Growth and Composition of US Exports 1890-1910

Overview

The fifteen years from 1895 to 1910 saw US exports more than double in nominal terms, from $808mn to $1,829mn.

- The increase was driven equally by growth in agricultural ($552mn, 54%) and non-agricultural ($469mn, 46%) exports.
- The composition of exports changed substantially: exports of non-agricultural goods grew from 20% to 35% of exports.
  - This period saw a growth of 284% in non-agricultural exports.
  - Of this growth, a large fraction was in manufactured and semi-manufactured metal goods: $381mn of $634mn, or 60%. Exports of metal-related manufactured goods grew 526%.
  - Notable subcategories of metals include: machinery (e.g. steam engines, harvesters); iron and steel manufactured goods (e.g. rails, pig iron), and non-ferrous metal semimanufactures (ex. worked copper, zinc)
  - Exports of raw metals do not play a substantial part, in accordance with Irwin 2017's hypothesis.
- In agriculture, exports of foods remained relatively constant; but exports of cotton grew substantially, accounting for 33% of total growth (perhaps attributable to increasing productivity of cotton farms?)

Table 1 describes these changes in more detail.

Table 1: Growth in US Exports, 1895 - 1910

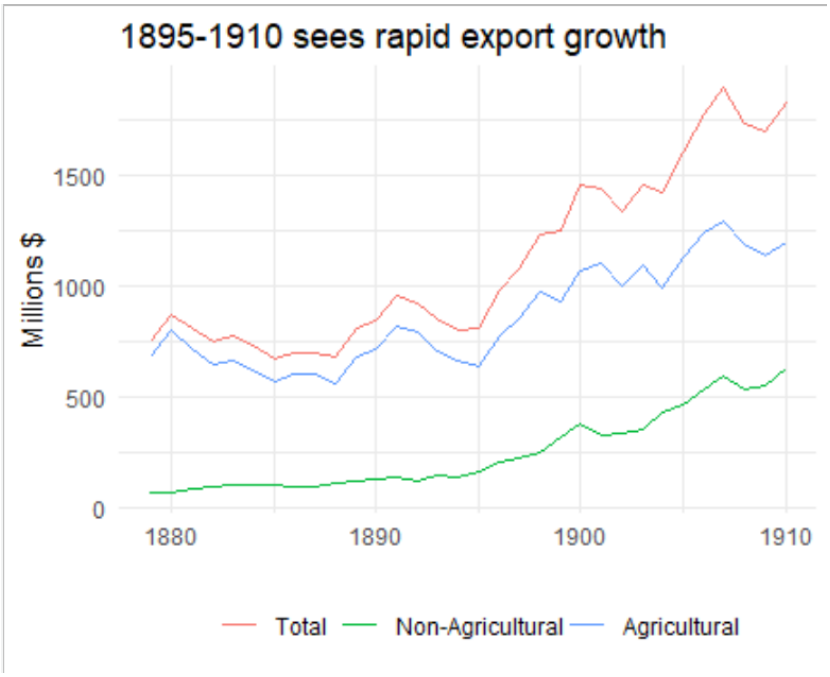
	Total Exports		Change		Share of Total		
	1895 $mn	1910 $mn	$mn	Percent	1895 Percent	1910 Percent	Change Percent
Grand Total	**808**	**1,829**	**1,021**	**126%**			
Non-Agricultural	**165**	**634**	**469**	**284%**	**20%**	**35%**	**46%**
Manufactured Products	117	422	305	261%	14%	23%	30%
Metal Manufactures	*47*	*260*	*213*	*453%*	*6%*	*14%*	*21%*
Iron and Steel	*16*	*84*	*68*	*433%*	*2%*	*5%*	*7%*
Machinery and Vehicles	*28*	*150*	*121*	*430%*	*3%*	*8%*	*12%*
Petroleum Products	*51*	*89*	*38*	*75%*	*6%*	*5%*	*4%*
Semimanufactures	25	152	127	508%	3%	8%	12%
Iron and steel	*1*	*24*	*24*	*3357%*	*0%*	*1%*	*2%*
Nonferrous metals	*13*	*97*	*83*	*637%*	*2%*	*5%*	*8%*
Crude materials	24	60	36	150%	3%	3%	4%
All Metals	*61*	*381*	*320*	*526%*	*8%*	*21%*	*31%*
Agricultural	**643**	**1,195**	**552**	**86%**	**80%**	**65%**	**54%**
Foodstuffs, incl. tobacco	352	384	32	9%	44%	21%	3%
Manufactured foods	221	253	32	14%	27%	14%	3%
Pork	*55*	*46*	*-8*	*-15%*	*7%*	*3%*	*-1%*
Lard and related	*45*	*67*	*21*	*47%*	*6%*	*4%*	*2%*
Flour and related	*54*	*48*	*-6*	*-11%*	*7%*	*3%*	*-1%*
Raw Foodstuffs, incl tobacco	131	131	0	0%	16%	7%	0%
Animal Feed	*31*	*11*	*-19*	*-63%*	*4%*	*1%*	*-2%*
Grains	*71*	*57*	*-14*	*-19%*	*9%*	*3%*	*-1%*
Tobacco	*25*	*36*	*11*	*46%*	*3%*	*2%*	*1%*
Non-Food Agricultural	291	811	520	179%	36%	44%	51%
Cotton	*190*	*531*	*341*	*180%*	*24%*	*29%*	*33%*

