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# *Making the municipal capital market in nineteenth-century England<sup>†</sup>*

By IAN WEBSTER\*

How did local authorities in nineteenth-century England raise the money to finance the building of roads, sewers, gasworks, schools, and hospitals? The literature on local government and capital markets is silent on this question. This article reveals the size of the municipal capital market, how and why it developed, and how it performed. It shows that most of the capital came from private individuals and institutions, with central government having only a modest role. Avoiding defaults, protecting lenders, the move towards standardization, and the development of open markets were all important in improving the credibility of borrowers and reducing the cost of debt. The article also reveals that the municipal capital market shared many similarities with the wider capital market.

By 1900, the English municipal capital market had become similar in size to the corporate bond market and about half the size of the market for central government debt.<sup>1</sup> The municipal market grew as local authorities borrowed to construct roads and docks, improve public health, and build schools and hospitals. These investments led to expanded trade; they also reduced the previous high levels of urban mortality and increased school attendance. Without a municipal capital market, these objectives either would not have been achieved at all or would only have been attained through government funding and by incurring a higher national debt. Yet, despite the importance of the municipal capital market, it does not feature in the history of capital markets or in accounts of local government. This article fills the gap by asking how large this market was, why and how it grew, how it performed, and who lent to local authorities. Municipalities in other countries faced similar challenges in raising capital for water, gas, streets, sewers, and dock infrastructure. Indeed, by 1900 about 60 cities in North and South America, Australia, and New Zealand had raised capital on the London market.<sup>2</sup> In Europe, state and local governments also raised capital to provide this infrastructure in cities.<sup>3</sup>

Details of the size of the municipal capital market are only known for the last 16 years of the nineteenth century.<sup>4</sup> For the first 84 years they can only be estimated

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<sup>1</sup> See tab. 2. In this article, the term 'municipal capital market' is used to cover the raising of debt by local authorities, whatever the debt instrument or the source of the lending.

<sup>2</sup> *Investor's Monthly Manual*, 30 Dec. 1899, p. 726.

<sup>3</sup> Millward, *Private and public enterprise*, pp. 18–19.

<sup>4</sup> In the annual *Local Taxation Returns* (P.P. 1886, LV–1901, LXIII).

from the investments made by thousands of local bodies. For this study, a new database has been created to show the scale and purpose of these investments. A second database has been built from the available mortgage and stock registers, which detail the sources of authorities' borrowing. These records, together with published records of municipal stock prices, make it possible to calculate the returns on municipal debt. Analysis of these sources allows us to build a picture of the composition of the municipal capital market.

For much of the nineteenth century, English cities had difficulties removing raw sewage and supplying clean water.<sup>5</sup> Local authorities wanted to improve these conditions, and took the initiative by promoting local acts of Parliament allowing them to borrow money. Central government legislation and finance were less important, and a municipal capital market was needed to raise nearly all the money from the private sector. Before 1869, local authorities could only raise loans on non-tradable mortgages secured on the income from local rates. These mortgages were popular with the private sector, particularly with life assurance companies and trustees, who considered them to be almost as secure as Consols. Municipal mortgages were also popular with individual investors living locally, who saw them as a safe home for their savings. To attract investments and reduce their costs of capital, local authorities had to avoid the defaults of the turnpike trust era and develop a standardized mortgage product. They also needed to accept the better investor protection demanded by their largest lenders. With these safeguards in place, investors' confidence improved, and the interest rates paid by authorities fell more quickly than the yield on Consols.

Until 1860, councils could raise as much capital as they wanted from this mortgage market, but in the 1860s, the cost of improving London's polluting sewage disposal system became more than the mortgage market could provide. This led the Metropolitan Board of Works to issue tradable stock. After 1870, stock issues became so popular that the largest authorities gained a third of their capital finance from them. Institutions were less keen on municipal stock than on municipal mortgages, and the ownership patterns were more like those for equities. Even so, most municipal stock issues were oversubscribed, and investors saw their values rise.<sup>6</sup> The partial transition from mortgage to stock financing confirmed that the municipal capital market shared many of the characteristics of the wider capital market.

This article adds to three current economic history debates. It contributes to the law and finance debate by showing that improved investor protection was led by larger lenders imposing conditions on weaker and more numerous borrowers. This article also adds to the literature on home bias in investing, showing that there was a much higher level of local borrowing than others have recognized.<sup>7</sup> Finally, the article reveals a much higher level of institutional involvement in the municipal capital market than in the equity market of the time. The higher level here anticipates by 50 years the rise in institutional investors noted by Scott in 'The cult of the equity'.<sup>8</sup>

<sup>5</sup> Wohl, *Endangered lives*, provides plenty of detail on the unhealthy state of cities.

<sup>6</sup> Coyle and Turner, 'Corporate debt', p. 839.

<sup>7</sup> Rutterford, Sotiropoulos, and van Lieshout, 'Local bias'.

<sup>8</sup> Scott, 'Cult of the equity'; Rutterford and Hannah, 'Rise of institutional investors'.

Several features of the nineteenth-century municipal capital market are matters of twenty-first-century English political debate. Recent governments have wanted to attract private finance to public infrastructure provision, but after the early twenty-first-century failure of the private finance initiative (PFI), there is little private finance involvement in local authority capital provision. Indeed, the PFI has often been seen as better at providing returns to investors than bringing social benefits.<sup>9</sup> This is consistent with Zingales's pessimistic response to the question: does financial innovation produce social benefits?<sup>10</sup> The nineteenth-century English innovation of municipal stock issues certainly did so. Modern local government leaders feel they can recapture these benefits by establishing a Municipal Bond Agency to raise money on the markets to replace government loans.<sup>11</sup> The push for more private finance is partly motivated by the desire for a more devolved local governance model, with more independent local authorities.<sup>12</sup> Again, this would be closer to the nineteenth-century English model, and to the current approach in America where a large municipal bond market exists.

The next section of the article looks at the two datasets showing the scale and sources of council investment. Section II compares the size of the municipal capital market with other parts of the nineteenth-century capital market and examines why the market had to grow. Section III examines the actions that local authorities took to increase their access to capital and reduce its cost. Section IV shows how investor protection improved, from the defaults of turnpike trusts to the lack of defaults by local authorities. Section V looks at the lenders to local authorities and compares the performance of the municipal market with the rest of the capital market. Section VI draws conclusions.

## I. Sources and data

This article relies on two large sets of data. The first, summarized in panel A of table 1, covers the scale and purpose of local authority capital spending in the nineteenth century. This spending was a measure of their need to borrow. The data cover improvement commissions, turnpike trusts, dock trustees, single-function boards, and multi-purpose councils. By 1902, the government had combined all these bodies into county, borough, urban, and rural councils. This dataset is a development of Feinstein's data on fixed capital formation.<sup>13</sup> Most of the data come from published accounts and local taxation returns, and from borrowing approvals.<sup>14</sup> These approvals came from either local acts of Parliament, or from the Poor Law Commission or the Local Government Board and its predecessors. This is the first time the data for periods before 1884 have been assembled.

The second set of data, in panel B, shows the six sources of 54,000 loan transactions of 3,000 local bodies. This sample covers 38 per cent of the total borrowed. The mortgage registers and stock registers of many bodies allow an analysis of borrowing from institutions and government, and from individuals

<sup>9</sup> NAO, *Lessons from PFI*.

<sup>10</sup> Zingales, 'Does finance benefit society?'

<sup>11</sup> UK Municipal Bonds Agency, [www.ukmba.org/ukmba-intro/](http://www.ukmba.org/ukmba-intro/) (accessed on 2 Nov. 2020).

<sup>12</sup> Leach, Stewart, and Jones, *Centralisation*.

<sup>13</sup> Feinstein and Pollard, *Capital formation*, pp. 302–6, 312–78, 429–30.

