

# Why Lancashire?

## Banking as the spark that set off industrialization

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**Abstract:** Following works such as Hudson (1989), Walton (1989) and Hudson (2014) this paper focuses on British industrialization as a regional phenomenon and asks *Why Lancashire?* The paper argues that a change in the Bank of England's commercial discount policy at the end of the Seven Years' War promoted the growth of banking. Apparently due to the British government's success in driving down the interest rates and other terms on the public debt, the Bank deliberately expanded its private sector lending at the end of the Seven Years War by, for example, relaxing the rules for the discount of promissory notes. This paper argues that these policy changes primed the British economy for the growth of banking.

Relying on theoretic frameworks developed in Sissoko (2007), Sissoko (2019) and Sissoko (2021), the paper argues that banking plays a fundamental role in making markets work – and more particularly in making it possible for prices to accurately reflect marginal cost and marginal benefit instead of being determined by financing constraints. Thus, the paper argues that the growth of English banking – particularly in the Lancashire region – led to a reduction in financial constraints on economic activity. Then the dramatic growth that was experienced in Lancashire and nearby counties can be explained by the growth of banking.

The paper weighs a variety of explanations for the growth of banking in the Lancashire area specifically. These explanations include: proximity to Liverpool, which was the most important port serving the slave trade and the Atlantic economy more generally; distance from London, which may have allowed banking to develop in its early years without being perceived as a threat to existing London financial interests; and more traditional explanations for the fact that Lancashire and its environs led industrialization in England, such as resource endowments, demographic changes, and the wave of technological innovation.

Key words: Industrial revolution, 18<sup>th</sup> century English banking, Bank of England discount policy, 18<sup>th</sup> century Atlantic economy

The first industrial revolution did not take place in England. It took place in Lancashire and nearby regions such as the West Riding of Yorkshire and the west midland counties. Industrialization would spread only slowly to affect the whole of England.

While one can quibble over the term ‘first industrial revolution,’ there is nothing novel or innovative in the preceding statements. For example, Wrigley (2009: 725) finds that Lancashire was the county with by far the fastest growing population from 1600 to 1801 – due entirely to its growth from 1750 to 1801 – and comments: ‘The list [of county population growth rates from 1600 to 1801] conforms quite closely to expectation. Lancashire heads the list in spite of its modest start in the seventeenth century, ...’ In short, the fact that these regions were the first in England to experience industrialization is well established and indisputable (Toynbee 1884, Ashton 1948, Hudson 1986).

The question this essay explores is: Why Lancashire? Needless to say, I am not the first to ask ‘Why Lancashire?’<sup>1</sup> and a significant portion of this essay reviews and consolidates the work of others. Implicit in the question Why Lancashire? is also one of timing: Why did Lancashire industrialize in the second half of the 18<sup>th</sup> century? Observe that arguments that the industrial revolution did not really take off until well into the 19<sup>th</sup> century are founded on the premise that the nation-state England is the relevant unit in which to measure industrialization, but as Hudson and Berg have explained it is far from obvious why the nation-state is the relevant unit to use when industrialization was a regional phenomenon (Hudson 1989, Berg and Hudson 1992). This essay contributes to the debate by relying on the Minutes of the Court of Directors of the Bank of England to establish that there was a significant change in the Bank of England’s commercial discount policy at the end of the Seven Years’ War. This policy change, we argue, fostered the growth of banking in Lancashire and the reduction of financial constraints on economic activity over the relevant period. Data from court cases and business directories will be used to establish the precocious growth of banking in Lancashire.

There is a lengthy literature explaining that the foundations of industrial development were laid long before the eighteenth century.<sup>2</sup> The geographical school explains industrialization as fundamentally driven by England’s advantages as a European island nation that was rich in minerals and coal (Pomeranz 2000, Wrigley 1988). Alternatively, the foundations of industrialization may lie in the evolution of institutions both in England which saw increased agricultural productivity, adopted market-oriented practices and developed supportive institutions and state capacity (North and Weingast 1989, Greif 2005, Howes 2020, Clark 2000, Ogilvie 2019) and in Europe more generally which experienced what McCloskey (2016: 5) and Mokyr (2018: 1021) call ‘The Great Enrichment’. The importance of these elements of industrialization is not challenged here. There is nothing inconsistent in taking the position that, even though there are many ‘but for’ causes of industrialization, in an environment that had been primed for industrialization there is also a specific triggering event that was necessary in order to send Lancashire on the path of industrialization. This is the argument made here.

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<sup>1</sup> See for example Walton 1989. Note that a similar, but much smaller scale phenomenon took place around the port of Glasgow; however, data on this is very limited until the mid-19<sup>th</sup> century (Berg and Hudson 2021: 267-68). Given the well-established early development of banking in Scotland, the growth of Glasgow could likely be incorporated into the explanation that we are developing here.

<sup>2</sup> The literature on industrialization is vast and surveys of its economic foundations include Berg (1994), Mokyr (2009), Clark (2014), and McCloskey (2016).

The role played by the development of banking and of a modern monetary system has been underemphasized in the literature on the Industrial Revolution. While Ashton (1948: 10-11) emphasized the importance of low interest rates and the availability of financial capital, a detailed exploration of the means by which financing expanded seems to have been hampered by the lack of theoretic models that explain the fundamental role played by banks in the operation of the 'invisible hand'. Thus, works such as Hudson (1986) and Duffy (1985) have not received the traction that they deserve in the literature on the Industrial Revolution, because the frameworks used by economists have underemphasized – or more accurately ignored – the essential role of short-term credit in making it possible for an economy to have 'market' prices that accurately reflect underlying marginal demand and marginal cost. Sissoko (2007a, 2007b, 2019, 2021a) addresses this lacuna in the theoretic literature by developing the theoretic foundations of such a model. Using this theoretic framework, we can see that in the era before modern banking, there is every reason to believe that prices were more likely to reflect financing constraints than underlying economic forces.

