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The United States Balance of Payments, 1790-1860

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A BASIC quantitative account of the balance of payments of the United States from 1790 to 1860 should be useful to scholars of economic history and economic growth who are interested in this country's international relations. From earlier explorations of the problem, particularly from the classic study of Bullock, Williams, and Tucker, I have benefited greatly.¹ However, since 1919 a great deal of additional information has been unearthed, and more recent historical balance of payments studies have provided improved methods, so the final results of my study differ significantly from theirs. Now one can present a continuous series after 1820 (and five-year moving averages from 1790 through 1819) rather than the twelve- to thirty-year aggregates of the earlier investigation. In this paper I examine the accuracy of the figures and summarize some of their implications.²

The Accuracy of the Estimates

The estimation of the balance of payments by separate calculation of the payments and receipts on account of merchandise trade, freight,

¹ Charles J. Bullock, John H. Williams, and Rufus S. Tucker, "The Balance of Trade of the United States," *Review of Economic Statistics*, preliminary Vol. 1, July 1919.

² The three appendixes describe the methods and estimates in some detail. An extended analysis will be contained in my forthcoming study on United States Economic Growth from 1790 to 1860.

Note: My study has profited from a continuous interchange on methods and procedures with Dr. Matthew Simon, whose report on an investigation of the balance of payments of the United States from 1860 to 1900 is included in this volume. Together we have tried to provide a consistent and continuous series for the entire period of 110 years.

Also I should particularly like to acknowledge the contribution of Mr. Alan Heston, my assistant at the University of Washington. He not only helped me in the early research but revised and improved our initial estimates for 1790 through 1819; indeed the revised merchandise trade estimates for this period are primarily his work. He also contributed materially to other aspects of the 1790-1819 part of the study and to the examination of direct estimates of foreign indebtedness.

Mr. Richard Beyer, my assistant at the National Bureau of Economic Research, performed the laborious task of making the numerous calculations required. I am indebted to him also for his continued search for materials which would shed light upon the many problems encountered.

The National Bureau provided a most hospitable environment. I continuously sought and received advice from many members of the staff. It was a privilege to work under conditions so conducive to scholarly inquiry.

immigrants' funds, remittances, tourists, and other items, and the assumption that the net residual indicates capital flows are the basis of the study. As a supplement and check, direct estimates of U.S. indebtedness have been critically examined and compared with the cumulative capital indebtedness aggregated by the residual method.³

The accuracy of the annual net flows depends upon (1) the reliability of the merchandise trade figures, (2) the magnitude of certain invisible items and the methods and data available with which to calculate them, and (3) the "neutrality" of errors and omissions.

Since the merchandise trade figures are usually by far the most important items, their accuracy is essential. Fortunately, nation states have historically regarded their exports and imports as important and have earned revenue from them. As a result such figures are usually available continuously well back into the past. Improvements in their estimation have frequently gone hand in hand with an economy's growth. Unfortunately it has also been profitable to evade paying these revenues, with such evasions resulting in errors difficult to rectify.

The significance of invisible items has long been recognized by governments and individuals interested in international economic relations. In the early nineteenth century Seybert, Gallatin, Seaman, and others all attempted to allow for these items in their calculations, and in the late nineteenth and early twentieth century in England Giffen, Hobson, and others made more elaborate estimates. In spite of these efforts and a few notable modern studies, the methods have been crude, and the results may permit large possible errors.⁴ Some invisible items do not lend themselves to more elaborate treatment, and, if important, the estimates can be accepted less confidently. Other items offer the promise of yielding significantly more precise results with further investigation.

The relative neutrality of the errors and omissions requires both confidence in the accuracy of the trade and invisible items and an intimate knowledge of the period and of the country's international economic relations. Reliable contemporary direct estimates of the individual items and particularly of the total debt (or credit) position of the economy provide the best indication of the degree to which errors and omissions are counterbalancing. But anyone who has calculated historical balance of payments is aware of the way small changes in the interest charge or in the initial debt figure become large absolute

³ The two methods are not strictly comparable since problems of asset valuation and inclusiveness usually are sufficient to account for some differences. However, with allowance for these factors, careful direct estimates are a good check upon the movement of the annual flows.

⁴ Particularly notable are the studies by Albert Imlah, "British Balance of Payments and Export of Capital 1816-1913," *Economic History Review*, 1952, and A. K. Cairncross, *Home and Foreign Investment 1870-1913*, Cambridge University Press, England, 1953.

changes over time. Even when the data are very good, it would be ridiculous to assert that the absolute figures are always accurate. Where I give annual figures, it is because they show movements and turning points more precisely than totals or averages, and because my basic purpose is to provide others with estimates to combine as they choose.

1790-1820 ESTIMATES

The estimates for years before 1820 suffer from all three deficiencies described above and from the additional disadvantage that there is only one direct estimate of foreign indebtedness during the period. The merchandise trade figures are reasonably accurate for export values, but the import values are approximate, since they were not calculated at the time and the figures developed in 1835 left a great deal to be desired. The estimates presented here eliminate errors which have been carried over in the export and import figures and make a number of adjustments in import values, rendering them more accurate, but still approximate.

The major invisible item is shipping earnings, and while much research has gone into estimating freight earnings, the lack of adequate freight rate data and other deficiencies described in Appendix A makes possible a significant error. However, the estimates are consistent with contemporary accounts of freight earnings, and their movement is reliable even if the absolute amounts are not dependable.

The errors and omissions in the early period are also possibly significant. Scanty data make the estimation of such invisible items as brokers' commissions merely informed guesses.

Although the early estimates are liable to significant error, the foreign capital indebtedness figure for 1803 corresponds closely with the direct estimate of Samuel Blodget and Cleona Lewis, and its general movement coincides with contemporary descriptions. The increase in indebtedness in the 1790's, the return of funds to the United States in the years immediately preceding the second war with England and the rapid growth of debt following the war agree with widespread contemporary views. While the revised merchandise trade figures for 1790-1819 are presented annually, the totals are presented as five-year moving averages since their reliability clearly does not warrant annual figures.⁵

1820-1860 ESTIMATES

After 1820 the merchandise trade figures were complete and more accurate, although imports were still undervalued. After the Walker Tariff of 1846, which put all duties on an ad valorem basis, the amount of undervaluation clearly increased, and the possible error is likewise more significant.

⁵ Annual figures are presented in Appendix A only to show the origins of the five-year average.

As in the previous period, shipping earnings are the most important invisible item. I believe the results of an intensive investigation have substantially reduced the range of error on this item.⁶ But between 1850 and 1860 many of the invisible items difficult to estimate become more important and make for a possibly larger range of error.

Extensive contemporary discussion and estimates of many of the items after 1820 by careful observers like Ezra Seaman make for more confidence in the figures than in the earlier estimates. And reliable direct estimates of foreign debt in 1837 through 1839, 1843, 1853, and 1857 provide valuable bench marks against which the absolute figures and their movement can be checked.

In sum the estimates between 1820 and 1846 check with the partial estimates and the complete direct estimates for the period. After 1847 the possible error resulting from undervaluation of imports and the size of certain hard-to-estimate invisible items is more serious. However, the direct estimates during the last decade corroborate the estimates of the net balance and the cumulative debt figures, suggesting that errors in the separate components are counterbalancing. It is to be expected that the flow estimates would yield somewhat smaller aggregate foreign indebtedness figures than the direct estimates since the former include U.S. foreign investment. I know of no estimates of capital export for 1820 through 1860, but Cleona Lewis gives a figure of \$75 million for 1869.⁷ It would be reasonable to assume that at least half that sum in capital exports existed in the 1850's.

Balance of Payments, 1790-1819

The balance of payments estimates for this period are summarized in Tables 1 and 2 and Charts 1 and 2.

The trade balance was passive except in 1811 and 1813, and from 1805 to 1808 and 1815 to 1819 it was large for an economy the size of the United States at that time. An adverse trade balance of approximately \$70 million in 1816 was not exceeded until the 1850's. The volume of merchandise trade was significantly affected by recurrent wars and the embargo, and as a result the whole period up to 1815 is to a certain extent "abnormal."

Earnings from shipping services made possible the relatively high level of imports. Thanks to the Napoleonic War, which both raised

⁶ The investigation of shipping earnings has led to two further studies in progress: (1) an examination of the composition of shipping earnings and suggestions for a method of computing them and (2) a much larger study of the costs of ocean transportation from 1753 to 1913.

⁷ Cleona Lewis, *America's Stake in International Investments*, The Brookings Institute, 1938. Direct estimates also seldom include direct investment in the United States, but on balance I do not believe this item would be as large as U.S. foreign investment in the 1850's.

U.S. BALANCE OF PAYMENTS, 1790-1860

TABLE 1

Merchandise Trade: Exports and Imports, 1790-1819
(millions of dollars)

<i>Fiscal Year</i> ^a	<i>Exports</i>	<i>Imports</i>	<i>Fiscal Year</i>	<i>Exports</i>	<i>Imports</i>
1790	20	24	1805	96	126
1791	19	31	1806	102	137
1792	21	33	1807	108	145
1793	26	33	1808	22	58
1794	33	36	1809	52	61
1795	48	71	1810	67	89
1796	67	83	1811	61	58
1797	57	77	1812	39	79
1798	62	71	1813	28	22
1799	79	81	1814	7	13
1800	71	93	1815	53	85
1801	94	113	1816	82	151
1802	73	78	1817	88	102
1803	56	67	1818	93	127
1804	78	87	1819	70	94

^a Year beginning Oct. 1 to Sept. 30.

Source: Appendix A.

freight rates and gave the United States a substantial share of ocean trade, shipping services played a role similar to cotton's after 1820. They were the most important single source of foreign exchange exceeding any single commodity export. Both their direct effect on income and indirect effect in inducing the development of a wide variety of complementary activities in trade, finance, insurance, and shipbuilding give them unparalleled importance during this period. Shipping earnings increased during the years of the continental system and blockades. After 1815 earnings dropped as a result of the decline in ocean freight rates.

Foreign capital was primarily important in financing the government and external trade. The limited supply of savings and the primitive state of the capital market made the foreign contribution of more importance than the absolute figures might indicate in the early financing of the government. Foreigners also showed an interest in the first and second United States banks. And financing of a good part of the country's external trade (and of some internal trade as well) was undoubtedly an important factor in implementing our trade, not only with Great Britain (which was responsible for almost all of the mercantile credit), but with other countries as well.

BALANCE OF PAYMENTS

The inflow of capital was relatively modest until after the War of 1812 when the flood of imports was accompanied by a large influx of mercantile credit, a great deal of which was defaulted between 1815 and 1820.

TABLE 2
Calculation of the Balance of Payments, Five-Year Moving Averages,
1790-1794 to 1818-1822
(millions of dollars)

<i>Period</i>	<i>Merchan- dise Trade Balance</i>	<i>Specie Balance</i>	<i>Service and Current Items</i>	<i>Interest</i>	<i>Annual Net Balance</i>	<i>Capital Accounts</i>	<i>Aggre- gate Indebt- edness</i>
1790-1794	-7.3	1.9	8.4	-4.1	-1.1	-0.1	70.0
1791-1795	-11.2	1.4	10.6	-4.2	-3.4	-0.2	73.2
1792-1796	-12.1	0.8	13.3	-4.4	-2.3	-0.3	75.9
1793-1797	-13.8	0.4	14.9	-4.6	-3.0	-0.3	79.3
1794-1798	-14.3	-0.2	15.6	-4.8	-3.7	-0.3	83.3
1795-1799	-14.2	-0.5	17.1	-5.0	-2.6	-0.2	86.2
1796-1800	-14.0	0.2	18.5	-5.2	-0.5	-0.1	86.8
1797-1801	-14.7	0.2	20.2	-5.2	0.5		84.3
1798-1802	-11.8	0.6	20.5	-5.2	4.2		82.1
1799-1803	-12.1	1.2	22.0	-4.9	6.1	-2.2	78.2
1800-1804	-13.5	1.4	22.5	-4.7	5.7	-2.2	74.8
1801-1805	-15.0	0.6	23.0	-4.5	4.1	-2.2	73.0
1802-1806	-18.2	1.2	23.5	-4.4	2.1	-2.2	73.1
1803-1807	-24.3	0.6	27.8	-4.4	-0.3	-2.2	75.7
1804-1808	-29.3	0.8	27.6	-4.5	-5.4		81.0
1805-1809	-29.2	0.8	27.7	-4.8	-5.5		86.6
1806-1810	-27.7	0.8	29.9	-5.2	-2.2		88.8
1807-1811	-20.0	-0.2	31.9	-5.3	6.4		82.4
1808-1812	-20.7	-0.8	29.8	-4.9	3.3		79.1
1809-1813	-12.5	-1.2	28.1	-4.7	9.6		69.5
1810-1814	-11.9	-2.2	23.8	-4.2	5.4		64.1
1811-1815	-14.0	-1.4	20.3	-3.8	1.0		63.0
1812-1816	-28.6	-0.6	15.3	-3.8	-17.7		76.7
1813-1817	-23.4	0.4	11.9	-4.6	-15.6	4.0	84.3
1814-1818	-31.3	0.4	12.3	-5.0	-23.7	8.0	94.0
1815-1819	-34.8	1.2	14.5	-5.6	-24.7	14.0	98.7
1816-1820	-29.2	0.8	12.6	-5.8	-21.6	20.0	100.3
1817-1821	-15.3	1.1	11.1	-5.8	-8.9	16.0	93.2
1818-1822	-16.2	2.4	10.6	-5.3	-8.5	12.0	89.7

Source: Appendix A.

CHART 1

Trade Balance and Moving Average of Payments Balance, 1790-1820 (moving average centered on mid-years)

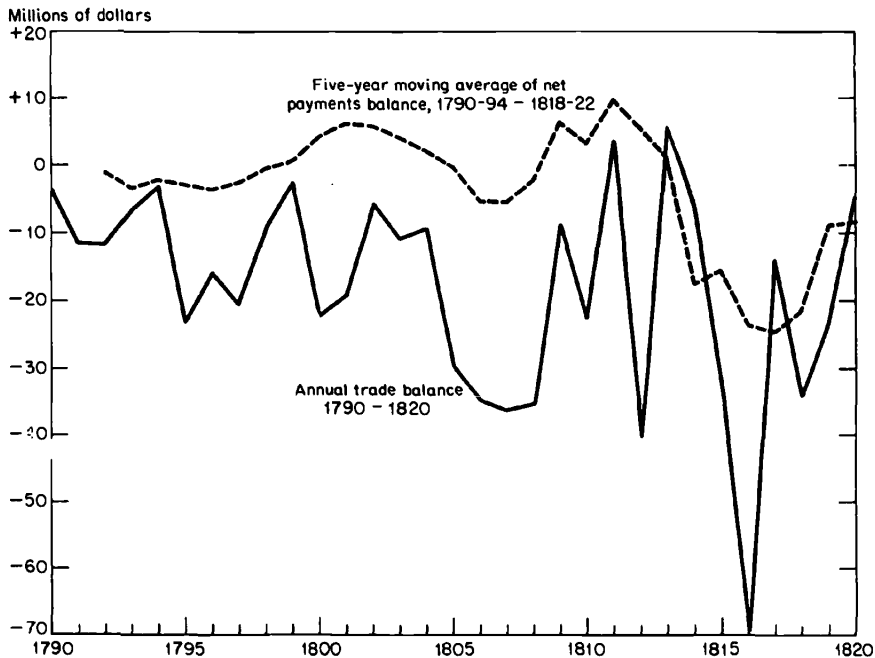
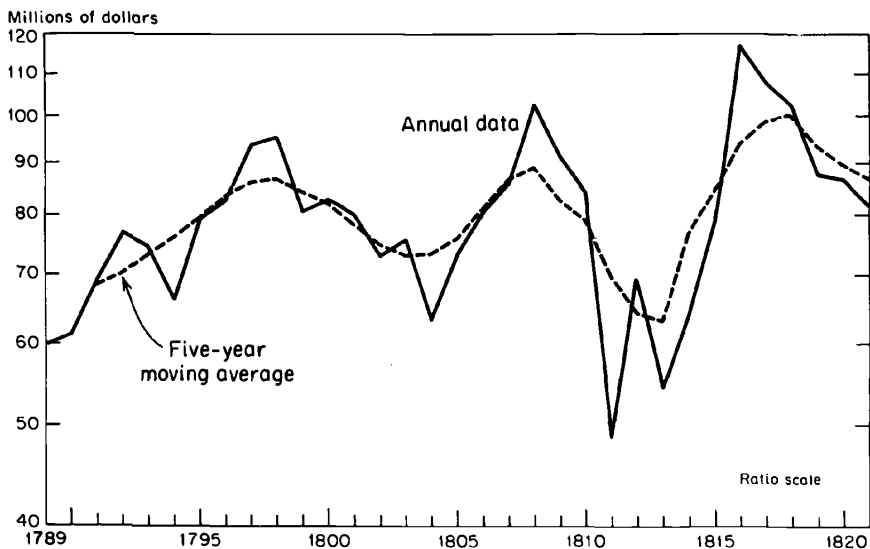


CHART 2

Annual Aggregate Foreign Indebtedness of the United States, 1789-1821



Balance of Payments, 1820-1860

Table 3 summarizes the items which are presented individually in Appendix B, and Charts 3, 4, and 5 present the annual trade and payments balance, the trade, specie, and service components of the payment balance, and the aggregate foreign indebtedness.

Merchandise exports during the 1820's showed no increase in value because of the sharp drop in prices following the 1818-19 depression, but then they expanded rather steadily. In contrast import values were subject to wider fluctuations. While the trade balance exhibits large annual debits throughout most of the 1830's and 1850's, it is active during a number of years in the intervening decade.

