

An Investigation into Great Britain's Commercial Crisis of 1857 and the Preceding Business Cycle

John Henry Gendron

Providence College 2012

Preface

The following is a proposal to present the material covered in my forthcoming master's thesis entitled *An Investigation into Great Britain's Commercial Crisis of 1857 and the Preceding Business Cycle*. The first draft of the paper will be submitted to the History Department at Providence College on February 1, 2013.

Accepting the Austrian proposition that an econometric "testing" of ABCT is a misbegotten endeavor, this paper seeks to begin investigation of a particular historical phenomenon by reconstructing, from the ground-level up, the entrepreneurial experience in Great Britain through the ten-year business cycle leading up to the eventual crisis of November 1857. This is accomplished through an evaluation of the country's largest industrial sector, textiles—cotton, woolen, worsted, silk, and linen—on a yearly, monthly, or even weekly basis; more specifically, by examining their input costs (e.g., raw material, labor, energy, transportation, etc.) vis-a-vis output prices (as far as available data will permit), along with home and foreign demand, commodity supplies, capital investment, labor markets, and other consequential factors, as well as, and perhaps most importantly, first-hand accounts from those who were either directly involved in or conversant with trade. Other industries, such as agriculture, coal, iron/metals, shipbuilding, and others, are touch upon tangentially. The result is, I believe, a real-life telling of the Austrian Theory articulated by the individuals living through the slow, embrittling effects of artificial monetary expansion, supplemented with pertinent data to help color their story.

The following sections are arranged in a way similar to which the material would be presented, and are necessarily cursory. In consideration of time, attention will be given primarily to the cotton, woolen, worsted, and silk industries (each were among a select group of trades employing over 100,000 people according to the 1851 census). It should be noted that this study has, by no means, exhausted all avenues of inquiry related to the '57 crisis, which, after all, was felt internationally. It is merely a starting point, attempting to understand the vicissitudes of commerce in several of the largest trades within the world's largest economy. Additional investigation into other areas of the British economy are needed, as well as applying similar methods of inquiry beyond British borders.

Introduction

The close of 1857 has witnessed one of those convulsions which appear inevitable in the commercial world, and which occur as periodically—and to the uninitiated as mysteriously—as the change of the seasons, or the appearance of a comet.¹

Indeed, the crisis of '57 appeared "mysterious" to many contemporaries, even those conversant with commerce. The above quote was written by a contemporary economist, while another economist similarly opined, "there had been little to create alarm, or to arouse suspicion," and that "it was...considered a marvel by most people, that the approach of the usual ten years had not been accompanied by some of those premonitory symptoms which indicated the presence of an unhealthy state of things."² In fact, when the Director of the Bank of England (BOE) was asked by a parliamentary investigative committee if the Bank had cause for concern in the month of August he replied, "Not in the month of August; things were then pretty stationary; the

¹ William Romaine Callender, *The Commercial Crisis of 1857* (London: Longman, 1858), 5.

² David Morier Evans, *The History of the Commercial Crisis, 1857-58, and the Stock Exchange Panic of 1859* (London: Groombridge and Sons, 1859), 31.

prospects of harvest were very good; there was no apprehension that commerce at that time was otherwise than sound.”³ Even *The Economist* had been dismayed by the events:

If, then, the pressure of the closing months of 1857—universal almost as it has been throughout all the trading countries of the Western continents—is not attributable to the failure of the ordinary supplies of food, nor to the failure on a large scale of the supplies of important commodities, nor to war, nor pestilence, nor revolution, nor the collapse of inordinate joint stock enterprise, nor to the reaction entailed by abuses generated under a low rate of interest,—it becomes a problem of no small moment to ascertain the deeper causes to which must be ascribed a financial visitation which will, in all future time, mark the present year as a season of commercial difficulty among the most severe on record.⁴

Ultimately, the newspaper, along with most contemporaries, concluded that the “deeper causes” lie in “the breaking down at last of the towering fabric of expectations and speculation.”⁵ Similarly, Parliament’s Select Committee concluded “that the recent commercial crisis in this country, as well as in America and in the north of Europe, was mainly owing to excessive speculation and abuse of credit.”⁶

Other causes were propounded by economic historian J.R.T. Hughes in his book covering the decade of the 1850’s as well as in a journal article specifically covering the crisis.⁷ Hughes believed “the roots of business fluctuations were complex and lay buried in more general forces.”⁸ The most foundational of Hughes’ “general forces” was the insufficient supply of raw material and attendant high prices—from this arises other problems, such as growing trade deficits (Great Britain being predominantly an importer of raw material and exporter of manufactured articles) and the concomitant “additional drain of bullion,” along with diminished profit margins and dampened expectations which begot less employment and fewer investments in fixed capital; additionally, these “adverse income effects spread to other trades and industries, and in the end, to basic industries like iron and coal.”⁹ Hughes also pays some attention to decreases in government spending following the Crimean War (which ended in early in 1856) as playing some role in the crisis, but certainly his most compelling and superficially plausible argument lies in the inadequate supply of raw materials. This topic will be discussed further toward the end of the presentation.

Interest Rates

Before moving on to the narrative of the business cycle, it is worth noting that interest rates on loanable funds had reached levels well below “natural rates.” This was chiefly attributable to three factors: banks

³ *Report from the Select Committee on the Bank Acts, 1858*, 1.

⁴ *The Economist*, December 5, 1857.

⁵ *Ibid.*

⁶ *Report from the Select Committee on the Bank Acts, 1858*, xxviii.

⁷ J. R. T. Hughes, *Fluctuations in Trade, Industry and Finance—A Study of British Economic Development 1850-1860* (London: Oxford University Press, 1960); J. R. T. Hughes, “The Commercial Crisis of 1857,” *Oxford Economic Papers*, vol. 8, no. 2 (June 1956): 194-222.

⁸ Hughes, “The Commercial Crisis of 1857,” 218.

⁹ *Ibid.*, 212.

operating with extremely low reserves, the existence of a central bank, and gold discoveries in Australia and California.