Thus, the fact that the foundations of the modern Anglo-American monetary system developed over the course of the late 18<sup>th</sup> century – and in particular in Lancashire – should be viewed as a likely candidate for the 'spark' that led to the wave of innovation that took place in late 18<sup>th</sup> century Lancashire. After all, by the first decade of the 19<sup>th</sup> century a full-fledged prototype of the modern checking system was in place (Sissoko 2021b). We argue here that this remarkable transformation of the financial system cannot be treated as simply a fortuitous coincidence with no bearing on industrialization. In short, this essay proposes that the spark which set off the Industrial Revolution in Lancashire was the transformation of its monetary system into one where bank-based short-term credit instruments circulated as the principal means of payment. The massive increase in short-term credit caused by this transformation eliminated the financing constraints that had in the past restrained entrepreneurship in the economy.

How is it that monetary transformation matters? In a world of financing constraints vast reserves of human potential are never realized and 'full many a flow'r is born to blush unseen' (Gray 1751). The introduction of banking relaxes these financing constraints and creates an environment where much more human potential is realized as entrepreneurs are finally able to get the short-term credit that they need to pay for inputs prior to selling their product (Schumpeter 1939; Sissoko 2007a; Sissoko 2007b; Sissoko 2021a).

Berg (2007) has established and Mokyr (2021: 228) agrees that much of the human capital development in this period was not based on formal education and theoretic innovations, but on a remarkable flourishing of artisanal skills. It is also abundantly clear that what England's artisans were remarkably good at was 'commercial application' of every form of innovation from micro-invention to the active seeking out of intellectual advances abroad that could be commercialized in England (Mokyr 2021: 233). Indeed, what Mokyr (2016) calls 'Schumpeterian growth' – or growth driven by an expansion of knowledge – was viewed by Schumpeter (1939) himself as fundamentally driven by a bank-based financial system.

The theory presented here can be tied in closely with Mokyr (2021)'s view that upper tail human capital is the underlying source of Britain's success by adding one element to the argument: whereas Mokyr attributes the elasticity of the supply of this human capital to Britain's apprenticeship structure, we argue that finance was the foundation for the development of human capital that was extremely well

tailored to *commercializing* innovation. Human capital developed because the early development of banking in Lancashire meant that funding was suddenly available for ideas to be realized. In short, invention and innovation are the ultimate fruits of a relaxation of financing constraints that drives a general improvement in the capacity to engage in profitable, commercializable, productive activity. As the participants in the economy are finally able to realize their potential, we see an unprecedented wave of growth. This is driven by the fact that people with good ideas are living in a region where financing is readily available and where they can get their ideas off the ground, converting them into marketable products. Financing also supports on-going microinvention as each new entrepreneur also gets the advantage of access to financing to realize and improve the existing machines and process.

This financial theory of the take off to growth addresses certain issues that are problematic for Mokyr's theory. As Berg and Hudson (2021) observe, Britain's advantages in apprenticeship were established before the 18<sup>th</sup> century. The changes that we find in England's financial system address these timing issues very precisely. Furthermore, this theory can explain the *regional* development of innovation, as banking flourished in precisely those regions that were growing. It is also complementary to Berg and Hudson (2021)'s focus on the role of the Atlantic economy in explaining the timing and the regional nature of industrialization, as will be discussed in section III.

In short, it is unlikely to be a coincidence that banking in Lancashire dates back to 1760 or that the monetary circulation of commercial bills became a deeply entrenched norm in the region during the decades following the Seven Years War. On the other hand, there then remains the question: Why did banking develop so precociously in Lancashire? While this question cannot be answered conclusively here, some long-standing explanations for industrialization in Lancashire can be adapted to explain the development of banking. In particular, the role played by overseas trade and the advantages of being far away from London will be explored.

Section I reviews the basic facts of industrialization in Lancashire and Yorkshire from 1750 to 1801. Section II explains the changing policy of the Bank of England and the growth of banking. Section III discusses more broadly factors relevant to the timing of industrialization in Lancashire and Yorkshire. Section IV concludes.

## **Section I**

The sudden flourishing of Lancashire and Yorkshire in the latter third of eighteenth century was obvious and widely remarked upon at the time (Berg and Hudson 1992: 26). Not only was there a wave of invention, a palpable growth in economic activity and production, and rapid innovation in technique as well as technology, the population of the region grew endogenously as birthrates skyrocketed and this former backwater naturally produced the labor force to match the needs of producing for the Atlantic economy.

In a half century during which the population in England as a whole and in Middlesex county (i.e. urban London) in particular grew by 46%, Lancashire's population grew almost three times as fast by 121%. The next fastest growing counties, Surrey (i.e. greater London) and Yorkshire's West Riding, were far behind growing by a little over 80% (Wrigley 2009: 723). Population growth rates measured from 1761 to 1801 are even more dramatic: Lancashire 133%, the West Riding and Surrey about 65%, Staffordshire 57%, and Middlesex 49% (Wrigley 2007: 55). Furthermore, between 1725 and 1785 male employment in

the primary sector (including agriculture and mining) fell from 50% to 25% in Cheshire, Lancashire, and the West Riding of Yorkshire (Shaw Taylor & Wrigley 2014: Table 2.3).

That these demographic changes were associated with extraordinary economic growth is also clear. Kelly, O'Grada and Mokyr (2020: 24, Figure 2) document (i) that Lancashire and the West Riding were at the bottom of the wage distribution in 1760-80, (ii) that between the 1760s and the 1830s the aggregate wage income of these regions went from the bottom quartile to the top, at the same time carrying the whole North of England from the bottom half to the top half of the distribution, and (iii) already by the 1790s Lancashire and the West Riding had a more highly skilled workforce. In short, all of the data supports the contemporary accounts of the industrial transformation taking place in these regions during the second half of the 18<sup>th</sup> century.

Notably, as demand for skilled employees increased there was little or no increase in the skill premium (Mokyr 2021: 240; Clarke 2005).<sup>3</sup> In short, the evidence clearly supports an increase in the supply of skilled labor in Lancashire and the West Riding that cannot be explained by birth rates alone.