In the 1850's the net movement of specie was dominated by the large volume of gold exports. The movement was so large that it more than counteracted the decline in earnings from service and other current items and partially offset the adverse trade balance.

The other current items (not including interest) are a net credit in every year except 1859, because shipping earnings were augmented, and after 1847, exceeded by the funds brought in by immigrants. While these two items result in an actual increase in annual credits, 1844-49, thereafter the annual debits accruing from remittances and tourist expenditures grew more rapidly than the two sources of credit and result in a fairly steady decline in the net earnings of these other current account items.

U.S. shipping continued to play a prominent role in ocean trade, but the decline in ocean freight rates militated against earnings increasing as rapidly as the volume of cargo. Years of high rates such as 1838, 1840, 1847, and 1853-54 are reflected in substantial increases in earnings (although in 1853-54 high rates on imports and increased foreign carriage of U.S. imports were responsible for a large debit). The last decade, 1850-60, was characterized by large earnings by our merchant marine, but the growing share of foreign shipping in the ocean carriage of our goods presages the radical decline in U.S. shipping of the following decades.

The flow of immigration, gradually increasing in the 1830's, assumed tidal proportions in the 1840's and 1850's. The funds that they brought with them varied significantly from the desperately poor Irish escaping famine to the relatively well-to-do Germans. Both the passage fares they paid on American ships and the cash and credits they brought grew as the first great wave of immigration reached its peak, with the credit on immigrants' funds being most influenced by the number of the non-Irish immigrants.

The debit resulting from the remittances of immigrants was just the reverse. The Irish appear to have remitted the most money on a per

U.S. BALANCE OF PAYMENTS, 1790-1860

TABLE 3
Calculation of the Balance of Payments, Yearly, 1790-1820
(millions of dollars)

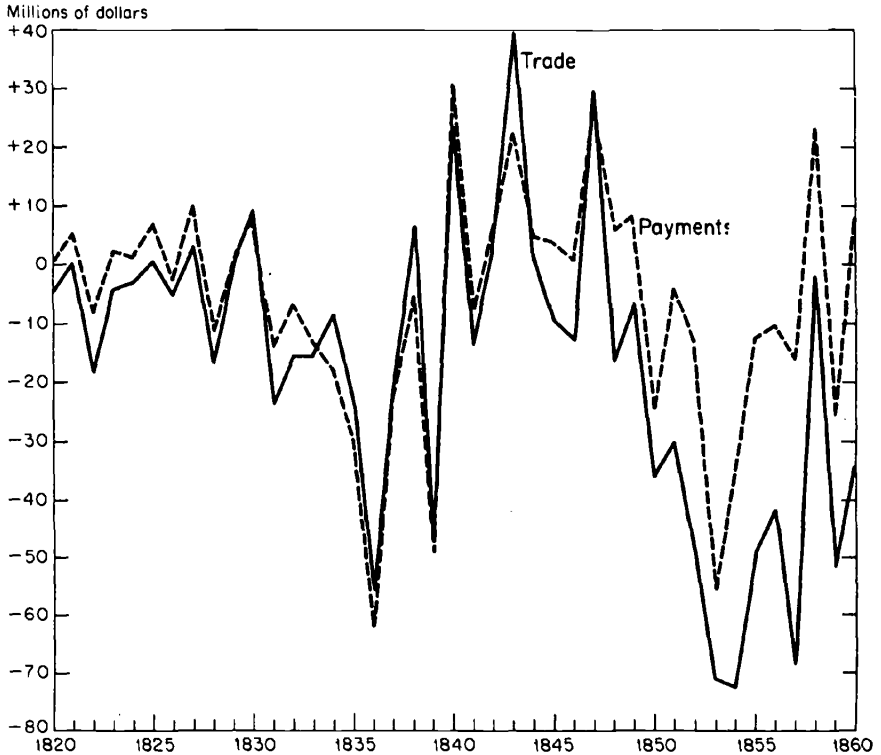
<i>Fiscal Year</i>	<i>Merchan- dise Trade Balance</i>	<i>Specie Balance</i>	<i>Service and Current Items</i>	<i>Interest and Dividends</i>	<i>Annual Net Balance</i>	<i>Capital Accounts</i>	<i>Aggre- gate Indebted- ness</i>
1820	-4.7		10.2	-4.8	0.7		86.7
1821	0.1	2.4	7.3	-4.8	5.0		81.7
1822	-18.5	7.4	7.2	-4.5	-8.3		90.1
1823	-4.2	1.3	9.8	-5.0	2.0		88.1
1824	-3.2	-1.4	10.4	-4.8	1.0		87.1
1825	0.5	2.6	8.4	-4.8	6.8		80.3
1826	-5.2	-2.2	9.2	-4.5	-2.6		82.9
1827	3.0	-0.1	11.7	-4.6	10.0		72.9
1828	-17.0	0.8	8.9	-4.0	-11.4		84.3
1829	0.3	-2.5	8.2	-4.6	1.5		82.3
1830	9.0	-6.0	9.5	-4.6	7.9		74.9
1831	-23.6	1.7	11.9	-4.1	-14.1		89.0
1832	-15.5	-0.3	13.9	-4.9	-6.8		95.7
1833	-15.5	-4.5	11.8	-5.3	-13.5		109.2
1834	-8.5	-15.8	11.6	-6.0	-18.0		128.0
1835	-24.3	-6.7	8.0	-7.0	-30.0		158.1
1836	-55.8	-9.1	11.3	-8.7	-62.2		220.3
1837	-21.6	-4.5	12.4	-8.8	-22.6		242.9
1838	6.1	-14.2	12.6	-9.7	-5.3		248.1
1839	-47.4	3.2	8.8	-13.6	-49.1		297.2
1840	23.4	-0.5	19.7	-11.9	30.8		266.4
1841	-13.6	5.0	9.0	-8.0	-7.6	12.0	262.0
1842	1.9	0.7	11.5	-7.9	6.2	12.0	243.8
1843	39.6	-20.8	10.8	-7.3	22.2		221.6
1844	1.1	0.4	9.9	-6.6	4.7		216.8
1845	-9.4	4.5	17.4	-8.7	3.8		213.0
1846	-13.0	0.1	22.2	-8.5	0.8		212.2
1847	29.4	-22.2	27.9	-8.5	26.6	-8.0	193.7
1848	-16.4	9.5	24.2	-11.6	5.7	-8.0	196.0
1849	-6.5	-1.2	27.8	-11.8	8.3	-5.5	193.2
1850	-36.1	2.9	20.2	-11.6	-24.6	-4.3	222.1
1851	-30.3	24.0	15.5	-13.3	-4.1	-3.4	229.6
1852	-48.8	37.2	13.5	-14.9	-13.0	-3.2	245.8
1853	-70.8	23.3	8.0	-16.0	-55.6		301.3
1854	-72.7	34.4	22.7	-19.6	-35.1	-7.0	343.4
1855	-49.2	52.6	6.1	-22.3	-12.9		356.3
1856	-41.6	41.5	12.5	-23.2	-10.7		366.9
1857	-68.5	56.7	10.1	-14.7	-16.4		383.3
1858	-1.9	33.4	6.9	-15.3	23.1		360.2
1859	-51.7	56.5	-7.6	-23.4	-26.2		386.5
1860	-34.2	58.0	8.6	-25.1	7.3		379.2

Source: Appendix B.

BALANCE OF PAYMENTS

CHART 3

Trade Balance and Net Payments Balance of the United States, 1820-1860

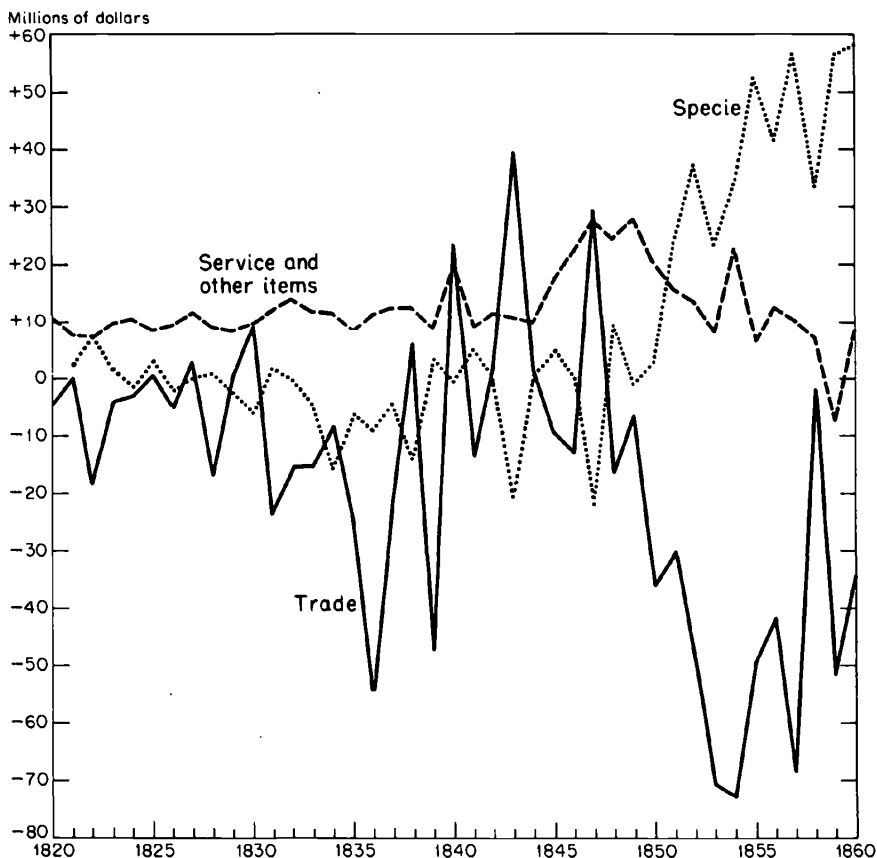


capita basis. Moreover remittances to the United Kingdom (then preponderantly to Ireland) bear an interesting relationship to the volume of U.K. immigration (also preponderantly Irish). Appendix Chart B-1 shows that the volume of remittances to the United Kingdom moved in almost every detail with the volume of U.K. immigrants of three years earlier. Apparently remittances were almost exclusively for passage money to bring people out of Ireland during this time of hardship (rather than for continuous support of people in the old world), and it took approximately three years for an Irish laborer in the United States to save sufficient money so that he could pay the passage fares. The per capita volume of remittances on this basis fluctuated with cyclical activity in this country and was smaller in 1854 and 1857 than during years of economic expansion.

U.S. BALANCE OF PAYMENTS, 1790-1860

CHART 4

United States Trade Balance, Specie Balance, and Service and Other Items Balance, Excluding Interest, 1820-1860



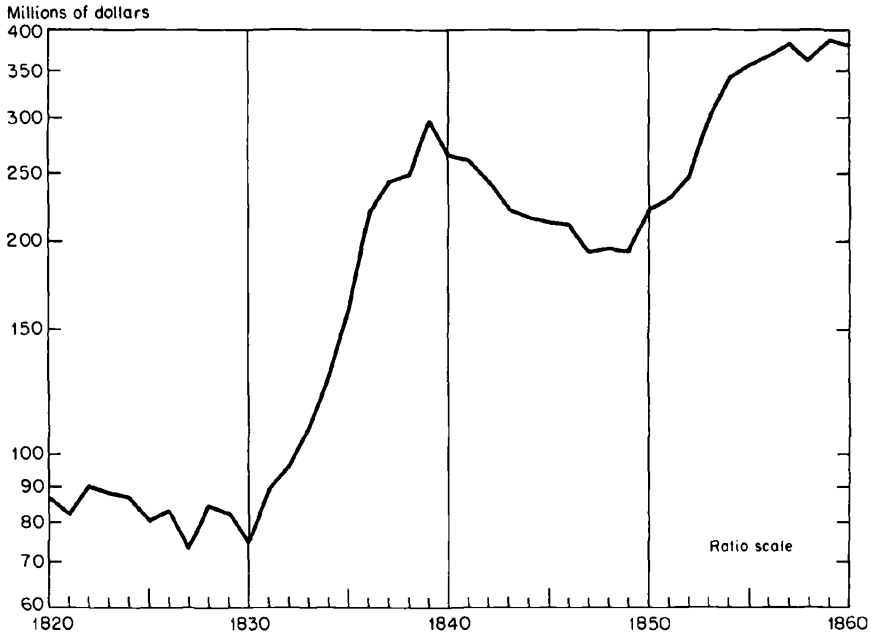
The volume of U.S. tourists exceeded that of alien nonimmigrants coming to this country and during the 1850's was a rather substantial debit item.

Interest and dividend payments to foreigners represent the largest single debit after imports, mainly for the interest charge upon state securities in the early period, with little for U.S. Bank stock and private securities. While the mercantile debt fluctuated with trade, it usually represented about one-third of the total foreign debt, and the interest was usually paid to a few Anglo-American houses that specialized in

BALANCE OF PAYMENTS

CHART 5

Annual Aggregate Foreign Indebtedness of the United States, 1820-1860



financing the U.S. trade. The repudiation and default of state debts in the 1840's substantially reduced this outflow, and when the United States again imported capital in the 1850's, it was in return for railroad securities, primarily bonds, yielding somewhat higher rates of return.

Until 1850 the net trade balance governs the movement of the annual balance of payments figures since the other current items were relatively stable and specie flows were small. From 1850 to 1860 the outflow of gold significantly modified the aggregate flows as compared to the trade balance. However, the long swings in the balance of payments and capital flows are evident neither in the specie nor in the service and other current items but rather in the wide swings in the trade balance.

Of the four decades, roughly two were periods of capital inflow, the 1830's and the 1850's. In another, the 1820's, there was little net movement of capital. In the remaining decade, the 1840's, there was a significant return (or repudiation) of borrowed funds.

The 1820's were characterized by a passive trade balance mainly offset by the earnings from shipping. Consequently the total debt at the end was somewhat smaller than at the beginning, although there was some net outflow of securities in the first few years.

After 1830 there was a continuous increase in capital indebtedness until 1839. While some of the increase was in mercantile debt with British financing of the expanded trade (and particularly imports), the bulk was in state securities floated for internal improvements and bank expansion (primarily for cotton plantation expansion in the South and internal improvements in the West). The capital inflow was heaviest in 1836 and 1839 with a pause in the volume of securities going abroad in 1838 following the panic of the previous year. The volume of capital imports between 1830 and 1839 was sizable. Relative to the size of the economy it was probably the most significant inflow of capital during the nineteenth century.

Between 1839 and 1849 approximately \$100 million in capital was either repudiated or returned abroad. The outflow was immediately reflected in a favorable trade balance. Also the heavy volume of cereal exports in 1846-47 contributed materially to a favorable balance in those years and presaged the growing importance of these exports.

The 1850's started like the 1830's with relatively modest capital imports following initial domestic expansion, gradually accelerating as expansion became a boom. This time the railroad boom in the West attracted foreign investors, not state securities for canals or banking facilities. But in the 1850's the Crimean War interrupted the capital inflow so that it had subsided long before the panic of 1857, and California's gold production and the export of this gold was sufficient in itself to balance large import surpluses. Clearly the volume of capital imports in the 1850's was not nearly so large, relatively, as it had been in the 1830's.

Economic Analysis

I shall conclude by calling attention to two aspects of the estimates.

BALANCE OF PAYMENTS AND THE BUSINESS CYCLE

The short-run movements of the balance of payments and its components exhibit an interesting relationship to expansions and contractions of the U.S. economy. Although annual (rather than quarterly) data and the rough nature of the estimates blur business cycle turning points, the estimates do show that both the trade and payments balances deteriorated in expansions and improved in contractions. It is the movement of the trade balance which is instrumental in the net payments balance (see Chart 3 above). In fact the specie balance conforms to expectations and moves inversely with the trade balance during about three-fourths of the years from 1820 through 1860 (see Chart 4).⁸

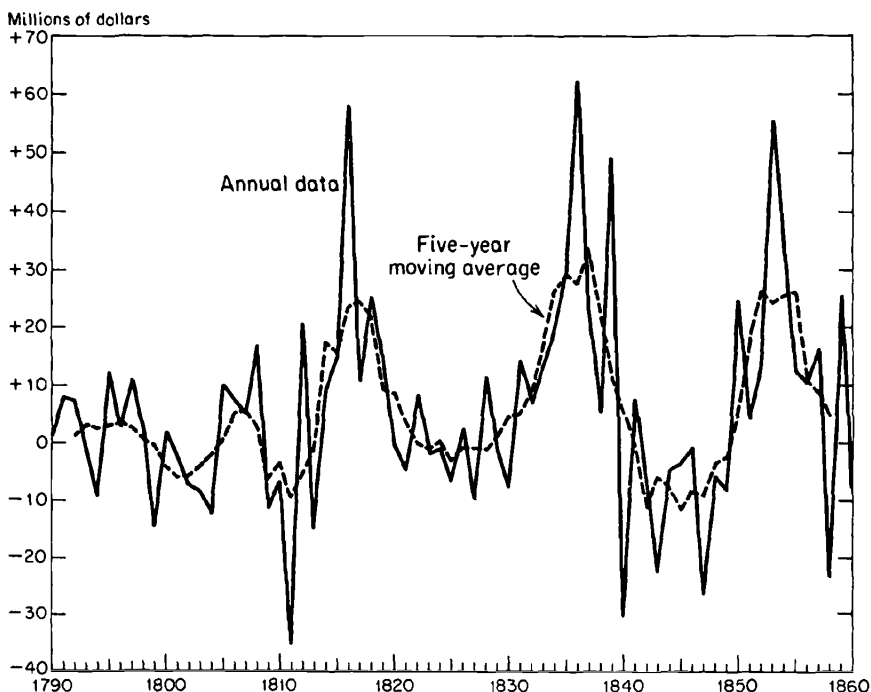
⁸ A study of the trade balance and its components by Ilse Mintz is reported on in *Trade Balances during Business Cycles*, National Bureau of Economic Research, Occasional Paper 67, 1959. While her investigation begins with 1879 and covers a period when the United States typically had a favorable trade balance, nevertheless the movement of the balance over the cycle is similar.

