CHAPTER IV

IMMIGRATION AND BUSINESS CYCLES PRIOR TO 1890

Economic Motives for Migration.

Even with no direct knowledge of the statistics of immigration, one would be led to expect that variations in economic conditions in the United States would exercise a large influence upon the number of incoming aliens. It will be granted that the hope of economic betterment is not the sole motive for emigration. Religious or political persecution, racial discrimination, or the mere love of adventure may be the impelling force. But, in the main, the emigrant is a seller of labor, seeking the best price for his services, and hence not apt to be attracted by a stagnant market. Furthermore, for many prospective immigrants the financing of the trip becomes easier when times are prosperous in the United States, for at such times friends and relatives who have previously emigrated are in a better position to remit funds for the trip. Approximately one third of the total number of immigrants have their passage paid by relatives.[1] Even those who pay their own way are apt to find it easier to obtain the necessary funds in periods of prosperity in the United States, for, as we shall note more in detail in a subsequent chapter, periods of prosperity in the United States are ordinarily accompanied by prosperity in the country of emigration, when savings are more readily accumulated and property more easily disposed of.[2]

Lastly, the increasing facility of communication tends, we should expect, to decrease the lag between industrial slumps and the consequent decreases in immigration.

Opinions of Authorities on Immigration Problems.

The arguments just cited for expecting a close relationship between fluctuations in industry and immigration are uniformly supported by the conclusions of various authorities who have given consideration to this problem.

[1]32.1 per cent in the seven fiscal years, 1908-1914, inclusive.
[2]See discussion of this point in Chapter VIII.

For example, in the reports of the U. S. Industrial Commission, the conclusion is reached, after a comparison of the course of wholesale prices and immigration, "that there is a striking coincidence, since the year 1868, between business conditions and the volume of immigration" so that "it may be said that immigration since the Civil War is a reflection of industrial conditions."[3]

However, that the adjustment of migration to employment conditions is not perfect is suggested by J. W. Jenks and W. Jett Lauck in their analysis of the immigrant as a dynamic factor in industry. "The statement," they say, "that the influx and the outgo of foreign-born workmen automatically adjusts itself to activity or stagnation in mining and manufacturing is only partly true."[4]

In the subsequent pages we shall examine the evidence concerning migration and industrial conditions in an effort to determine the accuracy of the a priori reasoning and of the opinions just cited. Does the volume of migration ebb and flow with industry? Do some elements in immigration show the readier response? Is this response imperfect?

First let us turn our attention to the earlier period for which the evidence is less detailed and the picture consequently less clear-cut.

The Periods Selected.

For convenience of analysis the years for which immigration data are available for the United States (1820 to date) are divided in this study into four main periods—namely, the seventy years from 1820 to 1889, inclusive; the pre-war quarter century, 1890 to 1914; the war period, 1914 to 1918; and the post-war years, 1919 to 1923. This division, although somewhat arbitrary, finds justification partly in essential differences in the character of migration and employment movements in the several periods, and partly in variations in the adequacy of the available statistical data.

However, in the following analysis there has been no rigid adherence to the chronological boundaries just mentioned. These somewhat arbitrary limits have been ignored whenever it has appeared that the objects of our inquiry would be furthered by extending the analysis of a particular phase beyond the termination of the period in which the analysis begins.

[3] United States Industrial Commission, *Reports, Vol. XV, Immigration,* p. 305.
[4] J. W. Jenks and W. Jett Lauck, *The Immigration Problem,* third edition, p. 208.

Characteristics of the Period Prior to 1890.

The period prior to 1890 may appropriately be designated as the agricultural frontier period, in that the existence of great areas of tillable free land doubtless affected materially the character of immigration during these decades. The data for analysis of this period are restricted to annual or, at best, quarterly statistics of immigration, with only such evidence of emigration as is afforded by statistics of the annual totals of outgoing passengers, virtually no statistics of employment, and only limited statistics of production. Also these seventy years are characterized by the predominance of immigrants from northern and western Europe who early in the following period, even before the close of the nineties, were outnumbered by those from southern and eastern Europe.[5] It is to this period prior to 1890 that we shall first turn our attention.

Imports of Men and of Merchandise.

A preliminary survey of the approximate relation between immigration and business conditions over the entire period for which data are available will afford a convenient starting point for the more precise and detailed analysis which is possible for the shorter periods for which there are more adequate data. In the earlier decades of the nineteenth century there are no employment statistics and few records of industrial activity, but statistics of the value of annual imports of merchandise are available and, inasmuch as these vary with industrial activity in the importing country,[6] except in war years, they furnish an approximate measure of industrial conditions.