These regions saw a remarkable transformation of production during the latter half of the 18<sup>th</sup> century. Lancashire went from being a minor producer of cotton textiles to being one of the most important producers of cotton goods in the world (Walton 1989: 59, 61). Invention and innovation that first mechanized spinning and then the finishing of cotton prints drove this phenomenon (Inikori 2002: 77). While the West Riding of Yorkshire had long specialized in woollen textiles, it was over these same decades that it outstripped southern producers to become by far the most important exporter of woollens in England – by the end of the 18<sup>th</sup> century mechanization and factory production were being adopted (inikori 2002: 72-4; Wright 2020: 357; Smail 1999).

Maw (2010: 738) explores how this remarkable transformation took place and finds that 'In the post-1783 trade, it was the inland firms in the textile heartlands of Yorkshire and Lancashire that dominated the escalating export trade to New York and Philadelphia.' London commission merchants lost their hold on the export trade at this time (id: 746), and Liverpool merchants, who in the context of the slave trade were the principal importers and exports, were relegated in the American trade to providing shipping and financial services. The exporters were situated inland (id: 747) and had direct connections with foreign importers and worked to meet the needs of the American shopkeeper for variety (id: 752).

Whereas Mokyr (2021: 235, 239) describes Britain as having advantages in 'know how' to work out the bugs in industrial applications, our argument is that Britain had an environment where the financing was available to foster commercial experimentation. On the one hand, merchants with good information about current trends in export market demand – including fashions and fads – could access the financing to meet that demand, and on the other hand, financing also gave artisan-entrepreneurs time to implement an imperfect process together with the incentive to spend the time perfecting it. The next section discusses important changes in the British financial system that can explain this transformation.

## Section II

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<sup>3</sup> While Allen 2009 and Broadberry and Gupta 2009 argue that high wages played an important role in the 'labor-saving' innovation during this period, the data on wages used in this approach is not regional, but from London, and has been criticized as an overestimate and as excluding women's and child labor which played an important role in industrialization (Humpries 2013; Stephenson 2018).

During and after the Seven Years War the Bank of England began to diversify assets, actively seeking to play a more significant role in lending to the private sector. First, the likely reasons for this clear change in policy are explored and then we document the extent of the shift in Bank of England policy.

Why did the Bank diversify in favor of private sector assets? Finding itself unable to resist the British government's pressure to accept worse terms for its lending to government than the Bank would have preferred to offer, the Bank apparently chose to increase its lending to the private sector in order to be less at the mercy of a government that was driving an ever harder bargain with the Bank. There are two key examples of Bank succumbing to political pressures in its lending to the government in the years preceding this change in policy: Pelham's conversion and the 1760 end of Subscription placements of Exchequer Bills.

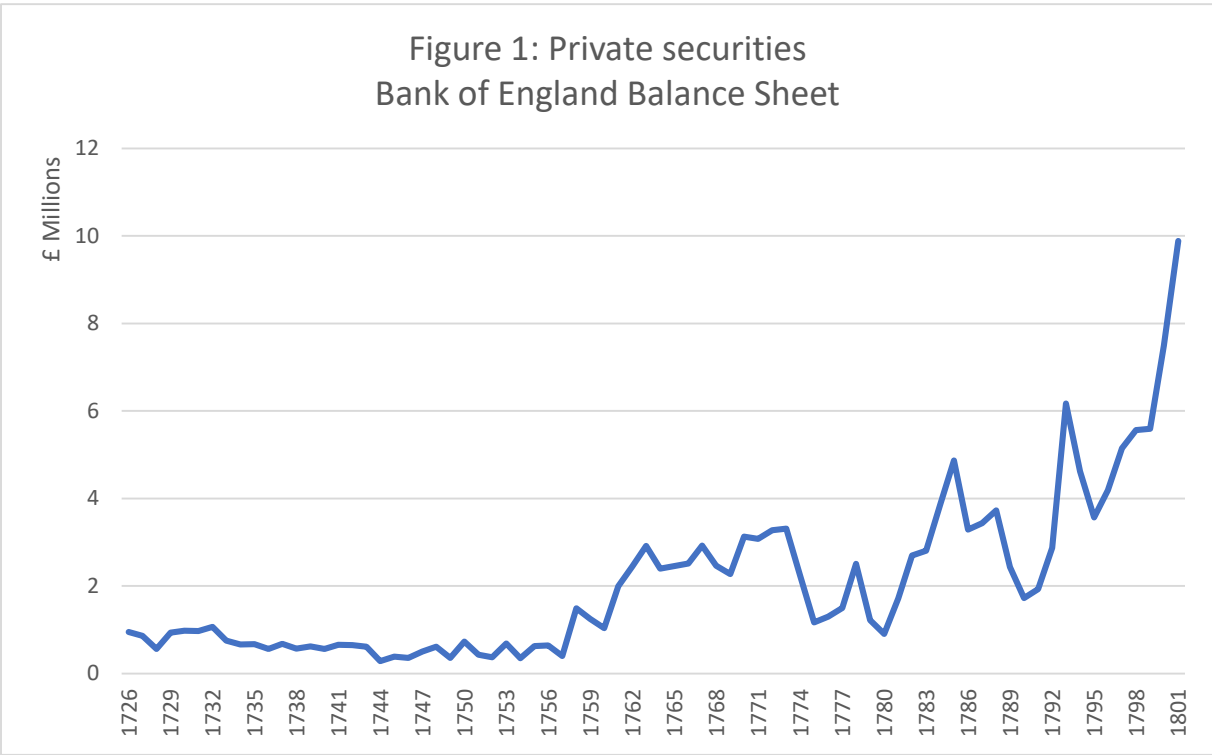
In the years following the war of the Spanish succession, the British government under Sir Robert Walpole restructured the British debt to ensure that it would be manageable. First, the Sinking Fund was established to steadily pay off part of the debt. And second, the debt was structured so that it had no maturity date – and as result no creditor could demand payment of the principal. This allowed the government to focus on securing the funds to pay the interest on the debt (Dickson 2017: 244-45). Then, at mid-century, another PM, Henry Pelham, sought to reduce the government's obligations even further: 'Pelham's conversion' reduced the rate paid on the outstanding debt. Notably, it was this debt that the Bank of England identified as its capital. Thus, it is unsurprising that the chartered companies such as the Bank of England were very reluctant to accede to this measure. Political pressure was, however, brought to bear and ultimately the Bank of England shareholders voted to accept Pelham's conversion and the other chartered companies followed suit (Dickson 2017: 233-39; Sutherland 1946: 26,28).