BALANCE OF PAYMENTS

LONG SWINGS IN CAPITAL FLOWS

The most striking feature of the international capital movements is the long cycles in flows (also reflected in the trade balance). Chart 6 presents the ebb and flow of foreign capital in the United States from 1790 to 1860 both annually and with a five-year moving average. While

CHART 6
Foreign Investment in the United States, 1790-1860
(moving average centered on mid-years)



the period of the Napoleonic wars shows no clear trend, thereafter there are clear peaks of capital inflow in 1816, 1836, and 1853. The five-year moving average gives somewhat different dates of peaks and troughs than does inspection of the annual figures or reliance upon the trade balance alone (Chart 3).

These long swings in capital flows are closely related in timing to those in other types of economic activity, such as incorporations, transport, building, land sales, and immigration (see Table 4). The surges in capital imports suggest questions which can only be raised here. How does their timing compare with capital movements into

U.S. BALANCE OF PAYMENTS, 1790-1860

TABLE 4
Long Swings in Economic Activity

	Foreign Capital (1)	Incorpora- tions (2)	Transport (3)	Building (4)	Land Sales (5)	Immigration (6)
Trough	1811					
Peak	1817	1815			1818	
Trough	1825	1820-22	1825		1823	1823
Peak	1837	1837	1832	1836	1836	1834
Trough	1845	1842	1843	1843	1842	1838
Peak	1852-55	1852-54	1856	1853	1854	1854

Note: Dates of troughs and peaks are tentative.

Source

Col. 1: Chart 6. The dates used are quinquennial averages. The precise dating of the troughs and the peaks is somewhat arbitrary and other methods would yield different dates (note annual data in Chart 6).

Col. 2: George H. Evans, Jr., *Business Incorporations in the United States, 1800-1943*, NBER, 1948, ch. 3.

Col. 3: Walter Isard, "A Neglected Cycle: The Transport-Building Cycle," *Review of Economic Statistics*, November, 1942. Some of the turning points are given by Isard, others are interpreted from charts in the article.

Col. 4: A. H. Cole and W. B. Smith, *Fluctuations in American Business*, Harvard University Press, 1935, Chart 13, p. 55.

Col. 5: Simon Kuznets and Ernest Rubin, *Immigration and the Foreign Born*, NBER, Occasional Paper 46, 1954, Table 3. There was also a first peak in immigration between 1816 and 1818.

other countries, with domestic capital formation in the capital importing and exporting countries, and with other types of economic activity in the capital exporting countries?⁹ Answers to such questions would shed light upon the whole pattern and rhythm of the economic development of the Atlantic economy in the last century and a half.

APPENDIX A

The Estimation of the United States Balance of Payments, 1790-1819

FOREIGN INDEBTEDNESS

The estimation of our indebtedness in 1789 must be, at best, an informed guess, obtained from the meager information available.¹⁰ In

⁹ Brinley Thomas's interesting study *Migration and Economic Growth* (England, University Press, 1954) raises many of these questions and explores much of the then available evidence.

¹⁰ Worthy Sterns in "International Indebtedness of the United States in 1789" (*Journal of Political Economy*, December 1897) estimated it at \$80 million, but the method by which he arrived at this figure makes it of no value.

the late eighteenth century our debt consisted of foreign loans, foreign holdings of domestic federal debt, and short-term merchandise debt. Although there was undoubtedly some foreign investment in land, and perhaps some private long-term investment and U.S. investment abroad, there is too little information to make separate allowance for them.

Our foreign obligations on January 1, 1790 were about \$12 million.¹¹ Part of the domestic debt of approximately \$65.5 million was held abroad, but it is difficult to estimate how much. Schultz and Caine say that nearly half of the federal "stock" was held abroad by 1800. While Hidy finds an increase in the holdings by Englishmen characteristic of the 1780's, Jenks maintains that at least part of this increase was absorbed from the continent.¹² With little more to go on I have simply assumed that \$23 million of the domestic debt was held abroad in 1790, making a total of \$35 million of public debt held abroad.

The amount of short-term mercantile debt is equally hard to ascertain. Callendar quotes English sources to the effect that U.S. citizens owed English merchants \$28 million for goods at the outbreak of the revolution. He goes on to say that the same credit relations were renewed at the end of the war. Cleona Lewis cites a figure for our short-term debt of \$23 million in 1803.¹³ I have assumed a figure of \$25 million, giving us a total indebtedness of \$60 million in 1789.

EXPORTS AND IMPORTS OF MERCHANDISE

Beginning August 1, 1789, information on exports and certain imports were collected by customhouses and tabulated by the Treasury Department. Despite contemporary criticisms, the basic methods employed did not change significantly until 1820. Not until 1835 were the 1789-1820 figures officially overhauled and published in the report of the Secretary of the Treasury on finances for 1835. His report and the two volumes of *American State Papers; Commerce and Navigation* are the basic government sources.¹⁴ The latter presents the original annual reports of the Treasurer on the value of exports of domestic merchandise, the re-exports of foreign merchandise, the value of

¹¹ Raphael A. Bayley, *National Loans of the United States, 1776-1880; 1880 Census of the United States*, Vol. VII, p. 325.

¹² W. J. Schultz and M. R. Caine, *Financial Development of the United States*, Prentice Hall, 1937, p. 33; Ralph Hidy, *The House of Baring in American Trade and Finance*, Harvard University Press, 1949, p. 34; and Leland Jenks, *The Migration of British Capital*, Knopf, 1927, p. 65.

¹³ Guy S. Callendar, "The Early Transportation and Banking Enterprises of the States in Relationship to the Growth of Corporations," *Quarterly Journal of Economics*, November 1902, p. 137; and Cleona Lewis, *America's Stake in International Investment*, Brookings Institute, 1938, pp. 152 and 560.

¹⁴ *Reports of the Secretary of the Treasury of the United States (RSTUS)*, Vol. III, 1837, pp. 627-679; and *American State Papers: Commerce and Navigation (ASPCN)*, 1832.

imports subject to ad valorem duties, the quantities of imports subject to specific duties, and a description of how the data were gathered. From these and a number of contemporary sources one can see the shortcomings in the original data and reconstruct more accurate series.

Exports

The information on exports presents far fewer problems than that on imports. The way in which export figures were gathered is described in a report of the investigation of the Committee on Commerce and Manufactures to the Senate in 1819.¹⁵

“The master of every vessel bound to a foreign place is required to deliver to the collector of the port from which the vessel is about to depart a manifest of all the cargo on board of the vessel (and) to state the value of the cargo. . . . As the master is seldom the owner of the cargo, he is in general ignorant of the price paid for it, or its real value. . . . The collectors, in most cases, reject the valuation of the masters, and make their own valuations.

“This practice though a deviation from law has probably tended to furnish valuation more correct than those of the masters of vessels, in all cases in which the collectors have founded their valuations upon real market prices.”

The same procedure was followed for re-exported specific duty goods, but generally the master's valuation was accepted on the small quantity of duty-free goods re-exported. To goods subject to ad valorem duty subsequently re-exported an amount equal to 20 per cent of their foreign port price was added if they came from beyond the Cape of Good Hope, 10 per cent if from ports this side of the Cape. Clearly such a flat addition understates the c.i.f. value of these goods since freight and other charges from beyond the Cape were far more than 20 per cent of the value. Nevertheless it was the judgment of the Committee that if anything the total value of exports may have been slightly exaggerated. It appears best in the light of the thorough investigation of this committee to accept the official value of exports.

One additional complication is conflicting official figures. Many differences are due to copying errors. The remainder appear to be attributable to Albert Gallatin's 1812 revision of export values from 1791 through 1810. His revisions were all upward except for 1806, which shows a decrease of \$2.5 million.¹⁶ His changes were apparently based upon careful review of the annual data, and the most likely reason for the revision upward is that at the time of the annual reports the Charleston customhouse district and some minor ports did not report

¹⁵ *ASPCN*, Vol. II, pp. 391-392.

¹⁶ *ibid.*, Vol. I, pp. 926-928.

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TABLE A-1
Merchandise Trade: Exports, 1790-1819
(thousands of dollars)

<i>Fiscal Year</i>	<i>Exports Accepted Value</i>	<i>Fiscal Year</i>	<i>Exports Accepted Value</i>
1790	20,205	1805	95,566
1791	19,012	1806	101,537
1792	20,753	1807	108,343
1793	26,110	1808	22,431
1794	33,044	1809	52,203
1795	47,989	1810	66,758
1796	67,064	1811	61,317
1797	56,850	1812	38,527
1798	61,527	1813	27,856
1799	78,666	1814	6,927
1800	70,972	1815	52,558
1801	94,116	1816	81,920
1802	72,483	1817	87,672
1803	55,800	1818	93,281
1804	77,699	1819	70,143
Total, 1790-1819			1,769,540

Source: The accepted values are from *ASPCN* 1832, p. 658, for all years except 1794 (33,026), 1807 (108,843), and 1817 (82,672).

For these years values shown in *RSTUS* 1837, Vols. I and II, were used: 1794 (I, p. 313); 1807 (I, p. 721); and 1817 (II, p. 92). In this source estimates in the following years differed from those accepted: 1791 (17,572; I, p. 155); 1792 (20,518; I, p. 248); 1793 (25,752; I, p. 294); 1797 (51,295; I, 384); 1798 (61,327; I, p. 417); 1801 (93,021; I, p. 489); and 1802 (71,957; I, p. 507).

exports.¹⁷ (For the various official figures and for those I accepted see Table A-1.)

Imports

The development of an accurate series on imports poses far more difficult problems, and the estimates cannot be considered as accurate as the export series. The official series on imports dates from the Treasurer's report of 1835, which described their formation in the following way.¹⁸ Before 1821 the Treasury reports did not give the value of imports. Their values for 1795-1801 were taken from Pitkin; for 1815, from Seybert;¹⁹ for 1802-1804, 1807, 1817-19, and 1790-95,

¹⁷ Gallatin's figure for 1794 is not accepted since all customhouses had reported that year. There is an unexplained difference in 1796 between the earlier series and the 1835 series of about \$8.5 million. With nothing further to go on, the earlier series has been presumed correct.

¹⁸ *RSTUS*, Vol. III, p. 657.

¹⁹ Timothy Pitkin, *A Statistical View of the Commerce of the United States*, New York, J. Easburn and Co., 1817, and Adam Seybert, *Statistical Annals*, Thomas Dobson and Son, 1818, p. 156.

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from manuscript notes in the department; and for 1805, 1806, 1808-14, 1816, and 1820, from calculation and comparison with other years. Free goods were included in the total exports, but not in any account of imports before 1819, so the following sums were added for the consumption of free goods: 1790 and 1791, \$1 million per year; 1792-96, \$1.5 million; 1797-1806, \$2 million; and 1807-19, \$3 million.²⁰

First, the Treasurer's estimates require revision for a curious error, perpetuated in all subsequent series. The allowance for duty-free goods was added to imports for consumption but not to total imports, so that the imports for consumption plus imports for re-export exceed the figures for total imports. The result is that the figures for whole imports are too low for each year by the allowance for duty-free goods. Table A-2 presents whole imports, whole exports of foreign merchandise, and actual consumption including free goods in the first three columns as

²⁰ *RSTUS*, Vol. III, p. 657.

TABLE A-2
Merchandise Trade: Imports, 1790-1819
(thousands of dollars)

<i>1790-1804 Estimates</i>				
<i>Fiscal Year</i>	OFFICIAL ESTIMATES			IMPORTS, ACCEPTED VALUE
	<i>Total Imports</i> (1)	<i>Total Exports</i> (2)	<i>Actual Consumption</i> (3)	
1790	23,000	300	23,500	23,800
1791	29,200	500	30,000	30,500
1792	31,500	1,000	31,500	32,500
1793	31,100	1,750	30,800	32,550
1794	34,600	6,500	29,500	36,000
1795	69,756	8,300	63,000	71,300
1796	81,436	26,300	56,636	82,936
1797	75,379	27,000	50,379	77,379
1798	68,552	33,000	37,552	70,552
1799	79,069	45,523	35,546	81,069
1800	91,253	49,131	44,122	93,253
1801	111,364	46,643	66,721	113,364
1802	76,333	35,775	42,558	78,333
1803	64,667	13,594	52,073	65,667
1804	85,000	36,232	50,768	87,000

1790-1804 Estimates: Cols. 1 and 2—RSTUS, Vol. III, p. 656. Col. 3—The same, includes duty-free goods. Col. 4—The sum of cols. 2 and 3 revised to take account of duty-free goods and of what appears to be a copying error for 1803 and special allowances for 1790-95 (see text).

continued on next page

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TABLE A-2 concluded

1805-1819 Estimates

Fiscal Year	OFFICIAL ESTIMATES					DUTY-FREE IMPORTS (4) × 3	IMPORTS, 1790-1804 BASIS (6)	IMPORTS, ACCEPTED VALUE (1) + (5) (7)
	Total Imports (1)	Total Exports (2)	Actual Consumption (3)	Duty-free Re-exports (4)				
1805	120,600	53,179	69,421	1,642	4,925	122,600	125,525	
1806	129,410	60,283	71,127	2,384	7,152	131,410	136,562	
1807	138,500	59,644	81,856	2,080	6,240	141,500	144,740	
1808	56,990	12,997	46,993	370	1,111	59,990	58,101	
1809	59,400	20,798	41,602	543	1,630	62,400	61,030	
1810	85,400	24,391	64,009	1,322	3,966	88,400	89,366	
1811	53,400	16,023	40,377	1,496	4,488	56,400	57,888	
1812	77,030	8,495	71,535	586	1,759	80,030	78,789	
1813	22,005	2,848	23,157	58	173	26,005	22,178	
1814	12,965	145	15,820	1	3	15,965	12,968	
1815	113,041	6,583	109,458	1,759	2,277	116,041	85,357	
1816	147,103	17,139	132,964	1,449	4,346	150,103	151,449	
1817	99,250	19,358	82,892	801	2,402	102,250	101,652	
1818	121,750	19,427	105,323	1,790	5,370	124,750	127,120	
1819	87,125	19,166	70,959	2,125	6,376	90,125	93,501	
Total, 1790-1819							2,323,428	

1805-1819 Estimates: Col. 1—*RSTUS*, loc. cit., except for 1815 (see text) which is Pitkin's figure (*RSTUS* figure, \$113,041,274). Col. 2—*RSTUS*, loc. cit. Col. 3—The same, includes duty-free goods. Col. 4—*ASPCN*, Vol. II, pp. 394 and 396. Col. 5—See text. Col. 6—The sum of cols. 2 and 3 revised to take account of duty-free goods and of what appear to be copying errors for 1812 and 1813 (see text).

they are recorded in the 1835 report except for 1815 (see below). Columns 4 (1790-1804) and 6 (1805-19) present the revision of whole imports to take account of the omission of duty-free goods and further revisions for what appear to be copying errors for 1803, 1812, and 1813, and to the fact that the Treasurer appears to have actually added a different amount as an allowance for free goods, 1790-95, from the stated allowance. Since they do not appear to be copying errors and follow no systematic deviation from the stated allowance, it is assumed that the Treasurer was making these allowances for sufficient reasons.

The allowance made for duty-free goods by the Treasurer was, however, a mechanical one which can be improved upon. For 1805-19 there are data on duty-free goods re-exported; their value averaged about \$1 million a year.²¹ The Treasurer allowed \$3 million during

²¹ *ASPCN*, Vol. II, p. 394.

most of these years. The use of a ratio of 3 to 1 as between all duty-free imports and those re-exported would appear to give a more precise indication of duty-free imports than applying a flat sum of \$3 million annually.²²

The figure for 1815 requires separate attention. The Treasurer's report says that the figure was obtained from Seybert's *Statistical Annals*; he in turn obtained it from the first edition of Pitkin's *Statistical View*. However, the figure quoted by the Treasurer is approximately \$20 million less than Pitkin's \$133,041,274. The reason for the difference appears to be that Pitkin's figure was for the calendar year 1815 while the Treasurer's is for the fiscal year. The difference is significant because the last quarter of 1814 when the war with England was still on was characterized by very little trade while the last quarter of 1815 was marked by a flood of imports of English manufactured goods. The reduction of \$20 million is certainly not sufficient. Probably the best solution is that adopted by George Taylor in which he takes Pitkin's estimate in the 1835 edition based upon a fiscal year.²³ His figure of \$83,080,073 is the one used here.

One further thorny problem remains. Were imports valued at port of entry or at port of origin? If the former, then the debit figure for imports is too high since it includes the cost of transport and the great bulk of the freight costs were paid to U.S. shippers. The generally prevailing view has been that imports were valued c.i.f. (port of entry), but a review of all the evidence suggests that the valuation was substantially under the c.i.f. value and somewhat more than the f.o.b. value.

Duty-free goods were estimated by the Treasurer at \$3 million from 1807-19, but this figure is considerably lower than that suggested by the 1819 Committee on Commerce and Manufactures which estimated an average of \$5 million. The implication was that duty-free goods were valued even under port of origin valuation.

Only quantities of specific duty goods were recorded before 1821 and valuation was arrived at by assigning a price to each commodity. If these prices were U.S. prices, then specific duty goods were valued c.i.f. The Treasurer's report does not discuss the method of pricing. After an examination of the detailed returns for 1791, Stern concludes that the original valuation was that of port of origin and that the revised figure in 1835 was 16 per cent higher and was accordingly at port of

²² To illustrate with a simple example, obviously duty-free imports would be greater in 1816 with total imports of \$147 million and duty-free re-exports of approximately \$1.5 million than in 1814 when imports totaled \$12 million and duty-free re-exports were only \$953.