Vigorous competition in the banking industry had driven many banks to hold exceedingly low reserves. Beginning in the 1830's (coincident with the growth of joint stock banking), banks had increasingly lent idle deposits to the bill dealers/brokers which could be obtained "on call."¹⁰ This was deemed a necessary practice because banks had begun offering higher interest payments on customer deposits, and allowing such funds to sit idle was a competitive impossibility. The bill dealers/brokers would, in turn, resort to the BOE, chiefly for rediscounting, when needed. According to the parliamentary investigation into the causes of the crisis, "the bill brokers are stated to have carried on their enormous transactions without any cash reserves."¹¹ *The Economist* noted and extolled such efficiencies:

Since our banking system has become so perfect, it may be said that no capital remains unemployed for even short periods. The extension of banks into almost every small village in the united kingdom, and the practice of allowing interest on deposits, offers not only a secure, but a profitable mode of making even a temporary deposit of small sums.¹²

The above quote was published in 1847, when total deposits at the joint stock banks in London amounted to £8,850,774; by 1857 total deposits amounted to £43,100,724.¹³ Such a prolific increase in deposits, along with the actions of the BOE and large importation of gold, resulted in short term interest rates in the market falling to their lowest levels of the century to that point—discounts on bills in London were below 4 percent from February '48 through August '53, and had fallen below 2 percent for 8 months in 1852.¹⁴ Although no precise data exists for rates on longer-term lending, such rates had loosely corresponded to those of shorter duration, though exhibiting less dramatic fluctuations. George Warde Norman, a Director of the BOE, explained: "With regard to the rate of interest on mortgages, there is perhaps a nearer connexion (to the discount rate); when the general rate of interest on discount is high, I believe it will be found that the rate of interest on mortgage rises, but it does not rise to anything like the same extent."¹⁵

We can safely surmise that interest rates during our period under consideration had fallen, for at least some time, well below their "natural" levels.

1848–1851

The British economy in January 1848 had just begun to mend its wounds from the crisis of October '47. Subsequent to that crisis, commodity prices had dropped precipitously, and the "reduced price of all raw materials required for consumption"¹⁶ had created fertile grounds for the manufacturing industries. However,

¹⁰ W. T. C. King, *History of the Discount Market*, (London: George Routledge and Sons, 1936), 69.

¹¹ *Report from the Select Committee on the Bank Acts, 1858*, viii.

¹² *The Economist*, November 20, 1847.

¹³ *Report from the Select Committee on the Bank Acts, 1858*, xxxvi. This vast increase in deposits is partially attributable to The Bank Act of 1844 severely restricting note creation throughout Britain.

¹⁴ *Report from the Select Committee on the Bank Acts, Part I, 1857*, 464.

¹⁵ *Ibid.*, 282.

¹⁶ *Reports of the Inspectors of Factories, Half-Year ending 31st October, 1848*, 122.

while there “had manifested gratifying symptoms of returning activity” in the “early part of 1848,” revolutions would sweep through Europe as the year wore on, leading “to such a cessation of demand that short time or total suspension of work became the rule.”¹⁷ Thus, we will begin our story in 1849.

Cotton

A short U.S. cotton crop in ‘50, followed by speculation of another short crop in ‘51, kept cotton prices around the levels of the depression in ‘47, preventing the cotton industry from experiencing any significant profitability, and thus extension of capital, during this period. The factory inspector of Lancashire, the hub of the cotton industry, commented on the state of trade in his report in April 1850: “From all parts of my district I hear of the great disadvantages under which the Cotton Factories are now, and for a long time past, have been working, from the high price of the raw material”; as well as the depressing effects of the “disproportion between the advance on the raw material, and that on the articles manufactured.”¹⁸

The U.S. cotton crop of ‘50 had been 23 percent less than that of ‘49, and unfavorable reports on the forthcoming crop of ‘51 “gave rise to many fears that the ultimate yield would be scarcely worthy of the name of a crop.”¹⁹ These fears had propped-up the price of cotton, but ultimately proved unfounded as “any damage done” to the crop “bore a small proportion to the quantity planted, and to the preparation made.”²⁰ Consequently, the price of raw cotton plummeted between 25 and 30 percent in under two months; yarn fell roughly 15 percent and cloth under 10 percent. This favorable realignment of prices in the latter half of ‘51 set the cotton industry up for a prodigious expansion, which we will examine in our next section.

Woolen and Worsteds

These trades witnessed an unexampled expansion in productive capacity during this period, particularly the worsted industry. While the factory inspectors did not begin taking thorough yearly calculations of factories/horsepower until 1852, all anecdotal evidence indicates that the additions to fixed capital were unparalleled—“The (worsted) trade has never before reached anything like the extent to which it has now attained.”²¹ One inspector estimated that through ‘49, “worsted looms (had) increased their produce 40 per cent., and the spindles 25 or 30 per cent,” and, again he reported in ‘50, “they are still increasing at the same rate.”²² The *Bradford Observer* reported that in Bradford, the center of the worsted trade in Yorkshire, “the production of...goods (had) been nearly doubled” between ‘48-‘52²³

¹⁷ Thomas Tooke and William Newmarch, *A History of Prices and of the State of the Circulation During the Nine Years 1848-1856*, vol. 5, (London: Longman, Brown, Green, Longmans, and Roberts, 1857), 235.

¹⁸ *Reports of the Inspectors of Factories, Half-Year ending 30th April, 1850*, 15-16.

¹⁹ *The Economist*, May 3, 1851.

²⁰ *Ibid.*

²¹ *Reports of the Inspectors of Factories, Half-Year ending 31st October, 1849*, 64.

²² *Reports of the Inspectors of Factories, Half-Year ending 30th April, 1850*, 54.

²³ *Bradford Observer*, quoted in *The Economist*, February 21, 1852.

This expansion had been buoyed by the price of wool, which in '49 was considered "exceedingly low."²⁴ Such a "reasonable price of wool" led *The Times* to remark, "wheresoever wool is the raw material of industry...the condition of trade is in a very high degree active and prosperous."²⁵

However, this state of things would be short-lived. By August of '50 reports from Yorkshire indicated "that despite a good demand for pieces" the price of "worsted yarns, along with wages" had "so much increased, that the position of the manufacturer is anything but enviable."²⁶ The cost of wool had increased by roughly 35 percent since the close of '48,²⁷ while "wages paid" were "much higher now than in former periods."²⁸ Resultantly, 1851 witnessed a dramatic reversal of fortunes:

That reaction follows excessive action is a true maxim in trade. The unusual excitement and prosperity of the last two years had given an extraordinary extended power of production in the worsted manufacture. New mills had sprung up in abundance, and for the next three years the manufacturers paid the penalty of overproducing....In consequence of the increased price of material, restricted production became the rule of business, and much machinery was stopped....At no time, even in the worst periods of 1847, had the difference been wider between the cost of wool and cotton, added to the price of labour, and the prices realised for the manufactured article.²⁹

The woolen trade went through a similar experience, though to a lesser degree as its level of expansion had not equaled that of worsteds (worsted was the favored trade for investment was due to the recent mechanization of combing wool, as well as the increased use of cheaper cotton in worsted cloth³⁰). With perhaps the lone exception of the clothiers of Leeds, woolen manufacturers were struggling to keep pace with increasing costs (the woolen and worsted trades shared a similar labor force, both being centered in Yorkshire, along with a common raw material). On the state of both trades at the close of '51, a sub-inspector in Yorkshire foreboded, "The cycles of trade, in fact, in the textile fabrics, are now extremely uncertain, and I think we shall shortly find to be true what I have all along said, that there is no comparison made between the producing power of the spindles, the quantity of raw material, and the growth of the population."³¹ It is worth noting that 1851 saw the largest retained imports of wool to that time;³² the supply of home-grown wool, unfortunately, is unknown for any of our years under consideration.