In 1760 political pressure was again exerted in order to change the terms of the services that the Bank provided to the government. The initial terms of government funding on Exchequer Bills, a form of short term public debt, were well established by mid-century. Each year the government would borrow £2.5 million on Exchequer Bills paying 3% interest that were unrelated to any specific tax. The Bank funded this short-term debt issue and then put it out for subscription, placing it with private investors.<sup>4</sup> Each Director was responsible for finding subscribers for a portion of the issue. The private investors would pay 10% and enter into a one-year engagement to be 'subject to a call or calls for the Remainder (not exceeding one-fifth part at a time) on ten days notice.' (C.D. Sept 26 1751, 36; Oct 12 1752, 99-100; Oct 11, 1753, 159; Oct 24, 1754, 222-23; Oct 16, 1755, 278-79; Oct 7 1756, 338; Oct 20 1757, 3; Oct 19, 1758, 72; Nov 8 1759, 142). In exchange the investors would earn interest of 4.5 to 5% per annum on the amount actually paid up (i.e. on the 10%). The interest rate on the subscription rose to 6.5% during the Seven Years War.<sup>5</sup> In 1759 there was stress on the money market and the Bank wanted to issue a call on the subscribers. The government exerted political pressure to convince the Bank not to issue the call (Browning 1971: 370; Dickson 2017: 386). The Bank then stopped the annual subscription and for

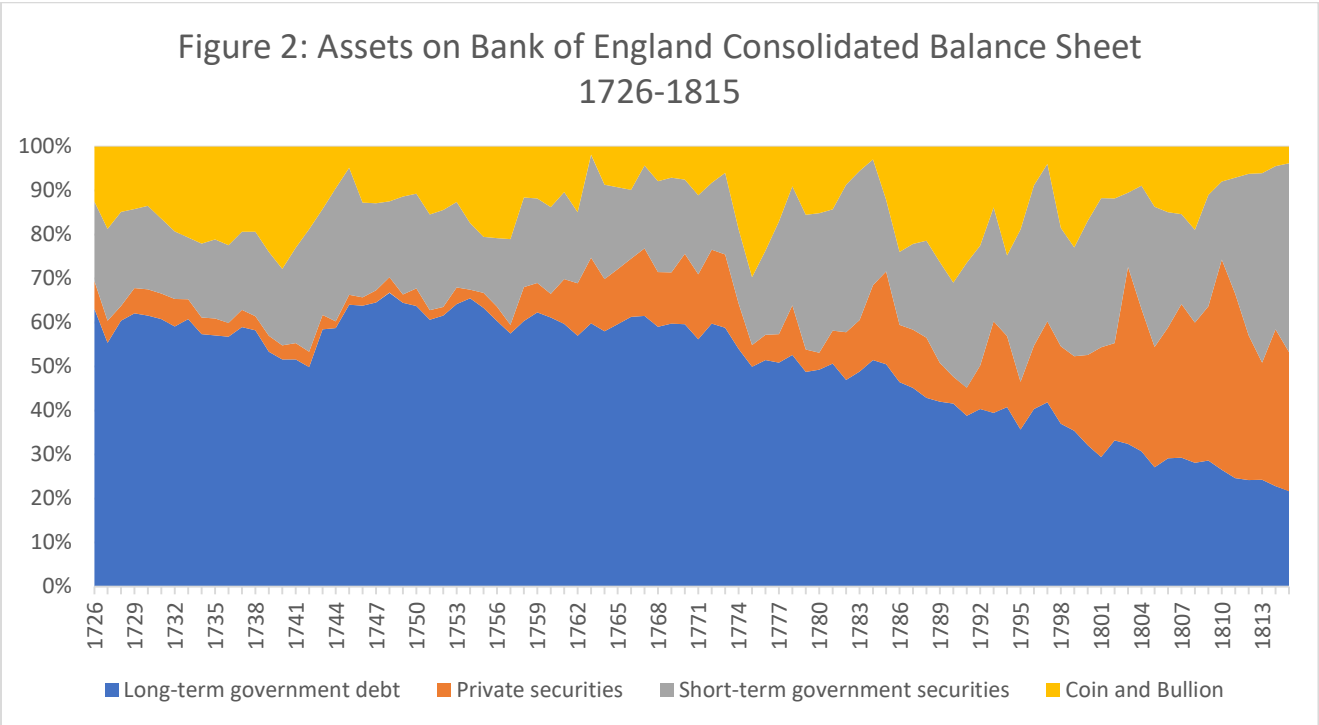
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<sup>4</sup> Although the Bank's minutes describes its' actions as "circulating" Exchequer Bills, this language appears to be a relict of the early 18th century when the Bank did indeed circulate Exchequer Bills (Dickson 2017). By the 1750s, the Bank typically held the Bills on its' balance sheet (Dickson 2017: 383).

<sup>5</sup> Note that the interest is always stated as 4%, but that there is also a 'premium' of 0.5% to 2.5% in addition to the interest paid (Dickson 2017: 384).



Source: Thomas and Dimsdale 2017.  
 1726-1764: August data; 1766-1801: February data; 1765 is the average of 1764 and 1766.



Source: Thomas and Dimsdale 2017. 1726-1764: August data; 1766-1801: February data; 1765 is the average of 1764 and 1766.

the next three years directly lent the government £2.5 million or more on Exchequer Bills (Dickson 2017: 384).

In short, the Bank found itself when lending to the government repeatedly acceding to disadvantageous terms. In this environment we see the Bank beginning to grow its' portfolio of private securities. As we see in Figure 1, the Bank's private sector loans jumped up first in 1758 during the Seven Years War and then after the War hovered between £2 and 3.3 million up until the outbreak of the War of American Independence. These figures represent 12 -17% of the Bank's consolidated assets in these interwar years, up from 2-4% before the outbreak of the Seven Years War (see Figure 2).

