Government Policy during the British Railway Mania and the 1847 Commercial Crisis

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Gareth Campbell,
Queen's University Management School,
Queen's University Belfast,
Belfast,
BT7 1NN
(gareth.campbell@qub.ac.uk)

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1 Introduction

During the 1840s, Britain experienced a period of financial turbulence. Railway share prices rose and fell dramatically during the Railway Mania, there was a surge and then crash in the price of corn, and a Commercial Crisis followed. The development of an asset price reversal, a commodity price reversal, and problems in the commercial and banking sectors within such a short period of time makes this a particularly interesting episode, and the variety and intensity of events makes it a useful study in how to deal with financial instability.

The turbulence began with the Railway Mania, which occurred between 1843 and the autumn of 1845, during which the prices of railway shares doubled, and thousands of new railway lines were projected. However, share prices then fell, and the railway industry endured a sustained downturn. The corn market also experienced a sharp price reversal soon afterwards, with prices rising rapidly between the summer of 1846 and June 1847, but then falling sharply thereafter. This exposed merchants who had speculated on prices remaining high, leading to the failure of a number of firms within the corn sector in August 1847. The problems quickly spread to other merchants and financial institutions, producing difficulties within the money market. The situation was compounded by the low reserve of the Bank of England, which restricted the ability of the Bank to supply credit. The panic was only relieved in October 1847 when the government relaxed the constraints within which the Bank operated.

The response of the British government to each of these developments can provide some insights into the challenges of legislating for stability. Parliament introduced several measures which could potentially have mitigated the extent of the difficulties, but these were generally ineffective. In some instances there was a conflict between stability and other goals, in other instances legislation had unintended consequences, whilst in most cases the focus was on small incremental changes which minimised opposition. The most effective policy was introduced in the midst of the crisis, when these considerations were less influential. Although this intervention may have increased moral hazard, by increasing expectations that similar policies would be pursued in future crises, the benefits almost certainly outweighed the costs.

The analysis in this paper suggests that designing legislation ex-ante, before the nature and extent of the instability is clear, can be challenging. Proposals for financial reform may have some marginal benefit, but measures which are stringent enough to prevent future crises are unlikely to be politically acceptable. This implies that is probable that periods of financial distress will occur again, and the authorities should be prepared to intervene robustly when the next episode of instability arises.

This paper also contributes to our historical understanding of the financial events of the 1840s, building on other literature which has discussed the development of the Railway Mania[1], and the Commercial Crisis[2]. In addition, it increases our understanding of specific

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[1] Bryer, R. A. 2003, "Accounting for the 'Railway Mania' of 1845–a Great Railway Swindle?" *Accounting, Organisations and Society*, 16(5/6):439-486, McCartney, Sean, and A. J. Arnold 2003, 'The Railway Mania of 1845-1847: Market Irrationality or Collusive Swindle Based on Accounting Distortions?' *Accounting, Auditing and Accountability Journal* 16(5): 821-52. Odlyzko, A. 2010, *Collective Hallucinations and Inefficient Markets: The British Railway Mania of the 1840s*, University of Minnesota.

[2] Andréadès, A. 1909, *History of the Bank of England*, P.S. King & Son, London, Clapham, J. 1944, *The Bank of England: a History*, Cambridge University Press, Cambridge, Gayer, A.D., Rostow W.W. and Schwartz A.J. 1953, *The Growth and Fluctuation of the British Economy, 1790-1850*, Oxford University Press, Ward-Perkins, C.N. 1950, 'The Commercial Crisis of 1847', *Oxford Economic Papers,* 2(1):75-94, Dornbusch, R. and Frenkel, J.A. 1984, 'The Gold Standard and the Bank of England in the Crisis of 1847', in Bordo, Michael D., and Schwartz Anna J., Eds., *A Retrospective on the Classical Gold Standard, 1821–1931,* University of Chicago Press, Chicago and Boot, H.M. 1984, *The* Commercial Crisis *of 1847*. Hull: Hull University Press, Occasional Papers in Economic and Social History No. 11.

episodes of bubbles and crises, adding to research on periods such as the Tulip Mania[3], the South Sea Bubble[4], the Mississippi Scheme[5], and the Great Depression[6].

This chapter is structured as follows: Section 2 explores the Railway Mania, Section 3 considers the corn price reversal, Section 4 examines the Commercial Crisis, with Section 5 being a brief conclusion.

2 Railway Mania

The British Railway Mania of the mid-1840s was characterised by a widespread enthusiasm for investing in railway shares. The industry had essentially begun in 1830, with the opening of the Liverpool and Manchester railway, but during the subsequent years many other lines were projected, and by 1842 there were 1,951 miles of railway track open in Great Britain[7]. However, the early 1840s had been a period of poor economic growth, and the demands of paying for the construction of new lines had led to difficulties within the industry.

Railway share prices then began to rise rapidly, almost doubling between January 1843 and August 1845, as shown in Figure 1. Improvements in the economy, and a reduction in fares by the railways, led to higher passenger numbers, revenues and profits, and an analysis of those railways established before the Mania, suggests that their dividends rose steadily from 4.4 per cent of par value in 1843 to 7.0 per cent in 1847[8]. The projection of new railway

[3] Garber, P.M. 2001. *Famous First Bubbles, the Fundamentals of Early Manias*, MIT Press.
[4] Dale, R., Johnson, J.E.V. and Tang, L. 2005. Financial Markets can Go Mad: Evidence of Irrational Behaviour during the South Sea Bubble. *Economic History Review,* 58(2):233-271.
[5] Velde, F.R., 2007. "John Law's System," American Economic Review, American Economic Association, 97(2):276-279.
[6] Bernanke, B.S. 1983, Nonmonetary Effects of the Financial Crisis in the Propagation of the Great Depression, *The American Economic Review*, 73(3):257-276; Eichengreen, B. And Temin, P. 2000, "The Gold Standard and the Great Depression," *Contemporary European History* 9(2):183-207; Romer, C.D. 1990. "The Great Crash and the Onset of the Great Depression", *The Quarterly Journal of Economics*, 105(3):597-624; Grossman, R.S. 1994, "The Shoe that Didn't Drop: Explaining Banking Stability During the Great Depression", *The Journal of Economic History*, 54(3):654-682.
[7] Mitchell, B. R. 2003, *International Historical Statistics: Europe 1750-2000*, Palgrave Macmillan, 674
[8] Author's calculation based on dividend data from the *Course of the Exchange.*

schemes also increased dramatically during this period. The number of railway securities listed on the London Stock Exchange underestimates the extent of promotion as only a small proportion ever achieved a listing, but the number of listed securities appears to follow the pattern in prices with a lag, as shown in Figure 1. These new schemes offered payment terms which were initially very attractive to investors, as individuals could subscribe for shares by paying just a small deposit, rather than the total cost immediately.

