

World Demand for Primary Products in the Nineteenth Century

Brock Avery

University Undergraduate Fellow, 1988-89

Texas A&M University

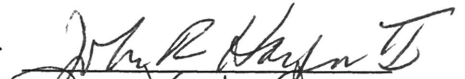

Department of Economics

APPROVED:

Fellows Advisor

Honors Director

Date \_\_\_\_\_

## World Demand for Primary Products in the Nineteenth Century

### I. INTRODUCTION

The trade relationships between the lesser developed countries (LDCs) and the industrial nations of the world have long attracted much attention. It has traditionally been assumed that world demand for the LDCs' exports, mostly primary products, was booming over the latter half of the nineteenth century. Much disagreement has arisen over why the LDCs failed to experience export-led growth as a result. Left-wing writers have asserted that the industrial nations exploited the LDCs and hindered economic development in the LDCs. However, the orthodox view has searched for less radical means in explaining the plight of the LDCs.

The writings of W. Ashworth, W. A. Cole, P. Deane, and A. J. Youngson exemplify the orthodox interpretation of the LDCs' economic history. They assume that global demand was booming for the LDCs' products, but provide little quantitative evidence to support their claim. The orthodox view faults weak internal linkages between a strong external stimuli and domestic growth for the subsequent poor economic development in the LDCs. Most of the economic research on this subject has been

concerned with investigating the quality of the internal linkages between trade and development, rather than the actual strength of the external stimuli itself.

A revisionist position is upheld by Nathaniel Leff, John Hanson, and Gavin Wright. Leff claims that Brazilian economic development was limited by a low rate of overall export growth in the nineteenth century.<sup>1</sup> Hanson asserts that growth rates of demand for LDCs' products were depressed throughout the second half of the nineteenth century.<sup>2</sup> Wright has conducted an econometric analysis of the world demand for American cotton in the nineteenth century. Wright found a significant reduction in the growth rates of world demand for American cotton, plunging from an annual 5% antebellum rate to a postbellum rate between 1% and 2%.<sup>3</sup> These revisionist positions contend export-led growth would have been impeded if world demand for the export products was not really growing at its assumed high rates.

Empirical studies examining the trade relationships between the LDCs and the industrial nations have not been

---

<sup>1</sup>Nathaniel Leff, "Tropical Trade and Development in the Nineteenth Century: The Brazilian Experience," The Journal of Political Economy, vol. 81, number 3, May/June 1973, pp. 678-695.

<sup>2</sup>John Hanson, Trade in Transition: Exports from the Third World 1840-1900, New York, Academic Press, Inc., 1980, p.13.

<sup>3</sup>Gavin Wright, "Cotton Competition and Postbellum Recovery of the American South," The Journal of Economic

plentiful. A goal of this thesis is to provide statistical evidence towards the position of the LDCs in global trade in the nineteenth century. My research will also have a bearing on the orthodox versus revisionist debate.

If proven correct, the revisionist position could have major implications for the popular view of the LDCs' history in the nineteenth and twentieth centuries. It is likely that the conventional historical interpretation has given support to various capitalistic exploitation theories. This has undoubtedly been harmful to foreign relations between the industrial nations and the LDCs.

This thesis is addressing the reasons why international trade failed to generate export led growth in the LDCs during the nineteenth century. One way to answer this question is by studying world market conditions for the products the LDCs specialized in producing. An example is Wright's work in which he employs econometric methods to calculate world demand growth rates for American cotton. There is potential in this approach for answering questions about the LDCs similar to those he asked about the South.

The similarities between the nineteenth century South and the LDCs are clear. The Southern economy was primarily agricultural with a strong emphasis on primary

products, such as cotton and tobacco. The Southern standard of living was below that of the rest of the U.S. It seems reasonable to assume that world demand for primary products exported by the South behaved similarly to those produced by the LDCs.

As Wright explored the growth rates in world demand for American cotton, so shall I for American tobacco. Tobacco, like cotton, is a primary product and major export of some of the LDCs. By calculating the global growth rates in demand for a particular primary product, tobacco, I propose to gauge the strength of an external stimulus in fostering economic development in the LDCs. Depressed growth rates in demand for tobacco, a weak stimulus for economic development through gains from trade, would help explain the lagging economic development of the LDCs in the nineteenth century.