In Table 18 and Chart 10, we have the cycles in the annual statistics of immigration and of merchandise imports. The curves represent deviations from seven-year moving averages, and hence picture the condition in a given year relative to the three immediately preceding and three following years. For convenience in comparison the deviations are divided by the standard or typical deviation for the respective series.

An examination of the evidence afforded by the fluctuations of immigration and imports for the whole period appears to support the preliminary hypothesis reached on a priori grounds; namely, that the current of immigration is markedly susceptible to changes in industrial conditions.

[5]See Chart 4 on page 41.
[6]For similarity of fluctuations in imports to those in pig iron production, for example, see Charts 6 and 7 in Chapter III.

An examination of Chart 10 reveals that, on the whole, particularly after the Civil War, each of the marked swells or troughs in the import curve is accompanied, in the same year or within the succeeding year or two, by a somewhat similar fluctuation in immigration. This fact may be made more obvious by concentrating our attention on those periods which are customarily designated as depression years.

CHART 10

CYCLES IN IMPORTS OF MEN AND OF MERCHANDISE: 1820-1923.

Unit= one standard deviation
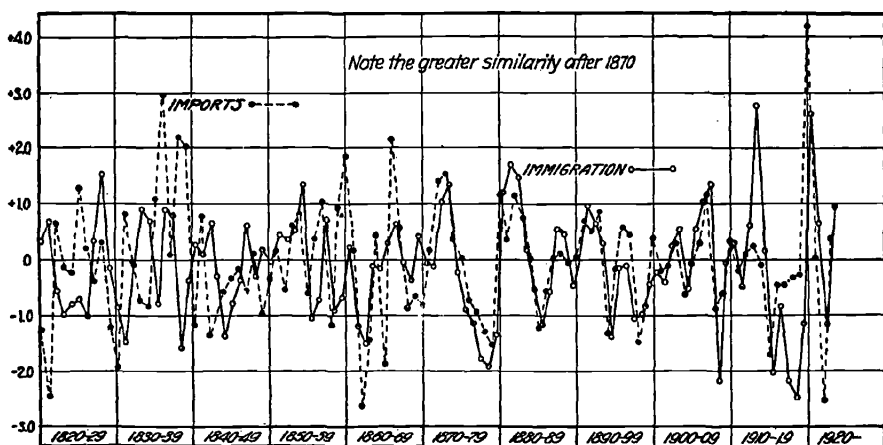
*Numerical data in Table 18.

The discussion of periods of prosperity and depression in the United States in the following paragraphs, and in European countries in subsequent sections of this report, rests chiefly upon the recently published *Business Annals* compiled by Dr. Willard L. Thorp, of the staff of the National Bureau of Economic Research.

The first period of dullness after 1820 comes in 1826, following the crisis of 1825. Both immigration and imports declined in 1826, and imports continued to decline in 1827. The ready interpretation of the evidence, however, is rendered somewhat difficult by the fact that in this period neither the immigration nor import data refer to years ending December 31st.[7]

[7] See footnote (c) to Table 18.

TABLE 18.—CYCLES OF IMMIGRATION AND OF IMPORTS OF MERCHANDISE,
BY YEARS, 1820-1923

Percentage deviations from seven-year moving averages, expressed in multiples of their standard deviations (26.62 per cent for immigrants, and 12.25 per cent for imports).