<< INSERT FIGURE 1 >>

In the autumn of 1845 railway share prices began to fall, declining by 18.2 per cent between their peak in August 1845 and the end of November 1845. After a brief recovery, prices continued to fall until April 1850, with a decline of 57.5 per cent from peak to trough. The initial declines coincided with the onset of economic difficulties associated with a poor harvest and the onset of the Irish Famine[9]. Perhaps of greater long-term importance was the unprecedented volume of railway promotion which peaked in the latter half of 1845. During the downturn the railway industry struggled to complete many of the lines which it had attempted to construct, and many lines were abandoned or suspended[10]. However, many other lines did open, trebling the size of the network to 6,123 miles by 1850[11], but they tended to earn lower returns, and increased competition within the network, leading to the dividend/par ratio of the railway industry falling from a peak of 7.0 per cent in 1847 to just 2.4 per cent by 1852[12]. During subsequent decades there was a legacy of low returns on capital.

The key drivers of the Mania were changes in dividends, the projection of new companies, and the instalment payment plans for shares. The government could have restrained the

[9] *Economist*, October 18, 1845, 997
[10] Lewin, H.G. 1936, *The Railway Mania and its Aftermath, 1845-1852*, The Railway Gazette, 480-483
[11] Mitchell, B. R. 2003, *International Historical Statistics: Europe 1750-2000*, Palgrave Macmillan, 674
[12] Author's calculation based on dividend data from the *Course of the Exchange.*

speculation, at least to some extent, by targeting any or all of these factors. Although it did make some attempts to do so, its policies were generally ineffective, as will be discussed in the remainder of this section.

2.1 Regulation of Profits

The initial increase in railway dividends during the mid-1840s was a major factor in the development of the Railway Mania, with investors bidding up share prices in response to the higher payouts which were expected. If the government had regulated how much profits the railways could have earned, and consequently how much of a dividend they could pay, speculation amongst investors about future returns could have been diminished. As it could be argued many of the early railways were earning monopoly profits, given the limited competition on the pre-Mania network, such a restriction would not necessarily be unjustified.

Indeed, an extensive Parliamentary Select Committee investigation into the railways in 1844 suggested that the government should have certain rights over railways which were earning high profits. They proposed that the state should have the option to purchase a railway, or to revise its fares, if it was earning an annual profit greater than 10 per cent of its paid up capital in fifteen years[13]. The purchase option would allow a railway to be purchased for 25 times profits, whilst the revision option would allow the government to lower fares if they compensated the railway company for any reduction in profits this caused. William Gladstone, the President of the Board of Trade, went even further, and introduced a Bill[14] which proposed that any railway could be purchased, and stated that the rate of profit used in the calculation of the purchase price should be limited to 10 per cent, even if the railway was

[13] *Parliamentary Papers* 1844, XI, ‘Third Report from the Select Committee on Railways.’
[14] *Parliamentary Papers* 1844, IV, ‘Railways. A bill to attach certain conditions to the construction of future railways, authorized or to be authorized by any act of the present or succeeding sessions of Parliament, and for other purposes in relation to railways.’

earning much more than this. This reduced the expected price which the state would have to pay, as shown in Table 1.

<< INSERT TABLE 1 >>

However, opposition to the proposed Bill was vociferous. The *Railway Times* described it as the 'Railway Plunder Bill'[15], whilst the *Economist* had seldom seen 'in any proposition such a mass of antiquated, exploded and objectionable principle' and objected to the desire to limit profits[16]. A numerous deputation by the representatives of the various railway companies met the Prime Minister Robert Peel, and the proposer of the Bill, William Gladstone, which may be regarded as the first large scale campaign of the railway interest[17].

In the face of this opposition a revised bill[18] was published which had only 24 clauses compared to the original 48. The time period of revision was extended from 15 to 21 years, and the calculations on how much shareholders would receive in the event of nationalisation became much more favourable, as shown in Table 1. The maximum cap on profits of 10 per cent was removed, and any purchase of a company earning less than 10 per cent would be subject to arbitration. Cleveland-Stevens[19] remarked that 10 per cent had been the summit in the original Bill, but had become the base in the revised bill. The *Railway Times*[20] was satisfied that 'the serpent is now robbed of its sting' and it passed the House of Commons as the Railway Regulation Act.

[15] *Railway Times*, 1844, 713
[16] *Economist*, 1844, 962
[17] Alderman, G. 1973, *The Railway Interest*, Leicester University Press, 16
[18] *Parliamentary Papers* 1844, IV, 'Railways. A Bill [as amended by the Committee] to Attach Certain Conditions to the Construction of Future Railways, Authorized or to be Authorized by any Act of the Present or Succeeding Sessions of Parliament, and for other Purposes in Relation to Railways.'
[19] Cleveland-Stevens, E.C. 1883, *English Railways : Their Development and their Relation to the State*, Routledge, 109
[20] *Railway Times*, 1844, 825

If Parliament had enforced a more severe version of this legislation it is possible that investor expectations of future profits would have been reduced, and the extent of the Mania would not have been so dramatic. However, the opposition to the initial Bill was such that a harsh limit on profitability was not politically feasible. Consequently, the conditions were moderated, and were considered to have placed no effective restraint on the railways, encouraging investors to believe that high profits could be attained.

2.2 Restricting Expansion

The rapid expansion of the railway network was the most tangible consequence of the Railway Mania, and had a considerable influence on both the economy and the railway industry. The promotion of new railway schemes dramatically increased during the rise in share prices, with an estimated 1,238 projects seeking capital in 1845[21]. If the government had strictly limited the number of projects which could be constructed it may have restrained the boom in company promotions. It would also have reduced the severity of the downturn, which was largely due to declines in profitability resulting from overexpansion, and the difficulties of financing the construction of the proposed railways.

Parliament had within its power the ability to impose such limits, as each new railway line had to be individually authorised, mainly because of the need to force property owners to sell their land along the chosen route[22]. This ability to approve or deny every new track gave Parliament the ability to manage in fine detail how the network developed. However, the mechanism by which new lines were authorised meant that a national plan for the railways was not adopted.