Silk

²⁴ *Reports of the Inspectors of Factories, Half-Year ending 30th April, 1848*, 42.

²⁵ *The Times*, January 3, 1850.

²⁶ *The Economist*, August 31, 1850.

²⁷ All commodity prices come from *The Economist's* price listings, unless otherwise stated, and are calculated using two-month averages.

²⁸ *The Economist*, June 7, 1851.

²⁹ John James, *History of the Worsted Manufacture in England*, (London: Longman, Brown, Green, Longmans, and Roberts, 1857), 515-516.

³⁰ Edward Baines, "On the Woollen Manufacture of England: With Special Reference to the Leeds Clothing District," *Journal of the Statistical Society of London*, vol. 22, no. 1 (March 1859): 1-34.

³¹ *Reports of the Inspectors of Factories, Half-Year ending 30th April, 1851*, 52.

³² *Statistical Abstract*, 1847-1861.

Similar to the cotton trade, the silk industry labored under high raw material prices consequent to crop failures or speculation of failure, through this period.³³ As a result, since the start of '49 through the start of '51, the price of Chinese silk had increased by approximately 35 percent, preventing any substantial industrial growth. However, with news of larger forthcoming crops along with extreme reductions in manufacturers' production—e.g., in June 1851 it was reported in Nottinghamshire, a center of silk production, that an “unprecedentedly depressed state of this department” resulted in “scarcely one-fourth of our operatives...in employment”³⁴—the price of silk fell roughly 16 percent through '51. This readjustment of prices, assisted by a roughly 26 percent increase in silk imports in '52, helped set the foundation for a period of unprecedented growth, which will be covered in the next section.

1852–1855

Three chief features affecting the British economy during this period were: 1) commodity price inflation, 2) increasing interest rates, 3) the Crimean War.

As the fiduciary creation, along with recently discovered gold, worked its way through the economy and competition for scarce commodities grew, prices began to soar. We will touch upon the textile raw material prices below, but in addition to these, the prices of industrial commodities like iron, coal, copper, etc., along with agricultural commodities, increased dramatically. Baked into these price increases were mounting costs of labor. Wage historian George Wood estimated between '50–'55, the wages of coal operatives increased by 40 percent, while iron puddlers' wages grew 35 percent.³⁵ Arthur Bowley's study on agricultural wages in the nineteenth century estimated an increase of roughly 40 percent over the same period.³⁶ In fact, competition for labor had become so great that “there were complaints that farm-servants...had begun to desert their service in a large number of cases, and that recourse to a magistrate was become extensively necessary by employers.”³⁷ These wage increases help explain why even in years of good harvest (the harvests of '54–'57 were either above average or exceedingly bountiful),³⁸ food prices remained very high,³⁹ leaving less effective demand for nonessentials. As an interesting aside, Thomas Tooke observed that “some part of the vast sums implied by these rates of increase in the weekly income of millions of the population, was, no doubt, laid by as capital; but the great bulk of it went to increase the demand for articles of comfort, convenience, and luxury.”⁴⁰

³³ *The Times*, July 27, 1849; *The Times* February 28, 1850; *The Times* September 27, 1851.

³⁴ *The Economist*, June 14, 1851.

³⁵ George H. Wood, “Real Wages and the Standard of Comfort since 1850,” *Journal of the Royal Statistical Society*, vol. 72, no. 1 (March 1909): 91-103.

³⁶ Arthur L. Bowley, “The Statistics of Wages in the United Kingdom During the Last Hundred Years, (Part IV.) Agricultural Wages,” *Journal of the Royal Statistical Society*, vol. 62, no. 3 (September 1899): 555-570.

³⁷ *Ibid.*, 284.

³⁸ James Caird, *The Landed Interest and The Supply of Food*, 4th ed, (London: Cassell, Petter, Galpin & Co., 1880), 180.

³⁹ Augustus Sauerbeck, “Prices of Commodities and the Precious Metals,” *Journal of the Statistical Society of London*, vol. 49, no. 3 (September 1886): 581-684.

⁴⁰ Tooke, *History of Prices*, 282.

Interest rates were also on the increase consequent to vast expansions in virtually all areas of commerce and outflows of gold due to chronic trade deficits and exchange adjustments. Many contemporaries claimed the continued inflow of gold from Australia and California helped stave off even greater pressure in the money market. The managing partner of Overend and Gurney, the largest bill broker in London, stated, “We have looked to the arrival of these steamers from Australia as much almost as to anything else, to know whether we were safe in going on with our business.”⁴¹ Interest rates at the BOE and in the market would remain at relatively high levels from ‘54 through the remainder of our period of study.

The Crimean War (‘54–’55) had also been an influence on the economy, though not to any great extent, mainly “because the theatre of War was in a remote part of the East of Europe,” and “the enemy had practically no Navy that could molest” British commerce; even Russian goods made their way into Britain through Prussia.⁴² Still, while no conspicuous outsized disruptions resulted from war, there had been more subtle effects. Military spending had provided stimulus to certain industries, namely shipbuilding, iron, and coarse woolen and linens, while other industries paid higher prices for materials and labor—e.g., the Bradford worsted trade reported: “(H)ad the price of long wool been governed by the consumption for worsted purposes, it would have been lower than the present range. The large quantity of army contracts for low woollens that has been on the market, has materially aided in keeping English wools at the present quotations.”⁴³ The overall effects of war were, at best, to stagnate the economy.

Cotton

Cotton prices had fallen dramatically through much of ‘51 on news of a more favorable American crop than had been anticipated. The cotton supply in Britain in ‘52 was 23 percent greater than the year prior, and 40 percent greater than ‘50.⁴⁴ However, despite such a large increase in available raw material, the price of cotton increased 18.5 percent through ‘52, while yarn and cloth increased just 7.5 and 8.5 percent respectively. This was attributable to the industry reaching a level of “production” that “was never known to be more fully engaged than at present.”⁴⁵ New investments in machinery were so prolific in Lancashire it was reported: “the machine makers are said to be overwhelmed with orders,” and “many of the buildings now going up would in all probability not be at work before 1854, from the impossibility to get machinery for them.”⁴⁶ The Factory Inspector of that region had been awed by such a prolific extension to production:

At no period during the last seventeen years that I have been officially acquainted with the manufacturing district in Lancashire have I known such general prosperity; the activity in every branch is extraordinary. In my last report I gave an account of the vast increase of factories during the two preceding years, and there is no cessation, for new mills are going up everywhere. It is not to be wondered at, therefore, that I should hear of a great scarcity of hands, of much machinery standing idle from the want of people to work it, and of a rise of wages.⁴⁷

⁴¹ *Report from the Select Committee on Bank Acts; Part I*, 1857, 498.