²³ George Taylor, *The Transportation Revolution, 1815-1860*, Rinehart, 1951, p. 200, and Thomas Pitkin, *A Statistical View of the Commerce of the United States*, New Haven: Durrie and Peck, 1835, p. 265.

entry prices.²⁴ Gallatin too expressed the view that estimates of imports were higher than their port of shipment values.²⁵ On the other hand George Taylor's review of the price weights used to value specific-duty commodities by Pitkin in 1815, 1816, and 1817 leads him to the conclusion that the prices used were below those of New York and Philadelphia for those years indicating that the values would be below port of entry valuation.²⁶ While a comparison of the prices used by Pitkin with contemporary prices does indicate some undervaluation, the inadequacy of the data makes the comparison less than conclusive. The conclusion best warranted by the evidence is that specific-duty goods were valued somewhat under port of entry valuation but above port of shipment valuation.

Ad valorem imports, as described above, were valued at 10 per cent and 20 per cent above their foreign cost depending on whether they had come from beyond the Cape of Good Hope or not.²⁷ Though ad valorem imports as a percentage of total imports varied widely from year to year, they averaged about one-half the value of total imports. Since about 15 per cent of the value of ad valorem imports came from beyond the Cape of Good Hope, the effective markup above the f.o.b. value was on the average $11\frac{1}{2}$ per cent. This is clearly not enough to cover total costs of carriage which would probably be between 15 per cent and 20 per cent of the value.²⁸

The general conclusion which emerges from this survey of the valuation of the three classes of imports is that they were valued under port of entry valuation but above port of shipment valuation. Such a conclusion, of course, necessarily complicates the calculation of shipping earnings which will be dealt with next.

SHIPPING EARNINGS

Between 1790 and 1819 the U.S. Merchant Marine carried about 85 per cent of U.S. imports and exports, and the credits were second only to exports in our balance of payments. Indeed shipping earnings were more important than any single commodity export.

There have been two general methods of calculating shipping earnings. One is to calculate the earnings per ton and multiply by the gross

²⁴ Worthy P. Sterns, "The Beginnings of American Financial Independence." *Journal of Political Economy*, Vol. vi, March 1898, p. 190.

²⁵ *ASPCN*, Vol. i, p. 643.

²⁶ Taylor, Appendix B, p. 453.

²⁷ Pitkin states that the Tariff Law of 1816 changed this method and thenceforth they were valued at port of origin (1835 edition, p. 163). However, the Committee on Commerce and Manufactures implied that this markup continued (*ASPCN*, Vol. ii, pp. 394-395).

²⁸ Actually that is a conservative estimate compared to Sterns ("Beginnings of American Financial Independence," p. 191), who takes 20 per cent, and to some contemporary sources who took much higher figures. The reason for the lower estimate here is that freight as a percentage of value on imports of finished goods was much lower than on bulk exports.

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registered tonnage. The other is to calculate freight as a percentage of value of imports and exports and determine earnings accordingly. In general the second method is preferable for the United States because of reasons which will be detailed below, but the character of the data before 1819 requires the use of the first method. Table A-3 presents the estimates.

TABLE A-3
United States Shipping Earnings, 1790-1819

<i>Fiscal Year</i>	<i>Gross Register Tonnage (thousands)</i>	<i>Activity Index (1796-1800 = 100)</i>	<i>Freight Rate Index (1796-1800 = 100)</i>	<i>Gross Earnings</i>	<i>Foreign Port Charges (millions)</i>	<i>Net Freight Earnings</i>
(1)	(2)	(3)	(4)	(5)	(6)	(7)
1790	336	91	48	\$ 7.4	\$ -1.5	\$ 5.9
1791	343	91	50	7.8	-1.6	6.2
1792	381	93	51	9.2	-1.8	7.4
1793	328	117	77	14.9	-3.0	11.9
1794	389	115	86	19.4	-3.9	15.5
1795	469	106	95	23.9	-4.8	19.0
1796	507	114	93	27.0	-5.4	21.6
1797	518	100	82	21.4	-4.3	17.1
1798	513	87	92	20.8	-4.2	16.6
1799	557	96	112	30.2	-6.0	24.2
1800	557	105	112	32.8	-6.6	26.2
1801	631	115	106	38.8	-7.8	31.0
1802	546	125	66	22.7	-4.5	18.2
1803	561	120	87	29.6	-5.9	23.7
1804	624	113	93	33.6	-6.7	26.9
1805	694	114	93	37.1	-7.4	29.7
1806	737	121	96	43.2	-8.6	34.6
1807	765	125	109	52.6	-10.5	42.1
1808	678	68	125	28.8	-5.8	23.0
1809	807	64	125	32.8	-6.6	26.2
1810	869	90	125	49.4	-9.9	39.5
1811	764	106	125	51.0	-10.2	40.8
1812	744	77	125	36.2	-7.2	29.0
1813	642	32	125	12.8	-2.6	10.2
1814	629	9	116	3.3	-0.7	2.6
1815	792	76	85	25.7	-5.1	20.6
1816	724	103	56	21.1	-4.2	16.9
1817	711	94	40 ^a	13.5	-2.7	10.8
1818	590	109	63	20.4	-4.1	16.3
1819	561	120	55 ^a	19.0	-3.8	15.2

^a Interpolations because rate data is inadequate.

Col. 1: Explained in the text. Col. 2: Obtained by dividing net tonnage capacity (*Historical Statistics*, p. 216) into col. 1 and calculating upon a base of 1796-1800 = 100. Col. 3: Explained in the text. Col. 4: Col. 1 × col. 2 × col. 3 × \$50.00. Col. 5: 20 per cent of col. 4. Col. 6: Col. 4 - col. 5.

The first method calculates shipping earnings by multiplying the earnings per ton by the gross registered tonnage in foreign trade. To take into account variation in earnings per ton, a freight rate index is employed; and to take into account variation in employment of ships, an index of activity. Port costs, a reliable base year, accurate annual registered tonnage figures, and a clear understanding of the valuation of imports (whether f.o.b. or c.i.f.) must all be developed in order to develop reliable estimates of shipping earnings.

Freight Rate Index

There are no continuous U.S. freight rates before 1815, and accordingly the only available substitute is to employ a freight rate index based upon other routes. The index used here consists of freights between the Baltic and the United Kingdom on timber, grain, hemp, and tallow; between the West Indies and the United Kingdom on sugar; and between the East Indies and the United Kingdom on general cargo. After 1811 it includes scattered U.S. rates and from 1815 on annual U.S. rates on cotton. I weighted each trade route equally.

Such an index is a poor substitute for actual U.S. freight rate data. While ocean freight rates generally moved together during this period, the amplitude of the movement varied considerably between routes. Moreover, freight rates during the Napoleonic wars were subject to tremendous fluctuations. Finally, the series from East India is included because its general movements paralleled those of other rates; the monopoly position of the East India Company, however, dampened its amplitude compared to the rates in competitive markets. Therefore, this index can only be taken as a rough approximation of the movements of U.S. freight rates.

There is no suitable freight rate index available for 1808-13. The Napoleonic wars raised Baltic rates to tremendous heights. On the other hand rates on the China trade actually fell and scattered rates from other areas indicate some rise, but nothing like the Baltic figures (which would dominate my unweighted index). Accordingly I have simply estimated the freight rate index at 125 for the years which, while it indicates a substantial rise, may not give due allowance to the rise in U.S. rates. From 1814 onward an increasing number of U.S. rates provides a more accurate picture of freight rates.

Activity Index

The earnings per ton for the base year obviously reflect how much ships were being utilized during that year and since this varied substantially from year to year it would seriously affect earnings. Periods of slack shipping, the embargo and the War of 1812 all would reduce the degree of utilization and therefore make annual earning per ton less

than for the base years. The activity index consists of the ratio of net tonnage capacity of U.S. ships entered (U.S. ports) to gross registered tonnage. This ratio is taken as a percentage of the base year ratio to get an annual index of the degree of employment of shipping.

This index is subject to a number of criticisms. It really measures entries into U.S. ports rather than actual shipping utilization and an increase could merely reflect shorter voyages (such as a shift out of the China trade to the West Indies trade) and vice versa. It takes no account of tonnage entering in ballast which would vary from year to year. A further criticism as far as annual shipping figures are concerned is that the gross registered tonnage series (deflated for ghost tonnage to be described below) is for calendar years while the net tonnage capacity entered is for fiscal years ending September 30.

Port Costs

The expenses of U.S. ships in foreign ports obviously represent a drain upon our international shipping earnings and must be taken into account. Estimates by Giffin at a later time indicate that foreign port costs were about 20 per cent of the earnings of sailing ships, and this is accordingly the figure I have allowed.²⁹

The port cost of foreign ships in U.S. ports would of course be a credit item although since in most years foreign ships carried little more than 15 per cent of imports it is not a large item. However, it should just about counterbalance a debit item which arises from the "at sea" valuation of imports. That is if imports are valued f.o.b. then credits on imports in our ships are double counting whereas if they are measured c.i.f. they are not. Since the measurement of imports appears to be in between (as explained above) then some reduction in credit is necessary in our shipping earnings.³⁰

Ghost Tonnage

The registered tonnage figures as officially recorded are in substantial error due to the fact that "ghost tonnage" was allowed to accumulate on the records and was only removed at periodic intervals in lump sums.³¹ This ghost tonnage consisted of ships which had been sunk, captured, sold, or destroyed. This tonnage was cleared in 1800-1801 (197,000 tons), 1811 (approximately 200,000), and 1818 (182,000 tons).³²

Since this ghost tonnage had gradually accumulated and included all

²⁹ Robert Giffin, *Essays in Finance*, 2nd series, London, George Bell and Sons, 1886, p. 183.

³⁰ Since freight as a percentage of value on imports was less than on exports because of the relatively small bulk and high value of the former, I think this estimate is about correct.

³¹ *Historical Statistics of the United States, 1789-1945*, Dept. of Commerce, 1949, series K-101, p. 208.

³² *ibid.*, p. 19.

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vessels (not just those in foreign trade), it is necessary both to estimate the amount cleared in foreign trade and to apportion the clearances over the years since the previous clearance. The reduction of foreign trade ghost tonnage has been calculated as the percentage that registered tonnage (in foreign trade) was of total documented tonnage and comes to approximately 120,000 tons in 1800–1801, 125,000 tons in 1811, and 110,000 tons in 1818. It has been assumed that this ghost tonnage accumulated at an even rate since the last clearance and the adjustment in the annual tonnage figures is calculated accordingly.

Base Period

The base employed is the estimate of Seybert (p. 281) that U.S. ships were earning at least \$50 a ton between 1796 and 1800. Seybert was a careful investigator and his figure seems more reasonable than Sterns, which is \$60 a ton for the period 1790–1820.³³ Therefore, both the activity index and the freight rate index are calculated upon a 1796–1800 = 100.

The shortcomings of this method of calculating shipping earnings should be evident. The activity index is at best a very rough indicator of employment and the double counting on imports in U.S. ships is difficult to remove accurately. However, the earnings per ton method had to be used during this period rather than freight as a percentage of value method because of the imprecise knowledge of export and particularly import values, the lack of a suitable base for the percentage method and of accurate export and import price data.

OTHER ITEMS

The other items in America's balance of payments during the period will be treated in more summary fashion. Several of them can be no more than informed guesses.

Sale of Ships

The construction and sale of ships abroad was a small but persistent credit item in the U.S. balance of payments during this period. The average price per ton used by Sterns ("Beginnings," p. 194) was \$50. While this figure appears reasonable for the latter years there is quite a bit of evidence to indicate that the price was lower in earlier years and accordingly \$40 a ton is used before 1813.

Figures on tonnage sold are only available from 1813 on and accordingly estimates from the earlier years must be arbitrary to a

³³ Sterns ("Beginnings of American Financial Independence") estimated this on the basis of evidence (*Annals*, xvi Cong., 2d sess., p. 1642) that a ship earned \$20 per ton on a voyage to France and made three trips a year. However, contemporary reports indicate that between two and three trips a year was the average (see Taylor, Appendix B).

certain extent. The method used here was to calculate the ratio of tonnage built to tonnage sold to foreigners, 1813-20 (about 1 to 5) and apply that ratio to 1797-1812. There are not even annual figures on tonnage built for 1790-96, and accordingly an allowance for these years must be at best a guess based upon subsequent sales.³⁴

Specie Movements

While *Historical Statistics* (p. 245) indicates that specie flows are included in its trade statistics from 1790-1821 and derives its information from earlier *Commerce and Navigation* reports, the original annual reports contain no record of the movement of precious metals, and Sterns (p. 193) believes that they were not so included. The stock in 1791 was estimated at \$7 million and in 1820 at \$20 million indicating a net inflow during the period of \$13 million.³⁵ The ebb and flow of specie during the intervening period has been apportioned according to estimates of the stock for individual years during the intervening period.³⁶

Interest

This was a fairly significant debit item during this period reflecting the continuous debtor position of the country. The interest upon our foreign debt during the period is readily available and aggregates approximately \$17.5 million for the whole period.³⁷ However, the interest upon the domestic federal debt held abroad, private long-term and short-term debt held abroad cannot be estimated with any degree of accuracy. I simply assumed an over-all rate of interest of 6 per cent and calculated the interest charge upon the capital indebtedness of the previous year.

Merchandise Profits and Insurance

Brokers' commissions and marine insurance were clearly debit items during this period which were for the most part in the hands of the British. The British dominated the export trade of their goods and it was not until after 1830 that U.S. importers played a large role in this

³⁴ Sterns ("Beginnings of Financial Independence") uses the ratio of ships built to ships sold for the years 1815-24 to calculate earnings in the years before 1815. (Estimates of ships sold abroad for 1813-14 appear in *Merchant Marine Statistics* for 1936 without indicating the original source. They are presumed accurate.) He makes no allowance for years before 1797.

³⁵ Sterns's "Beginnings of Financial Independence," p. 193, citing Tench Coxe (*View of the United States*, p. 352) and Secretary Crawford (for the 1820 estimate) without giving an original source.

³⁶ Schultz and Caine, pp. 120, 153, and 185, and *Writings of Albert Gallatin*, Henry Adams, ed., Philadelphia: J. B. Lippincott, 1879, Vol. III, pp. 286 and 291.

³⁷ Sterns ("Beginnings of Financial Independence," p. 197), who cites the Sinking Fund Commission.

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TABLE A-4
Balance of Payments of the United States, 1790-1819
(millions of dollars)

<i>Fiscal Year</i>	<i>Exports</i>	<i>Imports</i>	<i>Specie Movement</i>	<i>Freight Earnings</i>	<i>Ship Sales</i>	<i>Insurance</i>	<i>Interest on Balance</i>	<i>Net Balance</i>	<i>Cumulative Balance</i>
1789									60.0
1790	20.2	-23.8	1.0	5.9	0.2	-1.0	-3.6	-1.1	61.1
1791	19.0	-30.5	2.0	6.2	0.2	-1.2	-3.7	-8.0	69.1
1792	20.8	-32.5	2.0	7.4	0.2	-1.3	-4.1	-7.5	76.6
1793	26.1	-32.6	2.0	11.9	0.2	-1.3	-4.6	1.7	74.9
1794	33.0	-36.0	2.5	15.5	0.3	-1.4	-4.5	9.4	66.1
1795	48.0	-71.3	-1.5	19.0	0.3	-2.9	-4.0	-12.4	79.1
1796	67.1	-82.9	-1.0	21.6	0.3	-3.3	-4.7	-2.9	82.6
1797	56.9	-77.4	0	17.1	0.5	-3.1	-5.0	-11.0	93.6
1798	61.5	-70.6	-1.0	16.6	0.4	-2.8	-5.6	-1.5	95.1
1799	78.7	-81.1	1.0	24.2	0.7	-3.2	-5.7	14.6	80.5
1800	71.0	-93.3	2.0	26.2	0.8	-3.7	-4.8	-1.8	82.3
1801	94.1	-113.4	-1.0	31.0	1.0	-4.5	-4.9	2.3	80.0
1802	72.5	-78.3	2.0	18.2	0.7	-3.1	-4.8	7.2	72.8
1803	55.8	-66.7	2.0	23.7	0.7	-2.7	-4.4	8.4	75.6
1804	77.7	-87.0	2.0	26.9	0.8	-3.5	-4.5	12.4	63.2
1805	95.6	-125.5	-2.0	29.7	1.0	-5.0	-3.8	-10.0	73.2
1806	101.5	-136.6	2.0	34.6	1.0	-5.5	-4.4	-7.4	80.6
1807	108.3	-144.7	-1.0	42.1	0.8	-5.8	-4.8	-5.1	85.7
1808	22.4	-58.1	3.0	23.0	0.3	-2.3	-5.1	-16.8	102.5
1809	52.2	-61.0	2.0	26.2	0.7	-2.4	-6.1	11.6	90.9
1810	66.8	-89.4	-2.0	39.5	1.0	-3.6	-5.5	6.8	84.1
1811	61.3	-57.6	-3.0	40.8	1.5	-2.3	-5.0	35.4	48.7
1812	38.5	-78.8	-4.0	29.0	0.7	-3.2	-2.9	-20.7	69.4
1813	27.9	-22.3	1.0	10.2	2.8	-0.4	-4.2	15.0	54.4
1814	6.9	-13.0	-3.0	2.6	0.8	-0.3	-3.3	-9.3	63.7
1815	52.6	-85.4	2.0	20.6	0.5	-1.7	-3.8	-15.2	78.9
1816	81.9	-151.4	1.0	16.9	1.2	-3.0	-4.7	-58.1	117.0
1817	87.7	-101.7	1.0	10.8	0.7	-2.0	-7.0	-10.5	107.5
1818	93.3	-127.6	1.0	16.3	0.8	-2.6	-6.4	-25.2	102.7
1819	70.1	-93.5	1.0	15.2	0.6	-1.9	-6.2	-14.7	87.4

See the text for the derivation of the data.

trade. U.S. exporters clearly earned some credits on the export trade which would partially offset this debit and U.S. marine insurance companies steadily expanded with the growth of the carrying trade. Indeed my general impression is that the expansion of shipping induced the growth of U.S. merchants and marine insurance so that despite British dominance of their export trade this item becomes a smaller debit.³⁸ Accordingly, I estimated a debit of 4 per cent of the value of imports from 1790-1812 and 2 per cent from 1813-19.