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[21] *The Times*, November 17, 1845, p.4

[22] Kostal, R.W. 1994, *Law and English Railway Capitalism*, Oxford University Press, 16

Each year the proposed railways were grouped by region and allocated to individual Parliamentary committees, each of which worked in isolation, meaning that a broad overview of the development of the network could not adopted. The fifth report of the Select Committee on Railways warned that 'local interests will be chiefly regarded' by these committees, making it 'almost impossible to hope that ... there should issue any distinct system of sound general rules.'[23] In response to this fear, the Railway Department of the Board of Trade was briefly asked to review all of the potential schemes and provide recommendations to Parliament, giving a national perspective. However, the suggestions of the Board were often ignored, and in July 1845, after just 11 months, the Railway Department was disbanded[24].

The focus on local provision tended to increase the likelihood that more railways would be constructed, as the competition between towns meant that each wanted its own railway connection[25]. In the 1845 Parliamentary session there were 44 separate committees appointed to consider the proposed schemes, each focussing on a particular area. Every committee, without exception, authorised at least one new railway[26]. In the 1846 Parliamentary Session there were 64 committees appointed[27]. Of the 516 Bills which were considered in this year, 81 were thrown out on Standing Orders, 83 were withdrawn, 106 were rejected based on the

[23] *Parliamentary Papers* 1844, XI, Fifth report from the Select Committee on Railways; together with the minutes of evidence, appendix and index, 6
[24] Cleveland-Stevens, E.C. 1883, *English Railways : Their Development and their Relation to the State*, Routledge, 134
[25] Casson, Mark. "The Efficiency of the Victorian British Railway Network: A Counterfactual Analysis." *Networks and Spatial Economics* 9 (2009), 375, and Casson, Mark. *The World's First Railway System: Enterprise, Competition, and Regulation on the Railway Network in Victorian Britain*. Oxford: Oxford University Press, 2009, 277
[26] *Parliamentary Papers* 1845, XXXIX, Railways. A return of the railway bills and projects, classified in their groups, which have been considered by the committees to whom they were referred; and whether such railway bills and projects were recommended or rejected by the said committees; the names of the members selected; and the number of days that the committee on each group has sat.
[27] Cleveland-Stevens, E.C. 1883, *English Railways : Their Development and their Relation to the State*, Routledge, 65

merits of the scheme, and 246 received Royal Assent[28]. This implies that only a minority of projects were actually rejected, with a substantial proportion being approved.

The extent of new railway authorisation led to construction representing 5.7, 6.7 and 4.7 per cent of GDP in 1846, 1847 and 1848 respectively[29]. The demands of railway companies for more capital to finance construction led to difficulties for many shareholders, and may have affected the wider economy. Many companies requested an extension to the length of time within which they were allowed to construct their lines, with railways requesting delays on the construction of a total of 3,650 miles of track[30]. Those railways which did open often duplicated existing routes, increasing competition, or served less populous districts, leading to lower returns on capital. The *Economist*[31] argued that all recent experience had shown that the new lines had shown little or no profit.

By regulating which railway lines could be constructed, Parliament could have reduced the extent of the boom, and the difficulties of the downturn. However, rather than developing an overview of the whole system, Parliament conducted enquires on a district by district basis, leading to an oversupply of new railways. Political expediency suggested that particular areas should not be deprived of access to a railway, but this produced longer-term problems for the railways themselves, and for the wider economy.

2.3 Leverage Ratios

Part of the attraction of the new schemes for investors was the ability to purchase shares on an instalment basis. Individuals could subscribe for shares by paying a small deposit, and

[28] *Railway Times*, 1846, 1402
[29] Mitchell, B.R. 1964, 'The Coming of the Railway and United Kingdom Economic Growth', *Journal of Economic History*, 24(3): 315-336.
[30] *Parliamentary Papers* 1847-48, LXIII, Railways. Return of the railway companies who have made application to the Commissioners of Railways under the 1st section of the act 11 Vict. c. 3, for an extension of the periods limited by their acts for the purchase of lands, or the completion of works.
[31] *Economist*, October 21, 1848, 1187

then pay the remaining amount when the companies made 'calls for capital' to finance the construction of their lines. The first effect of this payment plan was to make it easier for investors to find the money to subscribe to new schemes.

Another effect was to leverage the returns which investors could obtain. Subscribers gained exposure to the movements of the underlying asset for a small deposit. Small returns on an equivalent fully paid share were magnified by the effects of leverage to produce large returns on investors' deposits. *The Railway Investment Guide*[32] described it as a 'peculiarity connected with this system, that a man possessed of very little capital to commence with, may at once treble or quadruple it'.

Parliament could have prevented the use of partially paid shares by requiring new projects to collect a substantial fraction of the total cost of their lines before they could be considered for authorisation. Investors would have been required to pay up most of the capital immediately, thus reducing the effects of leverage on their investments. To restrain a minor promotional boom in 1837, Parliament had introduced a measure which moved in this direction, but set the required deposit at just 10 per cent[33]. In the aftermath of this boom there was little further promotional activity, so the requirement was relaxed to 5 per cent in May 1844[34], but with the increase in projected schemes thereafter, it was raised to 10 per cent again in July 1845[35].

This increase may be regarded as an attempt to reduce speculation, but it was largely ineffective. Evans[36] said that the increase in the deposit 'did not in the least repress the ardour of speculators'. In the subsequent months the volume of new company promotion increased

[32] *The Railway Investment Guide. How to Make Money in Railway Shares: A Series of Hints and Advice to Parties Speculating* 1845, 5
[33] Francis, J. 1851. *A History of the English Railway, Vol II*, 2
[34] Francis, J. 1851. *A History of the English Railway, Vol II*, 97
[35] Evans, D.M. 1849, *The Commercial Crisis, 1847-1848*, David and Charles, Devon, 16
[36] Evans, D.M. 1849, *The Commercial Crisis, 1847-1848*, David and Charles, Devon, 16

even further, reaching its peak in October and November 1845. A requirement of just 10 per cent provided little restraint, and the leveraged returns which could still be obtained by purchasing partially paid shares remained very appealing. Given the enthusiasm for investment, a requirement of at least 50 per cent is likely to have still resulted in many of the most valid schemes still applying for authorisation.

The failure to impose stricter limits on leverage ratios during the boom meant that there was a process of painful deleveraging during the downturn. When the construction of lines began, shareholders struggled to make the required payments. The *Economist*[37] said that ‘every fresh call that was made upon exhausted shareholders was attended by one of two effects – either the shares themselves upon which the call had been made were sold in order to avoid payment, or some other shares were sold in order to raise the money for that purpose.’ Calls for capital by the railways were also blamed by both a House of Commons and a House of Lords Parliamentary Committee for exacerbating the Commercial Crisis of 1847,[38] as they diverted investment from other uses.