<sup>14</sup> Online app. S1 provides a full list of all the sources used.

Table 1. *Data for the nineteenth-century municipal capital market*

<i>Panel A: Purposes of borrowing</i>					
	<i>Streets, docks (£m)</i>	<i>Utility services, and sewers (£m)</i>	<i>Workhouses, hospitals, schools (£m)</i>	<i>Other (£m)</i>	<i>Total (£m)</i>
1800s	5	0	0	0	6
1810s	8	1	0	1	10
1820s	10	1	0	1	12
1830s	9	1	2	0	13
1840s	15	3	2	1	21
1850s	17	10	3	3	32
1860s	31	18	3	6	59
1870s	37	42	18	8	104
1880s	38	34	18	11	102
1890s	45	60	33	20	157
<i>Totals</i>	<i>213</i>	<i>171</i>	<i>79</i>	<i>51</i>	<i>515</i>
<i>Panel B: Sources of borrowing data</i>					
	<i>1800–99 Borrowing (£m)</i>	<i>Sample</i>			
		<i>Size (£m)</i>	<i>No. of loans</i>	<i>No. of authorities</i>	
Council mortgage registers	290	29	13,438	35	
Smith's return	18	18	4,001	974	
Poor Law Commission	20	20	4,536	600	
Mersey Docks and Harbour Board	30	11	8,638	1	
Stock issues	118	79	20,293	13	
School boards	39	39	3,397	1,452	
<i>Totals</i>	<i>515</i>	<i>196</i>	<i>54,303</i>	<i>3,076</i>	

*Notes:* Individual service totals are: Streets £153m, docks, £60m. Water £68m, gas £21m, electricity £9m, trams £8m, markets £9m, sewers £56m. Workhouses £18m, hospitals £23m, schools £39m. Other services: Housing £7m, police £6m, fire £1m, parks £7m, libraries and museums £1m, cemeteries £6m, baths £4m, other buildings £11m, other services £8m.

*Sources:* Panel A data are from unpublished research based on accounts and local taxation returns in Parliamentary Papers, and on borrowing approvals in local acts of Parliament published in the annual *Statutes at Large: Local and Personal Acts*. Panel B data from council mortgage registers come from local record offices. Smith's return is *Returns on Money Borrowed by Local Bodies* (P.P. 1874, LVI). Poor Law Commission ledgers are in TNA. MDHB ledgers are at the Maritime Museum, Liverpool. Stock issue ledgers are mostly at the Bank of England, and a few are in local record offices. School board data come from local record offices, PWLB, and Committee of Council on Education annual reports in Parliamentary Papers. A full list of sources, locations, and file references can be found in online appendix S1.

organized by gender, occupation, and location. This allows conclusions to be drawn about the holders of municipal debt, and for the results to be compared with other parts of the capital market.

The collection of council mortgage registers comes mainly from large authorities. These records represent 10 per cent of the total, but the local record office catalogues do not list the remaining records, so we must assume they no longer exist. However, the Manchester collection of registers dwarfs all others, and only a sample are included to avoid skewing the database towards large city authorities. In contrast, Smith's return, found in Parliamentary Papers, and the Poor Law Commission records at Kew, provide details of all the 1,600 mostly smaller local bodies, and all these records are included. Two-thirds of stock issue registers are included, but the remaining third cannot be located. The Mersey Docks and Harbour Board records include all their borrowing up to the mid-1860s. Records

Table 2. *Municipal capital market in context, 1800–99*

	1800 (£m)	1829 (£m)	1859 (£m)	1879 (£m)	1899 (£m)
Government debt	456	801	809	735	591
Domestic equity	n.a.	43	298	850	1,254
UK corporate bonds	Minimal	Minimal	6	101	340
Municipal debt	Minimal	10	30	128	294

Sources: Government debt: Mitchell, *Historical statistics*, pp. 601–3. Domestic equity: Campbell, Grossman, and Turner, ‘Before the cult of the equity’, tab. 4. UK bonds: Coyle and Turner, ‘Corporate debt’, p. 839 (the 1859 figure is actually for 1860, the first year in their series). Municipal debt: *Local Taxation Returns* (P.P. 1880, LXI), p. viii, (P.P. 1901, LXIII), p. 1205; 1800, 1829, and 1859 are estimated figures, based on sums invested, minus repayments.

no longer exist for the remaining part of the century. For the details of school board borrowing we must rely on the records of the Public Works Loan Board (PWLB), since only a small number of the mortgage registers for nearly 2,000 school boards are available. Even so, the PWLB records account for half the money borrowed by school boards.

Taking the six panel B sources together, the sample provides a close representation of the total pattern of borrowing, reflecting the division over time, by geography, and between large and small local bodies. The dataset is therefore the best sample available.

## II. Why did the municipal market grow?

By any standard, the municipal capital market was large, and an important part of the overall capital market. At the end of the nineteenth century, local authority debt was £294m.<sup>15</sup> Table 2 shows that it was slightly smaller than corporate debt, half the size of the national debt, and a quarter of the domestic equity market. Local authority investment grew faster than any other element in Feinstein’s fixed capital formation series.<sup>16</sup> Only investment in manufacturing, rail, and dwellings was materially larger than local authority investment in the nineteenth century. Daunton notes that ‘the scale of [local authority] investment was remarkable, and of great importance for the performance of the economy’.<sup>17</sup> Local authority investment was economically important because of its size and because of what it provided. Before 1840, 80 per cent of local authority investment went on streets, bridges, docks, and harbours, largely to promote trade (see table 1). In the final three decades of the century, two-thirds of investment went on building sewers; providing the utility services of gas, water, trams, and electricity; and developing education and welfare services.

City authorities wanted to borrow for these purposes to combat the impact of rapid urbanization and worsening mortality rates. The extent of this local initiative is made clear from the more than 500 local acts promoted by cities and towns between 1800 and 1840, and the 1,000 promoted between 1840 and 1870.<sup>18</sup> Each

<sup>15</sup> *Local Taxation Return* (P.P. 1901, LXIII), p. 1205.

<sup>16</sup> Feinstein and Pollard, *Capital formation*, pp. 429–30.

<sup>17</sup> Daunton, *Trusting leviathan*, p. 285.

<sup>18</sup> Published in the annual *Statutes at Large: Local and Personal Acts*.

of these acts sought permission to borrow to invest in public infrastructure. More specifically, in the six years before Parliament passed the 1848 Public Health Act, seven large authorities secured local acts allowing them to borrow £2m for public-health-related improvements.<sup>19</sup> They did not want to depend on the uncertainty of the parliamentary process of passing a general health act. The 1848 Public Health Act gave permissive power to local authorities and did not impose large-scale spending obligations. Indeed, it is possible to see the act as a parliamentary response aimed at reducing the number of local government-promoted bills. Successive governments preferred to pass similarly permissive acts. Yet three acts—the 1834 Poor Law Amendment Act, the 1870 Elementary Education Act, and the 1872 Public Health Act—were felt to impose local obligations to spend. In these cases, the government had to offer local bodies low interest rate loans through the PWLB, to reduce costs to the ratepayer.

The initiative to borrow therefore rested with the local authorities. They had the motivation because they wanted to improve local conditions and combat high mortality rates. Local authorities also had the means because economic growth meant rate income doubled between 1870 and 1899. In London it increased twice as fast, and in rural areas it grew at half the national rate. This growth in income made servicing new debt relatively easy. The growing volume of savings in the economy also made it relatively easy for authorities to borrow, often from their local populations.<sup>20</sup> This meant that the same local population experienced both the costs and the benefits. Once the ‘Economists’, effectively a party of councillors opposed to spending, had less influence in large cities, authorities were more willing to borrow to invest.<sup>21</sup> Local authorities then needed an efficient capital market to finance their local improvement plans.