In this case, I've used the category "Goods (not) of Animal and Vegetable Origin" to separate agricultural/non-agricultural goods, mostly for convenience. There are a few types of good that end up in the wrong places (e.g. paper is counted as 'agricultural'), but these don't enter substantially into the totals.

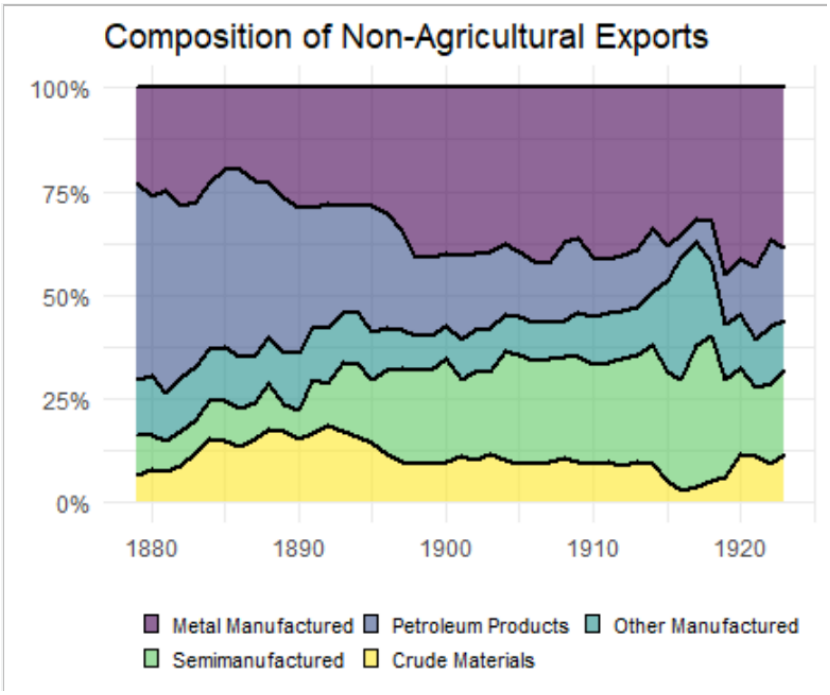
For a more granular view, see Table 4.

Time Trends

Prewar growth is largely concentrated post-1895, with a fairly notable inflection point. Agricultural and manufacturing exports grow to similar nominal degrees (as per the above).



During this time, exports metal manufactured goods grow substantially faster than other non-agricultural industries.



Data Source

Data is derived from Lipsey 1963, *Price and Quantity Trends in the Foreign Trade of the United States.* These data seem to be used relatively widely e.g. in the compilation at "Historical Statistics of the United States", curated by Doug Irwin. https://hsus.cambridge.org/HSUSWeb/toc/showTable.do?id=Ee362-611.

It's worth noting that Lipsey and some successive authors have constructed price and quantity indices, allowing for decomposition of nominal growth - this might come in handy for sorting out short run production effects from shocks if we head that way.

