apr.
VII	Oct.
VIII	Mar.
IX	Aug.
I	Nov.
II	Jan.
III	Aug.
IV	Apr.
V	Oct.
VI	Dec.
VII	Mar.
VIII	July
IX	Sep.
I	Sep.
II	Nov.
III	Jun.
IV	Jan.
V	July
VI	Sep.
VII	Mar.
VIII	Aug.
IX	Jan.
I	Jan.
II	Mar.
III	Sep.
IV	Mar.
V	Aug.
VI	Oct.
VII	Sep.
VIII	Sep.
IX	Jul.
I	Jul.
II	Sep.
III	Mar.
IV	Oct.
V	Mar.
VI	Mar.
VII	Oct.
VIII	Apr.
IX	At

TABLE A1 - Continued
Division of Monthly Reference Cycles into Nine Stages, Four Countries

Interval from stage to stage ^b (mos.)	Stage	Period covered ^a	No. of months in stage	Interval from stage to stage ^b (mos.)	Stage	Period covered ^a	No. of months in stage	Interval from stage to stage ^b (mos.)
Great Britain - Continued								
...	I	May 1921 - July 1921	3	...	I	Aug. 1928 - Oct. 1928	3	...
11.0	II	July 1921 - July 1922	13	7.0	II	Oct. 1928 - Dec. 1928	3	2.0
21.0	III	Aug. 1922 - Sep. 1923	14	13.5	III	Jan. 1929 - Mar. 1929	3	3.0
21.0	IV	Oct. 1923 - Oct. 1924	13	13.5	IV	Apr. 1929 - June 1929	3	3.0
11.0	V	Oct. 1924 - Dec. 1924	3	7.0	V	June 1929 - Aug. 1929	3	2.0
3.0	VI	Dec. 1924 - May 1925	6	3.5	VI	Aug. 1929 - July 1930	12	6.5
4.5	VII	June 1925 - Dec. 1925	7	6.5	VII	Aug. 1930 - July 1931	12	12.0
4.5	VIII	Jan. 1926 - June 1926	6	6.5	VIII	Aug. 1931 - July 1932	12	12.0
3.0	IX	June 1926 - Aug. 1926	3	3.5	IX	July 1932 - Sep. 1932	3	6.5
...	I	June 1926 - Aug. 1926	3	...	I	July 1932 - Sep. 1932	3	...
4.0	II	Aug. 1926 - Sep. 1926	2	1.5	II	Sep. 1932 - Apr. 1934	20	10.5
6.5	III	Oct. 1926 - Dec. 1926	3	2.5	III	May 1934 - Dec. 1935	20	20.0
6.5	IV	Jan. 1927 - Feb. 1927	2	2.5	IV	Jan. 1936 - Aug. 1937	20	20.0
4.0	V	Feb. 1927 - Apr. 1927	3	1.5	V	Aug. 1937 - Oct. 1937	3	10.5
3.0	VI	Apr. 1927 - Sep. 1927	6	3.5	VI	Oct. 1937 - Jan. 1938	4	2.5
5.5	VII	Oct. 1927 - Feb. 1928	5	5.5	VII	Feb. 1938 - Apr. 1938	3	3.5
5.5	VIII	Mar. 1928 - Aug. 1928	6	5.5	VIII	May 1938 - Aug. 1938	4	3.5
3.0	IX	Aug. 1928 - Oct. 1928	3	3.5	IX	Aug. 1938 - Oct. 1938	3	2.5
France								
5.5	I	Nov. 1865 - Jan. 1866	3	...	I	Aug. 1879 - Oct. 1879	3	...
10.0	II	Jan. 1866 - July 1866	7	4.0	II	Oct. 1879 - June 1880	9	5.0
10.0	III	Aug. 1866 - Mar. 1867	8	7.5	III	July 1880 - Feb. 1881	8	8.5
5.5	IV	Apr. 1867 - Oct. 1867	7	7.5	IV	Mar. 1881 - Nov. 1881	9	8.5
3.0	V	Oct. 1867 - Dec. 1867	3	4.0	V	Nov. 1881 - Jan. 1882	3	5.0