<< INSERT FIGURE 2 >>

The use of leverage played an important role in encouraging investors to subscribe to the new railway schemes promoted during the Mania. The decision by Parliament to raise the required deposit can be interpreted as an attempt to restrain the speculation, but it was largely ineffective. The introduction of a much higher rate, which would have required shareholders to pay the full cost of the share immediately may have reduced the volume of company

[37] *Economist*, October 21, 1848, 1187
[38] *Parliamentary Papers* 1847-48, VIII, Pt. I, ‘Reports from the Secret Committee on Commercial Distress; with an Index.’, and *Parliamentary Papers* 1847-48, VIII, Pt. III, ‘Report from the Secret Committee of the House of Lords appointed to inquire into the causes of the distress which has for some time prevailed among the commercial classes, and how far it has been affected by the laws for regulating the issue of bank notes payable on demand. Together with the minutes of evidence, and an appendix.’

promotion during the boom, and the difficulties which resulted from the continual payments of calls for capital during the downturn. However, Parliament did not take such a dramatic step, preferring an incremental approach which proved to be insufficient.

3 Corn Price Reversal

The British government was also largely unsuccessful in dealing with a boom in the price of corn. The problems had commenced with a poor agricultural harvest in 1845, and were worsened by another poor harvest in 1846. The price of wheat increased from 53 shillings per quarter in June 1846, to 61s by the end of the year, reaching 77s by March 1847, before peaking at 102s at the start of June 1847, as shown in Figure 3. However, prices then fell rapidly during the summer of 1847, reaching just 49.5s in the middle of September, implying a fall of over 50 per cent in less than four months. The price declines led to a series of failures amongst corn merchants, who had speculated on prices remaining high, with the City Intelligence column of *The Times* indicating that 12 firms involved in the corn trade failed in August 1847, and others followed in subsequent months.

<< INSERT FIGURE 3 >>

To have moderated the price reversal, policy could have been targeted at preventing the initial price increases, or at delaying the ensuing price declines. The British government focussed its attention almost exclusively on minimising the price rises, by using the standard mechanism for influencing the price of a commodity, namely the adjustment of import duties. The price of corn had traditionally been affected by the Corn Laws, but in June 1846 legislation was passed which led to their repeal. This Act reduced the corn import duties, which were then 17 shillings per quarter of wheat, to between 4 shillings and 10 shillings until February 1849, after which time a fixed duty of 1 shilling would be charged[39]. By liberalising the market for corn, this should have led to an increase in imports, lower prices, and reduced volatility in the corn market.

However, as the reduction in tariffs was phased, there was still a duty of 4 shillings being charged in January 1847, as shown in Figure 4, when the price of wheat had risen to about 70 shillings per quarter. The navigation laws were also still in force, which restricted imports to ships which were either British or belonged to the exporting country[40]. It was only with the opening of the new session of Parliament in January 1847 that both the duties and the navigation laws were suspended[41]. This led immediately to a much higher volume of wheat being entered for home consumption, which had already been physically imported, during February, and a stabilising of the wheat price at about 70 shillings.

<< INSERT FIGURE 4 >>

Despite the more liberal conditions, the volume of imports did not increase substantially thereafter, and the price of wheat began to rise again, particularly between the start of May, when it was 75 shillings, and the start of June, when it reached a peak of 102 shillings. With prices at such a high level, imports finally responded, and increased substantially. From July 1847 to the end of October 1847 weekly wheat imports exceeded 100,000 quarters for 15 weeks in a row, having exceeded this level in only week during the previous four years, as shown in Figure 4. This led to sharp price declines and financial difficulties for corn merchants who had expected prices to remain high.

[39] *Parliamentary Papers* 1846, I, 'Corn importation. A bill to amend the laws relating to the importation of corn.'
[40] *Economist*, January 16, 1847, 57
[41] *Economist*, January 23, 1847, 85

The policy pursued by the British government during this period attempted to avert the price rises by liberalising the market for corn. When the gradual phasing out of the Corn Laws was deemed inadequate, all duties were suspended. They also opened the ports to allow imports on ships from other countries. However, the most dramatic price rises occurred after, and in spite of, the liberal policy. Given that they had been ineffective in preventing the price rises, the government could have attempted to manage the price declines, by reintroducing duties and quotas immediately. Such a policy may have delayed the crash in the corn price which occurred, and may have prevented the corn merchants from experiencing such dramatic losses. However, in June 1847, at the peak in prices, the suspension of duties had been extended to March 1848[42]. The reversal of this policy may have improved financial stability, but it would have been deeply unpopular with the public who would have been forced to pay the higher prices. It also conflicted with the long-term goal of revoking the Corn Laws, as the opponents of reform could have pointed to their usefulness at this time. Consequently, the price reversal was able to occur, and led to widespread problems in the corn sector which then spread to other merchants and some financial institutions.

4 Commercial Crisis

After the initial mercantile failures, the difficult situation was exacerbated by legislation which the government had introduced several years before, namely the Bank Charter Act, which made it more difficult for the Bank of England to provide credit during the crisis. Under this Act the Bank had a limited reserve of notes and coin, and if it exhausted these resources it would have to suspend payment. In the year prior to the crisis, the reserve of the Banking Department of the Bank of England had declined steadily as gold was withdrawn for the payment of imports of corn. In April 1847 the low reserve had become a cause for

[42] *Parliamentary Papers* 1847 I, 'Corn, &c., importation. A bill to suspend, for a time to be limited, the duties on the importation of corn, maize, rice, grain, meal, flour, biscuit, and certain other similar articles.'

concern, so to restore its position the Bank had rapidly reduced its holdings of securities, causing a 'pressure' for money. The reserve rose briefly, but remained at lower levels than in previous years.

This gave the Bank limited scope to respond when the failures in the corn sector were followed by difficulties amongst other merchants. In September there were failures amongst those involved with trade in East India, Mauritius, South America, coal and wine[43]. Failures amongst some merchants contributed to difficulties amongst others with whom they had dealt and owed money to. For example, the failure of Gemmell and Co., a merchant based in Glasgow, was named as the immediate cause of the failure of at least three other firms. However, these other firms had pre-existing difficulties, with *The Times* noting that the position of Gower, Nephews and Co. had been doubtful for the previous two years,[44] Watson Brothers had insufficient capital for a considerable period[45], and Lyall Brothers and Co. had extended their business beyond the amount warranted by their capital[46].

As traders suspended payment, financial institutions began to experience problems. The failure of Lesley Alexander and Co., a corn merchant, and of some other smaller firms, led to the suspension of the major bill broker Sanderson and Co. in September 1847, who had held much of their paper. This gave 'rise to the utmost anxiety.'[47] The reluctance of other financial firms to provide credit led to a higher discount rate, as shown in Figure 5 for one of the other major money brokers, Overend and Gurney.