⁴² Tooke, *History of Prices*, 323.

⁴³ *The Economist*, April 14, 1855.

⁴⁴ *Statistical Abstract*, 1847-1861.

⁴⁵ *The Economist*, September 4, 1852.

⁴⁶ *Reports of the Inspectors of Factories, Half-Year ending 31st October, 1852*, 23.

⁴⁷ *Reports of the Inspectors of Factories, Half-Year ending 30th April, 1853*, 36.

Toward the end of '53, however, the industry had begun to show signs of being overdone. The price of cotton had continued to rise, and competition to acquire labor had forced wages higher. In August of '53 it was lamented that "so far the increased price of materials and labor has had no influence in the cloth market," leaving manufacturers in "a much worse position"; and in September, "When we consider that within the last month wages has been advanced 10 per cent. throughout the district, and consequently the cost of production to that extent, and no part of this increased cost has been added to the prices that ruled before it took place, it is equivalent to a very considerable decline in the market value, so far as the producers are concerned."⁴⁸ The Lancashire factory inspector relayed his impressions on the state of trade at the close of '53:

I observe a growing impression among the occupiers of cotton-mills, that the fall of prices and the diminished sales felt by individual houses are to be accounted for in no small degree by the very great increase in the number of mills, causing production to go far beyond the demands of existing markets, numerous and extensive though they be. On this last ascribed cause of depression, I am enabled to state particulars which show that the increased production during the last three years must have been very great....It is self-evident that so great an increase must, on the one hand, tend to keep up or enhance the price of the raw material and of machinery, and of labourers, and thus increase the cost of production; while on the other hand, the competition to effect sales must still further tend to lower profits.⁴⁹

In 1854, the same inspector published a letter written to him by a factory owner whom he considered an authority on the industry; it read, "Millowners are unfortunately situated; dear cotton, high wages, dear coals, dear tallow, in short dear every thing wanted about a mill...rendering it impossible to produce yarn and goods at prevailing prices."⁵⁰

Throughout '54 and '55 reports of "very much...gloominess," "continued depression," and "the same dull feeling continues to prevail" were commonplace among the manufacturers.⁵¹ One manufacturer wrote in his December trade circular at the close of '55:

At no period has the margin been so small between the price of raw materials and that of the manufactured article....(I)n Manchester, a number of the spinners have taken the opportunity to close their mills in order to an adjustment of wages. All these circumstances lead us to the conviction that the margin allowed for cost of production and profit has been too small for a healthy trade to the millowners.⁵²

Throughout this period manufacturers had been well supplied with cotton. There had been no major crop failures, and total retained imports remained at unprecedentedly high levels from '52-'55. Still, the price of cotton from the start of '52 through the end of '55 rose about 15 percent, while the price of yarn and cloth actually fell about 3 and 5 percent respectively. Exports had increased slightly through this period, while home demand lagged, due primarily to high food costs, despite a historic harvest in '54 and an above average one in

⁴⁸ *The Economist*, September 10, 1853.

⁴⁹ *Reports of the Inspectors of Factories, Half-Year ending 31st October, 1853*, 13. Manufacturers also noted the "political state of Europe and the East" and "the bad harvest." But chief among the causes were overproduction.

⁵⁰ *Ibid.*

⁵¹ *The Economist*, March 25, October 28, 1854; August 4, 1855.

⁵² The December trade circular of Messrs Robert Freeland and Brother, quoted in *The Economist*, January 5, 1856.

‘55⁵³—undoubtedly, as mentioned above, the high price of food had been influenced by the much-increased wages paid to agricultural labor.

Woolen and Worsteds

These trades continued to labor under high costs of production throughout this period, with slight relief being afforded to those lines of the woolen trade who were fortunate enough to obtain military contracts during the war years (‘54-’55), namely clothiers who made “the lower and coarser kinds of goods.”⁵⁴

Prior to the war, there were weekly refrains from the worsted trade of “one general cry of loss, for to cover cost is impossible,” while the manufacturers of woolens made similar complaints. The only class of manufacturer doing fair business had been the clothiers of Leeds, who, in spite of the increasing price of “every article used in the fabrication of cloth, as well as the price of labour,” were still “running full time.”⁵⁵ This, however, had been accomplished, as reports from Leeds indicate, by “the admixture of other materials with wool,” as well as the intermixing of “shoddy” wool.⁵⁶ In fact, it was reported that “(c)ould cloth be made of new wool only, it is questionable whether more than one-half, or, at most, two-thirds of the persons now engaged in the woollen manufactures could be so employed.”⁵⁷

The war years (‘54-’55) saw government outlays “cause continuous activity”⁵⁸ in some lines of trade, while most continued to flounder. The only bright spot for the trades in general had been that the price of wool, which had risen considerably from ‘50-’53, began to fall in ‘54 and remained at relatively low levels through ‘55. This had been the result of substantially diminished production—particularly of worsted goods, when, in ‘54, a report out of Bradford indicated that “the quantity of machinery now in operation is little if any over 25 per cent., or three-quarters idle.”⁵⁹ The consequent depressing effect on wool prices had given a beleaguered woolen and worsted manufacturer some hope; though this would prove temporary.

Silk

The silk industry followed a similar pattern to that of cotton. After struggling through several years of unprofitable trade, largely attributable to crop failures, the silk manufacturers rebounded very strongly from the end of ‘51 through the latter part of ‘53; silk supplies in ‘52 were 21 percent higher than in ‘51.⁶⁰ With plentiful raw material, cheap money, relatively cheap labor, along with strong home and foreign markets where “demand in many instances far exceed(ed) supply,”⁶¹ conditions appeared propitious to investors, and, consequently, vast

⁵³ Caird, *Supply of Food*, 180.

⁵⁴ *Leeds Intelligencer*, quoted in *The Times*, January 1, 1855.

⁵⁵ *The Times*, April 4, 1853.

⁵⁶ *The Times*, March 7, February 1, 1853.

⁵⁷ *The Times*, September 5, 1853.

⁵⁸ Tooke, *History of Prices*, 324.

⁵⁹ *The Economist*, November 25, 1854.

⁶⁰ *Statistical Abstract*, 1847-1861.