5.5	VI	Dec. 1867 - Feb. 1868	3	2.0	VI	Jan. 1882 - Oct. 1883	22	11.5
5.5	VII	Mar. 1868 - June 1868	4	3.5	VII	Nov. 1883 - Sep. 1885	23	22.5
3.0	VIII	July 1868 - Sep. 1868	3	3.5	VIII	Oct. 1885 - July 1887	22	22.5
...	IX	Sep. 1868 - Nov. 1868	3	2.0	IX	July 1887 - Sep. 1887	3	11.5
8.5	I	Sep. 1868 - Nov. 1868	3	...	I	July 1887 - Sep. 1887	3	...
16.0	II	Nov. 1868 - May 1869	7	4.0	II	Sep. 1887 - Sep. 1888	13	7.0
16.0	III	June 1869 - Dec. 1869	7	7.0	III	Oct. 1888 - Nov. 1889	14	13.5
8.5	IV	Jan. 1870 - July 1870	7	7.0	IV	Dec. 1889 - Dec. 1890	13	13.5
4.0	V	July 1870 - Sep. 1870	3	4.0	V	Dec. 1890 - Feb. 1891	3	7.0
6.5	VI	Sep. 1870 - Feb. 1871	6	3.5	VI	Feb. 1891 - May 1892	16	8.5
6.5	VII	Mar. 1871 - July 1871	5	5.5	VII	June 1892 - Aug. 1893	15	15.5
4.0	VIII	Aug. 1871 - Jan. 1872	6	5.5	VIII	Sep. 1893 - Dec. 1894	16	15.5
...	IX	Jan. 1872 - Mar. 1872	3	3.5	IX	Dec. 1894 - Feb. 1895	3	8.5
8.5	I	Jan. 1872 - Mar. 1872	3	...	I	Dec. 1894 - Feb. 1895	3	...
16.0	II	Mar. 1872 - Aug. 1872	6	3.5	II	Feb. 1895 - Sep. 1896	20	10.5
16.0	III	Sep. 1872 - Feb. 1873	6	6.0	III	Oct. 1896 - June 1898	21	20.5
8.5	IV	Mar. 1873 - Aug. 1873	6	6.0	IV	July 1898 - Feb. 1900	20	20.5
1.5	V	Aug. 1873 - Oct. 1873	3	3.5	V	Feb. 1900 - Apr. 1900	3	10.5
1.5	VI	Oct. 1873 - Aug. 1874	11	6.0	VI	Apr. 1900 - Jan. 1901	10	5.5
1.5	VII	Sep. 1874 - Aug. 1875	12	11.5	VII	Feb. 1901 - Oct. 1901	9	9.5
...	VIII	Sep. 1875 - July 1876	11	11.5	VIII	Nov. 1901 - Aug. 1902	10	9.5
2.0	IX	July 1876 - Sep. 1876	3	6.0	IX	Aug. 1902 - Oct. 1902	3	5.5
3.5	I	July 1876 - Sep. 1876	3	...	I	Aug. 1902 - Oct. 1902	3	...
3.5	II	Sep. 1876 - Feb. 1877	6	3.5	II	Oct. 1902 - Nov. 1902	2	1.5
2.0	III	Mar. 1877 - Sep. 1877	7	6.5	III	Dec. 1902 - Feb. 1903	3	2.5
3.0	IV	Oct. 1877 - Mar. 1878	6	6.5	IV	Mar. 1903 - Apr. 1903	2	2.5
4.5	V	Mar. 1878 - May 1878	3	3.5	V	Apr. 1903 - June 1903	3	1.5
4.5	VI	May 1878 - Sep. 1878	5	3.0	VI	June 1903 - Oct. 1903	5	3.0
3.0	VII	Oct. 1878 - Mar. 1879	6	5.5	VII	Nov. 1903 - Apr. 1904	6	5.5
...	VIII	Apr. 1879 - Aug. 1879	5	5.5	VIII	May 1904 - Sep. 1904	5	5.5
3.0	IX	Aug. 1879 - Oct. 1879	3	3.0	IX	Sep. 1904 - Nov. 1904	3	3.0

TABLE A1 - Continued
 Division of Monthly Reference Cycles into Nine Stages, Four Countries