These local improvement plans first appeared in the larger cities and towns, with London authorities investing in their infrastructure five decades earlier than smaller rural councils. There was also a clear relationship between the amount borrowed and population growth. The 50 largest towns and cities accounted for two-thirds of the 1900 municipal debt, and saw their populations grow seven-fold during the century.<sup>22</sup> All other authorities saw population growth of well under half this level. Table 3 shows that large cities invested £16 a head on streets, sewers, water, and gas in the nineteenth century; towns invested half this; and smaller areas just a quarter. Mortality statistics also reflect the differences between urban and rural areas. In the Bethnal Green area of London, the average age of death in a labourer’s family was 16; in Liverpool it was 15, and in Derby, a largish town, it was 21. The pressure to spend was thus lower in Derby, and so investment happened later. In small and rural Kendal, the average age of death in a labourer’s family was 34, meaning that Kendal could delay investment until much later and spend much less per head.<sup>23</sup>

<sup>19</sup> 1842, Southwark, £100,000; 1843, Birkenhead, £100,000; 1844, Manchester, £200,000; 1846, Birkenhead, £100,000; 1847, Liverpool, £480,000, Westminster, £304,000, Manchester, £650,000; *Statutes at Large: Local and Personal Acts*.

<sup>20</sup> Mitchell, *Historical statistics*, pp. 663, 671, 691.

<sup>21</sup> Hennock, *Fit and proper persons*, pp. 31–3, 105–7.

<sup>22</sup> *Local Taxation Return* (P.P. 1901, LXIII); Mitchell, *Historical statistics*, pp. 26–7.

<sup>23</sup> Chadwick, *Sanitary conditions*, 1842, pp. 220–7.

Table 3. *Borrowing by London, other cities, and less populated areas*

	No. of authorities	Increase in population, 1801 to 1901	Decade borrowing per capita rose above average for all local authorities	Average borrowing per capita
London	4	4.7-fold	1820s	£11
Cities	8	8.5-fold	1840s	£16
Larger towns	24	10.5-fold	1850s	£9
Smaller towns	42	13.2-fold	1850s	£8
Smaller areas	c. 1,600	2.6-fold	1870s	£4

Notes: Covers only borrowing for streets, sewers, water, and gas. London borrowing per capita is lower than for cities because London water and gas investment was entirely provided by companies. Cities had 1901 census populations of over 250,000; larger towns, over 100,000; and smaller towns, over 50,000.

Sources: A full list of sources, locations, and file references can be found in online app. S1; Mitchell, *Historical statistics*, pp. 26–7.

Table 4. *Structure of local government borrowing*

	1800–39 (£m)	1840–69 (£m)	1870–99 (£m)	Totals (£m)
Mortgages	35	99	183	317
Stock issues	0	2	116	118
PWLB	5	10	65	80
Totals	40	111	364	515

Notes and sources: Totals from unpublished research. PWLB from *Public Works Loan Board, Annual Reports* (P.P. 1876, XXI–1900, XVII). Stock issues from *Investor's Monthly Manual* (1870–99). The total for mortgages is therefore the remainder.

Chapman's recent work shows investment in sanitation having a major impact on reducing local mortality rates.<sup>24</sup>

The nineteenth-century model was largely one of independent local authorities financing most of their capital investment from the private sector. Table 4 shows that 86 per cent of financing came from private individuals and institutions lending money on mortgages or investing in stock. Only 16 per cent came from the PWLB. In the pre-1835 Municipal Corporations Act period, borrowing had been low, and all on mortgage, with over 85 per cent from the private sector. In the final three decades of the century, the 1870s boom in public health and education spending saw borrowing increase nine-fold. Mortgages were still important, but authorities were now raising nearly a third of their financing through stock issues. The PWLB share had increased to 18 per cent, largely because of low interest rates for sanitation and school loans. Unlike most government debt, however, debts from council mortgages and nearly all stock issues were repayable within defined timescales; by the end of the century, local authorities were repaying £6.5m a year to lenders.<sup>25</sup> These repayments account for the difference between the £515m spent and the £294m outstanding debt during this period.

The municipal capital market was also important because it offered an alternative to accepting a much larger role for central government, either through direct funding or a greater reliance on lending from the PWLB. Both would have increased the national debt significantly and created a more centralized state with weaker local

<sup>24</sup> Chapman, 'Infrastructure investment'.

<sup>25</sup> *Local Taxation Return* (P.P. 1901, LXIII).



authorities. Direct funding by the government would also have seen the incidence of the costs and benefits of infrastructure investment fall on different groups. The benefits would have accrued to local populations, while the debt service costs would have been met by all national taxpayers. Even so, some European countries did provide state funding for infrastructure investment in the nineteenth century.<sup>26</sup> In post-1990 England, nearly all the external finance for local government investment comes from either government grants or PWLB loans.<sup>27</sup> The result is stronger central government, weaker local government, higher national taxes, and lower local taxes.<sup>28</sup>

Another alternative to a growing municipal capital market was to leave provision to the private sector. This was the route taken for gas and water supplies in London in the nineteenth century. The private sector also delivered these and other services elsewhere, but these companies were steadily being taken over by local authorities.<sup>29</sup> For Crafts, the private sector's low investment in public goods was a 'classic market failure', because companies incurred the costs while communities enjoyed the benefits.<sup>30</sup> Crafts's view is consistent with Williamson's judgement that social overhead investment was too little too late.<sup>31</sup> The municipal capital market therefore grew because the need for higher levels of investment was clear, and local authorities had the motivation and the means to invest heavily. In contrast, the private sector and central government may have had the means, but they lacked the motivation.

### III. How did local authorities raise finance in the market?

This section examines the changes local authorities made to how they accessed capital markets. These changes did not cause the growth in their debt; instead, they gave them better access to markets and reduced their costs of capital. Writing in 1904, Biddle paints a rosy picture of how councils borrowed: 'Tradesmen and others who are getting on well in business call at the office of the town clerk or borough treasurer when they have a little money to invest, and generally find no difficulty in placing it on loan with the corporation'.<sup>32</sup> In practice, local authorities had to earn this apparent confidence placed in them by lenders by avoiding the risk of defaults. Doing so would then reduce the cost of capital. They also needed to reduce the high transaction costs of the way they raised money on mortgage. It was also necessary to widen access by issuing tradable stock on a public market. It is possible to measure their success by charting the fall in the interest rate spread, looking at defaults, examining transaction costs, and looking for evidence of any inability of the market to supply capital.

The steps taken by authorities saw their capital costs fall faster than the yields on Consols. Table 5 shows that the interest rate spread between Consols and local authorities' cost of capital halved over the century. It also shows local authority

<sup>26</sup> Bogart, Drelichman, Gelderblom, and Rosenthal, 'State and private institutions', tabs. 3.3, 3.4, 3.5.

<sup>27</sup> ONS, *Local Government Financial Statistics*.

<sup>28</sup> Leach et al., *Centralisation*, pp. 58–72.

<sup>29</sup> Falkus, 'Municipal trading'.

<sup>30</sup> Crafts, 'Dimensions', p. 633.

<sup>31</sup> Williamson, *City growth*, pp. 270–84.

<sup>32</sup> Biddle, *Loans of local authorities*, p. 10. Biddle does not give a source; it may be apocryphal.