<< INSERT FIGURE 5>>

[43] Evans, D.M. 1849, *The Commercial Crisis, 1847-1848*, David and Charles, Devon, 74
[44] *The Times*, September 13, 1847, 6
[45] *The Times*, September 22, 1847, 6
[46] *The Times*, October 1, 1847, 6
[47] *The Times*, September 15, 1847, 3

These difficulties led to an increased demand on the Bank of England for discounting. Although the reserve of the Banking Department was already at relatively low levels, the Bank allowed its reserve to decline further in an attempt to provide credit. The level of the reserve fell throughout the summer, and with the payment of the October dividends to government bondholders, the notes in the Banking reserve fell to a perilously low level.

The Bank was forced to refuse any further advances on Exchequer bills or Consol warrants, leading to a 'panic'. Four joint stock banks in Liverpool, Newcastle and Wales stopped payment and numerous small country banks were declared insolvent[48]. Mercantile failures continued and Evans stated that the 'week of terror', ending October 23, would 'long linger in the remembrance of those who witnessed its career'[49]. The crisis was only relieved with the suspension of the Bank Charter Act, which had limited the reserve which the Bank could use for discounting.

4.1 Bank Charter Act

During the previous decades the Bank of England had faced difficulties on several occasions, most recently in 1839[50]. These problems had led some to conclude that crises were caused by an unsustainable overexpansion of notes which raised prices. This led to higher imports and an outflow of bullion in payment, much of which would be withdrawn from the Bank of England. If the decline in the reserve was not stopped by higher interest rates, it could lead to a monetary crisis as the Bank would not be able to convert notes to gold.

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48 Evans, D.M. 1849, *The Commercial Crisis, 1847-1848*, David and Charles, Devon, 77
49 Evans, D.M. 1849, *The Commercial Crisis, 1847-1848*, David and Charles, Devon, 83.
50 Andréadèas, A. 1909, *History of the Bank of England, 1640-1903*, 268

In an attempt to prevent these crises from recurring the British government introduced the Bank Charter Act in 1844[51], with the intention of making the paper currency function like a metallic currency, thus restricting changes in the note supply. Under this legislation the note issuing powers of the country banks were restricted, and the Bank of England was divided into two separate divisions, the Issue Department and the Banking Department[52]. The Issue Department was to hold £14m of securities and a certain amount of gold and silver coin and bullion, and would allow anyone to exchange notes for gold at a fixed price. Only an increase in the holdings of gold in the Issue Department could lead to an increase in the note supply. The Banking Department of the Bank of England was to act in a manner similar to a private bank[53]. It held a reserve of notes and coin with which it could meet the needs of depositors, and it could advance funds by discounting securities. The interest rate which it offered on these securities would largely depend on its 'banking reserve'.

The Bank Charter Act ensured that the amount of currency outside the Issue Department moved in line with flows of bullion into and out of the country. If gold was needed for export, notes would have to be exchanged for it at the Issue Department, thus removing them from circulation. This should result in lower prices, increasing the exports of goods and the import of gold, thus providing automatic stabilisation. However, the amount of currency in circulation outside the Bank, in the hands of the public, was also affected by the size of the reserve held by the Banking Department. If the banking reserve decreased, an outflow of bullion might be sterilised, and the amount of currency in circulation outside the bank remain

[51] *Parliamentary Papers* 1844 I, 'Bank of England Charter. A Bill [as amended by the Committee] to Regulate the Issue of Bank Notes, and for giving to the Governor and Company of the Bank of England Certain Privileges for a Limited Period'.
[52] Andréadèas, A. 1909, *History of the Bank of England, 1640-1903*, 289
[53] Andréadèas, A. 1909, *History of the Bank of England, 1640-1903*, 305

unchanged[54]. It can be seen from Figure 6 that changes in the Issue Department were often offset by changes in the Banking reserve, and the notes in circulation outside the Bank remained fairly stable. This suggests that the circulation in the hands of the public did not fluctuate with the import and export of bullion, implying that the management of the Banking Department interfered with the operation of the stabilisation mechanism. Whether this was beneficial or harmful to the economy is debateable, as discussed below, but it illustrates that legislation may not operate as its authors intended.

<< INSERT FIGURE 6>>

The changes in both the Issue and Banking Departments were most pronounced in the year prior to the crisis. After the discovery of the poor harvest of 1846 there was a sustained outflow of gold, and the notes issued by the Issue Department fell from £29.9m in September 1846 to £22.5m in April 1847, as shown in Figure 6. However, the Banking reserve also fell, from £10.3m to £3.1m. The Bank had raised its discount rate from 3.0 per cent to 3.5 per cent, and then 4.0 per cent in January 1847, but it did not raise it further, even as its reserve steadily decreased. *The Times* commented that 'the extraordinary apathy of the Bank of the England from January last up to the stage we have now reached in our monetary affairs is beginning to excite universal comment, and to be regarded with universal apprehension.'[55]

It was not until the low point of April that the Bank responded by raising its discount rate to 5 per cent and by reducing the availability of discounting. Although the reserve increased, it remained lower than in previous years. With the beginning of the failures in August 1847 the Bank raised its discount rate to 5.5 per cent but did not raise it further, even though its reserve

[54] Dornbusch, R. and Frenkel, J.A. 1984, 'The Gold Standard and the Bank of England in the Crisis of 1847', in Bordo, Michael D., and Schwartz Anna J., Eds., *A Retrospective on the Classical Gold Standard, 1821–1931,* University of Chicago Press, Chicago.
[55] *The Times*, April 7, 1847, 3

continued to decline. In an attempt to provide credit it actually reduced its rate on loans to 5 per cent in September 1847. With the payment of the dividends to government bondholders in October 1847 the Banking reserve fell to just £2.0 m, as shown in Figure 6.

The Bank of England had attempted to provide stability to the economy in the face of the substantial outflow of gold which had occurred, and the onset of commercial failures. It could be argued that such a policy was flawed as it hindered the automatic stabilisation which had been envisaged in the Bank Charter Act. However, it is likely that allowing such rapid changes to have occurred without any response would have been even more damaging.