## II. METHODS

Ideally, a model of the world tobacco market would be formulated, price elasticities of supply and demand, income elasticity of demand, and the effects of exogenous developments that might induce shifts in supply and demand curves would be estimated using econometric methods. However, limitations on the trade data from the period in question prevent such a rigorous examination of the world tobacco market. My model will therefore

be limited to the Southern experience in the nineteenth century.

To measure the growth rates for the world demand for American tobacco, I will use a single-equation model universally considered reliable for agricultural commodities. Quantity supplied in this market is considered a predetermined variable. The size of the annual American tobacco crop was primarily determined by the yield and acreage planted. So the quantity supplied to the market is dependent on factors determined in a previous time period when the crop was planted. The price of tobacco is determined by the quantity offered in the market, and possibly other variables, such as Gross National Product (GNP) and time. This model of the American tobacco market is expressed in the following simple demand equation:<sup>4</sup>

$$\log P = C + A * \log Q_s + B * T$$

where P = Price of tobacco

$Q_s$  = Quantity supplied-annual  
production of tobacco

T = Time

1/A = Price Elasticity of Demand

B = Annual growth rate in Demand

Besides production and time, British and U.S. GNP will be

---

<sup>4</sup>M. Dutta, Econometric Methods, Cincinnati, Ohio, South-Western Publishing Co., 1975, pp. 287-88.

tested in the model. All regressions are in log-linear form, performed using the ordinary least squares (OLSQ). A relatively poor Durbin-Watson (D-W) statistic for serial correlation would indicate that demand moves in a cyclical fashion, rather than randomly around a trend, as is supposed. The Cochrane-Orcutt iterative technique will be used to correct for any weak D-W statistics.

The gaps in serial trade data for the nineteenth century prevent me from calculating all of the regressions on tobacco as Wright did for cotton. However, it is possible to use a non-econometric method to calculate growth rates in demand, which is most helpful when there are gaps in the data. Wright employs this approach to supplement his econometric analysis. It is represented by this equation:

$$1 + \dot{D} = (1 + \dot{P})^{E_d} + E_s * (1 + \dot{S})$$

where  $\dot{D}$  = Growth rate of demand

$\dot{P}$  = Growth rate of price

$\dot{S}$  = Growth rate of supply

$E_d$  = Price elasticity of demand

$E_s$  = Price elasticity of supply

If the rate of shift of supply and price, and the price elasticities of supply and demand are known, we can solve for the rate of change of demand. This value is the annual average compound rate of change in demand and should approximate the value obtained by the year-to-year averaging

method when applied to more than two years. The results can vary significantly depending on which endpoints are chosen for this method, when decade-sized samples are being studied.

The main problem with the algebraic approach is the selection of appropriate elasticities. Like Wright I will place the price elasticity of supply at zero, contending that suppliers were facing a perfectly inelastic supply curve. Wright places the price elasticity of demand for cotton at unity for most of the nineteenth century, although he concedes that it could have risen to around -1.5.<sup>5</sup> Considering the likelihood that tobacco is a normal good, and probably more of a luxury than a necessity, conservative estimates for the price elasticity of demand should begin at unity, also. From regressions presented later in this thesis, the elasticity might have risen from -1.0 to -1.5 over the nineteenth century. It is quite possible that the price elasticity of demand rose in response to new suppliers in the LDCs.

### III. DATA

My intended course of action was to follow the same statistical procedures for tobacco as Wright did for cotton.

---

<sup>5</sup>Gavin Wright, The Political Economy of the Cotton South, New York, W.W. Norton and Co., Inc., 1978, p. 94.



But this proved to be impossible because serial data for American tobacco production only exists back to 1863. Before then, there are only the agricultural censuses of 1840, 1850, and 1860.<sup>6</sup> Price data is complete, however, as monthly averages for some cities are available back to the colonial period.<sup>7</sup> The postbellum data is complete in every way. Postbellum trade data are found in the U.S. Department of Agriculture's Agricultural Statistics: 1941.<sup>8</sup> Antebellum data are present in the U.S. Department of Agriculture's Circular #33: 1912. The complementary price data are covered in A. H. Cole's Wholesale Commodity Prices in Various Cities, monthly 1700-1861.