The Bank took two policy decisions that increased its portfolio of private securities after England won the Seven Years War – but only one of them shows up in this annual balance sheet data. First, let us consider the change in discount policy which we see in the data: by October 1763 the market rate on bills had fallen below 5%, the rate at which the Bank provided discounts (see Figure 3). At this juncture the Court of Directors considered what to do about the declining discount business and asked the Committee of Treasury to develop a new method for discounting notes (C.D. 20-10-1763). Six months later the long-standing rule that notes had to be considered by the full Court of Directors at their weekly meetings (C.D. Nov 7 1723) was rescinded, and the Bank authorized the Committee that managed the discount of bills to also discount notes, reserving only a subset that were deemed 'dubious' for the consideration of the full Court (C.D. April 12 1764). This policy successfully arrested and then reversed the 20% decline in discounts that took place from 1763 to 1764: although the market rate on prime bills was below 3% in February 1767, the Bank's private discounts were at the same level as they had been in August 1763. Apparently, by shifting its business towards notes, which were less secure because they had one endorser less than a bill and thus carried higher rates than prime bills on the market, the Bank was able to keep its income from discounts from falling dramatically.

The second policy decision allowed the Bank to earn income from a new form of subscription – and from the Directors' substantial contacts in the London business community. On August 4, 1763, at the time of the year when the Bank would in the past contract for and advertise the subscription for Exchequer Bills, the Bank does something completely new: it offers short-term loans to private individuals to finance the installments on the Loan of 1763, i.e. the perpetuities issued by the government in 1763 (C.D. 4-8-1763, 22-09-1763). The government typically issued such debt with eight installment payments payable over the course of the year.<sup>6</sup> With this new Bank facility, the government could raise the full value of the loan immediately, while the Bank was engaged in short-term lending to the private sector that was secured by the government debt, which was held by the Bank until such time as all the payments on the debt were made. After 1766 both an annual issue of long-term government debt, and Bank financing of the installment payments become a regular event (C.D. 10 July 1766, 21 May 1767, 14 April 1768).<sup>7</sup>

Note first, that the Bank financing of the purchase of this public debt had the effect of supporting government debt brokers who distributed the debt more broadly to the public, and, second, that these

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<sup>6</sup> Dickson (2017: 142) documents that the issue of public debt payable in installments dates to the 1740s.

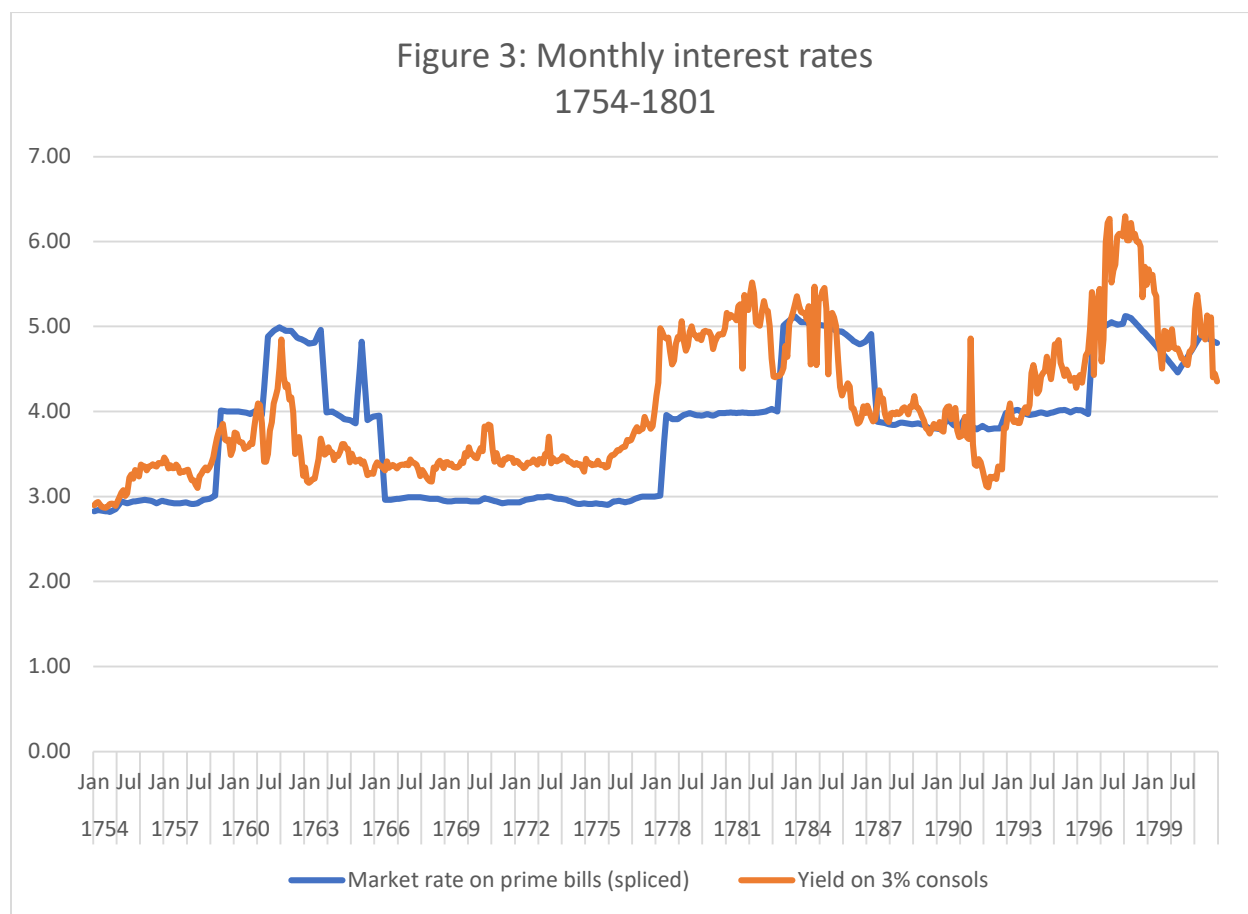
<sup>7</sup> In the indices under 'Subscription' and later 'Annuities' and then 'Loan.' Note that the Bank continued to fund about £3.5M in Exchequer Bills every year too (under 'Exchequer Bills').