⁶¹ *The Economist*, August 6, 1853.

additions to fixed capital were made—according to the factory inspectors’ figures, between ‘50–’56 total nominal horse power had increased by an astounding 39 percent, most of which came between ‘52–’54.⁶²

Under such a prolific expansion costs began to mount. From the start of ‘52 until the industry began to reduce its output toward the end of ‘53 the price of Chinese silk had increased by about 15 percent. Wages were also on the rise: in Cheshire in ‘52 it was reported, “Our throwsters are all working their mills full time, and rather complaining of a scarcity of hands,” and later in the year, “the complaints are general that hands are scarce in this department,” while in Nottinghamshire in ‘53, “the manufacturers have now a serious difficulty to struggle with in the advances demanded by the hands.”⁶³

By the end of ‘53 many of the manufacturers were running their mills on “short time,” and would continue doing so through ‘55. In fact 1854 had been such a disappointment to the silk manufacturer that *The Times* reported, “None of our manufacturers can be induced to review with us the operations of the past year—they contrast so unfavourably with the several years preceding—and few can be induced to look with much hope into the coming 12 months.”⁶⁴

It can be inferred from several reports that the difficult position of the manufacturers had been the result of improvident extensions of production. One report in ‘54 noted, “It is surprising that, with the production of manufactured goods, limited as it is, yarns are rising in value,” while another report read, “It is remarkable that amid all the complaints made this year respecting the lace trade there has been no material diminution either in the quantity or value of lace exported during the last six months, as compared with the same period last year.”⁶⁵

1856–1857

As the countries of Europe reverted back to peacetime economies following the conclusion of war an abrupt export boom ensued, giving much needed hope to a floundering British economy—total value of British-made exports increased by 21 percent between ‘55–‘56 and 28 percent between ‘55–‘57.⁶⁶ However, while the economy was undoubtedly *active*, business grew increasingly unprofitable for the textile industries. Factories that had curtailed production over the prior two years began increasing their produce, and even some new factories were constructed, which exacerbated cost/price divergences. By early ‘57 “short time” was resorted to by many of our factory owners, and their condition only worsened through the year.

Interest rates from the latter quarter of ‘55 until the crisis in November ‘57 had been relatively high. The rate of discount at the BOE and in the market had been at or above 6 percent for the majority of this period.

Partially in response to a September ’57 financial panic in American and partly to domestic pressures, the BOE raised its discount rates on October 8th from 5.5 to 6 percent, and again on the 12th and the 19th to 7 and 8 percent. While textile manufacturers had handled previous increases to 6 and 7 percent with relative ease,

⁶² *Reports of the Inspectors of Factories, Half-Year ending 31st October, 1856*. Capital investment in ’54, which was a very unprofitable year, is attributable to the time required for construction.

⁶³ *The Economist*, July 24, September 18, 1852; September 24, 1853.

⁶⁴ *The Times*, January 8, 1855.

⁶⁵ *The Times*, November 13, August 7, 1854.

⁶⁶ *Statistical Abstract*, 1847-1861.

or even “with great delight,”⁶⁷ this time was different. Many cotton, woolen, worsted, and silk manufacturers had already been running their mills part time, and failures had grown increasingly common in the weeks leading up to the October rate increases. These rate hikes only exacerbated our manufacturer’s already severely depressed state.

It is worth noting that the cost of food remained at very high levels—despite an above-average harvest in ‘56 and a large one in ‘57⁶⁸—in part due to a “scarcity of hands” in agricultural districts.⁶⁹ In fact former parliament member and railroad magnate Sir Morton Peto in a letter to *The Times* expressed the following complaint: “The prices of harvest labour has risen until the farmers outbid railway contractors, and we find ourselves compelled to suspend, for the present, the execution of all but very pressing public works. Navvies who were earning from 4s 3d to 4s 6d a day have left us because they can earn more at harvesting.”⁷⁰ Sir Peto beseeched parliament to permit soldiers stationed in rural districts to work for wages during harvest in an effort to alleviate the labor shortage. Such labor costs kept food prices high, reducing society’s purchasing power.

Cotton

Following the close of ‘55, when it had been reported, “At no period has the margin been so small between the price of raw materials and that of the manufactured article,” the price of cotton continued to mount in ‘56, despite the largest supply of cotton in the country as well as the largest American cotton crop to that point.⁷¹ The price of raw cotton had increased by about 25 percent in ‘56, while yarn and cloth increased by about 15 and 8 percent respectively. This divergence put increased pressure on an already margin-squeezed manufacturing community, as indicated in this July report: “The fact is manufacturers are in a more unsatisfactory position than they have been for a year or two, the cotton and yarn prices having risen out of all proportion to the obtainable advance upon cloth, and it is not improbable that many looms may shortly cease to be worked.”⁷²

So, while the industry had indeed evinced “unexampled energy,” as one Manchester manufacturer recounted in their year-end trade circular, the manufacturers “generally have to congratulate themselves more on the immense extent of business than on the amount of profit which has been realized.”⁷³ Interestingly, the same manufacturer wrote, “Though money throughout a considerable portion of the year has ranged from 6 to 7 per cent. for the discount of commercial paper, it has had no sensible influence on the trade of the district.”⁷⁴ This would not be the case a year later.

⁶⁷ *The Economist*, October 11, 1856; see also *The Economist*, November 29, 1856, article “High Rate of Interest Compatible with Prosperous Trade”

⁶⁸ Caird, *Supply of Food*, 180.

⁶⁹ *The Economist*, December 6, 1856.

⁷⁰ Quoted in *The Economist*, August 16, 1856.

⁷¹ Thomas Ellison, *The Cotton Trade of Great Britain*, (New York: A. M. Kelley, 1968 [1886]), Appendix, Table no. 3.

⁷² *The Economist*, July 19, 1856.

⁷³ December trade circular of Messrs. Robert Barbour, quoted in *The Times*, January 3, 1857.

⁷⁴ *Ibid.*

Cotton prices continued to escalate in '57 and more and more manufacturers were forced to either reduce production or liquidate completely. Reports from the manufacturers in '57 indicate “the position of producers has been at a greater disadvantage than ever”; and “for some months there has hardly passed a week in which failures of more or less consequence have not occurred.”⁷⁵ Total cotton supplies in the country had slipped by about 5 percent from '56,⁷⁶ partly due to reduced production and partly due to an American crop that was 16 percent smaller than the crop from the year prior; this American shortfall was made up by increased imports from the “East Indies” by about 39 percent, or 25.8 percent of total imports, up from 17.6 percent in '56.⁷⁷

Additionally, competition to acquire cotton had been on the rise from sources outside of the British cotton industry. As noted above, woolen and worsted producers had increasingly spun cotton into their products to help alleviate the high cost of wool. Also, continental manufacturers, in '56 and '57, obtained greater shares of the American crop than they had previously—in '48-'55 Great Britain had imported between 68-71 percent of the American crop, whereas in '56 and '57 British imports had fallen to 65 and 63.4 percent of the American crop respectively. This can be attributed to profitable manufacturing in Europe, but also to unprofitable business in Britain.