YEAR	IMMI-GRANTS[a]	IM-PORTS[b]	YEAR	IMMI-GRANTS	IM-PORTS	YEAR	IMMI-GRANTS	IM-PORTS
1820	......	—1.25[d]	1855	—1.05	—0.60	1890	.00	+0.06
1821	......	—2.44	1856	—0.71	+0.39	1891	+0.98	+0.69
1822	......	+0.64	1857	+0.71	+1.04	1892	+0.64	+0.50
1823	—0.98[c]	—0.13	1858	—0.90	—1.18	1893	+0.30	+0.85
1824	—0.79	—0.21	1859	—0.68	+0.91	1894	—1.39	—1.32
1825	—0.71	+1.29	1860	+0.23	+1.84	1895	—0.15	—0.18
1826	—1.01	+0.21	1861	—1.20	+0.16	1896	—0.11	+0.56
1827	+0.34	—0.38	1862	—1.50	—2.64	1897	—1.05	+0.42
1828	+1.54	+0.31	1863	—0.11	—1.44	1898	—0.98	—1.48
1829	—0.15	—1.20	1864	—0.15	+0.42	1899	—0.45	—0.83
1830	—0.86	—1.92	1865	+0.30	—1.89	1900	—0.23	+0.38
1831	—1.47	+0.81	1866	+0.64	+2.17	1901	—0.41	—0.20
1832	—0.08[c]	—0.02	1867	—0.04	+0.55	1902	+0.23	—0.11
1833	+0.90[c]	—0.73	1868	—0.38	—0.87	1903	+0.53	+0.29
1834	+0.68	—0.82	1869	+0.41	—0.68	1904	—0.53	—0.64
1835	—0.79	+1.09	1870	—0.08	—0.82	1905	+0.53	—0.07
1836	+0.90	+2.98	1871	—0.11	+0.17	1906	+1.01	+0.28
1837	+0.79	+0.10	1872	+1.05	+1.40	1907	+1.35	+1.12
1838	—1.58	—2.19	1873	+1.35	+1.53	1908	—2.18	—0.88
1839	—0.38	+2.03	1874	—0.23	+0.37	1909	—0.04	—0.60
1840	+0.27	—1.17	1875	—0.90	+0.02	1910	+0.30	+0.32
1841	+0.10	+0.78	1876	—1.13	—0.72	1911	—0.49	—0.20
1842	+0.65	—1.36	1877	—1.77	—0.92	1912	+0.60	+0.10
1843	—0.30[c]	d	1878	—1.92	—1.30	1913	+2.78	+0.24
1844	—1.36[c]	—0.58	1879	—1.35	—1.51	1914	+0.15	—0.10
1845	—0.77	—0.31	1880	+1.20	+1.16	1915	—2.03	—1.71
1846	—0.37	—0.16	1881	+1.69	+0.36	1916	—0.83	—0.45
1847	+0.60	—0.56	1882	+1.47	+1.14	1917	—2.18	—0.45
1848	—0.30	+0.10	1883	+0.15	+0.74	1918	—2.48	—0.32
1849	+0.19	—0.97	1884	—0.53	+0.02	1919	—1.16	—0.27
1850	—0.04	—0.34	1885	—1.16	—1.21	1920	+2.63	+4.17
1851	+0.45[c]	+0.18	1886	—0.56	—0.55	1921	+0.65	+0.02
1852	+0.38	—0.53	1887	+0.53	+0.02	1922	—1.16	—2.53
1853	+0.53	+0.60	1888	+0.45	+0.10	1923	+0.94	+0.37
1854	+1.35	+0.81	1889	—0.45	—0.07			

[a]Computed from data given in Table 1.
[b]Computed from data published in the *Monthly Summary of Commerce and Finance*, and the *Statistical Abstract of the United States*.
[c]From 1820 to 1831, the immigration data cover years ending September 30th; from 1833 to 1842, December 31st; from 1844 to 1850, September 30th; from 1851 to 1923, December 31st. The figures for 1832 and 1843 are estimated from data for fifteen and nine months, respectively.
[d]Prior to 1843, the import figures are for years ending September 30th; after 1843, for years ending June 30th.

The marked depression year 1837 shows a sharp decline of imports but immigration does not show a substantial decline until 1838. The dullness from 1840 to 1842 and again in 1846 is evident in imports in 1840, 1842, and 1846, but is only tardily reflected in immigration by slumps in 1845 and 1848, respectively.

Imports and immigration both show a substantial decline in 1855 and 1858, which may have been due to the brief depressions following the panics of 1854 and 1857, respectively.

The evidence considered in the preceding paragraphs, though fragmentary and scarcely adequate for conclusive judgments, suggests that prior to the Civil War, although the relation between industrial conditions in this country and the fluctuations in immigration is not obviously close, there is, nevertheless, some tendency for the effects of a depression to be evident in immigration after a period of time somewhat irregular in duration.

Of course, as long as free land was the chief lure to immigration, one would not expect so close a relation between immigration and business conditions as later when the chief incentive became the chance of employment and good wages.

The Civil War interfered with both the imports of men and of merchandise, but for both there was a recovery to a peak in 1866. The influence of the depression of 1866-1867 is seen in a decline in both immigration and imports in 1867 and 1868.

The great depression of the seventies, precipitated by the September panic of 1873, is accompanied in both imports and immigration by the most severe and prolonged slump in the entire period, except that immigration fell off even more decisively during the Great War. The decline in both immigration and imports is evident in the annual data by 1874, and both curves show a recovery in 1879 (fiscal year for imports, calendar year for immigration).