As my statistical results are only as good as the quality of the data used to generate them, it is prudent to perform some tests on the reliability of the data. Tobacco production figures are in close agreement with each other, but the various price series can differ substantially, depending on the particular grade of tobacco. For the antebellum period I have chosen to use the price for

---

<sup>6</sup>George K. Holmes, "Tobacco Crop of the U.S. 1612-1911," U.S. Dept. of Agriculture, Bureau of Statistics, Circular #33, 1912.

<sup>7</sup>Arthur Harrison Cole, "Wholesale Commodity Prices of Individual Commodities in Various Cities, monthly 1700-1861, Cambridge, Mass., Harvard University Press, 1938.

<sup>8</sup>U.S. Department of Agriculture, Agricultural Statistics, Washington D.C., U.S. Dept. of Agriculture Printing Office, 1941, p. 173.

the James River Grade of tobacco in Philadelphia, Pennsylvania. This is partly because it is the only antebellum price series both complete and listing the same grade of tobacco. Obviously, prices of different grades of tobacco will differ, but they can be compared by testing if the prices move in the same direction. A handy measure of this is the correlation coefficient. I have compared the Philadelphia series with the New York series in Cole's book. From 1839 to 1859, they have a correlation coefficient of 0.68. This means that the two series generally move in a positive manner. It is my opinion that the mixture of tobacco grades in the New York series largely explains the fact that the correlation coefficient is a little less than a perfect 1.0. However, it is still different enough from zero to support my claim that the Philadelphia price is a good barometer of the movement of American tobacco prices in the antebellum period.

For the postbellum era until World War I I have compared the U.S. Department of Agriculture's Circular #33 price with those in Agricultural Statistics (1941). These two price series have a correlation coefficient of 0.92. This suggests that both are fine indicators of the movement of American tobacco prices after the Civil War.

Both of these correlation coefficients are computed using nominal prices. In the statistical

calculations of this thesis, I will employ both nominal and real price data. The real price data is computed using the Warren-Pearson Price Index. This too, is in agreement with the methods of Wright.

#### IV. THE ANTEBELLUM PERIOD

The first half of the nineteenth century witnessed a period of retrogression for the American tobacco industry. The growth rates in demand for American tobacco are shown in TABLE 1.

TABLE 1

Mathematical Approach for Calculating Annual Growth Rates in Demand for Tobacco and Cotton

A.Years	Tobacco		Years	Cotton
	$E_d=1.0$	$E_d=1.48$		$E_d=1.0$
1839-47	-8.23%	-11.97%	1830-40	2.58%
1848-59	6.48%	6.85%	1840-50	4.81%
1867-76	0.93%	- 1.34%	1850-60	4.50%
1877-86	2.67%	4.08%	1860-70	-5.86%
1887-96	-1.95%	- 5.05%	1870-80	1.34%
1897-1906	5.92%	7.24%	1880-90	1.38%
1907-14	1.58%	1.40%		
1839-48	-8.76%	-12.68%		
1849-59	7.91%	8.31%		
1866-75	2.18%	- 0.15%		
1876-85	2.97%	3.11%		
1886-95	1.44%	1.16%		
1896-1905	6.18%	8.20%		
1906-14	0.83%	0.89%		

TABLE 1 (Cont.)

B.	Tobacco	
	$E_d=1.0$	$E_d=1.48$
Years		
1880-90	2.77%	2.70%
1879-89	1.74%	2.22%
1880-96	2.34%	1.23%
1879-95	3.35%	4.67%

The 1840s saw negative growth rates in demand for American tobacco. This differs from the growing demand facing American cotton, according to Wright a booming 4.81% annual increase. The antebellum period up until 1850 saw forces come into play that checked the growth rates in demand for American tobacco to stationary, if not negative, rates. But in 1850 American tobacco finally saw the booming demand conditions that had characterized American cotton since 1830. Wright measured the 1830 to 1860 growth rate in demand for American cotton at around 5.0% per year (TABLE 2). 1850s growth rates in demand for American tobacco reach between 6% and 7% per year (TABLE 1), higher than Wright's corresponding cotton rates of 4.50% per year.