Note that this also represents a transformation of British government finance. Prior to the Seven Years War, peacetime borrowing was more or less limited to Exchequer Bills 'circulated' by the Bank. After the Seven Years War even in peace time there was an annual long-term debt issue.



loans would only last from the spring until the end of the year. As a result, the Bank's February balance sheet data does not reflect these loans. At the same time, it is possible that the additional liquidity created by an annual government debt issue with Bank financing for 6 to 8 months had an expansionary effect on both the British economy and the banking system in the years following the Seven Years War. This may explain the Heim and Mirowski (1987) finding that crowding out does not apply to Britain in this era.

Overall, the Bank expanded its private sector lending in two ways after 1763. A new way of funding the installment payments on purchases of public debt was developed, and the private sector discount policy was relaxed. Subsequent to the latter policy, discounts would continue to grow through the remainder of the 18<sup>th</sup> century, reaching new heights during the first decade of the 19<sup>th</sup> century (Sissoko 2021b).



Sources. Consul yield: Neal 1990; Market rates on prime bills: Thomas and Dimsdale 2017.

It is important to observe that throughout the 18<sup>th</sup> century Bank policy imposed strict constraints on its private sector discount lending: the Bank would only discount bills and notes with two months or less to

run (C.D. Aug 14, 1760; Nov 20 1760).<sup>8</sup> The bills discounted also had to be approved by the Directors serving on the Committee in Waiting.

By establishing criteria for the commercial bills that it would discount, the Bank had two important economic effects: financing constraints for the issuers of those assets were relaxed as they now had a reliable source of financing, and at the same time a 'safe asset' was created for merchants and bankers to invest in. As is well established, the Bank required the endorsement of London financiers with whom it was familiar in order to discount a bill.<sup>9</sup> In the second half of the 18<sup>th</sup> century these London financiers took advantage of the financing available from the Bank to offer intermediary services to others, developing correspondent relationships with financiers in other parts of England (Thornton 1802: 172). This intermediation made it possible for 'safe asset' status to extend to bills that were originated outside London, as long as there was an arrangement by which the bill could obtain the necessary endorsements in London. By the early 19<sup>th</sup> century these arrangements had been formalized in acceptance banking and credit line agreements (Sissoko 2021b).

Thus, the Bank of England's new policy transformed a select category of commercial bills into 'safe assets' that were a secure source of liquidity for anyone in England who could arrange to sell them on the London discount market. This facilitated the development of local lenders who would lend at longer term, 4-6 months for domestic activities and up to 18 months for international transactions, and then manage their bill portfolios to make sure that they always had sufficient liquid assets – including bills with only two months to run – to allow them to weather losses or survive a crisis. The growth of these activities drives Pressnell (1956: 4, 11)'s data on the growth of banking in England after the Seven Years' War.<sup>10</sup>

The question then is: Why did some regions establish correspondence relations with London and develop an active banking sector earlier than others? Or more precisely why were Lancashire and neighboring regions so precocious in taking advantage of the financial opportunities offered by the Bank's new policy of lending to the private sector?

In response to the first question: why was there any differentiation at all in the way that the different regions of England responded to the relaxation of credit constraints by the Bank of England, one must take into account the significant risks of the banking profession in this era. As unlimited liability was the norm at the time, bankers who lent at terms in excess of two months and funded their operations with bills and notes that were payable at shorter notice were taking on significant risk to themselves and to their wealth. Under these circumstances it is likely that banking would develop first where profit opportunities were most robust, and where prospective bankers had very strong prospects of being successful and avoiding losses that could have catastrophic personal consequences. Overall, we can expect that the relaxation of financing constraints that emanated from the Bank of England would tend

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<sup>8</sup> In fact, during the money market stress of 1759, the bank had reduced the term of the bills it would discount to 30 days (C.D. April 19, 1759).

<sup>9</sup> J.H. Clapham, *The Bank of England: a history* (2 vols., Cambridge, 1944) vol. i, 124.

<sup>10</sup> Pressnell (1956: Ch 4) establishes that a key function of these 'country' banks was to ensure that local bills could be sent to London for discount through the country bank's London correspondent. Thus, the growth of country banking can be understood as a means of giving local tradesmen access to the new source of liquidity emanating from the Bank of England.

to flow not evenly across the country but initially at least to the benefit of those regions that were most able to profit from that relaxation.<sup>11</sup>

The banking system that we know – with current accounts that can be drawn down to make payments – relied in the 19<sup>th</sup> century on cheques. These cheques are a variant of the 18<sup>th</sup> century bill of exchange (Chalmers 1896: 245). Thus, the development of the English law of negotiable paper over the course of the latter half of the 18<sup>th</sup> century was a necessary foundation for 19<sup>th</sup> century English banking (Sissoko 2021b), and one of the key sources on early banking in England are the 18<sup>th</sup> century legal cases through which the law governing payments was transformed (Horsefield 1952). The relevant cases are documented in a treatise by M.D. Chalmers (1896) that summarizes the English law governing payments.

Lancashire sat at the heart of this transformation of the payments system in Britain. As a result, many of these legal cases that played a formative role in English banking are situated in Lancashire and neighboring counties. A careful review of Chalmers shows that ... [to be completed].

In any event, as early as the 1760s Liverpool had at least one bank, and almost certainly more (Hughes 1906: 49-51). By 1771 Manchester also had a bank (Walton 1989: 61). This was very early in the era of country banking – the best estimate is that there were only 12 country banks in the whole of England in 1750 (Pressnell 1956: 4) – and so it is clear that Lancashire was a region where banking emerged relatively early. By 1784 there were 119 country banks in England (Pressnell 1956: 6), and [to be completed] in Lancashire and neighboring counties.<sup>12</sup>

### Section III

This paper has demonstrated that changes in the Bank of England's discount policy had the effect of relaxing financing constraints for British firms. When financing constraints are relaxed, it is no surprise that the region with the best prospects for profit grows dramatically as financing flows into that region – nor is it a surprise that regions with fewer prospects experience much slower growth. The question then becomes: why were Lancashire and neighboring counties best able to exploit the opportunities provided by the change in the Bank of England's lending policies?