³⁸ See G. S. Callendar, p. 138.

Miscellaneous and Capital Account

The items here include payments to Barbary Pirates, the Louisiana Purchase, and debt default. The first item came to approximately \$2 million and was paid between 1795-97. The purchase of Louisiana in 1803 was \$11.2 million.

Debt default was a substantial item between 1816-19. Any estimate must be a guess. The best contemporary observer, Hezekial Niles, put it at \$100 million.³⁹ George Taylor (p. 201) thinks this figure may be a little high and allows \$70 million. I used Niles's original figure because in terms of our aggregate indebtedness I feel that whatever overstatement may exist counterbalances two items for which no allowance was made in the annual flows. One is that there was sizable immigration between 1815-19, and using the allowance of \$75 per capita gives us a credit of over \$8 million. The other item is that in the period after the second war with England a flood of imported goods were being dumped on the U.S. market at prices below their customhouse valuation and therefore the debit on imports is probably somewhat too large.⁴⁰ Niles said in 1820 that this default had occurred in the last five years, but it would seem reasonable to have most of it occur during the crisis of 1818-19. Accordingly, I apportioned it \$20 million a year in 1816 and 1817, and \$30 million in 1818 and 1819.

Table A-4 presents the annual balance of payments and cumulative foreign indebtedness from 1790 to 1819.

APPENDIX B*The Estimation of the United States Balance of Payments, 1820-1860*

MERCHANDISE TRADE

The overwhelming importance of merchandise trade during this period makes accurate import and export values essential to calculating a balance of payments. The data available are far better than for the earlier period since after 1820 the total value of all imports was ascertained regardless of their duty status. However, as the following description makes clear, the export and import figures do leave something to be desired and for imports some allowance must be made for the inadequacy of the figures.

³⁹ *Niles Register*, September 16, 1820, p. 40.

⁴⁰ See N. S. Buck, *The Development of the Organization of Anglo-American Trade*, Yale University Press, 1925, pp. 137-139.

Exports

As a result of an act of 1820 comprehensive foreign trade statistics were gathered for the first time. For exports the sworn manifests of owners and shippers of cargo (required before the vessel could be cleared) were collected by customs authorities. Manifests were supposed to show the actual cost or the goods' value at port and time of shipment. Generally the export values appear to be fairly accurate. A comparison of the unit value of cotton exports and the price of cotton in the New York market, 1820-60, reveals no consistent or significant difference between them. Of course, credits earned in the international accounts did not always equal these figures (customs valuation) plus transfer charges. For example the *Report of the Secretary of the Treasury* for 1851 (p. 11) cites the immense losses upon cotton shipments resulting from European sales prices being far below customhouse valuations.

There is also likely to have been some consistent undervaluation although it is impossible to ascertain its importance. In a historical review of our foreign commerce, the Secretary of the Treasury in 1863 said "It is, moreover, established beyond doubt that there are large deficiencies in the report of outward cargoes, particularly at the Port of New York. There being no outward inspection, and clearance being always given on the oath of the shipper or agent, a degree of inaccuracy has grown up, which is mainly the consequence of haste. Undervaluation and imperfect schedules of cargo occur where no intent to evade the law exists, particularly as no questions of revenue are involved."⁴¹ How significant the problem was is difficult to estimate, however it does not appear to be too important. While our exports were probably somewhat undervalued it is unlikely to have been very significant.

Also since overland exports were not counted, it is important to ascertain their importance. The Andrews Report makes clear that railroads were unimportant in carrying the goods to Canada during the period, and accordingly no allowance was made for this omission.⁴²

Imports

Imports present an entirely different problem and one which cannot be dismissed as of little consequence. After 1820 the value of all imports had to be ascertained at the customhouse regardless of whether they were subject to ad valorem or specific duties or were free goods.

⁴¹ *Statistics of the Foreign and Domestic Commerce of the United States Communicated by the Secretary of the Treasury in Answer to a Resolution of the Senate of the United States, March 12, 1863, 1864, p. 41.*

⁴² 32d Cong., 2d sess., Exec. Doc. 136, 1853, pp. 376-377. The discrepancy between our recorded exports to Canada and their recorded imports from the United States in this period is in evidence even before the railroads existed and is probably to be explained by differences in recorded origins and destinations.

Therefore, for the first time, we have complete import statistics. Imports were valued at the port of foreign embarkation except that from 1820-32 10 per cent and 20 per cent were added to ad valorem duty goods coming from this side or beyond the Cape of Good Hope.⁴³

While the import figures were comprehensive in coverage, their accuracy was a subject of extensive contemporary debate. The undervaluation of ad valorem duty imports could be and frequently was profitable. The debate became more acrimonious after the Walker Tariff of 1846 was enacted. It placed all duties upon an ad valorem basis and reduced the penalties for undervaluation. Free trade enthusiasts were supporters of ad valorem type duties, protectionists of specific duties. The former minimized the extent of undervaluation while the latter made it out to be a practice which was of tremendous magnitude. It is difficult to find anyone, even an official, who was neutral in this controversy and who might have offered more balanced judgment.

Certainly undervaluation was a persistent fact during the entire period of this study. The practice of sending two invoices, one for the customs and the other exhibiting the "true value," was widespread. In 1849 the Secretary of the Treasury sent a circular to all customs districts inquiring (among other things) about undervaluation of merchandise and the effect of the abolition of specific duties. The replies of the collector of each district are printed in the Secretary's annual report (pp. 850-912) and offer convincing evidence of the widespread nature of the practice. Ezra Seaman, an ardent protectionist, estimated undervaluation at 6 per cent.⁴⁴ The statistical study of our foreign commerce presented to the Senate in 1864 compares the British declared real values of exports to the United States with our declared imports from Britain. Making allowances for the differences between calendar and fiscal years and for specie, the British figures are *less* than the U.S. figures by about \$185 million between 1856-61.⁴⁵ Clearly this method of comparison cannot be used because the different figures indicate differences in origins and destinations. There were some relatively minor errors which led to overvaluation of the total such as the inclusion of some of the products of U.S. fisheries, guano imports from U.S. islands, and Maine goods shipped through a Canadian port as U.S. imports.⁴⁶

In summary the value of imports, 1820-32, is probably approximately correct since the 10 per cent and 20 per cent additions on ad valorem

⁴³ The Tariff Act of 1832 repealed the provision (see R. E. Smith, *Customs Valuation in the United States*, Chicago University Press, 1948, p. 77). In 1842, for a period of two months, home valuation was substituted for foreign valuation.

⁴⁴ *Hunt's Merchants' Magazine*, December 1857.

⁴⁵ *Statistics of the Foreign and Domestic Commerce*, 1864, p. 37.

⁴⁶ See the *Report of the Director of the Bureau of Statistics on the Imports of the United States*, 1868.

BALANCE OF PAYMENTS

duty goods would probably compensate for undervaluation and for the official valuation of the British pound at \$4.44 during this period. Between 1832 and 1846 a small allowance should be made for undervaluation on ad valorem goods and between 1846 and 1860 a larger allowance must be made because of the abolition of specific duties and the shift to ad valorem duties. I have allowed 2 per cent of the value of total imports, 1832-46, and 4 per cent, 1846-60. Seaman's figure of 6 per cent representing as it does the view of an ardent protectionist is not only probably an overstatement but does not allow for the overvaluation cited above.

Table B-1 presents the trade figures, net trade balance, the specie exports and imports and net specie balance and the trade and specie balance.

SHIPPING EARNINGS

For 1790-1819, shipping earnings were estimated by calculating the earnings per ton in U.S. ships. This method was used, not only because the data lend themselves to this method rather than the freight-divided-by-value method, but also because during that period U.S. ships received a large share of their earnings carrying cargo between foreign ports as a result of the Napoleonic War. As a result a substantial percentage of the earnings were not on U.S. exports and imports. Had shipping earnings depended primarily on our export trade they would have been only a small fraction of the amounts indicated above.

However, with the resumption of peace in Europe and the expansion of the cotton trade, U.S. ships were becoming more fully occupied in the U.S. export and import trade. Gross registered tonnage increased very moderately, 1815-45, while the volume of exports increased at a much more rapid rate.⁴⁷ Since the percentage of exports carried in U.S. ships declined only slightly and increased efficiency could not possibly have made up the difference, the clear implication is that U.S. ships became increasingly occupied with our trade. Accordingly, calculating shipping earnings on the basis of earnings by U.S. ships in our export trade less that of foreign ships in our import trade with an allowance

⁴⁷ Actually when this gross registered tonnage is deflated for ghost tonnage, the increase appears even more moderate.

Col. 1: Historical Statistics, Series m-51. Col. 2: ibid., Series m-54. 1832-45, 2 per cent of the value given in the source is added for undervaluation of ad valorem imports; 1846-60, 4 per cent is added for the same reason. Col. 3: Col. 1 - col. 2. Cols. 4 and 5: Col. 4 is from Historical Statistics, Series m-45 + m-48; col. 5, Series m-46 + m-49. The figures there were taken from official statistics in Foreign Commerce and Navigation of the United States, 1912, p. 43. In the light of Oskar Morganstern's research into the validity of such statistics for the period after 1900 (The Validity of International Gold Movement Statistics, Princeton University Press, 1955), it is certainly likely that the figures for this early period also contain some degree of error. Col. 6: Col. 4 - col. 5. Col. 7: Col. 3 + col. 6.

TABLE B-1
Merchandise Trade and Specie Balance, 1820-1860
(thousands of dollars)

<i>Fiscal Year</i>	MERCANDISE TRADE			SPECIE			NET TRADE AND SPECIE BALANCE (7)
	<i>Exports</i> (1)	<i>Imports</i> (2)	<i>Net Balance</i> (3)	<i>Exports</i> (4)	<i>Imports</i> (5)	<i>Net Balance</i> (6)	
1820	69,692 ^a	74,450 ^a	-4,758				-4,758
1821	54,596	54,521	75	10,478	8,065	2,413	2,488
1822	61,350	79,872	-18,522	10,810	3,370	7,440	-11,082
1823	68,326	72,481	-4,155	6,373	5,098	1,275	-2,880
1824	68,972	72,169	-3,197	7,015	8,379	-1,364	-4,561
1825	90,738	90,189	549	8,797	6,150	2,647	3,196
1826	72,891	78,094	-5,203	4,704	6,881	-2,177	-7,380
1827	74,310	71,333	2,977	8,014	8,151	-137	2,840
1828	64,021	81,094	-17,073	8,243	7,490	753	-16,320
1829	67,435	67,089	346	4,924	7,404	-2,480	-2,134
1830	71,671	62,721	8,950	2,179	8,156	-5,977	2,973
1831	72,296	95,885	-23,589	9,015	7,306	1,709	-21,880
1832	81,521	97,024	-15,503	5,656	5,908	-252	-15,755
1833	87,529	103,069	-15,540	2,612	7,071	-4,459	-19,999
1834	102,260	110,782	-8,522	2,077	17,911	-15,834	-24,356
1835	115,216	139,499	-24,283	6,477	13,131	-6,654	-30,937
1836	124,339	180,111	-55,772	4,324	13,401	-9,077	-64,849
1837	111,443	133,082	-21,639	5,977	10,517	-4,540	-26,179
1838	104,979	97,889	6,090	3,508	17,747	-14,239	-8,149
1839	112,252	159,627	-47,375	8,777	5,596	3,181	-44,194
1840	123,669	100,224	23,445	8,417	8,883	-466	22,979
1841	111,817	125,417	-13,600	10,034	4,988	5,046	-8,554
1842	99,878	97,997	1,881	4,814	4,087	727	2,608
1843	82,826	43,282	39,544	1,521	22,320	-20,799	18,745
1844	105,746	104,657	1,089	5,454	5,830	376	1,465
1845	106,040	115,448	-9,408	8,604	4,070	4,534	-4,874
1846	109,583	122,630	-13,047	3,905	3,777	128	-12,919
1847	156,742	127,321	29,421	1,907	24,121	-22,214	7,207
1848	138,191	154,585	-16,394	15,841	6,361	9,480	-6,914
1849	140,351	146,854	-6,503	5,404	6,652	-1,248	-7,751
1850	144,376	180,450	-36,074	7,523	4,629	2,894	-33,180
1851	188,915	219,202	-30,287	29,466	5,453	24,013	-6,274
1852	166,984	215,738	-48,754	42,674	5,505	37,169	-11,585
1853	203,489	274,328	-70,839	27,487	4,201	23,286	-47,553
1854	237,044	309,716	-72,672	41,197	6,759	34,438	-38,234
1855	218,910	268,121	-49,211	56,247	3,660	52,587	-3,376
1856	281,219	322,849	-41,630	45,746	4,207	41,539	-91
1857	293,824	362,365	-68,541	69,137	12,462	56,675	-11,866
1858	272,011	273,873	-1,862	52,633	19,274	33,359	31,497
1859	292,902	344,586	-51,684	63,887	7,434	56,453	4,769
1860	333,576	367,760	-34,184	66,546	8,550	57,996	23,812

^a Includes specie.

For column notes see bottom of previous page.

for earnings of U.S. ships between foreign ports (and an estimate for port costs) becomes a more accurate method of estimating our shipping credit during this period.⁴⁸

Earnings on exports were calculated from the aggregate freight earned on each major commodity export. The commodities covered are cotton, tobacco, rice, wheat, flour, naval stores, and ashes. In each case a weighted annual freight rate was obtained and multiplied by the quantity exported. The weighting is both by the movement of the rate throughout the year on a commodity route (weighted by the volume shipped at each rate) and by the different rates prevailing for different routes of the same commodity (weighted by the volume shipped on each route). For example, for cotton the rate fluctuated during the year necessitating calculating a weighted rate from the amounts shipped at various rates. Also cotton was shipped from the northeast (New York, Baltimore, and Philadelphia), the southeast (Richmond, Charleston, and Savannah), and the Gulf (Mobile, New Orleans, and Galveston) to both the United Kingdom and the Continent. A rate on each major route was obtained and weighted by the volume shipped on that route.⁴⁹ The same method was employed with each commodity although the coverage of routes was never so complete as it was for cotton. However, I think that it is safe to say that the resulting annual summation of earnings on the seven commodities is accurate except for 1820-25 and 1835-39. During these years there were some freights missing, and the freight rate was estimated by multiplying the rate for 1830 times the export freight rate index (1830 base)⁵⁰ for each of the missing years. The resulting deviation from actual earnings is unlikely to be significant. Table B-2, column 1, presents these earnings.

In order to get total U.S. earnings on exports it is necessary to obtain earnings on other exports and to obtain the amount earned in U.S. ships. While these seven commodities represent a high percentage of the value of U.S. exports, it is their volume which is significant as far as earnings are concerned. However, because our exports were mostly bulky raw materials during this period, it also represents a substantial share of the volume of exports as well. Using stowage factors to convert

⁴⁸ The amount of research which has gone into this section has resulted in rather voluminous findings. The difficulty here is in summarizing the results in relatively brief form. Accordingly, I have, for the most part, simply described the process by which the estimates were calculated and omitted many of the tables and detailed calculations. They are available, and much of the research will be published in the studies mentioned above.

⁴⁹ Actually I took three ports of origin (New York, Charleston, and New Orleans) and two ports of destination (Liverpool and Le Havre) and assumed their rates applied to the other ports for that area. The six resulting routes were weighted by the volume shipped on each route.

⁵⁰ The missing freights were tobacco, 1820; naval stores, 1820 and 1821; flour, 1820-24; wheat, 1820-25 and 1835-39; and ashes, 1820-21. The freight rate index on U.S. exports was calculated from 1815-1913 and is weighted by the volume on each commodity route. The coverage in this early period is not so complete as later.