Table 5. *Average costs of local authority debt*

<i>Panel A: Interest-rate spreads</i>			
	<i>Local authority interest rates</i>	<i>Yield on Consols</i>	<i>Spread</i>
1820s	5.0%	3.7%	1.3%
1830s	4.7%	3.4%	1.3%
1840s	4.5%	3.3%	1.2%
1850s	4.3%	3.2%	1.1%
1860s	4.3%	3.3%	1.0%
1870s	4.3%	3.2%	1.1%
1880s	3.7%	3.0%	0.7%
1890s	3.1%	2.5%	0.6%

  

<i>Panel B: Transaction costs</i>			
	<i>Early mortgages</i>	<i>Stock issues</i>	
		<b>One-off costs</b>	
Initial costs	0.75%	0.25%	BoE issue costs
Commission	0.125%	0.1%	Redemption costs
Stamp duty	0.625%	0.063%	Stamp duty
		<b>Annual costs</b>	
Interest payments	0.05%	0.05%	
Life of mortgage	8 years	50 years	Life of stock issue
<i>Average annual cost</i>	<i>0.238%</i>	<i>0.058%</i>	<i>Average annual cost</i>

*Notes:* Local authority interest rates are weighted averages. Stamp duty was only paid on around 10% of stock issues.  
*Sources:* Local authority interest rates from council mortgages, MDHB, and stock issues. Consol yields from Homer and Sylla, *Interest rates*. Stock issue costs from Nottinghamshire Archives, Nottingham City Council Finance Committee minutes, Jan. 1881 and March 1885.

Table 6. *Regional mortgage rates*

	<i>Regional differences</i>			<i>Differences by size</i>		
	<i>L/SE</i> %	<i>NW/WM</i> %	<i>E/SW/EM</i> %	<i>Large</i> %	<i>Medium</i> %	<i>Small</i> %
1820s		4.51	4.00	4.52	4.00	4.00
1830s	4.90	4.11		4.11	5.00	4.38
1840s	4.00	4.87		4.87	4.00	4.00
1850s	4.81	4.02	3.99	3.90	4.86	4.24
1860s	4.60	4.18	4.20	4.09	4.26	4.47
1870s	4.57	4.01	4.02	4.00	4.01	4.18
1880s	3.97	3.52	3.67	3.27	3.57	3.79
1890s	3.74	3.02	3.26	2.97	3.25	3.32
<i>Averages</i>	<i>4.25</i>	<i>3.62</i>	<i>3.89</i>	<i>3.62</i>	<i>3.83</i>	<i>3.90</i>

*Notes:* L = London, SE = south-east, NW = north-west, WM = west midlands, E = east, SW = south-west, EM = east midlands. There are no north-east or Welsh councils in the sample. Large, medium, and small authorities are based on the size of their outstanding debt at 1900.

*Sources:* A full list of sources, locations, and file references can be found in online app. S1.

transaction costs falling by 75 per cent as they moved from early mortgages to stock issues. By 1900, these savings were worth up to £2.3m a year, or around 6 per cent of authorities’ annual rate income.<sup>33</sup> However, not all authorities paid the same for their capital. Table 6 shows that larger authorities mostly enjoyed lower interest rates than smaller authorities. The table also shows that mortgage interest rates

<sup>33</sup> See *Local Taxation Returns* (P.P. 1901, LXIII), tab. 5.

were lowest for authorities in the north-west and west midlands regions, and highest for authorities in London. However, this is because larger borrowers attract lower rates, and vice versa. The north-west and west midlands were dominated by larger borrowers, including Liverpool, Manchester, and Birmingham, while borrowers in London and the south-east were generally smaller. (There is no evidence of regional differences in interest rates for similar-sized authorities.)

Authorities could do three things to reduce interest rates and transaction costs. The first was to avoid defaults or late interest payments. Both had plagued turnpike trusts, who in 1834 owed lenders nearly £1m of unpaid interest on loans of around £8m.<sup>34</sup> Authorities' first action against defaults was to exercise restraint in their borrowing. By 1900, the total municipal debt was 3.8 times their annual income, and servicing that debt took 20 per cent of their annual income.<sup>35</sup> As a comparison, the national debt in 1900 was 4.4 times central government's income, and debt service costs consumed 18 per cent of annual income, so the figures were similar.<sup>36</sup> In contrast, if the troubled turnpike trusts had properly repaid their loans, and paid all the interest due, their debt service costs in 1834 would have used up more than 50 per cent of their income.<sup>37</sup> In practice, they only met half their annual debt service costs, and defaulted on the rest. So, given the desire of local authorities to invest, they exercised a reasonable degree of restraint to avoid over-borrowing.

A series of checks were in place to encourage borrowing restraint. First, opposition groups within individual authorities would often challenge borrowing proposals based on the impact they would have on the local rate. As an example, in 1880s Liverpool, A. B. Forwood—who later became the council leader—led a minority of councillors who objected to the £3m Vyrnwy reservoir scheme, believing that it was too expensive.<sup>38</sup> Once a council agreed a scheme, it often needed a local act of Parliament to grant the borrowing power. The parliamentary local bill committee would challenge the council's plans and its capacity to repay and service the loan. Applications to borrow under general acts would be subject to scrutiny by the Local Government Board or its predecessors.

The impact of borrowing on the future rate also provided a control against overspending, since over-borrowing would just force the rate higher, risking electoral damage. A combination of over-borrowing and a falling tax base could cause defaults; examples are Ireland in the 1840s, America in the 1840s and 1870s, and Latin America in the 1890s.<sup>39</sup> English councils avoided these problems. Since the era of turnpike trusts, there have been no local authority defaults, and this stability has contributed to the narrowing interest rate spreads against Consols.<sup>40</sup>

Local authorities aimed their second group of actions at standardizing mortgage processes to reduce transaction costs. Pre-1830 mortgage registers for the Liverpool Dock Trustees show clerks writing the details of each loan in a ledger.

<sup>34</sup> *Returns from Turnpike Trusts* (P.P. 1836, XLVII).

<sup>35</sup> *Local Taxation Returns* (P.P. 1901, LXIII), summary, pp. 40–57.

<sup>36</sup> Mitchell, *Historical statistics*, pp. 583, 589, 602.

<sup>37</sup> *Returns from Turnpike Trusts* (P.P. 1836, XLVII).

<sup>38</sup> *Liverpool Mercury*, 22 Jan. 1880, p. 3.

<sup>39</sup> *Public Works Loan Board, Annual Report* (P.P. 1888, XXXIII), p. 8. English, 'American state debts'; Dove, 'Municipal debt', pp. 74–5; Marichal, *Debt crises in Latin America*.

<sup>40</sup> Three recent councils, Liverpool in the 1980s, Hackney in 2000, and Northamptonshire in 2018, had major problems but avoided defaults; 'Northamptonshire's bankrupt council', *Guardian*, 29 Jan. 2019.

A senior officer would present the ledger at each committee meeting, where the chairman and two others would sign it.<sup>41</sup> Other 1830s mortgage registers show clerks writing out each unique, pages-long mortgage agreement in full in ledgers.<sup>42</sup> In both cases, each mortgage had a different term and a different interest rate. This approach implies that the borrower and the lender negotiated each mortgage separately. These processes would have involved heavy initial transaction costs, and table 5 suggests these could have been as high as 0.75 per cent of a common loan value of around £100. Partly to reduce these transaction costs, and partly to broaden access, authorities began to advertise in local and national newspapers to attract lenders. Some also engaged brokers to manage the marketing of mortgages. As part of this, authorities increasingly adopted a restricted range of terms—sometimes three, five, or seven years—and fixed an interest rate for a period. They also gradually began to use a standard 20-line mortgage form.<sup>43</sup> Later, this shrank to 15 lines.<sup>44</sup> Not all authorities took these steps towards standardization at the same time, but Liverpool corporation's mortgage register of the 1840s shows standard rates and terms.<sup>45</sup> Later, Nottingham city council's finance committee agreed to accept loans only at a named rate and term.<sup>46</sup> As standardization became more common, transaction costs fell.