The industrial boom of the early eighties, culminating in 1882, is accompanied by a similar boom in immigration, and the subsequent depression, which became acute by May of 1884, is accompanied by a continuous decline in both imports and immigration to a lowpoint in 1885.

The period after the Civil War, and particularly the years subsequent to 1889, is dealt with in more detail in succeeding chapters, but we may profitably note here the major features of these recent decades by continuing our comparison of immigration with imports of merchandise as shown in Chart 10.

The mild crisis of 1890 does not find reflection in the movement

either of imports or immigrants, but the long depression of the middle nineties finds a counterpart in a prolonged slump in immigration, with only temporary recovery movements until a long upward swell begins in 1899.

Suggestions of the effect of the minor business uncertainties of 1900 and 1901 are found in the slight reaction in imports in the year ending June 30, 1901, and in immigration in the year ending December 31, 1901.

In the depression of 1903-1904, both curves show a decline in 1904, and a strikingly close similarity in movement appears in the years 1904 to 1912, inclusive. The deep depression of 1908, following the panic of 1907, is accompanied by a sharp decline in immigration and imports, and the minor depression of 1911 is also evident.

The marked boom in immigration in 1913 is unique, in that while the second half of 1912 is marked by industrial activity and by indications of labor scarcity, it can scarcely be said that it is obvious that the degree of increase in industrial activity affords an adequate explanation of the unusual increase in immigration.

The slumps in immigration during the Great War and following the depression of 1921, which are evident on Chart 10, will receive more detailed attention later.

Wholesale Price Fluctuations.

By linking together the indexes compiled by various investigators, an index of wholesale prices from 1820 to date was prepared, but is not shown in the charts in this chapter because upon examination it appeared that the movement of the value of merchandise imports, which includes prices as one element, affords a better basis for comparison with immigration, particularly in the early decades, and for more recent decades more directly pertinent data than either prices or imports are available in the form of production and employment statistics.
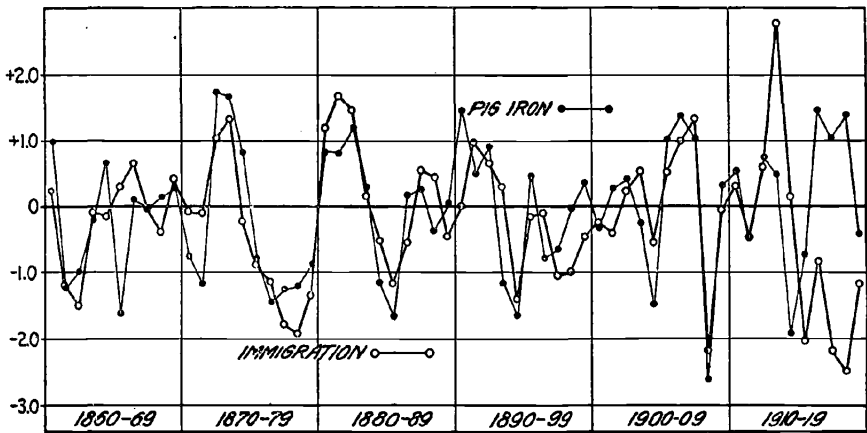
The Annual Production of Pig Iron.

The comparison made in the previous pages between imports and immigration is necessarily somewhat sketchy, not only because it rests merely on annual data, but also because imports are, at best, only a partially adequate measure of industrial activity. A somewhat more direct measure is found in the annual production of pig iron. Ordinarily, as noted in Chapter III, the production of pig

iron fluctuates in close sympathy with the volume of industrial operations and is consequently considered a good barometer of industrial activity. Monthly estimates of pig iron production are not available until in the eighties, but annual production figures are given for the years beginning with 1854 and hence afford additional evidence concerning industrial conditions in the period during and following the Civil War.

CHART 11

CYCLES OF PIG IRON PRODUCTION AND IMMIGRATION: 1860-1919ᵃ

Unit = one standard deviation

ᵃNumerical data in Tables 14 and 18.

In Chart 11 we have a comparison of the cyclical fluctuations in annual pig iron production and total immigration from 1860 to 1919. On close examination it will be seen that, aside from a few striking exceptions such as the marked fall in pig iron in 1865 and in the period of the Great War, the two series exhibit approximately the same succession of peaks and troughs, but that these do not always exactly coincide in time. This observation leads us to inquire to what extent the fluctuations in immigration lag behind the fluctuations in industrial activity.