U.S. BALANCE OF PAYMENTS, 1790-1860

TABLE B-2
Shipping Earnings, 1820-1860
(dollars in millions)

Fiscal Year	FREIGHT EARNINGS OF UNITED STATES SHIPS				FREIGHT EARNINGS OF FOREIGN SHIPS				NET UNITED STATES SHIPPING EARNINGS (13)				
	On Se-lected Exports (1)	(1) as % of Exports (2)	(2) + 5% Primage (3)	Index of (2) (1830 = 100) (4)	On Total Exports (5)	On Foreign Carry-ing Trade (6)	Total Earn-ings (7)	Import Indexes Freight Rate (1830 = 100) (8)		Import Price (9)	As % of Total Imports (10)	Total Earn-ings (11)	Port Charges (12)
1820	\$ 6,554	17.0%	17.8%	136	\$11.1	\$2.8	\$13.9	121	147	8.8%	\$ 0.6	\$0.2	\$10.7
1821	4,752	14.5	15.2	116	8.4	2.1	10.5	121	136	9.5	0.5	0.1	8.0
1822	4,827	12.5	13.1	100	8.0	2.0	10.0	119	135	9.4	0.6	0.2	7.6
1823	5,619	15.7	16.5	126	10.7	2.7	13.4	123	122	10.8	0.6	0.2	10.3
1824	4,590	15.3	16.1	122	10.8	2.7	13.5	123	116	11.3	0.6	0.2	10.4
1825	5,100	9.9	10.4	79	9.3	2.3	11.6	123	118	11.1	0.4	0.1	9.0
1826	5,142	13.7	14.4	110	10.1	2.5	12.6	112	113	10.6	0.4	0.1	9.8
1827	6,577	15.0	15.8	120	11.4	2.8	14.2	102	111	9.8	0.5	0.1	11.0
1828	4,524	12.6	13.2	101	8.1	2.0	10.1	100	109	9.8	0.7	0.2	7.6
1829	4,934	12.0	12.6	96	7.8	2.0	9.8	100	106	10.1	0.5	0.1	7.4
1830	5,554	12.5	13.1	100	8.4	2.1	10.5	100	100	10.7	0.4	0.1	8.1
1831	7,215	16.4	17.2	131	11.4	2.8	14.2	98	96	10.9	1.0	0.2	10.6
1832	6,134	13.3	14.0	106	9.2	2.3	11.5	96	96	10.7	1.2	0.3	8.3
1833	5,261	10.2	10.7	82	7.3	1.8	9.1	94	96	10.5	1.0	0.2	6.5
1834	5,880	9.2	9.7	74	7.6	1.9	9.5	92	92	10.0	1.3	0.3	6.6
1835	5,682	7.0	7.4	56	7.0	1.8	8.8	89	97	9.8	1.5	0.4	5.9
1836	7,161	8.0	8.4	64	8.1	2.0	10.1	87	103	9.0	1.6	0.4	6.9
1837	8,086	10.7	11.2	86	10.2	2.6	12.8	85	96	9.5	1.8	0.4	8.8
1838	11,896	15.8	16.6	126	14.8	3.7	18.5	83	97	9.2	1.0	0.2	14.0
1839	7,482	9.1	9.6	73	9.2	2.3	11.5	81	95	9.1	1.6	0.4	8.0

continued on next page

BALANCE OF PAYMENTS

TABLE B-2 concluded

Fiscal Year	FREIGHT EARNINGS OF UNITED STATES SHIPS					FREIGHT EARNINGS OF FOREIGN SHIPS					NET UNITED STATES SHIPPING EARNINGS (13)	
	On Selected Exports (1)	(1) as % of Exports (2)	(2) + 5% Primage (3)	Index of (2) (1830 = 100) (4)	On Total Exports (5)	On Foreign Carrying Trade (6)	Total Earnings (7)	Import Indexes Freight Rate (1830 = 100) (8)	As % of Total Imports (10)	Total Earnings (11)		Port Charges (12)
1840	16.735	18.9	19.8	151	21.0	5.2	26.2	79	9.7	1.4	0.4	20.0
1841	7.891	10.0	10.5	80	10.0	2.5	12.5	77	9.2	1.4	0.4	9.0
1842	8.312	12.1	12.7	97	10.2	2.6	12.8	75	82	1.1	0.3	9.4
1843	10.597	17.5	18.4	140	12.0	3.0	15.0	73	79	1.5	0.4	10.9
1844	9.613	13.0	13.6	104	10.7	2.7	13.4	70	78	1.3	0.3	9.7
1845	11.339	16.4	17.2	131	15.0	3.8	18.8	68	79	1.4	0.4	14.0
1846	9.684	14.0	14.7	112	12.8	3.8	16.6	66	78	1.5	0.4	12.2
1847	13.833	14.1	14.8	113	14.8	3.7	18.5	64	79	2.9	0.7	12.6
1848	9.814	11.0	11.6	88	12.8	3.2	16.0	62	73	2.4	0.6	11.0
1849	10.493	11.8	12.4	94	12.5	3.1	15.6	62	71	2.5	0.6	10.6
1850	6.240	6.6	6.9	53	6.9	1.7	8.6	62	79	3.2	0.8	4.5
1851	9.009	15.2	16.0	122	21.1	5.3	26.4	60	73	4.7	1.2	15.6
1852	12.660	10.9	11.4	87	12.7	3.2	15.9	68	71	5.5	1.4	8.6
1853	16.226	11.3	11.9	90	16.4	4.1	20.5	84	77	8.9	2.2	9.7
1854	17.993	12.1	12.7	97	20.6	5.2	25.8	92	83	10.2	2.6	13.0
1855	11.449	10.0	10.5	80	17.0	4.2	21.2	55	89	3.9	1.0	14.1
1856	18.063	10.1	10.6	81	21.1	5.3	26.4	54	94	4.0	1.0	18.1
1857	12.265	6.0	6.3	48	12.9	3.2	16.1	61	94	7.1	1.8	7.6
1858	14.560	8.1	8.5	65	17.3	4.3	21.6	43	87	4.1	1.0	14.2
1859	17.001	8.3	8.7	66	17.8	4.4	22.2	62	83	9.8	2.4	10.4
1860	24.417	10.5	11.0	84	26.0	6.5	32.5	62	87	10.2	2.6	18.4

For column notes see bottom of next page.

them into volume of shipping space occupied, they accounted for 46 per cent of tonnage cleared from 1821-30, 37 per cent from 1831-40, 36 per cent from 1841-50, and 27 per cent from 1851-60, after allowance for the amount carried in foreign bottoms. When allowance is made for ballast and other uses of shipping space it represents a high percentage. To get aggregate earnings, the percentage of total value on these exports which was freight was calculated and this percentage was applied to all exports in U.S. ships. Since 5 per cent primage was a standard addition, it was added to the percentage. Table B-2, cols. 2 and 3, presents these percentages.

This generalization of freight divided by value on the seven commodities to apply to the total value of exports is subject to the possible criticism that the commodity routes not covered might significantly alter the percentage. Specifically higher percentages than these figures would come from longer hauls (like the China trade) and bulky low value commodities (like the timber trade). Lower percentages would come from shorter hauls (like the West Indies trade) and high value goods (such as manufactures).

However, the extent of the coverage and the counteracting influence of the goods and routes excluded suggests that they would exert little change. As a check, aggregate earnings were calculated for 1830, a year when rates on many commodity routes were available, on a far larger number of commodities than the seven used here. When compared to the value of the exports covered, the result came out within one-half of one percentage point of the figure arrived at from generalizing the percentage on the seven commodities. One modification must be made for the 1850's. The value of goods shipped in U.S. vessels included specie. It becomes such a significant item from 1851-60 that I deducted specie exports in U.S. ships from the total value of exports in U.S. ships for this period. While this somewhat understates earnings, since specie exports did earn some freight, it is nevertheless far more accurate than leaving them in.

The earnings of U.S. ships between foreign ports, while considerably diminished from the years when the continental system and the British and French blockades gave the U.S. merchant marine a large share of the ocean-carrying trade, nevertheless were a significant increment to

Cols. 1-4: Explained in the text. *Col. 5:* Includes specie up to and including 1850, and thereafter the per cent of export in U.S. ships was applied to total specie and included in the value series upon which col. 5 was calculated. *Col. 6:* Calculated as 25 per cent of col. 5. *Col. 7:* Col. 5 - 6. col. *Cols. 8-10:* Explained in the text. *Col. 11:* Col. 10 times the value of imports in foreign ships, *Historical Statistics*, Series K-161. *Col. 12:* Calculated as 25 per cent of col. 11. *Col. 13:* Foreign port changes of U.S. ships were taken as 20 per cent of total earnings (col. 7), which comes to the same amounts as the calculation for U.S. ship earnings on the carrying trade (col. 6). Therefore net U.S. shipping earnings equal the sum of cols. 7 and 12 less the sum of cols. 6 and 11.

earnings in our export trade. It is impossible to say precisely how much it was but Worthy Sterns estimates it at 20 per cent of earnings.⁵¹ This estimate is a reasonable one, although it certainly varied from year to year. I therefore estimated aggregate earnings in U.S. ships as five-fourths of earnings on exports in U.S. ships. Table B-2, cols. 5, 6, and 7, presents annual earnings on exports in U.S. ships and total earnings of U.S. ships.

Imports in foreign ships are a debit item. Although very small in the early years, they grow appreciably larger in the last decade foreshadowing the radical shift in position which took place in the carrying trade in succeeding decade. Freights on imports were less as a percentage of value than on exports because a large share of them were high value goods with relatively little bulk. Ships were seldom filled with cargo coming to the United States, and it was primarily the immigrant trade which made voyages to the U.S. profitable on the westward part of the trip.

Freight rate data are not nearly as complete for imports, and it is not possible to aggregate earnings in the same fashion. Instead, an import freight rate index and an import price index have been used to calculate the changing percentage that freight was of the value of imports.

The freight rate index (Table B-2, col. 8) was made up from a combination of sources. From 1820-30 it is based upon the movement of freight rates from Antwerp to New York.⁵² From 1830-49 there are only scattered rates available, and I simply interpolated the rates between the years for which I have data using as a guide the movement of rates on other routes. It is during the last eleven years that earnings in foreign ships become important and there are fairly good rates available for this period. They are from England to the United States and cover a fairly wide variety of cargoes. In addition the Antwerp to New York rates also cover this period.⁵³

The import price index used (col. 9) is an unweighted combination of price indexes on imported commodities to Philadelphia, Charleston, and New Orleans, 1820-60.⁵⁴ Neither the price index nor the freight rate

⁵¹ Worthy P. Sterns, "The Foreign Trade of the United States from 1820 to 1840," *Journal of the Political Economy*, December 1899, p. 53. Sterns arrives at this figure by calculating that only three-quarters of our tonnage was needed in our export-import trade and therefore, with an allowance for underestimation, calculates 20 per cent is free for trade between foreign countries.

⁵² Paul Scholler, "L'évolution séculaire des taux de fret et d'assurance maritimes," 1819-1940; Louvain, l'Institut de Recherches Economiques et Sociales, Bulletin, Vol. 17, August 1951.

⁵³ In making up the index, 1849-60, rates on fine goods and dry goods were weighted 60 per cent, iron and rails 30 per cent, and the Antwerp rates 10 per cent.

⁵⁴ Arthur Cole, *Wholesale Commodity Prices in the United States, 1800-1860*, Harvard University Press, 1938, pp. 148, 165, 167, 175, and 178. The Philadelphia series is an unweighted index. The Charleston and New Orleans indexes are weighted, and the weighting used emphasizes the bulk commodities (coffee, sugar, and iron) and therefore

index is ideal, but since the magnitudes are small the error is not serious. Moreover the base calculation for 1859 is on a fairly broad coverage of rates, and during this last decade when the magnitudes are of some importance the debit earnings are probably rather accurate.

The base in 1859 was calculated from the freight earned on imports of sugar, molasses, coffee, iron and steel, rails, coal, cotton cloth, linen, and woollens. It covered 47 per cent of the value of imports and the percentage of value on this total which was freight was 8 per cent. (Another estimate was made for 1849 on the basis of commodities which were 39 per cent of total imports and the resulting percentage was very close to that arrived at from the freight rate and import price index using the 1859 base.) Table B-2, cols. 8-11, presents the freight rate index, import price index, the freight as a percentage of value using the 1859 figure of 8 per cent as a base, and the earnings of foreign ships in our import trade.

There remain only port costs to estimate. In accordance with the reasoning explained in the earlier section of this study, they are estimated at 20 per cent of earnings. Since ships earned comparatively less on the import trade it follows that port charges would be a somewhat higher percentage of earnings than on the export trade. Accordingly I estimated the port charges of foreign ships in U.S. ports at 25 per cent of their earnings (col. 12) and the final net credit item on U.S. shipping earnings (col. 13).

IMMIGRANTS' FUNDS, REMITTANCES, AND TOURIST EXPENDITURES

Immigrants' Funds

The funds brought in by immigrants became an increasingly important part of the balance of payments in the nineteenth century. While the sums brought in during the first years of the century are not of great consequence, the number of immigrants increased until it assumed gigantic proportions in the last two decades before the Civil War. Three countries (Great Britain, Ireland, and Germany) contributed the overwhelming preponderance of immigrant population during the period of this study. The average economic well-being of the immigrants differed substantially by nationality and appears to have varied somewhat over time.

Contemporary estimates varied widely. As early as 1830 Cobbett calculated that £3 million was going from England to America, which when calculated in per capita terms (there were approximately 23,000 alien arrivals that year including all nationalities) would have been a

more nearly approximates an ideal index which would be weighted by volume rather than by value. The indexes were converted to a common base of 1830.

tremendous figure.⁵⁵ Wakefield cites a figure as low as £5 per capita in 1832.⁵⁶ More precise knowledge of the sums carried by German emigrants is to be found in German statistics and are between \$90 and \$100 per capita for the most part.⁵⁷ All the contemporary material supports the view that Germans were relatively prosperous immigrants in the later period. On the other hand, Irish immigrants were almost penniless. It was this contrast in well-being which could lead Commissioner Kapp to estimate a figure as high as \$100 per capita, and the New York assembly committee investigating tenement houses to conclude that most immigrants were penniless or at best had \$30-\$40.⁵⁸ In 1856 the Commissioners of Emigration in New York examined every entering immigrant and the average amount per capita was \$68.08. However, Commissioner Kapp concluded that widespread concealment of the actual amount of funds made this figure far too small, and Commissioner Kennedy in his 1858 report concluded that the figure might be twice that amount. However, the German statistics do not support such a conclusion, since the average amount of even the most prosperous immigrant nationality probably did not exceed \$100 per capita.

Clearly an estimate of per capita immigrant funds must take into account the difference in funds of the Irish and the Germans, since the volume of immigrants from these two countries varied substantially from year to year. Accordingly, I estimated German immigrants at \$100 per capita, Irish immigrants at \$25 per capita, and others (including English) at \$75 per capita, 1840-60.⁵⁹ Before 1840 I used a figure of \$75 per capita for all nationalities, for there is a good deal of descriptive contemporary evidence that indicates that earlier Irish immigration was not as poor or the German as rich then as later.⁶⁰ The relatively high average figure of \$75 is used because it is clear that many of these immigrants were settlers with some capital.⁶¹

The breakdown of occupations of immigrants also supports this position. In contrast to the 1845-60 period when laborers were between

⁵⁵ Cited in *Historical Aspects of the Immigration Problem, Selected Documents*, Edith Abbott, ed., University of Chicago Press, 1926, p. 74.

⁵⁶ Cited in *ibid.*, p. 257.

⁵⁷ Frederick Kapp, *Immigration and the Commissioners of Emigration of the State of New York*, The Nation's Press, 1870, cited German statistics of cash carried by emigrants, per capita, as follows: 1840-49, from Baden—\$98; 1845-57, from Bavaria—\$94; 1853, from Brunswick—\$96; and 1855-58, from Württemberg—\$76-\$318.

⁵⁸ Other estimates include a figure of \$80 by David Wells and \$68 by Edward Young, *Historical Aspects of the Immigration Problem*, p. 381.

⁵⁹ Stanley Johnson (*A History of Emigration from the United Kingdom to North America*, London, Routledge, 1913, p. 309) concludes that the \$68 figure is too low for English emigration.

⁶⁰ M. L. Hansen, *The Atlantic Migration, 1607-1860*, Harvard University Press, 1940, p. 121.

⁶¹ The figure of \$75 is also that given in the contemporary *Financial Register of the United States*, Vol. 1, p. 59.

27 to 47 per cent of the stated occupations, they were seldom above 15 per cent before 1835, and merchants, professional people, and skilled labor made up a larger share.⁶²

Bullock, Williams, and Tucker use a figure of \$50, which is certainly too low in the light of the evidence of the New York Commissioners of Emigration and of the voluminous descriptive accounts of immigration. Moreover they made a curious error which has been copied on the numerous occasions where their figures have been cited.⁶³ They calculated approximately 550,000 immigrants, 1821-37, which they multiplied by \$20 rather than \$50, giving them a credit on immigrants of \$11 million when even in their own terms it should have been two and a half times that figure.

Immigrants' funds are what immigrants had in their possession when they arrived in this country. However, an additional credit not included in shipping earnings is the passage fare of immigrants on U.S. ships, and between half and two-thirds came this way. I assumed that 60 per cent of the immigrants paid their fares to U.S. shipping companies.⁶⁴ Between 1790 and 1860 steerage rates, which were paid by most of the entering immigrants, declined substantially. Passage is quoted as costing £7 from London to New York on U.S. packets in 1826. This rate is substantially above the Irish rate for the same years of £4 10s.⁶⁵ By the 1850's, passage rates had declined and the "shipping and commercial list" quoted rates varied from a low of £2 5s. in 1851 to over £5 in the spring of 1853 for steerage passage from Liverpool to New York.⁶⁶ The rates from the Continent were somewhat higher and available quotations from Bremen in the 1850's were between £3 15s. and £8.

To weigh properly the small proportion of immigrants who traveled first class as well as to take into account the increasing proportion who came from the Continent (and therefore counteracted the decline in fares) I assumed a uniform figure throughout of \$25. Since I assumed that 60 per cent came in U.S. ships, the result is a figure of \$15 per capita added to what immigrants brought with them, or \$90, 1815-40, and a varying sum according to nationality, 1840-60. The figures are presented in Table B-3, cols. 1-4.

⁶² These figures must be used with caution since they include returning U.S. tourists in the percentages and these would naturally come from the well-to-do. However, even discounting for this, the changing composition of occupations remains significant in this respect.

⁶³ See, for example, *Historical Statistics*, p. 237, and Taylor, p. 202.

⁶⁴ In 1849, for example, 134,657 immigrants entering New York out of a total of 224,393 came in U.S. ships (*Annual Reports of the Commissioners of Emigration of the State of New York*, 1861, p. 289).

⁶⁵ *Historical Aspects of the Immigration Problem*, pp. 64 and 72.

⁶⁶ Actually steerage rates moved similarly to ocean freight rates and were basically influenced by the ocean freight market.