Undoubtedly, the drop-off in the '57 American crop (though the crop was by no means small, and was exceeded only by those of '56 and '53), along with increased competition played *some* factor in the British manufacturer's difficulties, but they cannot be held as the *primary* cause. The American cotton crops of '52-'55 were all considered large, and in each year 68-69 percent of those crops went to Britain.⁷⁸ Total retained imports for these years were all within 4 percent of one another and were larger than every year prior to '52, yet, as we have seen, the divergence between raw cotton and cloth had continued to grow. In '56, while British claims on American cotton exports fell to 65 percent, the size of the crop along with total retained imports in Britain had been the largest to date (by a fair margin), and these divergences persisted. Ultimately, from the start of '52 (roughly the start of the boom in the cotton industry) to the price peaks in '57 the price of raw cotton increased by roughly 82 percent, while yarn and cloth increased by about 37 and 24 percent respectively. These vast divergences, coupled with wages in the cotton industry increasing by about 15 percent over this period (and 20 percent from '48-'57),⁷⁹ the preponderance of evidence points to systemic malinvestments as the culprit of the cotton manufacturer's plight.

Following the BOE's rate increase to 6 percent on October 8th, a report out of Manchester read, “The advance in discounts, the monetary crisis in America, and the stoppage of several more silk houses in this town (making a total of nearly 20 within a very short space of time), have all tended to induce caution among buyers”; and after another increase on the 12th, “We continue to have a dull market for almost all kinds of cloth and yarn, the caution induced by the state of the money-market and by recent failures being quite as marked as

⁷⁵ *The Economist*, May 2, May 30, 1854.

⁷⁶ *Statistical Abstract*, 1847-1861.

⁷⁷ Ellison, *The Cotton Trade*, Appendix, Table no. 3.

⁷⁸ *Ibid.*

⁷⁹ George H. Wood, *The History of Wages in the Cotton Trade During the Past Hundred Years*, (London: Sherratt and Hughes, 1910), 127-128.

it was some days ago.”⁸⁰ Following the increase to 8 percent on October 19th there had been “a virtual suspension of operations in either goods or yarns” in Manchester,⁸¹ and by the end of October, it was reported that cotton prices had fallen at a rate “unexampled in recent times.”⁸² By the first week in November (with rates still at 8 percent) all Manchester manufacturers were running “short time” and it was “now debated of rather closing mills for a time wholly,” and by the third week, with the crisis at a fever pitch, a report read, “The amount of limitation in spinning and manufacture is now estimated to exceed one third of the usual aggregate production.”⁸³

Woolen / Worsteds

The price of wool, which had fallen consequent to reduced production during the war years, increased from the start of ‘56 to its peak in ‘57 between 30-35 percent. The increasing price of the raw material, coupled with no relief in labor costs put the manufacturers of both woolen and worsted goods in an ever-tightening cost-price squeeze. While records for prices of finished or near-finished wool products are not as copious as those of the cotton industry, all available information indicates that prices of later-stage goods were far outstripped by the price of raw material. According to economic historian J.R.T. Hughes, writing in 1956, “In 1855-57...raw wool rose by 57 per cent. while the export price of yarn rose only 8 per cent. and cloth seems to have actually declined” (yearly averages).⁸⁴ Hughes was using prices of exports sold in Hamburg for these quotations which indeed show woolen and worsted cloth prices decline by nearly 7 percent from ’55-‘57. According to the country’s Board of Trade woolen and worsted yarns had increased by 21 percent between ‘55-‘57 (yearly averages).⁸⁵

This data comports with the reports from the manufacturers of Yorkshire. While in previous years, as has been discussed, the clothiers of Leeds had been able to cope with rising wool prices by adulterating their goods, in ‘57 their inventiveness reached its limits. In January it was reported, “The ingenuity of manufacturers...is such that there seems scarcely any limit to their introducing material to combine with pure wool, and thereby extend the woollen manufacture”; but in February, “A few of the smaller manufacturers in this district are curtailing productive powers, as they find it almost impossible, with the continually advancing state of the raw material, to secure adequate remuneration”; in April, “Operatives are not in full work at present, and some of the mills are said not to be running more than three or four days a week”; and by early October, “Late prices are held firm by the manufacturers, who say it is impossible for them to reduce them and have a living profit, as wool and dye wares are both creeping upwards.”⁸⁶ The makers of other woolen goods in other regions of Yorkshire were in an identical state.

Worsted manufacturers were in a similar position, and expressed near-weekly concerns that “the high price of everything to make goods suitable for the approaching season, causes the manufacturers to pause, as

⁸⁰ *The Times*, October 12, October 19, 1857.

⁸¹ October 20, 1857 trade circular of Messrs. M’Nair, Greenhow, and Irving, quoted in *The Economist*, October 24, 1857.

⁸² *The Economist*, October 31, 1857.

⁸³ *The Economist*, November 21

⁸⁴ Hughes, “The Commercial Crisis of 1857,” 210.

⁸⁵ Great Britain Board of Trade, *Wholesale and Retail Prices*, (London: Darling and Son, 1903) 60.

⁸⁶ *The Times*, January 5, February 16, April 20, October 5, 1857.

they are unwilling to make goods for stock and the prices offering would only entail a great loss"; and in October, following the initial rise in interest rates, "the recent failures have cast a gloomy shade over the market, and merchants remain inactive."⁸⁷

While the total supply of wool in the country is unknown, as no accounts of home grown wool were taken, retained imports in '57 were the second highest total to that point; both imports and re-exports had been the highest to date.⁸⁸ The home cultivation of wool is an interesting topic in the context of ABCT. Certainly farmers and herders had seen the costs of maintaining sheep rise dramatically throughout period. In '55, John Mechi, who was regarded as one of the foremost agriculturalists of the time, had reportedly cut back on his number of sheep: "Stocks, which is at present unprofitable to feed, is not kept in any great quantity."⁸⁹ While another report that year read:

The distress for sheep-keeping together with the high price of hay, have placed the stock farmers in the greatest difficulties. We have heretofore known nothing like it. The clovers and grass lands, intended for mowing (wherever stock is kept) have been fed with the rest of the farm, and still the store stock are miserably lean; while it has been impossible, since the turnips and mangold have been exhausted, to keep feeding animals in condition.⁹⁰

Farmer's Magazine reported in '56, "The high price of corn...the last two or three years, has induced some to part with their flocks, and break up their pasture lands, which will be felt in the reduction of the quality of wool from the present time."⁹¹ Similar complaints were made in '57:

Indeed, this season has filled the graziers with unusual perplexity, and many fears are expressed relative to the cost and kind of stock best worth grazing. The cost has been enormous; hundreds of acres have averaged a cost of 53l. to 40l. per acre in the stocking, and the common ordinary grazing lands have required an outlay of 15l. to 25l. per acre. It is the universal opinion of graziers that it will be an unprofitable year for their business.⁹²

Labor costs had undoubtedly weighed heavily on cultivators of wool as well. An article in the *Journal of the Statistical Society of London* in 1859 elaborated the labor-intensive nature of bringing wool to market; it goes through "processes" (34 processes to be exact) which are "greatly more numerous than those required by any other textile manufacture," which, in turn, "will tell materially on the quantity or the price of the goods produced."⁹³ As has already been noted, the price of agricultural labor had increased greatly through our period, which, to some degree, must have militated against the price of wool paid by manufacturers.