Stage	Period covered ^a	No. of months in stage	Interval from stage to stage ^b (mos.)	Stage	Period covered ^a	No. of months in stage	Interval from stage to stage ^b (mos.)
France - Continued							
I	Sep. 1904 - Nov. 1904	3	...	I	May 1927 - July 1927	3	...
II	Nov. 1904 - Sep. 1905	11	6.0	II	July 1927 - May 1928	11	6.0
III	Oct. 1905 - July 1906	10	10.5	III	June 1928 - Mar. 1929	10	10.5
IV	Aug. 1906 - June 1907	11	10.5	IV	Apr. 1929 - Feb. 1930	11	10.5
V	June 1907 - Aug. 1907	3	6.0	V	Feb. 1930 - Apr. 1930	3	6.0
VI	Aug. 1907 - Jan. 1908	6	3.5	VI	Apr. 1930 - Dec. 1930	9	5.0
VII	Feb. 1908 - July 1908	6	6.0	VII	Jan. 1931 - Sep. 1931	9	9.0
VIII	Aug. 1908 - Jan. 1909	6	6.0	VIII	Oct. 1931 - June 1932	9	9.0
IX	Jan. 1909 - Mar. 1909	3	3.5	IX	June 1932 - Aug. 1932	3	5.0
I	Jan. 1909 - Mar. 1909	3	...	I	June 1932 - Aug. 1932	3	...
II	Mar. 1909 - July 1910	17	9.0	II	Aug. 1932 - Nov. 1932	4	2.5
III	Aug. 1910 - Dec. 1911	17	17.0	III	Dec. 1932 - Feb. 1933	3	3.5
IV	Jan. 1912 - May 1913	17	17.0	IV	Mar. 1933 - June 1933	4	3.5
V	May 1913 - July 1913	3	9.0	V	June 1933 - Aug. 1933	3	2.5
VI	July 1913 - Oct. 1913	4	2.5	VI	Aug. 1933 - Feb. 1934	7	4.0
VII	Nov. 1913 - Mar. 1914	5	4.5	VII	Mar. 1934 - Aug. 1934	6	6.5
VIII	Apr. 1914 - July 1914	4	4.5	VIII	Sep. 1934 - Mar. 1935	7	6.5
IX	July 1914 - Sep. 1914	3	2.5	IX	Mar. 1935 - May 1935	3	4.0
I	July 1914 - Sep. 1914	3	...	I	Mar. 1935 - May 1935	3	...
II	Sep. 1914 - Nov. 1915	15	8.0	II	May 1935 - Dec. 1935	8	4.5
III	Dec. 1915 - Feb. 1917	15	15.0	III	Jan. 1936 - Sep. 1936	9	8.5
IV	Mar. 1917 - May 1918	15	15.0	IV	Oct. 1936 - May 1937	8	8.5
V	May 1918 - July 1918	3	8.0	V	May 1937 - July 1937	3	4.5
VI	July 1918 - Sep. 1918	3	2.0	VI	July 1937 - Oct. 1937	4	2.5
VII	Oct. 1918 - Dec. 1918	3	3.0	VII	Nov. 1937 - Mar. 1938	5	4.5
VIII	Jan. 1919 - Mar. 1919	3	3.0	VIII	Apr. 1938 - July 1938	4	4.5
IX	Mar. 1919 - May 1919	3	2.0	IX	July 1938 - Sep. 1938	3	2.5
I	Mar. 1919 - May 1919	3	...				
II	May 1919 - Sep. 1919	5	3.0				
III	Oct. 1919 - Mar. 1920	6	5.5				
IV	Apr. 1920 - Aug. 1920	5	5.5				
V	Aug. 1920 - Oct. 1920	3	3.0				
VI	Oct. 1920 - Dec. 1920	3	2.0				
VII	Jan. 1921 - Mar. 1921	3	3.0				
VIII	Apr. 1921 - June 1921	3	3.0				
IX	June 1921 - Aug. 1921	3	2.0				
I	June 1921 - Aug. 1921	3	...				
II	Aug. 1921 - Aug. 1922	13	7.0				
III	Sep. 1922 - Aug. 1923	12	12.5				
IV	Sep. 1923 - Sep. 1924	13	12.5				
V	Sep. 1924 - Nov. 1924	3	7.0				
VI	Nov. 1924 - Dec. 1924	2	1.5				
VII	Jan. 1925 - Mar. 1925	3	2.5				
VIII	Apr. 1925 - May 1925	2	2.5				
IX	May 1925 - July 1925	3	1.5				
I	May 1925 - July 1925	3	...				
II	July 1925 - Nov. 1925	5	3.0				
III	Dec. 1925 - Apr. 1926	5	5.0				
IV	May 1926 - Sep. 1926	5	5.0				
V	Sep. 1926 - Nov. 1926	3	3.0				
VI	Nov. 1926 - Dec. 1926	2	1.5				
VII	Jan. 1927 - Mar. 1927	3	2.5				
VIII	Apr. 1927 - May 1927	2	2.5				
IX	May 1927 - July 1927	3	1.5				