The third change came in 1869, with councils introducing tradable stock issues. Between 1865 and 1869, the Metropolitan Board of Works (MBW) was investing on average £1.4m a year for completing the north and south embankments and Joseph Bazalgette's drainage scheme.<sup>47</sup> This was a rare case where a local authority could not access enough capital using mortgages. Daunton reports that an early idea was for the Treasury to lend money direct to the MBW, but this was dropped.<sup>48</sup> Instead, between 1859 and 1869, the Bank of England made about 50 loans totalling £5m to the MBW, which the Treasury guaranteed.<sup>49</sup> The MBW and the Bank persuaded Acton Ayrton, the financial secretary to the Treasury, to introduce a bill to allow the MBW to issue stock. In doing so, Ayrton said that using 'unmarketable' mortgages was 'borrowing hand to mouth' and was perhaps 1 per cent more expensive than stock.<sup>50</sup> The long-term solution was for the MBW to make a stock issue, and Parliament passed an act giving it the power to do so. Ayrton's expectation was that MBW stock would be 'almost as good as [loans] raised by Her Majesty's government'. At first, the MBW issue raised £2.5m at 3.5 per cent for 60 years, but the MBW made many further stock issues, eventually raising £17m.<sup>51</sup> The price of the stock appeared in the *Investor's Monthly Manual* and in many national newspapers.<sup>52</sup> Homer and Sylla report that by 1881, the

<sup>41</sup> Maritime Museum, Liverpool, Mersey Docks and Harbour Board, mortgage ledger vol. 1, 1811–30.

<sup>42</sup> East Sussex Record Office, Hastings local board of health DHB 5/2; Hastings waterworks mortgage register, DH/B5/17.

<sup>43</sup> 1847 Commissioners Clauses Act, schedule B.

<sup>44</sup> 1875 Public Health Act, schedule H.

<sup>45</sup> Liverpool Central Library, corporation mortgage register, 352/TRE/3/5/1.

<sup>46</sup> Nottinghamshire Archives, Nottingham City Council Finance Committee minutes, 1891.

<sup>47</sup> *Metropolitan Board of Works, Annual Report and Accounts* (P.P. 1862 XLVII and annually until 1871, XLVII).

<sup>48</sup> Daunton, *Trusting Leviathan*, p. 276.

<sup>49</sup> Clapham, *Bank of England*, vol. 2, p. 302.

<sup>50</sup> *House of Commons Journals*, ser. 3, vol. 198, col. 36–345, 20 July 1869.

<sup>51</sup> Burdett, *Burdett's official intelligence 1882*, p. 11.

<sup>52</sup> *Course of the Exchange*, Dec. 1869.

MBW was paying just 0.15 per cent over the yield on Consols.<sup>53</sup> The redemption period of 60 years allowed the MBW to borrow for much longer than was possible with mortgages. This also allowed the MBW to spread the initial costs over a longer period. The benefit to the MBW of using stock issues was to increase access to capital markets, and to reduce interest rates and transaction costs.

Between 1870 and 1899, nearly 90 of the largest cities made stock issues, and some made multiple issues.<sup>54</sup> These raised £118m, with the average size being around £0.75m. In the cases of Nottingham and Liverpool, the initiative came from leading members—Edward Goldschmidt in Nottingham and Forwood in Liverpool—rather than from the treasurer.<sup>55</sup> Goldschmidt was a local business leader who went on to chair the finance committee for 12 years, while Forwood went on to lead the city council before entering national politics.<sup>56</sup> Both council finance committees treated the proposers as having made an entirely novel proposition. Details of Nottingham's discussions with the Bank of England governor and deputy governor, and the bank's advice and likely costs, appear in the council minutes.<sup>57</sup> These discussions make it clear that the Bank of England was controlling the listing strategy, not the authority. Local press coverage in Liverpool suggests that it took two meetings to persuade the council of the wisdom of making a stock issue.<sup>58</sup> Ultimately, the deciding factor was the saving of half a per cent on the interest rate. The lower cost of capital was also attractive to Nottingham, and the city quickly made three stock issues worth £3m in total. Michie writes that the growth of the national debt market depended on holders being able to buy and sell in an open market.<sup>59</sup> This was also true of the post-1870 municipal capital market, and stock issues gave cities access to the wider capital market and a cheaper source of capital.

The two drawbacks of stock issues were that they were unattractive to small authorities, and the Bank of England controlled the timing, terms, and size of issues. The Bank was reluctant to entertain issues under £100,000, feeling they would lack the liquidity to create an effective market. The *Investor's Monthly Manual* data also show that smaller issues had capital returns that were 0.5 per cent a year lower than larger issues.<sup>60</sup> Sometimes an authority had to wait a year until the Bank thought conditions suitable for an issue. The Bank also effectively controlled the issue price and the coupon. There were significant one-off costs to a stock issue because until 1895, a council needed a local act of Parliament to make one. These costs, and the Bank's control of listing strategy, made stock issues unattractive for smaller authorities, and to those who did not want to wait.<sup>61</sup> A consortium of smaller authorities could have formed to promote a single issue, but this did

<sup>53</sup> Homer and Sylla, *Interest rates*, p. 201, tab. 20.

<sup>54</sup> 1899 year-end copies of the *Investor's Monthly Manual*.

<sup>55</sup> Nottinghamshire Archives, Nottingham City Council Finance Committee minutes, Dec. 1880; *Liverpool Mercury*, 22 Jan. 1880.

<sup>56</sup> Waller, 'Forwood'.

<sup>57</sup> Nottinghamshire Archives, Nottingham City Council Finance Committee minutes, Dec. 1880 and March 1881.

<sup>58</sup> *Liverpool Mercury*, 1 Dec. 1884, 2 March 1885.

<sup>59</sup> Michie, *London Stock Exchange*, pp. 18–19, 25.

<sup>60</sup> Analysis of quoted prices in year-end copies of the *Investor's Monthly Manual*, 1870–99.

<sup>61</sup> Bellamy, *Central-local government relations*, pp. 86–7.

not happen.<sup>62</sup> Even so, by the end of the century, local authorities had managed to borrow huge sums, had halved the interest rate spread over Consols, and had significantly reduced the transaction costs of managing their debt.

The impact of municipal stock issues on investment levels was also significant. Indeed, the 90 stock-issuing authorities increased their debt by 81 per cent between 1884 and 1899, compared to a 52 per cent increase for all other authorities.<sup>63</sup> The *Economist* preferred stock issues both to mortgage borrowing and to borrowing from the government. The paper stated: 'it is certainly a move in the right direction that municipalities and local authorities should borrow direct from the public'. It reasoned that stock issues were tradable, prices were public, and 'investors could make judgements on the relative security offered by different authorities'.<sup>64</sup> The Treasury also supported the move in its little-used 1875 Local Loans Act.<sup>65</sup> The Local Government Board, however, continued to prefer mortgage lending, and the 1875 Public Health Act only mentioned mortgages, not stock issues.<sup>66</sup> Yet stock issues grew in spite of this; first, because the Bank of England saw a commercial opportunity to use its issue experience in municipal finance; and second, because investors' new appetite for corporate debt suggested that municipal stock issues were likely to be popular. The initiative and support for stock issues therefore came from the market rather than from government.

#### IV. Improving investor protection in the municipal market

The previous section outlined the steps that local authorities took to avoid the risk of defaulting, thereby making it easier to raise capital. This section argues that the PWLB was the early driving force behind imposing lending conditions that reduced the risk of loss to investors in the municipal debt market. The conditions imposed by these large lenders were stronger than the weaker and often variable protections that appeared in legislation. It was the scale of lending by the PWLB and life assurance companies that allowed them to improve investor protection. Other parts of the capital market lacked institutional investors on this scale, and had to rely on borrowers offering better protection.