In 1839 production of unmanufactured tobacco was measured to be 219 million pounds. By 1849, production stood at 200 million pounds. But in 1859, production had skyrocketed to 434 million pounds. From 1855 to 1859 exports of unmanufactured tobacco increased

\$6.3 million, or in pounds from 140 to 210 million. The tobacco crop of 1859 was 230 million pounds more than that of 1849, and of this America exported about 70 million pounds, leaving for increased domestic consumption around 160 million pounds. So the increase in domestic consumption more than doubled the increase in exports. This implies that domestic consumption of tobacco sharply increased during the 1850s. That it could continue to increase in the same ratio to population is unlikely.<sup>9</sup>

Precisely what initiated a booming domestic demand for American tobacco in the 1850s is open to speculation. The booming demands for tobacco and cotton translated into higher real incomes. The California gold rush of 1849 fostered the development of the Pacific coast. It does not seem unreasonable to consider tobacco a luxury good, for which rising incomes would mean a rising demand. There is also the possibility that consumer tastes changed during the 1850s. Regardless of the reasons why, it is clear that domestic demand was booming during the 1850s.<sup>10</sup>

Foreign demand, however, appears to be an entirely

---

<sup>9</sup>U.S. Department of Agriculture, Report of the Commissioner of Agriculture: 1862, Washington D.C., Government Printing Office, 1862, pp. 549-50.

<sup>10</sup>Joseph C. Robert, The Story of Tobacco in America, New York, Alfred A. Knopf, 1949, pp. 112.

different situation than domestic demand. Historically, American tobacco exports went almost entirely to Western Europe. From 1800 to 1830 about 30% of America's annual exports went to England. By 1840 Germany surpassed England as America's largest foreign customer for tobacco. Up until 1859, both England and Germany together accounted for approximately 50% of America's tobacco exports. Also, France and Holland had each begun to account for 10% of America's tobacco leaf exports. Annual export figures in the 1850s were noticeably stable. Exports of leaf tobacco in 1850 stood at 146,000 hogsheads, while in 1860, they were only about 167,000 hogsheads. Even as far back as 1840, this figure stood at 119,000 hogsheads.<sup>11</sup>

Several causes operated to check the growth of the American tobacco industry in the first half of the nineteenth century. Our wars with England and the Napoleonic wars disrupted foreign trade.<sup>12</sup> The European countries frequently placed tariffs on American tobacco.<sup>13</sup> These tariffs encouraged European farmers to begin growing tobacco.<sup>14</sup> By the 1830s

---

<sup>11</sup>U.S. Department of Commerce, Foreign Commerce and Navigation of the United States, U.S. Department of Commerce, Government Printing Office, years 1821-1914.

<sup>12</sup>Meyer Jacobstein, The Tobacco Industry in the United States, New York, Columbia University Press, 1907, p. 32.

<sup>13</sup>Ibid.

<sup>14</sup>Ibid.

Americans faced world wide competition in the tobacco market from France, Italy, Holland, and such far-flung sources as Malta, Canada, Brazil, Colombia, Venezuela, Cuba, and the Dutch East Indies.<sup>15</sup> It is likely that in the first half of the nineteenth century there was a slight decline in the per capita consumption of tobacco in America.<sup>16</sup> As previously noted, the American tobacco market saw a complete reversal for the better in 1850.

#### V. THE POSTBELLUM PERIOD

TABLE 2

Demand Curves for Cotton-Dependent Variable: New York Cotton price  
Antebellum Period (1830-60)

Independent Variables	(1)OLSQ	(2)CORC
Constant	8.21	8.05
Supply	-0.944 (3.64)*	-0.910 (5.26)*
Time	0.052 (3.58)*	0.049 (3.58)*
R <sup>2</sup>	0.323	0.589
D-W	0.76	1.58

Note: All regressions in log-linear form. T-ratios in parentheses. \* indicates significance at the 95% confidence level.

---

<sup>15</sup>Maurice Corina, Trust in Tobacco: The Anglo-American Struggle for Power, New York, St. Martin's Press, 1975, p. 48.

<sup>16</sup>Robert, pp. 104-05.