Here, several possible explanations are explored. First, it is possible that what enabled Lancashire to offer the best prospect for profits in England after 1763 were the combination of proximity to a large coalfield and to Lancashire's largest port, Liverpool, with its dominant position in the slave trade and the Atlantic economy more generally. Second, it is possible that distance from London – and from well-established and politically influential financial interests – played a role in the growth of banking and industry in the North. Finally, the more standard explanations for English industrialization are discussed in light of the focus of this paper on Lancashire and environs.

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<sup>11</sup> Alternatively, it is possible that there were some local regions that were institutionally better equipped to benefit from the Bank's new lending policy. Evidence of such a phenomenon would be interesting.

<sup>12</sup> Need data from Bailey's Business Directory 1784.

### ***Location, Location, Location: nearby assets***

Two important factors that contributed to the rise of Lancashire are easy access to coal and to the dynamic markets of the Atlantic economy. Many scholars have concluded that these factors alone cannot explain the jump to industrial growth. For example, almost a quarter century ago Walton (1989:59) focused his attention on the industrialization of cotton textile production and asked ‘Why was south-east Lancashire first?’ While he considered the ‘dynamism [that] came from the exploitation of distant markets’ and the importance of coal and transportation links, he finds that in the relevant period these factors played a larger role in other markets and that we must look elsewhere to explain the transformation of the cotton industry.

In this essay the focus is, however, very different from the earlier literature. The transition to industrial growth is explained due to the development of banking and the associated relaxation of financing constraints. Thus, all we are seeking to explain in this section is why Lancashire was a more profitable region than other regions in England for the development of the banking system. Coalfields and the role of Liverpool in the slave trade and the Atlantic economy may then fit the bill.

The role played by coal in the regional characteristics of industrialization have been thoroughly explored by others and will not be discussed in detail (Fernihough & O'Rourke 2020. See also Pomeranz 2000; Clark and Jacks 2007; Wrigley 2010). Here we note only that the first canal supporting industrialization was built in 1755 to link the Lancashire coalfield to the port city of Liverpool. This was quickly followed in 1760 by the construction of the Bridgewater canal to bringing coal to Manchester (which had been connected by navigable waterways to Liverpool since the 1720s). Construction of the Leeds and Liverpool Canal began in 1770 linking Yorkshire's West Riding to Liverpool. This latter was, however, a major project and took several decades to complete. There is no question that the proximity of the coalfields to the port cities played a role in the mid-18<sup>th</sup> century construction of canals and that it was upon this foundation that the industrialization of Lancashire took place.

There is no particular value in debating whether Liverpool was the most important English port in the Atlantic economy because of its proximity to the coal fields or whether it was Liverpool's importance as a port that motivated the construction of canals and the development of these particular English coalfields and the canals. Both factors interacted with each other and what is clear is the dominance in the Atlantic trade of Liverpool by the mid-18<sup>th</sup> century (Berg & Hudson 2021: 262; Richardson, Schwartz and Tibbles 2017: 4).

Liverpool's growth as a port was also needless-to-say supported by broader connections with its hinterland where the production of export goods took place. This hinterland included Lancashire, the county in which Liverpool was located, Yorkshire which lay just beyond Lancashire to the east, and the West Midlands to the south. Note that the West Midlands had initially relied on Bristol as a port via the river Severn (Berg and Hudson 2021: 272), and it was in 1766 that the construction of canals connecting this region to Liverpool began, completed in the 1770s.<sup>13</sup> The evidence is strong that the causality here also runs both ways – or in other words that the growth of Lancashire and neighboring regions was made possible by easy access to Liverpool and to the Atlantic economy.

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<sup>13</sup> The Trent and Mersey Canal and the Staffordshire and Worcestershire Canal.

The flourishing of economic activity in these hinterland counties was driven by exports to the Atlantic economy (Inikori 2002: 65ff; Berg & Hudson 2021). Over the course of the 18<sup>th</sup> century American and West Indian imports from England grew so dramatically that by 1797-98 they accounted for the majority of England's exports (Berg & Hudson 2021: 263-64). By 1801 about 25% of the output of manufacturing, mining and building in England was shipped to the Americas and West Indies (Berg & Hudson 2021: 264). The re-export of colonial products also contributed to their importance (Berg & Hudson 2021: 264).

The hinterland of Liverpool grew alongside this growth in exports to the Atlantic economy, and in large part to meet the Atlantic economy's growing demand for goods. Cotton textile production<sup>14</sup> was well established in Lancashire by the middle of the 18<sup>th</sup> century (Walton 1989: 64). Over the course of the second half of the century the production of other parts of Britain (with the exception of Glasgow) declined (Walton 1989: 59), even as British cotton production soared, increasing 50-fold from 1760 to 1815 (Berg & Hudson 2021: 264-5), and displaced India cotton textiles on world markets. The supply of cotton from the Caribbean islands supported this phenomenon accounting for 80% of Lancashire's raw cotton by 1780 (Berg and Hudson 2021: 270).<sup>15</sup> Robust demand from the Atlantic economy played an important role, absorbing 80% of British cotton exports from 1700 to 1774 and a similar fraction of the most innovative printed textiles in the latter part of the century (Berg and Hudson 2021: 264-65, 269). Thus, even as the fraction of British exports of cotton that went to the Atlantic economy declined towards the end of the 18<sup>th</sup> century due to the growing popularity of cotton textiles in Europe (Berg and Hudson 2021: 265; Walton 1989: 61), demand from the Atlantic economy continued to play an important role in innovation in the cotton industry.

Woolen manufacture industrialized later than cotton, but exhibited a similar dynamic where the growth of exports to the Atlantic economy allowed the local industry to outcompete regions, such as the West Country and East Anglia that had once been dominant (Inikori 2002: 73). While West Yorkshire only produced 20% of English woolens earlier in the 18<sup>th</sup> century, it was producing 33% by 1772 and exporting 70% of that production. By 1800 West Yorkshire was producing 60% of English woolens, and even though the fraction sold domestically increased, it was still exporting a higher percentage of the total English woolen production to the Atlantic economy than in 1772 (Berg & Hudson 2021: 264).