The effect of the Bank Charter Act was to place the entire responsibility for counteracting this contraction with the Banking Department. Under the system prior to the Bank Charter Act, the Bank had to retain sufficient total reserves to ensure both the convertibility of notes to gold, and to cover its deposits. Under the new system the reserve in the Issue Department ensured convertibility, and the reserve in the Banking Department covered deposits. The reserve of one department could not be used to meet the needs of the other. Tooke argued that the Act made the crisis more severe 'by diminishing the power of the bank to grant accommodation in consequence of the narrow limit of its banking reserve ... There was no less than £6.25m in the issue department, which was as little available as if it had been in China'.[56] Combining the bullion in both departments would have helped the bank to continue discounting, but if the drain in bullion continued, the convertibility of the note would also have been at risk. Samuel Jones Loyd, who was regarded as one of the framers of the Bank

[56] *Parliamentary Papers* 1847-48, VIII, Pt. I, 'Reports from the Secret Committee on Commercial Distress; with an Index,' 435, q.5310

Charter Act, argued that the Act had been successful in its aims, by preventing the Bank from allowing its bullion to fall so low that it also endangered the convertibility of the note.[57]

The Bank Charter Act illustrates that legislation may have unintended consequences. The automatic stabilisation which it was intended to provide was nullified by the management of the Banking reserve. The Act ultimately contributed to the panic because it shifted risk from one part of the monetary system to another, reducing the risk of inconvertibility of the note, but increasing the risk of the deposits held in the Banking Department.

4.2 Suspension of Bank Charter Act

To alleviate the crisis the Prime Minister, Lord John Russell, and the Chancellor of the Exchequer, Charles Wood, sent a letter to the Bank which recommended that the Bank of England 'enlarge the amount of their discounts and advances', but that the 'rate of interest should not be less than 8 per cent'[58]. The Bank would not be held liable for any infringement of the Bank Charter Act. This implied that the Bank would be able to use the reserve of gold held in the Issue Department to meet the needs of the Banking Department. The effect of this letter was to allow the Bank to extend credit beyond what would be possible with the existing Banking reserve, which stood at just £2.0m on October 23.

The knowledge that the Bank could provide additional assistance was enough to allay the panic. Samuel Gurney, a prominent banker, said that 'the effect was immediate. Those [customers] who had sent notice for their money in the morning sent us word that they did not want it – that they had only ordered payment by way of precaution.'[59] From that date

[57] *Parliamentary Papers* 1847-48, VIII, Pt. I, 'Reports from the Secret Committee on Commercial Distress; with an Index,'412, q.5117
[58] *The Times*, October 26, 1847, 4
[59] quoted in Evans, D.M. 1849, *The Commercial Crisis, 1847-1848,* David and Charles, Devon, 86

there was a gradual but progressive return to confidence.[60] The reserve fell to £1.6m on October 30, but it recovered thereafter and the restrictions imposed by the Bank Charter Act were never infringed. It then increased steadily, to £2.3m by November 6, to £5.6m by November 27, and £8.4m by December 25, as shown in Figure 6.

The policy pursued by the government in October 1847 was effective for at least three reasons. Firstly, it had a clear goal, secondly, it proposed a suitable remedy, and thirdly, that remedy was not opposed by interested parties. Each of these factors was only possible because the crisis was ongoing, suggesting that policy responses during a crisis are more targetted, and are more likely to implemented, than any suggestions which are made in advance.

As the crisis was current, the goal of reducing instability was paramount. Attempting to frame legislation to prevent crises which may or may not occur in the future is inherently difficult, as there must be trade-offs between the likelihood of more stability and the restrictiveness which is imposed. However, during a crisis the focus is placed entirely on resolving the distress, and those measures which are most likely to be successful can be employed, with less regard to their longer term consequences.

Government policy was also successful because it proposed an appropriate response to the problem. The suspension of the Act was not an inevitable decision, and the Bank of England Governor argued that 'as far as the Bank was concerned we did not require any relaxation'.[61] The bank could have attempted to sell some its holdings of government securities to raise cash, or it could have refused all requests for discounting. However, Tooke argued that the

[60] Evans, D.M. 1849, *The Commercial Crisis, 1847-1848*, David and Charles, Devon, 90
[61] *Parliamentary Papers* 1847-48, VIII, Pt. I, 'Reports from the Secret Committee on Commercial Distress; with an Index,' 271, q.3237

former course was impractical as the securities could only have been sold at such a low price that it could not be contemplated[62]. The latter course of action, of restricting discounting, may have ensured the Bank retained a reserve but would have intensified the panic. The path which was chosen by the government had fewer risks, and was repeated in future crises. Increasing confidence that the central bank would act as a lender of last resort during a crisis has since become a standard policy prescription[63].

The policy proposed by the government could be implemented quickly, and have an immediate impact, because it was not opposed. The crisis was having a detrimental effect on businesses, bankers and the public, so there was almost universal support for some measure to relieve it. The Bank of England argued that they could have carried on without the issue of the government letter, but they were in no way opposed to it. Even Samuel Jones Loyd, a banker who had helped to frame the Act and defended it vigorously, agreed that 'circumstances may occur in mercantile affairs ... that some interposition may be desirable for the purpose of alleviating the intensity of the pressure arising from destruction of confidence.'[64]

However, the issue of the Government letter had one disadvantage. Even though it referred to the suspension of the Act as an 'extraordinary and temporary measure,'[65] William Cotton, a former Governor of the Bank of England, believed that it was likely to lead people to expect a

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[62] *Parliamentary Papers* 1847-48, VIII, Pt. I, 'Reports from the Secret Committee on Commercial Distress; with an Index,' 435, q.5472
[63] Bagehot, W. 1873, *Lombard Street: a Description of the Money Markets*, Irwin, Kindleberger, C.P. 1978, *Manias, Panics and Crashes: A History of Financial Crise*s, John Wiley & Sons, 161-178, Bignon, V., Flandreau, M. and Ugolini, S. 2011. Bagehot for Beginners: The Making of Lending of Last Resort Operations in the mid-19th century, *Economic History Review*, forthcoming.
[64] *Parliamentary Papers* 1847-48, VIII, Pt. I, 'Reports from the Secret Committee on Commercial Distress; with an Index,' 394, q.5157
[65] *The Times*, October 26, 1847, 4

similar letter in future[66]. The *Economist* commented that 'it will be impossible to destroy a feeling which for many years must pervade the public mind, that the pressure must only be severe enough, and the demands loud enough, in order to procure a suspension of any restriction which may exist.'[67] Subsequent events proved these suspicions to be correct, with the Act again suspended in 1857 and 1866. Responding in the midst of a crisis thus met with much less opposition than any policies which could have been introduced prior to the difficulties, but it led to an increase in moral hazard. By increasing expectations that the Act could be suspended, it may have encouraged increased risk taking as it was more likely that the Bank of England would always be available as a lender of last resort, regardless of the circumstances. Nevertheless, the benefits of the suspension were almost certainly greater than the costs.