TABLE 3

Demand Curves for Cotton and Tobacco-Dependent Variable:

Philadelphia Tobacco Price, James River Grade

Postbellum Period (1866-1895)

Independent Variables	Cotton		Tobacco	
	(3) OLSQ	(4) CORC	(5) OLSQ	(6) CORC
Constant	6.93	6.84		
Supply	-0.614 (5.26)*	-0.607 (6.02)*		
Time	0.013 (2.29)*	0.014 (2.48)*		
R <sup>2</sup>	0.769	0.800		
D-W	0.91	1.86		
			(7) OLSQ	(8) CORC
Constant	15.49	12.88	11.66	-0.04
Supply	-0.676 (4.14)*	-0.544 (4.70)*	-0.621 (3.77)*	-0.51 (4.51)*
Time	0.010 (1.52)	0.008 (1.01)	-0.011 (0.40)	-0.04 (1.26)
GNP UK			0.248 (0.225)	1.68 (1.44)
GNP US			0.365 (1.55)	0.27 (1.08)
R <sup>2</sup>	0.559	0.499	0.602	0.544
D-W	1.03	1.77	1.09	1.87

TABLE 4 (Postbellum Era 1866-1914)

	Cotton	Tobacco			
	(9) OLSQ	(10) OLSQ	(11) CORC	(12) OLSQ	(13) CORC
Constant	8.63	19.44	12.74	26.27	5.30
Supply	-0.910 (8.27)*	-0.909 (5.98)*	-0.545 (5.50)*	-0.835 (5.54)*	-0.531 (5.51)*
Time	0.027 (6.36)*	0.024 (5.17)*	0.016 (3.39)*	0.035 (1.67)*	-0.014 (0.70)
GNP UK				-1.26 (1.51)	0.914 (1.08)
GNP US				0.282 (1.26)	0.311 (1.41)
R <sup>2</sup>	0.683	0.444	0.403	0.503	0.440
D-W		1.02	1.97	1.09	2.04



TABLE 5

Postbellum era (1896-1914)

Tobacco

	(14)OLSQ	(15)CORC	(16)OLSQ	(17)CORC
Constant	10.85	12.73	17.06	18.25
Supply	-0.508 (1.86)*	-0.598 (2.25)*	-0.742 (2.64)*	-0.721 (2.62)*
Time	0.044 (7.40)*	0.0434 (8.04)*	0.0076 (0.36)	0.012 (0.55)
GNP UK			-0.722 (0.75)	-0.90 (0.90)
GNP US			1.22 (2.57)*	1.13 (2.24)*
R <sup>2</sup>	0.840	0.866	0.892	0.858
D-W	1.91	1.76	1.75	1.82

TABLE 6

Postbellum Period (1880-95): Tobacco

	(18)OLSQ	(19)CORC
Constant	11.54	13.21
Supply	-0.467 (1.48)	-0.545 (1.63)
Time	-0.003 (0.18)	-0.007 (0.55)
R <sup>2</sup>	0.318	0.481
D-W	2.38	2.46

TABLE 7

Postbellum Period (1880-96): Tobacco

	(20)OLSQ	(21)CORC
Constant	5.62	7.59
Supply	-0.162 (0.91)	-0.258 (0.86)
Time	-0.01 (0.99)	-0.01 (1.04)
R <sup>2</sup>	0.343	0.349
D-W	1.58	1.69

The postbellum period from 1866 to 1895 is covered in Table 3. (5) and (6) reflect a 1.0% growth rate in yearly demand for American tobacco. This rate is not significantly different than zero at the 95% confidence level. The implication is that world demand for American tobacco in this period is practically stagnant. When the British and U.S. GNPs are tested as variables, they are not significantly different than zero at the 95% confidence level. Wright's corresponding regressions for cotton are in Table 3, equations (3) and (4). Demand for cotton is depressed like it is for tobacco. This is a drastic change from the antebellum cotton market, as the growth rate in demand has fallen from 5.2% to 1.3%. Wright contends that the drastic slowdown was a development largely independent of the Civil War and emancipation, as the earlier high growth rates had been the result of the opening up of new markets.<sup>18</sup>

The postbellum sample is extended to 1914 in Table 4. Equations (12) and (13) reveal that British and U.S. GNPs are not significantly different than zero at the 95% confidence level. The OLSQ and CORC techniques yield low growth rates in demand, 2.4% and 1.6%, respectively, in (10) and (11). From the Civil War to the outbreak

---

<sup>18</sup>Wright, The Political Economy, pp. 94-95.

of World War I, the American tobacco market was generally characterized by a lagging demand. Wright extends his sample to 1914 in Table 4, Equation (9). Like the American tobacco market, world demand for cotton is growing slowly. Wright calculates this growth rate to be 2.7% per year.

The tobacco market from 1896 to 1914 is described in Table 5. Equations (14) and (15) indicate that the annual growth rate of demand has ballooned to 4.4%. Only at the turn of the nineteenth century does tobacco show a growth rate of demand remotely comparable to the heyday of the 1850s. Including the American and British GNPs does not alter this result.