It should be noted that a much more thorough investigation into agricultural costs, prices, and the markets in general is required. The factors behind farmers' decisions on how best to utilize their space is

⁸⁷ *The Economist*, January 17, October 17, 1857.

⁸⁸ *Statistical Abstract*, 1847-1861.

⁸⁹ *The Times*, quoted in *The Economist*, August 4, 1855. This was from a review of a lecture given by Mr. Mechi.

⁹⁰ *The Economist*, June 9, 1855.

⁹¹ *Farmer's Magazine*, 1855, 32.

⁹² *Mark Lane Express*, quoted in *The Economist*, June 13, 1857.

⁹³ Edward Baines, "On the Woollen Manufacture of England: With Special Reference to the Leeds Clothing District," *Journal of the Statistical Society of London*, vol. 22, no. 1 (March 1859): 1-34.

obviously a very complicated subject, and is beyond the scope of this paper. We can reasonably infer, however, that maintaining stock and clipping/refining wool had grown increasingly expensive through our period.

Silk

Silk manufacturers were similarly situated, as the cost of Chinese silk increased by over 50 percent between the start of '56 and its peak in '57—this despite the silk supply in Britain in '57 increasing by an incredible 74 percent from the year prior, and 61 percent over the previous record-highs of '54.⁹⁴ These price increases could not be passed on to the consumers, as the best available data indicates the price of finished goods remained level or even fell slightly. According to the country's official export figures, prices of manufactured goods exported to France fell slightly between '55-'57, while goods exported to Belgium were down about 4 percent.⁹⁵

The silk trade had partaken to a great extent in the post-war export boom, as the value of finished goods exported increased by 64 percent between '55-'56.⁹⁶ This brought into operation much machinery that had been sitting idle over the depressed years of '54-'55, and even some new machinery—e.g., a report from February 1857 read, “A large number of lace machines are being built, many additional factories are about to be erected, and during the last few months the number of warehouses opened for business by newly formed firms is a matter of astonishment.”⁹⁷

Exports continued to rise in '57, but escalating costs grew increasingly burdensome, and by February it was reported, “Notwithstanding this prosperous state of things, however, some of the machine owners complain much of the difficulty of working without loss, in consequence of silk, spun silk, and cotton yarns having become so excessively dear.”⁹⁸ In April, one report indicated the lace trade was in such a “languid state” that “(s)ome manufacturers are resorting to the system of selling lots by tender in London, and about 30,000l. worth of goods have been sent up this week, some of which have been sold at a reduction of 60 per cent.; in some cases even more.”⁹⁹ The lot of the silk manufacturer only grew worse, and, as was noted above, failures among factory owners were commonplace in the months leading up to the crisis.

The Crisis

The crisis, which culminated in the first weeks of November, was marked most notably by mercantile failures: “*Fifty millions sterling* are computed as the liabilities of the mercantile houses who have succumbed to the pressure of the last few months, and the losses which will result from their suspension are but a small part of those of the whole community.”¹⁰⁰

⁹⁴ *Statistical Abstract*, 1847-1861.

⁹⁵ *Statistical Abstract*, 1849-1867.

⁹⁶ *Statistical Abstract*, 1847-1861.

⁹⁷ *The Times*, February 2, 1857.

⁹⁸ *The Times*, February 9

⁹⁹ *The Economist*, April 25, 1857.

¹⁰⁰ Callender, *The Commercial Crisis*, 5.

As we have already seen from our textile manufacturers, many buyers of the merchants' goods were amid an ever-worsening depression in '57. The increase in interest rates from 5.5-8 percent through October acted as the proverbial 'last straw' as many manufacturers were forced to either reduce output (even more than they already had) or cease production altogether. These cutbacks put downward pressure on the value of merchants' goods: "It was during the first fortnight in October that the prices of marketable commodities were generally affected, and several mercantile failures took place, while the Bank of England gradually raised the rate of discount from 5 1/2 to 8 per cent."¹⁰¹

This put tremendous pressure on the financial system and an overwhelming demand for liquidity ensued. Much of this pressure fell on the BOE, where it was reported that loans were granted "upon securities which, under other circumstances, the Bank would have been unwilling to accept."¹⁰² Ultimately, the restrictions imposed upon the BOE by the Bank Act of 1844 were suspended on November 12th.

The effects of the crisis were said "to have been the most severe that England, or any other nation, has ever encountered."¹⁰³ Another contemporary economist wrote, "It will not be surprising to hear that the disasters of 1857 far exceed those of any former period."¹⁰⁴ Economic historian John Clapham wrote, "Industrially, and from the workman's point of view, 1858 was one of the worst years of the later nineteenth century, probably worse than 1879 and 1886; and for the whole country worse than the cotton famine of the sixties, when Lancashire was thrown idle but Yorkshire and Belfast thrown busy."¹⁰⁵

By 1857 the British people had unfortunately grown accustomed to periods of boom and bust, which seemed to recur about every ten years or so. Some decried the Bank Act of 1844 and its restrictions on the money supply during times of stress, while others pointed to undue speculation and other unscrupulous business practices. Though many astute observers were in agreement that boom periods, at their heart, were times of fleeting prosperity. As one economist wrote, "So uniform is this sequence, that whenever we find ourselves under circumstances that enable the acquisition of rapid fortunes, otherwise than by the road of plodding industry, we may almost be justified in arguing that the time for panic is at hand."¹⁰⁶

¹⁰¹ Evans, *History of Commercial Crisis*, 35.

¹⁰² *Report from the Select Committee on the Bank Acts, 1858*, x.

¹⁰³ Evans, *History of Commercial Crisis*, v.

¹⁰⁴ Callender, *The Commercial Crisis*, 5.

¹⁰⁵ John Clapham, *The Bank of England, A History, Volume II*, (New York: The Macmillan Company, 1945), 238.

¹⁰⁶ Evans, *History of the Commercial Crisis*, 1.