^a Inclusive
^b That is,

TABLE A1 - Continued
Division of Monthly Reference Cycles into Nine Stages, Four Countries

Stage	Period covered ^a	No. of months in stage	Interval from stage to stage ^b (mos.)	Stage	Period covered ^a	No. of months in stage	Interval from stage to stage ^b (mos.)
Germany							
I	Jan. 1879 - Mar. 1879	3	...	I	July 1914 - Sep. 1914	3	...
II	Mar. 1879 - Jan. 1880	11	6.0	II	Sep. 1914 - Nov. 1915	15	8.0
III	Feb. 1880 - Jan. 1881	12	11.5	III	Dec. 1915 - Feb. 1917	15	15.0
IV	Feb. 1881 - Dec. 1881	11	11.5	IV	Mar. 1917 - May 1918	15	15.0
V	Dec. 1881 - Feb. 1882	3	6.0	V	May 1918 - July 1918	3	8.0
VI	Feb. 1882 - July 1883	18	9.5	VI	July 1918 - Oct. 1918	4	2.5
VII	Aug. 1883 - Jan. 1885	18	18.0	VII	Nov. 1918 - Jan. 1919	3	3.5
VIII	Feb. 1885 - July 1886	18	18.0	VIII	Feb. 1919 - May 1919	4	3.5
IX	July 1886 - Sep. 1886	3	9.5	IX	May 1919 - July 1919	3	2.5
I	July 1886 - Sep. 1886	3	...	I	May 1919 - July 1919	3	...
II	Sep. 1886 - Sep. 1887	13	7.0	II	July 1919 - May 1920	11	6.0
III	Oct. 1887 - Nov. 1888	14	13.5	III	June 1920 - May 1921	12	11.5
IV	Dec. 1888 - Dec. 1889	13	13.5	IV	June 1921 - Apr. 1922	11	11.5
V	Dec. 1889 - Feb. 1890	3	7.0	V	Apr. 1922 - June 1922	3	6.0
VI	Feb. 1890 - Sep. 1891	20	10.5	VI	June 1922 - Nov. 1922	6	3.5
VII	Oct. 1891 - May 1893	20	20.0	VII	Dec. 1922 - Apr. 1923	5	5.5
VIII	June 1893 - Jan. 1895	20	20.0	VIII	May 1923 - Oct. 1923	6	5.5
IX	Jan. 1895 - Mar. 1895	3	10.5	IX	Oct. 1923 - Dec. 1923	3	3.5
I	Jan. 1895 - Mar. 1895	3	...	I	Oct. 1923 - Dec. 1923	3	...
II	Mar. 1895 - Oct. 1896	20	10.5	II	Dec. 1923 - Apr. 1924	5	3.0
III	Nov. 1896 - June 1898	20	20.0	III	May 1924 - Sep. 1924	5	5.0
IV	July 1898 - Feb. 1900	20	20.0	IV	Oct. 1924 - Feb. 1925	5	5.0
V	Feb. 1900 - Apr. 1900	3	10.5	V	Feb. 1925 - Apr. 1925	3	3.0
VI	Apr. 1900 - Nov. 1900	8	4.5	VI	Apr. 1925 - July 1925	4	2.5
VII	Dec. 1900 - June 1901	7	7.5	VII	Aug. 1925 - Oct. 1925	3	3.5
VIII	July 1901 - Feb. 1902	8	7.5	VIII	Nov. 1925 - Feb. 1926	4	3.5
IX	Feb. 1902 - Apr. 1902	3	4.5	IX	Feb. 1926 - Apr. 1926	3	2.5
I	Feb. 1902 - Apr. 1902	3	...	I	Feb. 1926 - Apr. 1926	3	...
II	Apr. 1902 - Aug. 1902	5	3.0	II	Apr. 1926 - Mar. 1927	12	6.5
III	Sep. 1902 - Feb. 1903	6	5.5	III	Apr. 1927 - Mar. 1928	12	12.0
IV	Mar. 1903 - July 1903	5	5.5	IV	Apr. 1928 - Mar. 1929	12	12.0
V	July 1903 - Sep. 1903	3	3.0	V	Mar. 1929 - May 1929	3	6.5
VI	Sep. 1903 - Feb. 1904	6	3.5	VI	May 1929 - May 1930	13	7.0
VII	Mar. 1904 - July 1904	5	5.5	VII	June 1930 - June 1931	13	13.0
VIII	Aug. 1904 - Jan. 1905	6	5.5	VIII	July 1931 - July 1932	13	13.0
IX	Jan. 1905 - Mar. 1905	3	3.5	IX	July 1932 - Sep. 1932	3	7.0
I	Jan. 1905 - Mar. 1905	3	...				
II	Mar. 1905 - Nov. 1905	9	5.0				
III	Dec. 1905 - Sep. 1906	10	9.5				
IV	Oct. 1906 - June 1907	9	9.5				
V	June 1907 - Aug. 1907	3	5.0				
VI	Aug. 1907 - Dec. 1907	5	3.0				
VII	Jan. 1908 - June 1908	6	5.5				
VIII	July 1908 - Nov. 1908	5	5.5				
IX	Nov. 1908 - Jan. 1909	3	3.0				
I	Nov. 1908 - Jan. 1909	3	...				
II	Jan. 1909 - May 1910	17	9.0				
III	June 1910 - Oct. 1911	17	17.0				
IV	Nov. 1911 - Mar. 1913	17	17.0				
V	Mar. 1913 - May 1913	3	9.0				
VI	May 1913 - Sep. 1913	5	3.0				
VII	Oct. 1913 - Feb. 1914	5	5.0				
VIII	Mar. 1914 - July 1914	5	5.0				
IX	July 1914 - Sep. 1914	3	3.0				