5 Conclusion

The British government responded to the Railway Mania, corn price reversal, and Commercial Crisis of the 1840s in a variety of ways. The policies which were pursued before the crash in prices and the onset of financial distress were generally unsuccessful. However, this does not necessarily imply that the government should be strongly criticised for its actions. It was, like other administrations before and since, faced with the challenge of legislating in the midst of uncertainty. This meant that it had to balance the possible benefits of increased stability against the additional costs which this would impose, and there was a lack of clarity about the impact of the policies which it did introduce. The parliamentary system also ensured that legislation had to obtain broad support, so bold initiatives which may have been opposed by interested parties were not feasible. Government action was most effective in the midst of the crisis, when these considerations were less of a concern.

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[66] *Parliamentary Papers* 1847-48, VIII, Pt. I, 'Reports from the Secret Committee on Commercial Distress; with an Index,' 329, q.4043
[67] *Economist*, October 30, 1847, 1241

The experience of the 1840s suggests that attempts to legislate to prevent future instability is challenging, so crises are likely to occur again. When they do, a vigorous response by government may help to mitigate the extent of the difficulties. The specific form of intervention will depend on the unique circumstances of the crisis. The Commercial Crisis of 1847 was relieved by increasing the ability of the Bank of England to act as a lender of last resort. However, it was successful because it targeted the particular problem at this time. In other periods of crisis a similar strategy has been successful, but each episode has unique characteristics and the response should target the particular constraint in that period. It may be impossible to eradicate crises, but intervention may be of some use when they do occur.

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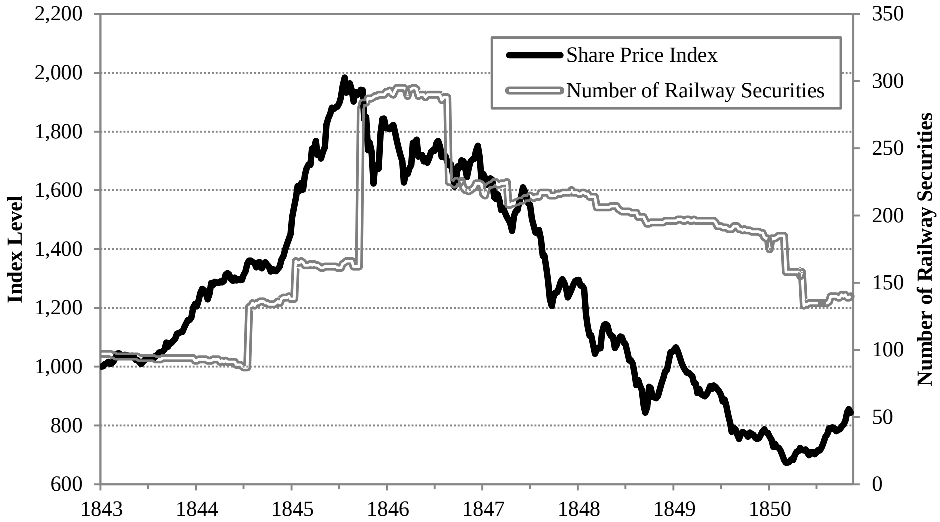
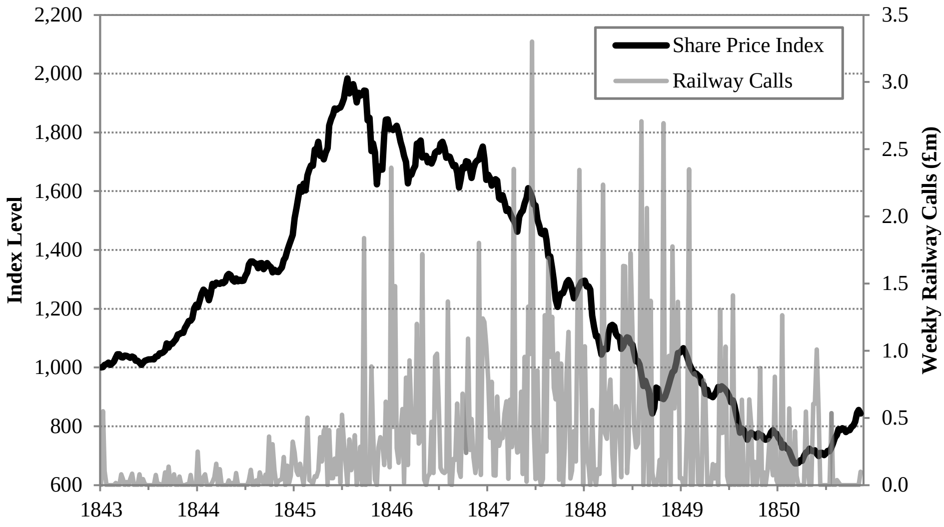
Figure 1: Railway Share Price Index and Number of Railway Securities Listed on London Stock Exchange, 1843-50



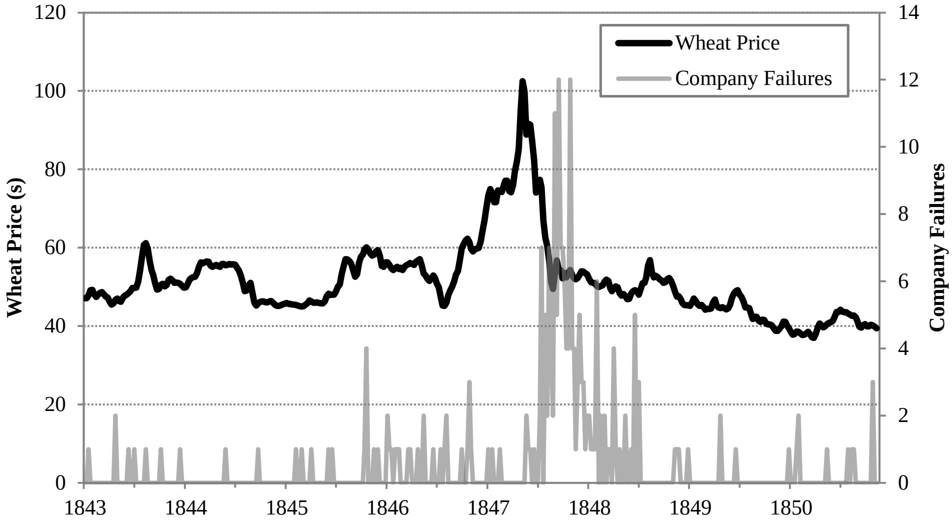
Notes: Railway share index and number of securities listed on London Stock Exchange calculated from weekly share price tables in *Railway Times*.