My results differ slightly from some claims Wright makes about the American tobacco market. He contends that from 1880 to 1890 the growth rate in demand for American tobacco was around 5% per year.<sup>19</sup> My econometric analysis of this period is contained in Tables 6 and 7. Far from a booming 5% growth rate, these regressions show a growth rate that is not significantly different than zero. The mathematical approach to this specific period is shown in Table 1B. This method suggests a growth rate somewhere between 2% and 3%, approximately one-half of Wright's estimate.

---

<sup>19</sup>Wright, Old South, New South, New York, Basic Books Inc., 1986, pp. 56-57.

My postbellum econometric results concur with the mathematical approach shown in Table 1. Both approaches reveal low growth rates in the postbellum era until 1895. The booming period from 1895 to 1905 mirrors the expansive demand of the 1850s. Both methods support my contention that the American tobacco market was characterized by a low, and sometimes stagnant, growth rate in demand from 1839 to 1914. This lagging demand for American tobacco is in line with the depressed cotton demand that Wright measured.

From 1870 to 1890 Wright's mathematical approach yields a growth rate around 1.3%. However, my results for tobacco over the same period show a growth rate in demand ranging from 0.9% to 4.08% (Table 1A). Hence, there is some doubt as to whether the world demand for tobacco was always as depressed as cotton, and vice versa. But over the longer sample from 1866 to 1914 shown in Table 4, the growth rates in demand for cotton and tobacco are equally depressed, at 2.7% and 2.4% (equations (9) and (10)).

TABLE 8

Years (1866-95); To Achieve a Given  $\dot{D}$ ,  $E_d = ?$

$$1 + \dot{D} = (1 + \dot{P})E_d + E_s * (1 + \dot{S})$$

$$\text{If } \dot{D} = 3\%: (1 + 0.03) / (1 + 0.0285) = (1 - 0.00178) E_d$$

$$1.0015 = 0.9822 E_d$$

$$E_d = -0.08$$

TABLE 8 (Continued)

If  $\dot{D} = 1.02\%$ :  $E_d = -1.0$

In Table 8 I have calculated what the price elasticity of demand must be in order to satisfy a given growth rate in demand. To achieve a growth rate in demand of 1.02% per year from 1866 to 1895, the price elasticity of demand must be at unity. But for a growth rate of 3%, the elasticity must equal  $-0.08$ . This is clearly not the direction that elasticity is moving over the nineteenth century, as my results in Table 3, equation (5) measure it to be at  $-1.48$ . So to sustain a growth rate in demand of 3% per year for this period, the price elasticity of demand must be ridiculously low. This result further challenges the notion that world demand was booming for American tobacco in the latter half of the nineteenth century.

All of my regressions shown use the nominal, not the real price for American tobacco. When the real price is used, my results do not conflict with the idea that world demand was lagging for American tobacco in the nineteenth century. The real price data suggest that demand was actually shrinking at absurdly low rates from 1866 to 1914.

Like the antebellum era, the postbellum world demand for American tobacco is mainly comprised of the domestic demand. In the postbellum period American

tobacco production did not immediately recover to its antebellum level. The previous 1859 record of 434 million pounds was not surpassed until 1876. From 1866 to 1895 total production jumped from 316 to 745 million pounds, while domestic exports rose from 185 to 296 million pounds. So of the 311 million pound production increase, only 111 million pounds or 36%, was accounted for by foreign trade.<sup>20</sup> The destination of American tobacco exports changes over this period. Great Britain had risen to account for about one-third of America's tobacco exports, while Germany had slipped to around twenty percent. France, Italy, and Spain each accounted for a little less than ten percent of America's tobacco exports.<sup>21</sup> The latter half of the nineteenth century was marked by Great Britain's relative decline as a market for primary products.<sup>22</sup> However, this should not be considered a primary cause in the lagging world demand for American tobacco, because Great Britain had not in the nineteenth century ever accounted for more than 20% to 35% of America's tobacco exports since 1820.<sup>23</sup>

---

<sup>20</sup>Agricultural Statistics, 1941, p. 173.

<sup>21</sup>Foreign Commerce and Navigation of the U.S., years 1821-1914.

<sup>22</sup>Hanson, pp. 87-89.