The Lag.

With only annual data it is impossible to make a close computation of the extent of such lag as may exist, but it is possible to determine

the probable maximum and minimum limits of the typical lag. An examination of the curve of imports from 1820 to date (on both the calendar year and fiscal year basis after 1870) and a comparison with the curve for total immigration, indicates that immigration probably lags behind imports a few months, the period evidently being nearer six months than a full year and possibly less than six months.

A similiar scrutiny of the pig iron and immigration curves from 1854 to date reveals a similiar tendency for some lag in immigration of an apparent length of less than one year, as evidenced by the fact that, in about half of the instances, the troughs and peaks are reached in the same year by the immigration and pig iron curves, and, in the other half, the annual immigration movement reaches the corresponding maximum or minimum a year later than pig iron.

It remains to examine the question of lag more closely with the aid of quarterly and monthly data and by numerical computation of the allowance for lag which gives the highest degree of correlation between immigration and industrial activity.

Numerical Computation of the Typical Lag.

In the usual statistical terminology, the arithmetic evidence of the lag giving the closest correspondence between the curves may be expressed by the following summary:

Period compared	*Correlation coeffcient when the given number of years lag is imputed to immigration as compared with pig iron.*		
	No lag	*One year*	*Two years*
1857-1914	+.64	+.35	—.15
1857-1919	+.51	+.27	—.18
1872-1914	+.78	+.48	—.11

This numerical interpretation of the statistical evidence, in terms of the coefficient of correlation, indicates that the closest relationship is found between pig iron and immigration when the years between the Civil War and the Great War are selected for study and it is assumed that such lag as may exist is less than one year.

COMPARISONS BASED UPON QUARTERLY DATA: 1868-1889

Male Immigration.

Quarterly immigration data are available by sex beginning with the quarter ending September 30, 1856. For reasons previously

discussed, male immigration is of greatest significance for our purpose, and, consequently in the more detailed analysis based upon quarterly and monthly data, we have, where convenient, made use of the statistics of male immigration rather than of the totals for both sexes.

Adjustment for a Variable Seasonal.

In analyzing the fluctuations of quarterly male immigration, the typical seasonal element has been, so far as practicable, eliminated and the adjusted fluctuations expressed as deviations from a twenty-

CHART 12

CYCLES IN QUARTERLY IMPORTS OF MERCHANDISE AND IN MALE
IMMIGRATION: 1868-1889.

Adjusted for typical seasonal variation

Unit = one standard deviation
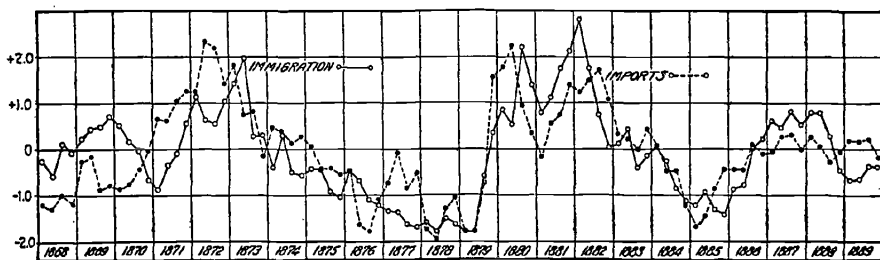
ªNumerical data in Table 19.

eight quarter moving average. In thus correcting for seasonal variation, allowance was made for a seasonal influence which varies at different stages in the cycle, in order to conform to the fact, revealed by examination of the raw data, that the seasonal fluctuation experiences somewhat regularly a damping down in the depression period of each cycle. In other words, the seasonal is itself subject to a cyclical variation.

Inasmuch as during most of the period prior to 1890 quarterly figures on production or employment are not available, we have used quarterly statistics of merchandise imports as a rough measure of industrial activity in the years 1868 to 1889. The import figures, like the immigration data, have been adjusted for a changing normal seasonal variation and expressed as deviations from a twenty-eight quarter moving average.

General Similarity.

The cyclical curves for quarterly imports of men and of merchandise, exhibited in Chart 12, reveal marked similarities in their major swings. Both show a marked boom in the early seventies,

TABLE 19.—CYCLES IN MALE IMMIGRATION AND IMPORTS OF MERCHANDISE,
BY QUARTERS, 1868-1889[a]

Percentage deviations from trend, corrected for seasonal variation and expressed in terms of the standard deviations (29.77 per cent for male immigration and 12.05 per cent for imports).