Lipsey 1963, in turn, gets its data from a variety of sources. Large portions of the data have been obtained from US customs records. Other sources are (page 248-9):

Title	Dates	Agency
Monthly data:		
Monthly Summary of Foreign Commerce of the U.S.	July 1914—Dec. 1923	Bureau of Foreign and Domestic Commerce
Monthly Summary of Commerce and Finance of the U.S.	July 1912—June 1914	Bureau of Foreign and Domestic Commerce

Title	Dates	Agency
Monthly Summary of Commerce and Finance of the U.S.	July 1903—June 1912	Bureau of Statistics, Department of Commerce and Labor
Monthly Summary of Commerce and Finance of the U.S.	July 1898—June 1903	Bureau of Statistics, Treasury Department
Monthly Summary of Finance and Commerce of the U.S.	Jan. 1896—June 1898	Bureau of Statistics, Treasury Department
Finance, Commerce, and Immigration of the U.S.	Jan. 1895—Dec. 1895	Bureau of Statistics, Treasury Department
Summary Statement of the Imports and Exports of the U.S.	Jan. 1879—Dec. 1894	Bureau of Statistics, Treasury Department
Quarterly:		
Quarterly Report of the Chief of the Bureau of Statistics showing the imports and exports of the U.S.	1879—June 1893	Bureau of Statistics, Treasury Department
Annual:		
Foreign Commerce and Navigation of the U.S.	Fiscal years 1912–1918, Calendar years 1919–1923	Bureau of Foreign and Domestic Commerce
Foreign Commerce and Navigation of the U.S.	Fiscal years 1904–1911	Bureau of Statistics, Department of Commerce and Labor
Foreign Commerce and Navigation of the U.S.	Fiscal years 1893–1903	Bureau of Statistics, Treasury Department
Annual Report and Statement of the Chief of the Bureau of Statistics on the Foreign Commerce and Navigation, Immigration and Tonnage of the U.S.	Fiscal years 1885–1892	Bureau of Statistics, Treasury Department
Annual Report and Statement of the Chief of the Bureau of Statistics on the Commerce and Navigation of the U.S.	Fiscal years 1879–1884	Bureau of Statistics, Treasury Department

Lipsey 1963 has conducted a variety of harmonization efforts, summarized thus:

> One difficulty in the use of customs data is that of insuring the consistency of commodities over time. In the original source there are many changes of commodity title which do not involve changes in content; in other cases, titles remain the same while content changes. We have endeavored to correct for these inconsistencies by examining the unit values, watching for sudden changes in value, origin, or destination, and comparing general import figures with the more detailed imports for consumption data. For our covered commodities we expended considerable effort in this direction, but we were less energetic for uncovered commodities, where shifts did not appear to cross minor group lines. As long as the contents of a commodity title appeared consistent, or showed only insignificant shifts, we retained the same commodity number throughout; otherwise, a new number was given.

A PDF of the book can be obtained at https://www.nber.org/books-and-chapters/price-and-quantity-trends-foreign-trade-united-states.

More Detail

Tables 2, 2a, 2b give a more detailed temporal breakdown of export growth.

Table 2: Agricultural and Non-Agricultural US Exports, 1880-1910

Year	Grand Total	Total Products of Animal or Vegetable Origin	Total Products Other Than Those of Animal or Vegetable Origin	Total Products of Animal or Vegetable Origin	Total Products Other Than Those of Animal or Vegetable Origin
	$mn	$mn	$mn	Share of total	Share of total
1880	876	804	72	92%	8%
1885	674	571	103	85%	15%
1890	846	717	129	85%	15%
1895	808	643	165	80%	20%
1900	1,453	1,071	382	74%	26%
1905	1,599	1,128	471	71%	29%
1910	1,829	1,195	634	65%	35%

Table 2a: Non-Agricultural US Exports, 1880-1910

Year	Total products other than those of animal or vegetable origin	Manufactured products	Semi-manufactures	Crude materials	Manufactured metal products	Machinery and vehicles, except automobiles	Petroleum and products	Manufactured products	Semi-manufactures	Crude materials
	$mn	$mn						Share of nonagriculture		
1880	72	61	6	6	19	11	32	85%	8%	8%
1885	103	77	10	15	20	13	44	75%	10%	15%
1890	129	100	9	20	37	25	46	78%	7%	16%
1895	165	117	25	24	47	28	51	71%	15%	15%
1900	382	250	96	37	153	89	67	65%	25%	10%
1905	471	302	123	45	185	112	74	64%	26%	10%
1910	634	422	152	60	260	150	89	67%	24%	9%