<sup>23</sup>Foreign Commerce and Navigation of the U.S., years 1821-1914.

A central event in the turnaround for world demand of American tobacco in the mid-1890s probably is the emerging popularity of the cigarette. Statistics show that American factories produced one billion cigarettes in 1885, and 2.5 billion in 1890.<sup>24</sup> From 1896 to 1914, tobacco production in America increased from 760 million to one billion pounds. But total tobacco exports only increased from 315 to 348 million pounds during this period.<sup>25</sup> By 1914 Britain had increased its quota of American tobacco exports to nearly 40%. France, Italy, and Germany each received about 10% of America's tobacco exports. The increase in domestic consumption dwarfs the increase in foreign exports. As in the 1850s, the results imply that the booming demand for American tobacco was precipitated by Americans, not from their European customers.

## VI. IMPLICATIONS FOR THE SOUTH AND THE LDCs

According to my results, tobacco, as well as cotton, was characterized by a lagging world demand in the nineteenth century. Perhaps Southern farmers should have switched production to other crops in response.

---

<sup>24</sup>Robert, p. 144.

<sup>25</sup>Agricultural Statistics, 1941, p. 173.

However, most agricultural options outside of tobacco or cotton faced special problems. The other cash crops, like rice and sugar, had narrow geographic limits. Aggregate Southern incomes from cotton and tobacco in the latter half of the nineteenth century were limited by a depressed demand.

Perhaps the lagging world demand for tobacco facing Southern farmers in the postbellum period was similar to that confronting suppliers in the LDCs. Although I have been unable to locate much statistical evidence directly concerning the growth rates in demand for tobacco grown in the LDCs, some of the LDCs' trade data are quite revealing. Subject to yearly fluctuations, Cuban tobacco exports increased to nearly 360 million cigars in the peak year of 1855, with a growing demand in Germany, Denmark, France, and England. Nonetheless, if by mid-century this small Caribbean island had gained a reputation for manufacturing the finest quality and most valued cigars in the world, the tide had turned in its tobacco export trade. Cuba's overall, long-term export market for tobacco began to recede, oscillating for most of the latter part of the century between 100 and 200 million cigars per year. From 1859 to 1870 Cuba's major markets, Germany and France, cut imports by two-thirds and one-half, respectively. In the 1870s the U.S. became Cuba's largest single importer for tobacco, and by the 1880s



was responsible for virtually all of Havana's cigar exports. When U.S. imports began to fall off in the 1890s, Cuba's total export figure stood at about 50% of its 1850s level.<sup>26</sup> This does not suggest a particularly aggressive world demand for Cuban tobacco in the latter half of the nineteenth century.

The idea that tobacco has a growth-inhibiting production technology was put forward by W. P. McGreevey in a study of Colombia. As tobacco was Colombia's main export from 1850 to 1890, he reasons that this was instrumental in explaining the poor economic development in Colombia in the nineteenth century.<sup>27</sup>

The LDCs' economies were built on exporting primary products whose growth rates in demand were possibly as low as those already determined for tobacco and cotton, at least in America. If so, a LDC banking on gains from trade to energize its economy should not be shocked at the disappointing results. However, it would be hasty to say that the growth rates in demand for the LDCs' exports such as tobacco necessarily mirrors those for Southern suppliers. Southern tobacco growers supplied

---

<sup>26</sup>Jean Stubbs, Tobacco on the Periphery: A Case Study in Cuban Labor History, 1860-1958, Cambridge, Cambridge Univ. Press, 1985, pp. 17-18.

<sup>27</sup>W. P. McGreevey, An Economic History of Colombia, 1845-1930, London, Cambridge University Press, 1971, Chps. 5 & 6.

a domestic tobacco market in the nineteenth century, while the LDCs tended to export most of their products to Western Europe. Furthermore, the LDCs might have been the dominant suppliers of an undetermined, but possibly booming, European demand for tobacco in the nineteenth century.

My findings, however, tend to support the theory that a "Great Depression" occurred in the world economy in the latter quarter of the nineteenth century. The simultaneous decline in the business cycle and world trade, at least for American cotton and tobacco, is evidence in favor of a lagging world demand as an impediment for export led growth in the LDCs. Assuming this depression occurred, we would expect the world demand for primary products exported by the LDCs to be growing at very low rates, like American tobacco and cotton.