Figure 2: Railway Calls on Capital and Share Price Index, 1843-50



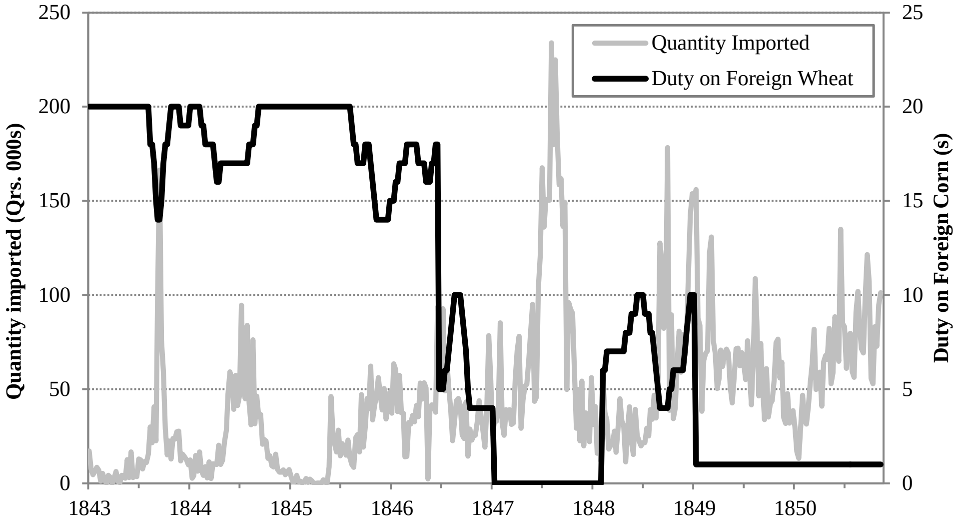
Notes: Railway share index and volume of calls calculated from weekly share price tables in *Railway Times*.

Figure 3: Wheat Price and Company Failures, 1843-50



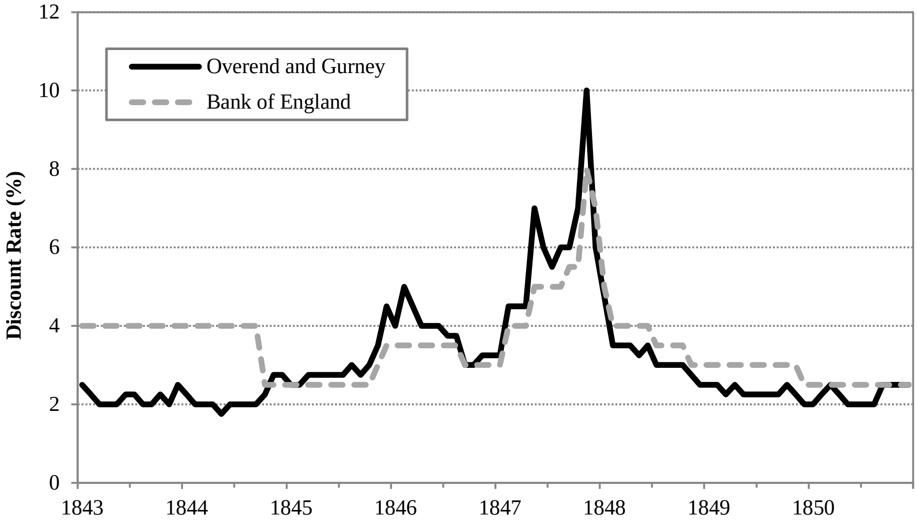
Notes: The price of wheat has been obtained on a weekly basis from the *London Gazette*. The number of failures has been calculated by searching the City Intelligence column of *The Times* for any firm which was described as having failed or which had suspended.

Figure 4: Wheat Imports and Duties on Foreign Wheat, 1843-50



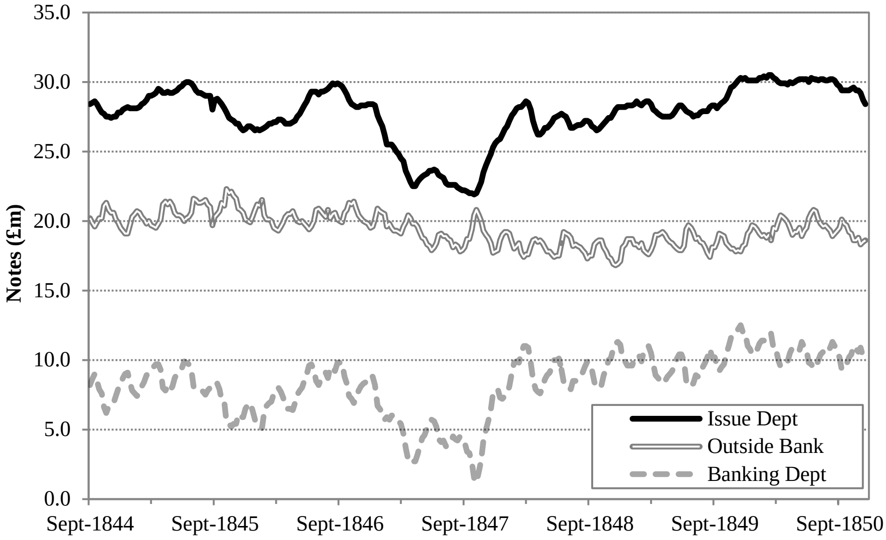
Notes: The quantity of wheat imported and the duty on foreign wheat has been obtained on a weekly basis from the *London Gazette*.

Figure 5: Discount Rate for First Class Bills, 1843-50



Notes: Discount rate on first class bills for Overend and Gurney from *Parliamentary Papers*, 1857, pp.475-476, and minimum rate of interest for Bank of England, *Parliamentary Papers*, 1857, Appendix, pp.122-133.

Figure 6: Bank of England Notes Issued, Held Outside the Bank, and Held in the Banking Department, 1844-50



Notes: Weekly data on Issue Department and Banking Reserve obtained from *Parliamentary Papers* (1847-48, VIII, Pt. II, p.16-21; 1850, XXXIII, p.202-211; and1852-53, LVII, p.328-335). Outside Bank calculated as Issue Department minus Banking Reserve.

Table 1: Implied Purchase Price of Railways According to Recommendations of Different Proposals

		Purchase Price of a Share, with a £100 par value, which was paying a dividend of:	
	Number of Years Before Purchase Considered	3 per cent	15 per cent
Select Committee	15	Not Purchased	£375
Gladstone's Bill	15	£75	£250
Railway Regulation Act	21	Subject to Arbitration	£375

Notes: Adapted from Cleveland-Stevens, E.C. 1883, *English Railways : Their Development and their Relation to the State*, Routledge, 110.