Table 2b: Agricultural US Exports, 1880-1910

Year	Total Products of Animal or Vegetable Origin	Cotton textiles, crude	Grains	Cotton textiles, crude	Grains
	$mn	$mn	$mn	Share of agriculture	Share of agriculture
1880	804	239	237	30%	29%
1885	571	184	83	32%	15%
1890	717	254	86	35%	12%
1895	643	190	71	30%	11%
1900	1,071	316	172	29%	16%
1905	1,128	393	95	35%	8%
1910	1,195	531	57	44%	5%

Table 4: Growth in US Exports, 1895 - 1910 - Detail							
	Total Exports		Change		Share of Total		
	1895 $mn	1910 $mn	$mn	Percent	1895 Percent	1910 Percent	Change Percent
Grand Total	**808**	**1,829**	**1,021**	**126%**			
Non-Agricultural	**165**	**634**	**469**	**284%**	**20%**	**35%**	**46%**
Manufactured Products	117	422	305	261%	14%	23%	30%
Metal Manufactures	*47*	*260*	*213*	*453%*	*6%*	*14%*	*21%*
Iron and Steel	*16*	*84*	*68*	*433%*	*2%*	*5%*	*7%*
Machinery and Vehicles	*28*	*150*	*121*	*430%*	*3%*	*8%*	*12%*
Nonferrous Manufactures	*3*	*13*	*11*	*389%*	*0%*	*1%*	*1%*
Petroleum Products	*51*	*89*	*38*	*75%*	*6%*	*5%*	*4%*
Chemicals	*6*	*18*	*12*	*218%*	*1%*	*1%*	*1%*
Nonmetallic Mineral Manufacture	*19*	*19*	*0*	*1%*	*2%*	*1%*	*0%*
Semimanufactures	25	152	127	508%	3%	8%	12%
Chemicals	*6*	*17*	*11*	*196%*	*1%*	*1%*	*1%*
Iron and steel	*1*	*24*	*24*	*3357%*	*0%*	*1%*	*2%*
Nonferrous metals	*13*	*97*	*83*	*637%*	*2%*	*5%*	*8%*
Crude materials	24	60	36	150%	3%	3%	4%
Petroleum Products	*6*	*5*	*-1*	*-14%*	*1%*	*0%*	*0%*
Coal Products	*11*	*42*	*31*	*284%*	*1%*	*2%*	*3%*
All Metals	*61*	*381*	*320*	*526%*	*8%*	*21%*	*31%*
Agricultural	**643**	**1,195**	**552**	**86%**	**80%**	**65%**	**54%**
Foodstuffs, incl. tobacco	352	384	32	9%	44%	21%	3%
Manufactured foods	221	253	32	14%	27%	14%	3%
Beef	*26*	*10*	*-15*	*-60%*	*3%*	*1%*	*-2%*
Pork	*55*	*46*	*-8*	*-15%*	*7%*	*3%*	*-1%*
Lard and related	*45*	*67*	*21*	*47%*	*6%*	*4%*	*2%*
Dairy	*6*	*2*	*-4*	*-62%*	*1%*	*0%*	*0%*
Flour and related	*54*	*48*	*-6*	*-11%*	*7%*	*3%*	*-1%*
Vegetable Oil/Cake/Meal	*14*	*34*	*20*	*137%*	*2%*	*2%*	*2%*
Raw Foodstuffs, incl tobacco	131	131	0	0%	16%	7%	0%
Animal Feed	*31*	*11*	*-19*	*-63%*	*4%*	*1%*	*-2%*
Grains	*71*	*57*	*-14*	*-19%*	*9%*	*3%*	*-1%*
Tobacco	*25*	*36*	*11*	*46%*	*3%*	*2%*	*1%*
Non-Food Agricultural	291	811	520	179%	36%	44%	51%
Raw Cotton	*190*	*531*	*341*	*180%*	*24%*	*29%*	*33%*
Vegetable Fibers	*11*	*26*	*15*	*143%*	*1%*	*1%*	*1%*
Leather Products	*16*	*38*	*21*	*131%*	*2%*	*2%*	*2%*
Manufactured Cotton	*14*	*32*	*18*	*129%*	*2%*	*2%*	*2%*
Wood Products	*20*	*67*	*47*	*235%*	*2%*	*4%*	*5%*
Paper Products	*2*	*10*	*7*	*296%*	*0%*	*1%*	*1%*