^a Inclusive of the dates given.

^b That is, from the midpoint of the preceding stage to the midpoint of the given stage.

TABLE A2
Average Interval between Reference-cycle Stages during Selected Periods
United States

Period covered	No. of reference cycles	Average interval in months between stages								Average duration of cycles in months (sum of av. intervals)
		I-II	II-III	III-IV	IV-V	V-VI	VI-VII	VII-VIII	VIII-IX	
		Expansion				Contraction				
		Trough to first third	First to middle third	Middle to last third	Last third to peak	Peak to first third	First to middle third	Middle to last third	Last third to trough	
1854-1938	21	4.8	8.3	8.3	4.8	3.9	6.9	6.9	3.9	47.7
1858-1938	20	4.7	8.3	8.3	4.7	3.9	6.9	6.9	3.9	47.6
1861-1938	19	4.8	8.3	8.3	4.8	4.0	7.2	7.2	4.0	48.6
1867-1938	18	4.6	8.0	8.0	4.6	3.9	7.0	7.0	3.9	46.9
1870-1938	17	4.6	8.1	8.1	4.6	4.0	7.1	7.1	4.0	47.6
1879-1938	16	4.6	7.9	7.9	4.6	3.5	6.2	6.2	3.5	44.4
1885-1938	15	4.4	7.7	7.7	4.4	3.3	5.7	5.7	3.3	42.4
1888-1938	14	4.5	7.8	7.8	4.5	3.4	5.9	5.9	3.4	42.9
1891-1938	13	4.4	7.7	7.7	4.4	3.5	6.1	6.1	3.5	43.4
1894-1938	12	4.5	7.8	7.8	4.5	3.5	6.1	6.1	3.5	43.9
1897-1938	11	4.6	8.0	8.0	4.6	3.5	6.2	6.2	3.5	44.6
1900-1938	10	4.6	8.0	8.0	4.6	3.6	6.2	6.2	3.6	44.9
1904-1938	9	4.7	8.2	8.2	4.7	3.5	6.1	6.1	3.5	45.0
1908-1938	8	4.5	7.9	7.9	4.5	3.6	6.4	6.4	3.6	44.9
1912-1938	7	4.6	8.2	8.2	4.6	3.5	6.2	6.2	3.5	45.1
1914-1938	6	5.0	9.0	9.0	5.0	3.4	6.0	6.0	3.4	46.8
1919-1938	5	4.5	7.9	7.9	4.5	3.8	6.7	6.7	3.8	45.8
1921-1938	4	5.1	9.2	9.2	5.1	3.9	6.8	6.8	3.9	50.0
1854-1933	20	4.6	7.9	7.9	4.6	4.0	7.0	7.0	4.0	47.0