Selected Bibliography

- Ashton, T.S. *The Industrial Revolution*. Oxford University Press: Oxford and New York, 1997 [1968].
- Bartley, W. W. III and Stephen Kresge, ed. *The Collected Works of F. A. Hayek, The Trend of Economic Thinking, Essays on Political Economists and Economic History*. Indianapolis: Liberty Fund, 1991.
- Baines, Edward. "On the Woollen Manufacture of England: With Special Reference to the Leeds Clothing District." *Journal of the Statistical Society of London*, vol. 22, no. 1 (March 1859): 1-34.
- Bell, Lowthian. *The Iron Trade of the United Kingdom*. London: British Iron Trade Association, 1886.
- Beveridge, William. "The Trade Cycle in Britain before 1850." *Oxford Economic Papers*, no. 3 (February 1940): 74-109.
- Bowley, Arthur L. *Wages in the United Kingdom in the Nineteenth Century*. New Jersey: Augustus M. Kelley, 1972 [1900].
- Bowley, Arthur L. "The Statistics of Wages in the United Kingdom During the Last Hundred Years. (Part IV.) Agricultural Wages." *Journal of the Royal Statistical Society*, vol. 62, no. 3 (September 1899): 555-570.
- Caird, James. *The Landed Interest and The Supply of Food*, 4th ed. London: Cassell, Petter, Galpin & Co., 1880.
- Callendar, William Romaine. *The Commercial Crisis of 1857*. London: Longman, 1858.
- Clapham, John. *The Bank of England, A History, Volume II*. New York: The Macmillan Company, 1945.
- The Economist*. 1846-1858.
- Ellison, Thomas. *The Cotton Trade of Great Britain*. New York: A. M. Kelley, 1968 [1886].
- Evans, D. Morier. *The History of the Commercial Crisis, 1857-58, and the Stock Exchange Panic of 1859*. London: Groombridge and Sons, 1859.
- Ferguson, Niall. *The Ascent of Money, a Financial History of the World*. New York: Penguin Books, 2008.
- First Report from the Secret Committee on Commercial Distress*, 1848.
- Garrison, Roger W. *Time and Money, The Macroeconomics of Capital Structure*. New York: Routledge, 2001.

Gayer, Arthur, W. W. Rostow, and Anna Jacobson Schwartz. *The Growth and Fluctuation of the British Economy, 1790-1850*. New York: Harper and Row Publishers, 1975.

Gibbs, Henry S. *Autobiography of a Manchester Cotton Manufacturer*. London: John Heywood, 1887.

Great Britain Board of Trade. *Wholesale and Retail Prices*. London: Darling and Son, 1903.

Huerta de Soto, Jesus. *Money, Bank Credit, and Economic Cycles*, 2d ed. Auburn: Ludwig von Mises Institute, 2009.

Hughes, J. R. T. *Fluctuations in Trade, Industry, and Finance—A Study of British Economic Development 1850-1860*. London: Oxford University Press, 1960.

Hughes, J. R. T. “The Commercial Crisis of 1857.” *Oxford Economic Papers*, vol. 8, no. 2 (June 1956): 194-222.

Hulsman, Jorg Guido. *The Ethics of Money Production*. Auburn: Ludwig von Mises Institute, 2008.

James, John. *History of the Worsted Manufacture in England*. London: Longman, Brown, Green, Longmans, and Roberts, 1857.

Jevons, W. Stanley. *Investigations in Currency and Finance*. London: Macmillan and Co., 1909.

King, W. T. C. *History of the Discount Market*. London: George Routledge and Sons, 1936.

The Leed's Mercury. 1848-1857.

The Manchester Times. 1856.

Mineral Statistics of the United Kingdom of Great Britain and Ireland. 1854-1857.

Mises, Ludwig von. *Human Action*. San Francisco: Fox and Wilkes, 1963 [1949].

Pim, Jonathan. *The Condition and Prospects of Ireland, and the Evils Arising from the Present Distribution of Landed Property: with a Suggestion for a Remedy*. Dublin: Hodges and Smith, 1848.

The Registrar-General. *The Census of Great Britain in 1851*. London: Longman, Brown, Green, and Longmans, 1854.

Report from the Select Committee on Bank Acts; Part I. 1857.

Report from the Select Committee on Bank Acts; Part II. 1857.

Report from the Select Committee on the Bank Acts. 1858.

Reports of the Inspectors of Factories. 1847-1857, 1861.

Rothbard, Murray. *Economic Thought Before Adam Smith, An Austrian Perspective on the History of Economic Thought*, vol. 1. Auburn, Ludwig von Mises Institute, [1995] 2006.

Rothbard, Murray. *Mystery of Banking*, 2nd ed. Auburn, Ludwig von Mises Institute, 2008.

Rule, John. *The Labouring Classes in Early Industrial England, 1750-1850.* New York: Addison Wesley Longman, 1986.

Salerno, Joseph T. "A Reformulation of Austrial Business Cycle Theory in Light of the Financial Crisis." *The Quarterly Journal of Austrian Economics*, vol. 15, no. 1 (Spring 2012): 3-44.

Sauerbeck, Augustus. "Prices of Commodities and the Precious Metals." *Journal of the Statistical Society of London*, vol. 49, no. 3 (September 1886): 581-684.

Scrivenor, Harry. *History of the Iron Trade, From the Earliest Records to the Present Period.* London: Longman, Brown, Green, and Longmans, 1854.

Shannon, H. A. "Bricks—A Trade Index, 1785–1849." *Economica*, vol. 1, no. 3 (August 1934): 300-318.

Silberling, Norman J. "British Prices and Business Cycles, 1779-1850." *The Review of Economics and Statistics*, vol. 5 (October 1923): 223-247.

Smith, F. W. *The Irish Linen Trade Hand-Book and Directory.* Belfast: W. H. Greer, 1876.

Smith, Vera C. *The Rationale of Central Banking and the Free Banking Alternative.* Indianapolis: Liberty Fund, 1990. Accessed at the Library of Economics and Liberty, October 20, 2011, <http://www.econlib.org/library/LFBooks/SmithV/smvRCB0.html>

Statistical Abstract for the United Kingdom in each of the last fifteen years, from 1847 to 1861.

The Times. 1846-1858.

Thomas Tooke and William Newmarch. *A History of Prices and of the State of the Circulation During the Nine Years 1848-1856.* London: Longman, Brown, Green, Longmans, and Roberts, 1857.

C. N. Ward-Perkins. "The Commercial Crisis of 1847." *Oxford Economic Papers*, vol. 2, no.1 (January 1950): 75-94.

Warden, Alex J. *The Linen Trade, Ancient and Modern*. 2d ed. London: Longman, Green, Longman, Roberts and Green, 1867.

Wood, George H. *The History of Wages in the Cotton Trade During the Past Hundred Years*. London: Sherratt and Hughes, 1910.

Wood, George H. "Real Wages and the Standard of Comfort since 1850." *Journal of the Royal Statistical Society*, vol. 72, no. 1 (March 1909): 91-103.