The West Midlands metal industry had many products that were designed for the Atlantic economy: for sale to Africa, for use in the slave trade, for use on plantations, and in the colonies (Berg and Hudson 2021: 273). Thus, Atlantic markets accounted for 50-60% of British metalware exports in this period (Berg & Hudson 2021: 265).

In fact, the dynamism of Lancashire and neighboring counties during this period and their remarkable ability to displace formerly dominant producers both domestically and abroad was only possible because of innovation in marketing and in meeting the demand of consumers for variety (Maw 2010,

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<sup>14</sup> Including fustian which was a textile with a cotton weft and linen warp.

<sup>15</sup> Caribbean cotton was more suited to spinning a stronger thread than the alternatives – if the correct preparatory procedures were followed, and this cotton – and thus the connection with the Atlantic – was necessary to the invention of the spinning jenny (Styles 2020: 227) and to that of Arkwright's water frame as well (Berg and Hudson 2021: 271).

Smail 1999; Hudson 2014: 43). This entrepreneurship helps explain how Lancashire and the neighboring counties were also successful in expanding their reach in domestic markets.

In short, the evidence is clear that demand emanating from the Atlantic economy supported the profits that were made in Liverpool and its hinterlands. The exposure of the country banks to this trade is also well-established (Sissoko and Ishizu 2021; Pressnell 1956: 435-36, 458). The fact that these bills could be discountable at the Bank of England once they had only two months to run undoubtedly played a role in the willingness of the banks to invest in them. The bankers, lending money into a booming local economy, flourished and were able to provide credit on more favorable terms than banks in Bristol (Hudson 2014: 45). This too supported the growth of the local economy. Indeed, successful merchants often chose to become bankers for the local community (Walton 1989: 57-58).

### ***Location, Location, Location: Advantages of distance***

While there is little doubt that London played an important role in providing discount services, and more generally, liquidity to the Lancashire banks, the fact that Lancashire is somewhat remote from London – especially in the days of travel by stagecoach – may in fact have been an advantage. The relationship between the Northern producers and merchants across the ocean could be developed through Liverpool far from the networks through which London’s merchants operated. Ultimately, Northern producers were able first to dominate over London in the Atlantic trade and then due to their innovative approach to merchandizing to encroach on domestic markets too (Wilson 1973: 235-44; Inikori 2002:74).

The possibility should be considered that the remarkable financial innovation that took place in Lancashire was facilitated by distance from London. In London there were well established financiers, accustomed to exercising political influence. Had Bristolian bankers attempted to develop an extensive system of bill finance comparable to that which supported the economies of Lancashire, Yorkshire and the West Midlands, it is possible that the attempt would have been derailed by Londoners stepping in at a very early stage of the business. Certainly it is clear that Bristol did not develop a hinterland that comparable to Liverpool’s (Berg and Hudson 2021: 268). As far away as Lancashire, it is possible that financial innovation could take place with less interference from London – and that this was one of Lancashire’s advantages. This hypothesis, however, requires much further exploration than is possible here.

### ***Other explanations***

So how does the argument made in this paper, that the growth of banking relaxed financial constraints and made industrial growth possible, relate to more traditional explanations for industrialization? As was noted in the introduction, there is no need to view this approach as conflicting with other ‘but for’ explanations of industrialization. There were many factors that primed both England and Lancashire for the industrial revolution. The argument here is about the timing of the event: this paper argues that it is the growth of banking that explains when industrialization took place.

Thus, the view that England’s geographical location and its resource base were essential (Pomerantz 2000; Wrigley 1988), the view that institutional changes in state capacity (North and Weingast 1989), in the peculiarities of apprenticeship in England (Mokyr 2021), or in weakening guilds (Ogilvie 2019) were what mattered, the view that social factors such as building stranger-trade and trust (Greif 2005) or ‘bourgeois virtues’ (McCloskey 2016) are important, the view that protectionism was a necessary

precursor (Hudson 2014: 39), these can all be incorporated to the approach here as factors that set the stage for industrialization. In short, the view that banking was a trigger for the industrial revolution complements existing explanations.

This approach also demystifies the view of technological change as something that arose spontaneously in what Inikori (2002: 111-12) describes as the 'manna from heaven' view of an industrial revolution 'unrelated to markets and trade.' If in fact banking relaxed financial constraints that were holding the economy back from growth, releasing latent potential, then technological change would indeed suddenly appear as 'manna from heaven.' The underlying explanation is however the dramatic change in the system by which production was financed.

## **Conclusion**

By focusing on the regional nature of industrialization in the late 18<sup>th</sup> century demonstrates, the precocious nature of banking in the north of England can finally be properly incorporated into our understanding of the Industrial Revolution. This paper establishes that the Bank of England expanded its private sector lending significantly after the Seven Year War and by broadening the discount policy. At the same time, it is well established that the discount market supported by the Bank of England is closely connected with the mushroom growth of banking at precisely the time and place that industrialization took place. The missing element is a theoretic structure that can connect the growth of banking to industrialization and economic growth.

The missing element is a model of banking that demonstrates how high levels of trust allow a bank-based monetary system to provide the short-term finance necessary for working capital needs without relying on savings to finance working capital. As Wicksell (1898) pointed out a robust banking system converges towards a 'pure credit economy.' The requisite high levels of trust can be maintained because default risk is concentrated in intermediaries that bear losses, act as gatekeepers providing access to credit, and effectively provide insurance against losses to the less informed participants in the system. Overall, banking is a means by which ubiquitous financing constraints can be relaxed, and the means by which 'market' prices can in fact reflect marginal costs and benefits.

Once this model of banking is embraced, the timing and the location of industrialization can be explained by innovations in finance (see also Hudson 2014: 45). On the one hand, this argument should be viewed as a complement to existing explanations for the Industrial Revolution, since it is consistent with the view that there were many factors that were necessary in order to prime Lancashire for industrialization. And, on the other hand, it provides strong support to the view that close connections with the Atlantic economy are what distinguished Lancashire from other parts of Britain and made Lancashire fertile ground for the development of banking.

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