1858-1933	19	4.5	7.8	7.8	4.5	4.0	7.1	7.1	4.0	46.9
1861-1933	18	4.6	7.9	7.9	4.6	4.1	7.4	7.4	4.1	47.8
1867-1933	17	4.4	7.5	7.5	4.4	4.0	7.2	7.2	4.0	46.1
1870-1933	16	4.4	7.6	7.6	4.4	4.1	7.3	7.3	4.1	46.7
1879-1933	15	4.3	7.4	7.4	4.3	3.6	6.3	6.3	3.6	43.2
1885-1933	14	4.1	7.1	7.1	4.1	3.4	5.9	5.9	3.4	41.0
1888-1933	13	4.2	7.1	7.1	4.2	3.5	6.0	6.0	3.5	41.5
1891-1933	12	4.1	7.0	7.0	4.1	3.6	6.3	6.3	3.6	41.8
1894-1933	11	4.1	7.0	7.0	4.1	3.6	6.4	6.4	3.6	42.3
1897-1933	10	4.2	7.2	7.2	4.2	3.6	6.4	6.4	3.6	42.9
1900-1933	9	4.2	7.1	7.1	4.2	3.7	6.6	6.6	3.7	43.0
1904-1933	8	4.2	7.2	7.2	4.2	3.6	6.4	6.4	3.6	42.9
1908-1933	7	3.9	6.7	6.7	3.9	3.8	6.8	6.8	3.8	42.4
1912-1933	6	4.0	6.8	6.8	4.0	3.7	6.7	6.7	3.7	42.3
1914-1933	5	4.3	7.5	7.5	4.3	3.6	6.5	6.5	3.6	43.8
1919-1933	4	3.5	5.8	5.8	3.5	4.1	7.5	7.5	4.1	41.8
1854-1914	15	4.7	8.1	8.1	4.7	4.1	7.2	7.2	4.1	48.0
1858-1914	14	4.6	8.0	8.0	4.6	4.1	7.3	7.3	4.1	48.0
1861-1914	13	4.7	8.0	8.0	4.7	4.3	7.7	7.7	4.3	49.4
1867-1914	12	4.4	7.5	7.5	4.4	4.2	7.5	7.5	4.2	47.0
1870-1914	11	4.5	7.6	7.6	4.5	4.3	7.6	7.6	4.3	48.0
1879-1914	10	4.3	7.3	7.3	4.3	3.6	6.2	6.2	3.6	42.9
1885-1914	9	4.1	6.8	6.8	4.1	3.3	5.6	5.6	3.3	39.4
1888-1914	8	4.1	6.8	6.8	4.1	3.4	5.8	5.8	3.4	40.0
1891-1914	7	3.9	6.6	6.6	3.9	3.6	6.1	6.1	3.6	40.4
1894-1914	6	4.0	6.6	6.6	4.0	3.7	6.2	6.2	3.7	41.0
1897-1914	5	4.1	6.8	6.8	4.1	3.7	6.4	6.4	3.7	42.0
1900-1914	4	4.0	6.6	6.6	4.0	3.8	6.6	6.6	3.8	42.0

Derived from Appendix Table A1, which shows intervals between successive stages of the monthly reference cycles.

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