Lenders' bad experience with turnpike trusts could have prevented the municipal capital market from growing at all. Turnpike trusts often failed to repay loans, and some trusts could not pay the interest due on loans.<sup>67</sup> Eventually, many lenders lost money in the 1850s when the government allowed trusts to negotiate lower interest rates, write off unpaid interest, and write down outstanding loans.<sup>68</sup> This happened because of poor investor protection. Turnpike trust acts and most mortgage agreements failed to specify the period of a loan, when repayments should be made, how often interest would be paid, or what would happen in the event of a default, or to put any limit on the size of a loan.<sup>69</sup> In addition, lenders had little

<sup>62</sup> The Municipal Bond Agency was formed to achieve this in 2014.

<sup>63</sup> Comparison of outstanding debt in *Local Tax Returns* (P.P. 1901, LXIII) and (P.P. 1886, LV).

<sup>64</sup> *Economist*, 2 Oct. 1880, p. 1150.

<sup>65</sup> Page, *Local authority borrowing*, p. 146, quoting Johnson and Griffiths.

<sup>66</sup> 38 & 39 Vict. c.55, s.233–244.

<sup>67</sup> *Returns from Turnpike Trusts* (P.P. 1836, XLVII).

<sup>68</sup> Turnpike Trust Continuance Act 1849; Turnpike Continuance (No. 2) Act 1850; Relief of Turnpike Trust Debts Act 1851.

<sup>69</sup> Pawson, *Transport and economy*, p. 211.

security since turnpike trusts owned few assets and their income was precarious. Even if creditors took control of the toll gates, few recovered their money by this route.<sup>70</sup> This weak protection contributed to the 75 per cent fall in the number of new turnpike trust acts after 1826.<sup>71</sup>

The PWLB was the largest single lender to turnpike trusts and then to councils. Its approach to protecting its interests reflected the experience of its chairman, Charles Grant, and his fellow commissioners. Most had been members of the PWLB's predecessor bodies, lending money to commercial firms in difficult conditions, and recovering loans in full.<sup>72</sup> Their experience was clear in the 1817 Act establishing the PWLB, and in their mortgage agreements with borrowers. PWLB commissioners also insisted on their independence to decide the outcome of loan applications.<sup>73</sup> Loans would be for a maximum of 10 years, only for capital works, with annual repayments of principal and interest, and the PWLB expected priority over other creditors.<sup>74</sup> In the case of turnpike trusts, the PWLB insisted that trustees should be individually liable in the event of a default. When lending money to municipal bodies, there was a cap on the maximum that could be lent, and the loan was secured against future rate income. These conditions ensured that over the next 60 years, the PWLB incurred bad debts of less than 0.5 per cent on loans where it used its discretion.<sup>75</sup>

Parliament was also imposing conditions on borrowing by local bodies. In the first three decades of the nineteenth century there were between 100 and 150 local acts each decade seeking to raise money for public bodies. In the 1820s, the committees of MPs who considered each bill increasingly inserted clauses to protect all lenders. Similar clauses also appeared in general acts relating to local government.<sup>76</sup> In doing so, they followed the lending conditions of the PWLB, rather than the approach of the turnpike trust acts. It also became usual to expect the borrower to record each loan's details in a register. While there were minor variations between the many acts, parliamentary bill committees were moving towards better legislative protection for lenders.

The 1834 Poor Law Amendment Act created about 650 poor law unions that would each have to borrow to build a new workhouse. The Act broadly adopted the PWLB's protections for lenders. The Act set a maximum loan size and period for loans, and specified that security for loans was future rate income; there was also a requirement for external audit of unions. The largest lenders were the PWLB and life assurance companies, and both demanded extra protection for lenders. Both wanted agreement from the majority of guardians to loans, annual repayments of principal and interest, a standard loan agreement, and a standard rate of interest. The standard loan agreements for the PWLB and a variety of life companies were virtually identical.<sup>77</sup> In addition, the PWLB would have priority over other

<sup>70</sup> *Public Works Loan Board Annual Reports* (P.P. 1851, XXXI), pp. 33–4, (P.P. 1888, XXXIII), pp. 134–9.

<sup>71</sup> Albert, *Turnpike road system*, pp. 222–3.

<sup>72</sup> Clapham, *Bank of England* vol. 1, p. 259; vol. 2, pp. 33–4.

<sup>73</sup> Public Works Loan Act 1817, 57 Geo. IV c.34, s.44; Advances for Public Works Act 1842, 5&6 Vic. c.9.

<sup>74</sup> By the end of the century PWLB loans were mostly for much longer periods.

<sup>75</sup> In 15 cases, PWLB decisions were overruled by Parliament and the PWLB ordered to make loans. £1.8m was lost on these loans! *Public Works Loan Board Annual Reports* (P.P. 1876, XXI), (P.P. 1888, XXXIII).

<sup>76</sup> Examples include the 1823 Gaols Act, the 1826 County Buildings Act, and the 1828 County Lunatic Asylums Act.

<sup>77</sup> A variety were examined in the Derbyshire Record Office files for individual Poor Law Unions.

creditors. It was even possible for the Poor Law Commission to force a union to raise the poor rate to repay a loan. Lenders were so well protected that there was only ever a single default, and that was for under £4,000.<sup>78</sup>

The high volume of local bills seeking borrowing powers imposed a heavy burden on the Parliament's local bill committees. Parliament sought to reduce this burden by establishing a Select Committee on the Private Business of the House of Commons.<sup>79</sup> The committee developed a series of 12 clauses acts, with standard clauses that could be inserted into each relevant local act. The 1845 Companies Clauses Act and the 1847 Commissioners Clauses Act amounted to a standard list of nine investor protection measures for companies and public entities. Both acts established minimum standards of protection. In doing so, they were as important as the standard form of joint-stock companies emphasized by Johnson, and as important as the transition to standard weights and measures that Velkar described.<sup>80</sup> However, the Commissioners Clauses Act protections were materially less than those upon which the PWLB and the life assurance companies had been insisting. There was no limit on borrowing, no maximum loan period, no requirement for annual repayments of the principal, and no priority over other creditors. The Clauses Act did not therefore improve investor protection in the municipal capital market.

The 1848 Public Health Act adopted the weaker Clauses Act protections. The 1848 Act did not insist on annual loan repayments; instead, it allowed local boards to set up sinking funds to repay loans on maturity. Nor did the 1848 Act set a maximum sum that boards could borrow or give the lender priority over other creditors. As a result of these weaknesses, the PWLB declined to lend on these terms, and life assurance companies preferred to lend to poor law unions under the tougher conditions of the 1834 Act.<sup>81</sup> In 1853, the government amended the 1848 Act and required annual loan repayments.<sup>82</sup> Even so, the PWLB and life assurance companies made few loans under 1848 Act powers in the 1850s and 1860s, providing only 6 per cent of councils' borrowing. In sharp contrast, the PWLB and life assurance companies provided over 80 per cent of the lending to poor law unions between 1834 and 1869. The 1834 Act also had an immediate impact, with more than 81 per cent of unions borrowing to build or refurbish local workhouses within 10 years.<sup>83</sup> In contrast, in the 10 years after 1848, local authorities borrowed little using 1848 Act powers. Instead, the larger cities continued to seek local act approval for public health investments. Comparison of the two acts shows that better investor protection encouraged larger lenders and investment, while weaker protection discouraged both investment and lending.

The case of municipal mortgages offers an insight into the law and finance debate. La Porta et al. hold that 'when investor rights ... are extensive and well enforced by regulators or courts ... investors are willing to finance firms'.<sup>84</sup> Acheson et al. argue that in nineteenth-century England, legislation provided too little

<sup>78</sup> *Public Works Loan Board Annual Report* (P.P. 1888, XXXIII), p. 137.

<sup>79</sup> *Third Report of the S.C. on Private Bills* (P.P. 1847, XII).

<sup>80</sup> Johnson, *Making the market*, pp. 105–28; Velkar, *Markets and measurement*.