The weakening demand in Britain, the largest single market for tropical products during the nineteenth century, for several important tropical products was not fully offset by a rising demand in other parts of the world. The other industrial countries were more self-sufficient than Britain, and also in competition with the LDCs in some products, such as tobacco.<sup>28</sup> It is possible that the growth rates of demand for tobacco in the LDCs behaved similarly to the ones in the South.

---

<sup>28</sup>Hanson, p. 111.

When demand for American tobacco and cotton remained sluggish over the postbellum period, the South's options were limited. But even if the Southern agricultural sector could not have benefitted more from switching to other crops, the question remains why industrial growth did not ensue. Wright attributes the Southern industrial problem not to slow industrial growth rates, but to the fact that the growth rates were not rapid enough relative to the South's growing population. This explanation might also apply to the LDCs where minimal industrial development was often accompanied by a burgeoning population.

According to Wright, the most damaging economic feature of the South was its isolation. The South suffered not so much from a lack of capital infusion, but that flows of capital were not accompanied or soon followed by flows of people in banking and business professions. It is possible that the same argument could be applied to the isolation of the LDCs. Perhaps the Southern and LDCs' relative isolation was at least partially self-imposed, the result of some kind of cultural attachment to the land. This would help explain their reliance on crops whose demand was depressed. Gains from trade

---

<sup>29</sup>Wright, Old South, New South, pp. 60-64.

<sup>30</sup>Ibid.

could not alone have been enough to raise the Southern and LDCs' standards of living, and thereby rescue them from their relative isolation.

## VII. CONCLUSION

My findings have helped to provide us with a more accurate portrait of the LDCs in the network of world trade in the nineteenth century. My main conclusion is that the world demand for American tobacco lagged for most of the nineteenth century. I have given reasons which support the idea that world demand for tobacco, and other primary products produced in the LDCs, also grew at low rates. My results would help explain why the LDCs failed to witness economic growth in the nineteenth century. This thesis supports the Revisionist claim that a weak external stimulus, low growth rates in demand for their exports, was the major cause of the LDCs' failure to experience export-led growth.

## BIBLIOGRAPHY

- Cole, Arthur Harrison. Wholesale Commodity Prices of Individual Commodities in Various Cities, monthly 1700-1861. Cambridge: Harvard University Press, 1938.
- Corina, Maurice. Trust in Tobacco: The Anglo-American Struggle for Power. New York: St. Martin's Press, 1975.
- Dutta, M. Econometric Methods. Cincinnati, Ohio: Southwestern Publishing Co., 1975.
- Hanson, John. Trade in Transition: Exports from the Third World 1840-1900. New York: Academic Press, Inc., 1980.
- Heinmann, Robert K. Tobacco and Americans. New York: McGraw Hill Book Co., 1960.
- Holmes, George K. "Tobacco Crop of the U.S. 1612-1911," U.S. Department of Agriculture, Bureau of Statistics, Circular #33, 1912.
- Jacobstein, Meyer. The Tobacco Industry in the United States. New York: Columbia University Press, 1907.
- Leff, Nathaniel. "Tropical Trade and Development in the Nineteenth Century: The Brazilian Experience," The Journal of Political Economy. Vol. 81. Number 3. May/June 1973.

- McGreevey, W. P. An Economic History of Colombia 1845-1930. London: Cambridge University Press, 1971.
- Robert, Joseph C. The Story of Tobacco in America. New York: Alfred A. Knopf, 1949.
- Stubbs, Jean. Tobacco on the Periphery: A Case Study in Cuban Labor History, 1860-1958. Cambridge: Cambridge University Press, 1985.
- U.S. Department of Agriculture. Agricultural Statistics. Washington D.C. : U.S. Department of Agriculture Printing Office, 1941.
- U.S. Department of Agriculture. Report of the Commissioner of Agriculture: 1862. Washington D.C.: Government Printing Office, 1862.
- U.S. Department of Commerce. Foreign Commerce and Navigation of the U.S. Washington D.C.: Government Printing Office, 1821-1914.
- Wright, Gavin. "Cotton Competition and Postbellum Recovery of the American South." The Journal of Economic History. vol. 34. Number 3. September, 1974.
- Wright, Gavin. Old South, New South. New York: Basic Books Inc., 1986.
- Wright, Gavin. The Political Economy of the Cotton South. New York: W. W. Norton and Co., Inc., 1978.