BALANCE OF PAYMENTS

TABLE B-3
Immigrant Funds and Remittances and Tourist Expenditures, 1820-1860
(thousands of dollars)

Fiscal Year	IMMIGRANT FUNDS				IMMIGRANT REMITTANCES			TOURIST EXPENDITURES			
	Ireland (1)	Germany (2)	All Other (3)		England and Ireland (5)	All Other (6)	Total (7)	U.S. Abroad (8)	Foreign in U.S. (9)	Net Balance (10)	
			Ireland	Germany							Total
1820				704			-150	-1,488	167	-1,321	
1821				805			-150	-1,945	183	-1,762	
1822				610			-150	-1,265	138	-1,127	
1823				560		-33	-202	-1,476	127	-1,349	
1824				698		-24	-157	-1,324	158	-1,166	
1825				900		-19	-117	-2,054	204	-1,850	
1826				956		-20	-104	-2,372	217	-2,155	
1827				1,665		-27	-128	-2,242	378	-1,864	
1828				2,415		-31	-227	-2,164	548	-1,616	
1829				1,986		-40	-257	-1,540	450	-1,090	
1830				2,057		-55	-447	-1,170	466	-704	
1831				1,996		-138	-639	-963	452	-511	
1832				5,335		-39	-336	-905	1,209	304	
1833				5,172		-67	-176	-993	1,173	180	
1834				5,765		-96	-328	-1,995	1,308	-687	
1835				4,002		-329	-659	-2,582	907	-1,675	
1836				6,725		-311	-692	-3,654	1,525	-2,129	
1837				6,998		-451	-1,152	-4,330	1,587	-2,743	
1838				3,432		-242	-1,094	-4,824	778	-4,046	
1839				6,004		-536	-1,781	-5,096	1,361	-3,735	

continued on next page

U.S. BALANCE OF PAYMENTS, 1790-1860

TABLE B-3 concluded

Fiscal Year	IMMIGRANT FUNDS				IMMIGRANT REMITTANCES			TOURIST EXPENDITURES		
	Ireland (1)	Germany (2)	All Other (3)		England and Ireland (5)	All Other (6)	Total (7)	U.S. Abroad (8)	Foreign in U.S. (9)	Net Balance (10)
			Total (4)	Total (7)						
1840	1,577	3,416	1,193	6,186	-1,160	-606	-1,766	-6,289	840	-5,449
1841	1,511	1,758	2,306	5,215	-515	-320	-835	-5,806	803	-5,003
1842	2,054	2,343	2,769	7,166	-974	-599	-1,573	-4,955	1,045	-3,910
1843	787	1,661	1,560	4,008	-1,198	-762	-1,960	-3,116	525	-2,591
1844	1,340	2,384	2,054	5,778	-1,537	-445	-1,982	-4,750	786	-3,964
1845	1,793	3,951	2,962	8,706	-2,090	-532	-2,622	-4,268	1,144	-3,124
1846	2,070	6,620	3,781	12,471	-801	-418	-1,219	-3,270	1,544	-1,726
1847	4,221	8,542	4,631	17,394	-1,363	-538	-1,901	-3,487	2,350	-1,137
1848	4,517	6,723	4,554	15,794	-2,240	-906	-3,146	-2,284	2,266	-18
1849	6,376	6,927	6,431	19,734	-2,630	-1,448	-4,078	-2,054	2,970	916
1850	6,560	9,073	10,771	26,404	-4,661	-2,006	-6,667	-8,439	3,700	-4,739
1851	8,850	8,335	7,033	24,218	-4,821	-1,399	-6,220	-22,682	3,794	-18,888
1852	6,382	16,781	5,283	28,446	-6,837	-1,439	-8,276	-19,884	3,716	-16,168
1853	6,506	16,324	5,101	27,931	-7,008	-1,865	-8,873	-24,980	3,686	-21,294
1854	4,064	24,726	9,239	38,029	-8,425	-1,935	-10,360	-25,215	4,278	-20,937
1855	1,985	8,271	6,778	17,034	-4,252	-3,244	-7,496	-22,865	2,009	-20,856
1856	2,174	8,168	6,395	16,737	-4,631	-3,227	-7,858	-18,586	2,090	-16,496
1857	2,174	10,555	9,012	21,741	-2,883	-4,906	-7,789	-15,972	1,968	-14,004
1858	1,075	5,211	4,363	10,649	-2,304	-1,811	-4,115	-16,825	1,686	-15,139
1859	1,409	4,805	3,767	9,981	-2,532	-1,741	-4,273	-26,440	1,230	-25,210
1860	1,945	6,266	4,270	12,481	-2,601	-2,068	-4,669	-20,124	1,590	-18,534

For column notes see bottom of next page.

Immigrant Remittances

Immigrants' remittances became a fairly important debit item only in 1851-60, although their importance was to increase substantially in the later years of the nineteenth century. Remittances were mainly for support of relations and friends abroad or to provide passage money to bring them to this country. For the period of this study there are some partial figures for remittances to the United Kingdom collected from banks and mercantile houses there and published in the British *Parliamentary Papers*.⁶⁷ While they cover both the United States and British North America, the amount from Canada would do little more than make up for unrecorded remittances from the United States.

As shown in Chart B-1, the interesting aspect of these remittances is that the annual value of remittances moved in almost every detail with the number of immigrants *three years earlier*. The most obvious hypothesis to explain this relationship is that it took immigrants three years to save sufficient money to pay the passage of friends and relatives and that remittances during the period of this study went mostly for passage money and not for continuous support of people remaining in the old country. When remittances are divided into the immigration of three years before, the per capita figure shows quite a bit of variation with the low point reached with the depression of 1857. Remittances before 1847 were not very significant because the first great surge in immigration began in the mid-forties. However, I applied the average per capita figure for the period covered (£5.85) to the immigration for the third year before the year for which I calculated remittances to the United Kingdom. Allowance must also be made for remittances to other

⁶⁷ *Parliamentary Papers of Great Britain*, London, 1880, Vol. LXXVI, pp. 8 and 16.

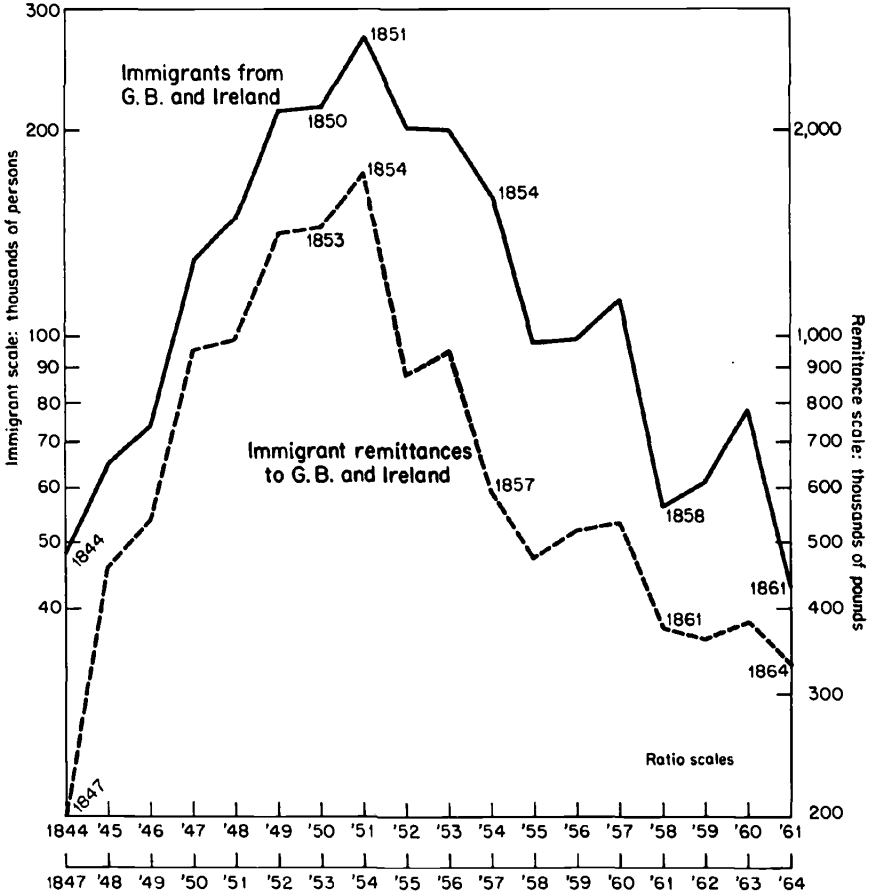
Cols. 1-4: The immigration figures employed in the development of these figures are from *Historical Statistics*, Series B-304, B-307, and B-310. For 1820-39, 2 per cent was subtracted to allow for tourists. For 1840-60, 1 per cent of total immigration was removed from the remainder of immigration when Irish and German immigration was removed. Per capita immigrants' funds were estimated as follows: 1816-39—\$90; 1840-60—German, \$115; Irish, \$40; all other, \$90. The estimates include ship fare paid to U.S. shipping.

Cols. 5-7: The immigration figures employed in the development of these figures are from *Historical Statistics*, Series B-305-B-307. *Col. 5:* Remittances from the United States to Great Britain and Ireland, 1848-87 are given in *Parliamentary Papers of Great Britain*, 1888, Vol. 107, p. 18, from which the figures for 1848-60 were derived. The figures for 1823-47, inclusive, were derived by averaging per capita remittances where the immigration of the third year before was divided into each annual remittance total for 1844-61 for immigration and 1847-64 for remittances. (For the purpose of this calculation remittances in 1847 were taken as \$974,000.) The average per capita remittance, \$28.08 for 1820-34 and \$28.49 for 1835-48, was applied to immigration from England and Ireland, 1820-45, and the result recorded for each year three years after the immigration year. *Col. 6*—Calculated with a \$20.00 per capita remittance, and the series advanced three years. *Col. 7*—Assumed to be \$150,000 for 1820, 1821, and 1822.

Cols. 8-10: Explained in the text.

CHART B-1

Immigrants from Great Britain and Ireland Graphed with a Three-year Lag Against Remittances from America to Great Britain and Ireland, 1844-1861 for Immigrants and 1847-1864 for Remittances



Source: Immigration, *Historical Statistics*, Series B 306-307; total remittances, *Parliamentary Papers*, Sess: 1888, Vol. 107, p. 18.

countries and particularly Germany. There is no way of knowing whether the same relationship existed or not, since I know of no series on remittances to Germany during this period. German immigrants were better off, and it is doubtful if the need for passage money was as desperate as it was with the Irish. However, many German families were poor, and a lag between arrival and remittances certainly existed. For lack of other information, I assumed the same lag, but estimated a smaller per capita figure because the need was less pressing, allowing \$20 per capita lagged three years. Table B-3, cols. 5-7, presents the estimates for remittances to the United Kingdom, to other countries, and the total.⁶⁸

Tourist Expenditures

Tourist expenditures become a significant debit item during this period particularly in the last two decades. While there are no figures on tourists *per se* there are figures on U.S. citizens returning to this country, although they undoubtedly are somewhat low since they do not include U.S. citizens who remained abroad. Even more tenuous is the amount that tourists spent per capita. Since they usually traveled in U.S. ships, our figure need cover only what they spent abroad. Bullock, Williams, and Tucker (p. 220) quoted Kettell in *Eighty Years Progress* to the effect that the average expenditure abroad was \$1,200. David Wells (p. xxxi) estimated it at \$1,000. However, Simon's careful investigation suggests that such per capita estimates are exaggerated. I have been guided by his research and have reduced the figure to \$750 per capita.⁶⁹ I have taken the returning passengers to the United States and allowed a 3 per cent addition for those remaining abroad.

Before 1856 transient aliens were not separated from immigrants in our statistics of arrivals. A comparison made from 1856-66 indicates that U.S. immigrants composed 98.5 per cent of the total, and the official figure for the period is that foreign nonimmigrant aliens made up 2 per cent of total alien arrivals.⁷⁰ However, Simon's investigation indicates that an actual breakdown of these nonimmigrant aliens shows that many of them were migratory laborers or immigrants in transit elsewhere, and that only one-fourth were actual tourists. I assumed that these nontourists would be fewer in my period or half the total non-immigrant aliens, 1840-60. This is 1 per cent of immigrants. Before

⁶⁸ Simon arrives at approximately the same per capita remittance figures for the early period of his study using different evidence from that advanced here, which tends to lend support to these per capita figures.

⁶⁹ This figure is somewhat higher than Simon's for the 1860's. In the 1840's and 1850's the shift from sail to steam was still going on, and I think European travel lasted longer and was more of a luxury than during his period.

⁷⁰ *International Migrations*, Vol. II, *Interpretations*, Walter F. Willcox, ed., National Bureau of Economic Research, 1931, Appendix II, "Critique of Official United States Immigration Statistics," by Marian Davis, p. 648.

1840 I think the 2 per cent tourist figure is probably justified since proportionately tourists would be a greater percentage of alien arrivals then. At that time foreigners usually came on U.S. ships, and hotel expenses and other tourist costs were higher here than abroad, and so I allowed the higher per capita figure of \$1,000 to cover their dollar expenditures. The figures are presented in Table B-3, cols. 8-10.

INTEREST

While the declared rate of interest on U.S. indebtedness is, for the most part, ascertainable, the actual rate paid may have been significantly different. There is no way that I know of solving this problem precisely. My method was to use the declared rate primarily as a guide, modifying it to reflect descriptive accounts of the period.

With exceptions to be noted below, I used a general rate of $5\frac{1}{2}$ per cent of aggregate indebtedness, 1820-48. This rate is based upon the interest on public debt (federal, state, and city) as revealed in the 1843 investigation of public debt.⁷¹ The declared annual interest on \$279 million of public debt was \$14.8 million or approximately 5.3 per cent. This is somewhat higher than the rate upon state debts, which comprised the bulk of foreign public securities, since much more of that was at 5 per cent than at 6 per cent. However, I have raised the over-all rate to 5.5 per cent to take account of the higher rate paid upon private securities. For 1837, 1838, and 1840, I allowed only 4 per cent to take account of the depressions. For 1841-44, I allowed an interest rate of 3 per cent to take into account default on almost half of the debt. For 1845-47, with Pennsylvania and then Maryland renewing interest payments I allowed a rate of 4 per cent, or interest on approximately two-thirds of the debt. With the changing composition of indebtedness from 1848 on, I increased the rate to 6 per cent, 1848-51, and 6.5 per cent after 1851. The coupon rate on railroad bonds was typically 7 per cent, and such bonds were an increasing percentage of aggregate indebtedness in the 1850's. For the panic years 1857-58 I reduced the rate to 4 per cent again. The interest rate used and the annual interest charge paid to foreigners is presented in Table B-4.

OTHER ITEMS

Ship Sales

The sale of ships is a small but persistent credit item. Following Bullock, Williams, and Tucker (p. 218) I estimated the price at \$50 per ton. Actually this probably understates earnings from 1837-57 because of higher prices of building materials and brisk foreign demand.⁷² But

⁷¹ *Report on State Debts*, 27th Cong., 3d sess., H.R. 296, 1843.

⁷² *Historical Statistics*, Series L-10 (Snyder-Tucker index of building materials), p. 232.

BALANCE OF PAYMENTS

TABLE B-4

Interest Rates and Payments on Balances of Foreign Indebtedness, 1820-1860
(dollars in thousands)

<i>Fiscal Year</i>	<i>Interest Rate</i>	<i>Interest Payment</i>	<i>Fiscal Year</i>	<i>Interest Rate</i>	<i>Interest Payment</i>
	(1)	(2)		(1)	(2)
1820	5.5%	\$4,807	1840	4.0%	\$11,888
1821	5.5	4,770	1841	3.0	7,993
1822	5.5	4,495	1842	3.0	7,860
1823	5.5	4,955	1843	3.0	7,313
1824	5.5	4,845	1844	3.0	6,648
1825	5.5	4,792	1845	4.0	8,674
1826	5.5	4,416	1846	4.0	8,490
1827	5.5	4,559	1847	4.0	11,621
1828	5.5	4,011	1848	6.0	11,759
1829	5.5	4,637	1849	6.0	11,594
1830	5.5	4,557	1850	6.0	13,326
1831	5.5	4,121	1851	6.0	14,978
1832	5.5	4,894	1852	6.5	19,589
1833	5.5	5,268	1853	6.5	21,870
1834	5.5	6,007	1854	6.5	22,677
1835	5.5	7,042	1855	6.5	22,320
1836	5.5	8,693	1856	6.5	23,156
1837	4.0	8,812	1857	4.0	14,677
1838	4.0	9,715	1858	4.0	15,332
1839	5.5	13,648	1859	6.5	23,416
			1860	6.5	25,122

Col. 1: Explained in the text. *Col. 2:* Calculated from the cumulative balance in Table B-5.

the difference in earnings resulting from estimating at \$55 or even \$60 for a few years is too small to be significant.

Debt Default

The default of U.S. capital indebtedness in the 1840's was a significant item which cannot be estimated accurately. The losses to foreigners include not only repudiation by Mississippi, Florida, and Michigan (partial), but also the collapse of the United States Bank. In 1841, 197,551 shares in the bank were held in Europe.⁷³ In addition there were foreign holdings of securities in railroads, banks, and private canal companies which went bankrupt. *The London Times* (April 7, 1854) estimated that foreign investors lost \$40 million, but the well-known bias of that journal against U.S. securities makes the estimate

⁷³ Leland Jenks, *The Migration of British Capital to 1875*, Knopf, 1927, p. 95, quoting Hazard III, 282.