<sup>81</sup> TNA, PWLB minute book, PWLB 2/25, Nov. 1852 to June 1854, 2 Dec. 1852, p. 1.

<sup>82</sup> Public Works Loan Act 1853, 16 & 17 Vic. c.40, s.1.

<sup>83</sup> TNA, Poor Law Commission ledgers, MH34 1–3, analysis of loan approvals.

<sup>84</sup> La Porta, Lopez-de-Silanes, Shleifer, and Vishny, 'Investor protection', p. 5.



Table 7. *Sources of finance, 1800–99*

	<i>Individuals</i> (%)	<i>Institutions</i> (%)	<i>PWLB</i> (%)
Mortgages			
Large authorities <sup>a</sup>	48	43	9
Medium authorities <sup>a</sup>	35	40	25
Small authorities <sup>a</sup>	21	29	50
<i>Subtotal</i>	37	38	24
Stock issues	87	13	0
<i>All</i>	57	28	14

*Notes:* a 'Large authorities' are those with debt of more than £1m at 1900. 'Small authorities' are those with debt of less than £0.1m.

In the few cases where joint lenders are recorded, only the first name, location and occupation have been recorded. Where a group of individuals are acting as trustees, normally for a voluntary body, they have been treated as an institutional lender. Where an individual or group are acting on behalf of a dead person's estate, the occupation and location of the dead person have been recorded.

*Sources:* See tab. 1 and online app. S1 for sources. Sample size is also detailed in tab. 1.

protection for investors.<sup>85</sup> Companies therefore had to offer stronger protections to attract investors. In the case of the English municipal mortgage market, government legislation also offered only weak and variable protection for investors. In practice, larger lenders, like the PWLB and life companies, imposed stronger protections on weaker and more numerous borrowers. Even though the PWLB was created by the government, it made independent lending decisions and was legally separate from the government. It therefore functioned as an institutional lender, not as part of the government.

## V. Who lent to local authorities, and why?

Individuals and institutions could choose to invest in Consols, municipal debt, equities, or corporate bonds, and each had different patterns of risks and rewards. Determining who lent to councils, and why, involves analysing the mortgage and share registers of local bodies and looking at the returns from the various asset classes. They are both important because they tell us that local authority debt was seen as being as safe as Consols at a time when the yields and issues of Consols were falling. The evidence also shows that institutions found it attractive to invest in publicly owned infrastructure assets. This institutional interest pre-dated the interwar surge in equity investments of Scott's 'Cult of the equity' by 50 years.<sup>86</sup> Attempts to recover this institutional interest in the twentieth century with the private finance initiative failed. Even so, the similarities of the ownership patterns and the risks and returns of the municipal capital market show that it was just a part of the wider capital market of the time.

Table 7 shows that 28 per cent of the capital came from institutions. But mortgages were more popular, with institutions holding 38 per cent, while they 'only' held 13 per cent of stock issues. Both percentages are far higher than the 1–4

<sup>85</sup> Acheson, Campbell, and Turner, 'Private contracting'.

<sup>86</sup> Scott, 'Cult of the equity'.

Table 8. *Performance of different asset classes, 1870–99*

	<i>UK equities</i>	<i>Corporate bonds</i>	<i>Council stock</i>	<i>Council mortgages</i>	<i>Consols</i>
Average annual return <sup>a</sup>	5.77%	5.15%	4.03%	3.41%	3.37%
Sharpe ratio	0.41	1.30	0.76	2.10	0.49
Liquidity ratio <sup>b</sup>	0.52	0.51	0.50	0.00	0.79

Notes: a Annual returns include capital gains/losses and interest/dividends.

b Liquidity ratios record the percentage of securities traded in a given month, measured by those where the price has changed in the month. Sharpe ratios are calculated following Sharpe, 'Adjusting for risk'. Liquidity ratios are calculated following Lesmond, Ogden, and Trzcinka, 'New estimate'.

Sources: Average returns: Equities: Campbell et al., 'Before the cult of the equity', tab. 8, panel C. Consols: Homer and Sylla, *Interest rates*, pp. 195–6. Corporate bonds: Coyle and Turner, 'Corporate debt', app. tab. 1b, p. 839. Council stock: *Investor's Monthly Manual* (1870–99). Council mortgages: interest rate analysis from tab. 2 data.

Liquidity ratios: Equities: Campbell, Rogers, and Turner, 'Provincial stock markets', tab. 5, 1869–99. Corporate bonds: Campbell, Turner, and Ye, 'Liquidity', tab. 2, p. 830, figure for 1861–70 only. Council stock and Consols calculated from *Investor's Monthly Manual* data. Sharpe ratios calculated from *Investor's Monthly Manual* data.

per cent that many studies have identified for institutional holdings of equities.<sup>87</sup> The pattern of institutional holdings of Consols is far from clear. This section therefore provides a rare analysis of institutional debt holdings. Table 7 also shows the major differences between the holders of large authority debt and those of small authority debt. Small authorities secured half of their mortgage borrowing from the PWLB, and just 21 per cent from individuals. Large authorities received less than 10 per cent of their mortgage lending from the PWLB, and much larger shares from individuals and institutions. Only large authorities issued stock, and 87 per cent of stock was held by individuals. An analysis of institutional lending to local government reveals why institutions held this debt, and why the pattern was different from holders of equities.

One of the main sources of information available to investors comes from the returns, liquidity, and volatility of the various asset classes. Table 8 shows these three results for municipal mortgages and stock, Consols, equities, and corporate bonds. In all cases, the information covers the period 1870 to 1900, since there were few municipal stocks or corporate bonds before then. Table 8 shows that after 1870, municipal mortgages had a similar return to Consols, but with less liquidity and volatility. Council stock had higher returns than both, but had less volatility and less liquidity than Consols. Both equities and corporate bonds had higher returns than municipal debt and Consols, but also had higher risks of capital loss. The scale of this equity risk has been the subject of debate, but it is probably low enough not to have materially affected the returns shown in table 8.<sup>88</sup> These statistics help determine the motivations of the different groups of municipal debt holders.

Life assurance companies were the largest institutional holders of local authority mortgages. They were investing funds that belonged to policyholders and eventually the funds would need to be returned to them, with interest. Bailey, an insurance industry leader, said that safety was a priority for life companies,

<sup>87</sup> Davis and Huttenback, *Mammon*, p. 199; Cottrell, *Industrial finance*, p. 96; Rutterford, Green, Maltby, and Owens, 'Nation of shareholders', p. 166; Acheson, Campbell, Gallagher, and Turner, 'Independent women', tab. 3, p. 35.

<sup>88</sup> Coyle and Turner, 'Corporate debt', pp. 816, 823, 839; Grossman and Shore, 'Stock returns before World War 1', p. 278; Ye and Turner, 'Stock returns in an early stock market', p. 120.

meaning that before 1850, most of their investments were in Consols.<sup>89</sup> After this, the yield on Consols continued to fall, and life companies found their price volatility unattractive. This led companies to move some funds into mortgage lending to individuals and local authorities. Speaking about life companies' investment strategies, Bailey insisted that they viewed mortgages as secure and less volatile than Consols, and with similar returns. Table 8 confirms this view: council mortgages offered similar returns to Consols without the volatility; they lacked liquidity, but Bailey said companies were willing to accept this.<sup>90</sup> Most life assurance company lending was to small and medium-sized authorities, in loans averaging less than £6,000, suggesting they were deliberately spreading their risks. Later, mortgages fell out of favour with life companies, as they chased the higher yields of equities and foreign holdings.<sup>91</sup> For the same reason, life assurance companies were not significant holders of municipal stock. When life companies put a premium on security, local authority debt was attractive, but when returns became more important, municipal debt was less popular.