YEAR	MALE IMMIGRATION				MERCHANDISE IMPORTS			
	QUARTER ENDING				QUARTER ENDING			
	MAR. 31	JUNE 30	SEPT. 30	DEC. 31	MAR. 31	JUNE 30	SEPT. 30	DEC. 31
1868	—0.24	—0.59	+0.10	—0.11	—1.21	—1.31	—1.00	—1.20
1869	+0.21	+0.42	+0.47	+0.70	—0.27	—0.17	—0.90	—0.80
1870	+0.50	+0.14	—0.05	—0.69	—0.88	—0.76	—0.44	—0.04
1871	—0.89	—0.35	—0.10	+0.56	+0.66	+0.61	+1.05	+1.24
1872	+1.13	+0.64	+0.57	+1.04	+1.24	+2.32	+2.20	+1.43
1873	+1.42	+1.98	+0.28	+0.30	+1.82	+0.75	+0.80	—0.15
1874	—0.40	+0.29	—0.50	—0.57	+0.47	+0.38	+0.11	+0.26
1875	—0.42	—0.43	—0.92	—1.03	+0.04	—0.43	—0.42	—0.56
1876	—0.47	—0.69	—1.11	—1.21	—0.48	—1.64	—1.78	—1.10
1877	—1.32	—1.36	—1.62	—1.69	—0.74	—0.10	—0.85	—0.53
1878	—1.59	—1.79	—1.50	—1.63	—1.76	—1.96	—1.30	—1.06
1879	—1.79	—1.77	—0.60	+0.35	—1.78	—1.78	—0.73	+1.56
1880	+0.86	+0.53	+2.20	+1.39	+1.78	+2.24	+0.92	+0.34
1881	+0.79	—1.12	+1.76	+2.14	—0.17	+0.53	+0.73	+1.39
1882	+2.81	+1.76	+0.74	+0.04	+1.23	+1.48	+1.71	+1.07
1883	+0.13	+0.44	—0.38	—0.13	+0.32	+0.22	—0.01	+0.41
1884	+0.07	—0.24	—0.85	—1.12	+0.09	—0.49	—0.47	—1.22
1885	—1.21	—0.92	—1.31	—1.41	—1.68	—1.46	—0.87	—0.43
1886	—0.86	—0.78	+0.02	+0.23	—0.44	—0.44	+0.09	—0.11
1887	+0.62	+0.48	+0.83	+0.53	—0.07	+0.27	+0.31	—0.02
1888	+0.78	+0.79	+0.28	—0.46	+0.26	—0.06	—0.29	—0.08
1889	—0.69	—0.65	—0.36	—0.38	+0.18	+0.16	+0.19	—0.20

[a]Computed from quarterly statistics of male immigrants in Table I of appendix, and from statistics of imports published by the U. S. Bureau of Foreign and Domestic Commerce in the *Monthly Summary o Commerce and Finance.* For methods of adjusting for seasonal variation and trend, see Chapter IV.

followed by a long decline; another boom in 1880, followed by a short recession and a new peak in 1882; then a decline to a low in 1885 and a recovery in the late eighties. The import recovery in 1877, however, finds no comparable movement in immigration.

The Lag.

The movements in quarterly male immigration and merchandise imports are not, however, exactly coincident. From 1869 to 1873 immigration clearly lags from two to four quarters behind the turns in imports. The lag, if any, in the depression of the seventies is not obvious; and thereafter, while evident at times, does not appear to be so great as in the first part of the period, ranging from no lag in the short depression of 1881 to about three quarters in the depression of 1885.

CHAPTER SUMMARY

In this chapter we have first taken a bird's-eye view of the relation of immigration to industrial activity by comparing the annual statistics of immigration with those for imports of merchandise over the entire century beginning in 1820, and with the annual production of pig iron in the period beginning with 1860. From these comparisons it is clear that, particularly after the Civil War, the cyclical fluctuations in immigration are to a large extent a reflex of industrial conditions in the United States, the effect upon immigration evidently becoming apparent in something less than a year.

Then we have subjected the period from 1868 to 1889 to a somewhat more detailed scrutiny by comparing quarterly cycles of male immigration and imports of merchandise, both corrected for their typical seasonal variations. This comparison strengthens our preliminary conclusions based upon annual data, and indicates a lag in the effect of industrial conditions upon immigration of from two to four quarters in the early part of the period and a somewhat shorter lag in the latter part of the period.

In the following chapter we turn our attention to an examination of the more detailed data available for the years following 1889.