TABLE B-5
Balance of Payments of the United States, 1820-1860
(millions of dollars)

<i>Fiscal Year</i>	<i>Trade and Specie Balance</i> (1)	<i>Freight Earnings</i> (2)	<i>Ship Sales</i> (3)	<i>Immigrant Funds</i> (4)	<i>Immigrant Remittances</i> (5)	<i>Tourist Balance</i> (6)	<i>Interest on Balance</i> (7)	<i>Net Balance</i> (8)	<i>Cumulative Balance</i> (9)
1820	-4.8	10.7	0.3	0.7	-0.2	-1.3	-4.8	0.7	86.7
1821	2.5	8.0	0.4	0.8	-0.2	-1.8	-4.8	5.0	81.7
1822	-11.1	7.6	0.3	0.6	-0.2	-1.1	-4.5	-8.3	90.1
1823	-2.9	10.3	0.5	0.6	-0.2	-1.3	-5.0	2.0	88.1
1824	-4.6	10.4	0.6	0.7	-0.2	-1.2	-4.8	1.0	87.1
1825	3.2	9.0	0.5	0.9	-0.1	-1.9	-4.8	6.8	80.3
1826	-7.4	9.8	0.7	1.0	-0.1	-2.2	-4.5	-2.6	82.9
1827	2.8	11.0	1.0	1.7	-0.1	-1.9	-4.6	10.0	72.9
1828	-16.3	7.6	0.7	2.4	-0.2	-1.6	-4.0	-11.4	84.3
1829	-2.1	7.4	0.2	2.0	-0.3	-1.1	-4.6	1.5	82.8
1830	3.0	8.1	0.5	2.1	-0.4	-0.7	-4.6	7.9	74.9
1831	-21.9	10.6	0.5	2.0	-0.6	-0.5	-4.1	-14.1	89.0
1832	-15.8	8.3	0.3	5.3	-0.3	0.3	-4.9	-6.8	95.7
1833	-20.0	6.5	0.1	5.2	-0.2	0.2	-5.3	-13.5	109.2
1834	-24.4	6.6	0.2	5.8	-0.3	-0.7	-6.0	-18.8	128.0
1835	-30.9	5.9	0.4	4.0	-0.7	-1.7	-7.0	-30.0	158.1
1836	-64.8	6.9	0.5	6.7	-0.7	-2.1	-8.7	-62.2	220.3
1837	-26.2	8.8	0.5	7.0	-1.2	-2.7	-8.8	-22.6	242.9
1838	-8.1	14.0	0.3	3.4	-1.1	-4.0	-9.7	-5.3	248.1
1839	-44.2	8.0	0.3	6.0	-1.8	-3.7	-13.6	-49.1	297.2
1840	23.0	20.0	0.7	6.2	-1.8	-5.4	-11.9	30.8	266.4
1841	-8.6	9.0	0.6	5.2	-0.8	5.0	-8.0	-7.6	262.0
1842	2.6	9.4	0.4	7.2	-1.6	-3.9	-7.9	6.2	243.8
1843	18.7	10.9	0.4	4.0	-2.0	-2.6	-7.3	22.2	221.6
1844	1.5	9.7	0.4	5.8	-2.0	-4.0	-6.6	4.7	216.8
1845	-4.9	14.0	0.4	8.7	-2.6	-3.1	-8.7	3.8	213.0
1846	-12.9	12.2	0.5	12.5	-1.2	-1.7	-8.5	0.8	212.2
1847	7.2	12.6	0.9	17.4	-1.9	-1.1	-8.5	26.6	193.7
1848	-6.9	11.0	0.6	15.8	-3.1		-11.6	5.7	196.0
1849	-7.8	10.6	0.6	19.7	-4.1	0.9	-11.8	8.3	193.2
1850	-33.2	4.5	0.7	26.4	-6.7	-4.7	-11.6	-24.6	222.1
1851	-6.3	15.6	0.8	24.2	-6.2	-18.9	-13.3	-4.1	229.6
1852	-11.6	8.6	0.9	28.4	-8.3	-16.2	-14.9	-13.0	245.8
1853	-47.6	9.7	0.5	27.9	-8.9	-21.3	-16.0	-55.6	301.3
1854	-38.2	13.0	3.0	38.0	-10.4	-20.9	-19.6	-35.1	343.3
1855	3.4	14.1	3.3	17.0	-7.5	-20.9	-22.3	-12.8	356.3
1856	0.1	18.1	2.1	16.7	-7.9	-16.5	-23.2	-10.7	366.9
1857	-11.9	7.6	2.6	21.7	-7.8	-14.0	-14.7	-16.4	383.3
1858	31.5	14.2	1.3	10.6	-4.1	-15.1	-15.3	23.1	360.2
1859	4.8	10.4	1.5	10.0	-4.3	-25.2	-23.4	-26.2	386.5
1860	23.8	18.4	0.9	12.5	-4.7	-18.5	-25.1	7.3	379.2

Col. 1: Table B-1, col. 7. *Col. 2:* Table B-2, col. 13. *Col. 3:* Explained in the text. *Col. 4:* Table B-3, col. 4. *Col. 5:* Table B-3, col. 7. *Col. 6:* Table B-3, col. 10. *Col. 7:* Table B-4, col. 2. *Col. 9:* Initial figure and allowances for debt default and expenditures and indemnities resulting from the Mexican War and the Gadsden Purchase are explained in the text.

likely to be extravagant. I allowed \$24 million, divided equally between 1841 and 1842.

Mexican War and Gadsden Purchase

A final item is the expenditures and indemnities resulting from the Mexican War. The indemnities paid were \$5.5 million in 1849, \$4.3 million in 1850, \$3.4 million in 1851, and \$3.2 million in 1852. There was an additional sum spent in Mexico during the campaign. Bullock, Williams, and Tucker (p. 220) allowed a total of \$25 million to cover both the indemnities and foreign expenditures. However, they only allow for the first indemnity which makes their figure for expenditures almost \$20 million. I have allowed \$8 million in 1847 and \$8 million in 1848 for a total of \$16 million expenditure in Mexico. We paid Mexico an additional \$7 million in 1854 for the Gadsden Purchase.

Table B-5 presents the balance of payments and B-12 the foreign capital indebtedness of the United States, 1820-60.

APPENDIX C

Direct Estimates of United States Foreign Indebtedness, 1790-1860

Table C-1 presents stock estimates of U.S. indebtedness for particular years. It is certainly not comprehensive, but the best I have come across. I have omitted some like Ezra Seaman's which are really crude balance of payments statements, and others which upon investigation were obviously uninformed (and usually highly prejudiced) guesses.⁷⁴ The estimates seldom include direct investment and none of them take into account U.S. foreign investment during this period. Appendix C is designed to set forth information about the wide variation in quality of these figures.

Blodget gave no source for his figures on private indebtedness although he cited official sources for the public securities. Moreover he did not include foreign debt (which accounts for the difference between his figure and that of Cleona Lewis). However, his estimate is probably a rather careful contemporary one and merits consideration.

Cleona Lewis arrives at an aggregate estimate of \$75 million in 1803 (p. 152) by allowing \$23 million for short-term debt. While no source is cited, this is a reasonable estimate based upon Callendar's discussion (see Appendix A). While far from ideal these two estimates are the best available bench marks of foreign indebtedness for the early period.

⁷⁴ Ezra Seaman, *Progress of Nations*, Baker and Scribners, 1846, pp. 266-269, and *Hunt's Merchants' Magazine*, December 1857.

U.S. BALANCE OF PAYMENTS, 1790-1860

TABLE C-1
Direct Estimates of United States Foreign Indebtedness, 1790-1860
(millions of dollars)

Fiscal Year	SECURITIES			SHORT-TERM INDEBTEDNESS	TOTAL	SOURCE
	Public	Private	Total			
1803	43	16	59			Blodget
1803	52		52	23	75	Lewis
1818	25					Seybert
1821			30			<i>Niles Register</i>
1824			38			<i>Niles Register</i>
1836	50					Webster
1836				85-100		<i>London Morning Chronicle</i>
1837			200			N.Y. State Comptroller
1837				60		Jenks
1838			110			<i>Niles Register</i>
1839	125	75	200	85	285	Callendar
1843	150					United States Congress
1843			197	28	225	Lewis
1851			225			<i>New York Times</i>
1852			300			<i>London Times</i>
1853	121	63	184			United States Congress
1853	159	63	222			Winslow and Lanier Co.
1853			225	155	380	Lewis
1854			230			Marie and Kanz
1856			203			United States Treasury
1857			500			<i>London Times</i>
1857			300			<i>American Railroad Journal</i>
1857			250	150	400	Seaman
1857				155		Lewis

For the exact citations of the sources, see the text and the text footnotes.

Seybert's figure for 1818 (p. 757) is only for the U.S. public debt and does not include the other items (particularly short-term mercantile debt) which were so important in increasing aggregate indebtedness during the years after the 2nd War with England.

The two quotations from *Niles Register* in the 1820's are rather characteristic of published statements of the amounts of U.S. securities

believed held in England.⁷⁵ Neither statement, however, provides any basis for careful evaluation.

The rapid increase in our foreign indebtedness in the 1830's occasioned widespread comment on both sides of the Atlantic. Webster's statement came in a Senate speech of May 31, 1836, in which he commented upon the effect of foreign capital upon the American economy and said "I suppose there may be fifty millions of state securities now owned in Europe." The following year (1837) the Comptroller of the State of New York estimated total securities indebtedness at \$200 million. This was criticized in the *Annual Circular* of Marie and Kanz, Continental brokers, as being \$50 million too high on the grounds that state debts only amounted to \$123 million that year.⁷⁶

In 1838 testimony was given to the House of Representatives to the effect that \$110 million in securities were held abroad. This was an itemized breakdown by states and private securities.⁷⁷ This figure is somewhat low in the light of other estimates of individual holdings of these stocks.⁷⁸

The 1839 estimate of Callendar assumes that \$125 million or a little more than half of state debts of \$232 million was held abroad.⁷⁹ His private security holdings are based on an estimate of \$27 million of U.S. bank stock, allowance for the Camden and Amboy railroad stock, plus the individual private securities listed in the 1838 testimony to Congress. His allowance for short-term debt of \$80-90 million is based upon English sources.

The mercantile debt was discussed in several English sources. The quotation from the *London Morning Chronicle* of March 22, 1837, is as follows, "More than one of the leading houses of this [the U.S.] trade has now upward of £3,000,000 acceptances in circulation. In November last [1836] the acceptances of the firms in the American trade at Liverpool and in London amounted to about £20,000,000, but they are now reduced to about £12,000,000 and this has to be borne by about 6 or 7 houses; for although there are, of course, many more engaged in commerce with America, the others are comparatively of unimportance."⁸⁰

⁷⁵ *Niles Register*, 1821, Vol. 20, p. 273 (quoted from an English source), and 1824, Vol. 26, p. 248 (converted from pounds at \$4.44). C. K. Hobson (*The Export of Capital*, London, 1914, p. 105) cites a contemporary English source to the effect that between 1816 and 1825 England imported £9 million of U.S. securities.

⁷⁶ Webster, *Works*, Vol. 4, p. 261. The estimate of short-term indebtedness for the same year, 1836, appeared in the March 22, 1837, issue of the *London Morning Chronicle*.

⁷⁷ *Niles Register*, 1838, Vol. 54, p. 322.

⁷⁸ See Jenks, ch. III, note 31, p. 86, which quotes from the *Edinburgh Review*. He lists several direct investments as well as security holdings. Callendar (p. 48) also itemizes larger foreign holdings of private securities.

⁷⁹ Guy S. Callendar, *English Capital and American Resources*, Ph.D. thesis, Harvard, 1897.

⁸⁰ Quoted in *Niles Register*, Vol. 52, p. 132.

The *Edinburgh Review* (Vol. 65, p. 235) listed the outstanding acceptances of three houses for 1834-37 as 1834, £2,354,000; 1835, £2,044,000; 1836, £3,721,000; and 1837, £5,573,000; and (p. 231) estimated acceptances of the seven major houses in 1835-36 at £15-16 million.

Actually the range of estimates for this period of heavy capital inflow (1836-39) is rather narrow. The contemporary sources all discuss a heavy capital inflow in 1835-37, a pause with the panic of that year, and then a renewed inflow in 1838-39. For 1837-38 the two figures of \$110 and \$200 million in securities are both clearly extreme figures, and the estimate of Marie and Kanz of \$150 million is probably rather close. The 1839 figure of Callendar's of approximately \$200 million in securities is also certainly not far off. The short-term estimates are the most complete of any during the whole period.

In 1843 a Congressional investigation of public debt put the total figure at \$279 million of which state liabilities were \$231 million.⁸¹ The same source estimated that \$150 million of this debt was held abroad. Considering the earlier analyses of foreign holdings of public debt this figure is probably rather accurate. Cleona Lewis (pp. 520-521) adds another \$47 million for foreign holdings of private securities based upon the earlier analysis of foreign holdings.⁸² A further estimate of short-term debt as one-third of the 1836 figure, or \$28 million, rounds out the total estimate of \$225 million presented for 1843. She concludes that any inflation of the securities figure as a result of repudiation is probably compensated by an understatement of the short-term debt.

While the direct estimates of U.S. indebtedness in the 1830's are reasonably consistent with each other, the range of estimates in the next period of capital inflow, the 1850's, varies widely and has been responsible for widely divergent views of the importance of foreign capital in the United States. The estimates presented in Table C-1 from the *New York Times* (November 25, 1851) and the *London Times* (September 10, 1857) for 1851 and 1852 are indicative of the extravagant published accounts of U.S. securities held abroad.

The best bench mark for the period is the 1853 investigation into foreign security holdings.⁸³ This was a detailed investigation of the amount of securities built up from tabulation of foreign holdings of U.S., state, municipal, and private companies. Its coverage of private holdings included 985 banks, 75 insurance companies, 244 railroads, 16 canal and navigation companies, and 15 miscellaneous companies. The difference between the figure of Congress and that of Winslow and Lanier, quoted in the same document, is in the amount of state

⁸¹ 27th Cong., 3d sess., H.R. 296, March 1843. However, the figure includes Florida and Mississippi debts which were repudiated.

⁸² She includes U.S. Bank holdings despite the fact that it had finally closed its doors by then.

⁸³ 33d Cong., 1st sess., S. Exec. Doc. 42, March 2, 1853.

stocks. The figures of the private firm include the repudiated debt of Mississippi and Michigan (although not that of the territory of Florida). Therefore if the Congressional figure is too low the figure for the private firm is too high. On the other hand the securities figure of \$63 million appears somewhat low.⁸⁴ On balance the total of Winslow and Lanier of \$222 million appears reasonable. Even the *London Times* (April 7, 1854) in the course of severely criticizing the Congressional estimate for not including repudiated debts goes on to say, "The total of all kinds of United States Securities abroad may therefore be assumed to be little short of £45,000,000."

Cleona Lewis (p. 560) takes the figure of \$225 million for security indebtedness (based on Winslow and Lanier estimate) and adapts a short-term figure of \$155 million derived from 1857. She says that any difference between 1853 and 1857 would be made up by direct investment. However, an examination of the source of this estimate does not support such a view. The estimate is contained in a footnote and is a passage of a letter from Hayward to Gladstone on November 27, 1857, which reads as follows: "The Commercial panic in London has abated; but Kirkman Hodgson told me that the Americans owed us £32,000,000 on the balance, much of which would never be paid. Peabody was very hard run having £800,000 to pay on one day. The crisis was chiefly due to overtrading of the Americans, and became so severe that the government suspended for a time the Bank Charter of 1844."⁸⁵ The clear implication is that short-term debt piled up during the speculation of 1856-57 and that it was considerably less in prior years. In short a figure of \$155 million short-term debt and thereby \$380 million aggregate debt in 1853 appears too high.

The 1854 figure of Marie and Kanz, continental brokers (quoted in the *American Railroad Journal*, 1855, p. 55) mentions no source but is probably based upon the 1853 study.

The 1856 figure of the Secretary of the Treasury in his *Report on Finances* gives no sources for the itemized breakdown, but a comparison of the figures show three differences. The 1856 statement gives a figure of \$15 million in U.S. stock held by foreigners compared to \$27 million in the earlier study, the 1856 figures for railroads is \$73,871,000 in bonds and \$9,000,000 in stocks (360 railroads reporting) compared with \$43,888,752 in bonds and \$8,244,025 in stocks (244 companies reporting) for the earlier figure. Clearly all but these three figures were copied from the earlier report. In commenting on these figures the *American Railroad Journal* (1857, p. 666) points out, "It is right to add that all the

⁸⁴ The *American Railroad Journal* (1856) credits the Germans (who predominated during the early years of this capital inflow) with purchasing \$42 million in securities, 1848-51, the bulk of them in railroads. The *Banker's Magazine* in London estimates as much as \$90 million in railroad securities was held abroad (Vol. 13, p. 693, and Vol. 14, pp. 601-608).

⁸⁵ J. L. M. Curry, *A Brief Sketch of George Peabody*, 1898, p. 8.

returns were not obtained, but making the most liberal allowance for absent accounts it may be fairly inferred the entire amount of stock held in Europe does not exceed \$300,000,000.

The *London Times* (September 10, 1857) conjectured that U.S. securities held abroad totaled £80 to 100 million. This figure is clearly too high, but it has provided a basis for some of the views of U.S. foreign indebtedness during this period of capital inflow.

The estimate of Ezra Seaman in *Hunt's Merchants' Magazine* (December 1857, p. 664) is on top of a rough balance of payments estimate in which he has an aggregate indebtedness of \$393.5 million in 1857. He goes on to say that U.S. debt was certainly not \$450 million, maybe \$425 million, but at least \$400 million. He considered that over one-third of it was mercantile debt and almost two-thirds securities indebtedness which accounts for the figures of \$150 million and \$250 million respectively. Cleona Lewis's (p. 522) estimate of short-term indebtedness in 1857 at \$155 million was discussed above.