The Bank of England lent £12.8m to local authorities, with an average loan of over £100,000, so its motives were different from those of life assurance companies. As noted earlier, the Bank lent £5m to the MBW in the 1860s, when individuals, other institutions, or the PWLB could not finance the MBW's two major projects. The lack of market finance was also behind the Bank's decision to give a £1.1m loan to the Corporation of London in the 1860s. This was not a new role for the Bank. It lent £1.3m to the Corporation of London between 1829 and 1844, for the new London Bridge and for the Royal Exchange.<sup>92</sup> Even in the era of stock issues, the Bank continued lending to the MBW and to a few other large authorities. However, these were short-term loans while these authorities were waiting to issue stock. Overall, the Bank of England was fulfilling two roles. It was following its own commercial instincts, making profitable loans to clients with high levels of security; and occasionally it was the backstop lender for projects that were too large for either the market or the PWLB to finance.

Table 9 shows trustees and public bodies as major holders of municipal debt.<sup>93</sup> Like life assurance companies, trustees and public bodies acted as if municipal debt were as safe as Consols. In the decade before the Trust Investment Act 1889, trustees and public bodies were responsible for 45 per cent of institutional investment in local authorities. The Act defined nearly all local authority debt as a safe investment which was suitable for holding by trustees.<sup>94</sup> In the decade after 1889, trustees and public bodies increased their share of institutionally held municipal debt to 67 per cent, so the Act made municipal debt more attractive to these bodies. Trustees included voluntary bodies and friendly societies. Among the public bodies were councils, who were investing police superannuation funds and sinking funds built up to repay debt. Law courts also invested in municipal

<sup>89</sup> Their approach was spelled out by Bailey in 1861. Bailey became the head of the Institute of Actuaries. Quoted in Morecroft, *Asset management*, p. 44.

<sup>90</sup> *Ibid.*, p. 44.

<sup>91</sup> *Returns from Life Assurance Companies* (P.P. 1872, L), (P.P. 1900, LXXX); Scott, 'Cult of the equity', p. 79.

<sup>92</sup> Bank of England Archive, Freshfields Papers, Corporation of London, F11/103.

<sup>93</sup> 'Trustees' excludes executors who were looking after the financial affairs of individuals.

<sup>94</sup> 52 & 53 Vict. c. 32, s.3m, allows trustees to hold debt of authorities with a population of over 50,000. In the case of stock issues by these small authorities, they represent just 1% of the total issued.

Table 9. *Sources and destinations of institutional finance*

	<i>Life assurance companies (£m)</i>	<i>Bank of England (£m)</i>	<i>Trustees/ public bodies (£m)</i>	<i>Other banks (£m)</i>
Mortgages				
Large authorities <sup>a</sup>	1.2	12.2	1.0	0.1
Medium authorities <sup>a</sup>	6.0	0.5	6.1	0.4
Small authorities <sup>a</sup>	6.3	0.1	1.9	0.4
<i>Subtotal</i>	<i>13.5</i>	<i>12.8</i>	<i>9.0</i>	<i>0.9</i>
Stock issues	0.5	0.0	3.3	5.7
<i>All</i>	<i>14.0</i>	<i>12.8</i>	<i>12.3</i>	<i>6.6</i>
Average size of loan	£5,774	£112,281	£6,423	£17,899

*Notes and sources:* a 'Large authorities' are those with debt of more than £1m at 1900. Small authorities are those with debt of less than £0.1m. 'Trustees/public bodies' includes friendly societies, voluntary bodies, councils, and courts. Data for schools are excluded as there is insufficient detail on institutional loans. Lending by companies is not shown as it only amounts to £1.1m and is nearly all in stock issues. See tab. 1 and text for sources. Sample sizes are detailed in tab. 1.

debt with sums they held for litigating parties. Like trustees, public bodies were only temporary holders of these funds, and they needed to avoid capital losses. The emphasis on the safety and returns of municipal debt explains the many unsolicited offers of loans from councils in the Nottingham city council minutes.<sup>95</sup> For all such lenders, security was the most important characteristic of local authority debt.

Other commercial banks lent £6.6m to local authorities, but the average size of these loans was much smaller than the average Bank of England loan. Nearly all the local authority debt held by non-Bank of England banks was stock rather than mortgages. During the 1880s, the *Economist* printed many balance sheets for provincial banks, and these often showed large holdings of local authority stock.<sup>96</sup> As Collins and Baker argue, banks needed to keep their money in 'readily marketable assets such as ... government securities'.<sup>97</sup> Banks must therefore have seen municipal stock issues in the same way: safe and liquid, but with a higher return than Consols. But municipal mortgages were not liquid assets and so were not popular with banks. The small volume of mortgages held by banks were short-term only, held by local banks, and probably used to help council cash flows. Like trustees, life assurance companies, and the Bank of England, commercial banks were investing money they could not afford to lose. Banks might also need to access their money at short notice.

The pattern of women's holdings of local authority mortgages, shown in table 10, supports the view that lenders saw municipal mortgages as a low-risk investment. Women held 22 per cent of council mortgages, below the level of their holdings of Consols, but double their holdings of equities. This is consistent with the findings in the literature that female investors were more risk-averse than male investors.<sup>98</sup> However, this theory suggests that women ought to have held a larger share of

<sup>95</sup> Nottinghamshire Archives, Nottingham City Council Finance Committee minutes, 1890s.

<sup>96</sup> *Economist*, many issues throughout the mid-1880s (for instance, 17 May 1884, 16 May 1885, 22 May 1886, 19 May 1888).

<sup>97</sup> Collins and Baker, *Commercial banks*, p. 135.

<sup>98</sup> Acheson and Turner, 'Investor behaviour', p. 199; Rutterford and Maltby, 'Widow', p. 113; eisdem, 'Nesting instinct', pp. 306–7; Acheson et al., 'Independent women', p. 3.

Table 10. *Comparison of individual holders of securities*

	<i>Municipal mortgages</i> 1800–99 (%)	<i>Consols</i> 1840 (%)	<i>Municipal stock</i> 1870–99 (%)	<i>UK equities</i> 1853–1902 (%)
Gentlemen <sup>a</sup>	42	68 <sup>d</sup>	58	46
Males with occupations <sup>b</sup>	36		34	43
Women <sup>c</sup>	22	32	8	11
Average investment				
Gentlemen	£1,907	n.a.	£5,129	£626
Males with occupations	£685	n.a.	£1,077	£536
Women	£822	£4,894	£3,285	£281
Sample size	£58m	n.a.	£69m	£95m

Notes: *a* 'Gentlemen' includes those describing themselves as gentlemen or esquires, or having titles.

*b* 'Males with occupations' includes all those describing themselves as having an occupation.

*c* 'Women' includes spinsters, married women, and widows.

*d* Green and Owens only split by gender, not by occupation/social group.

All percentages by value of loans, not by no. of lenders.

Sources: Municipal mortgages and stock are detailed in online app. S1. Consols from Green and Owens, 'Gentlewomanly capitalism', figs. 4 and 5, pp. 525–6. UK Equities from Acheson, Campbell, and Turner, 'Expansion of the equity market', tab. 3, p. 615.

municipal stock. Table 8 shows that municipal stock was less volatile than Consols, and its lower liquidity was compensated by a higher return. Yet women held only 8 per cent of municipal stock: less than their share of equity holdings. Why did women not own more municipal stock? One explanation is that women saw the risk of holding municipal stock as higher than it really was. This may be because the relatively recent introduction of municipal stock left women uncertain about their long-term performance and risk. The lack of advice on municipal debt holdings would have contributed to this. In the late nineteenth century there were many books advising individuals how to invest their savings, but none of the 30 books mentioned in the Library of Mistakes review covers municipal stock.<sup>99</sup> It is also possible that the belief that women were risk-averse needs amending. Further research is necessary to resolve the conundrum of the low female holdings of municipal stock.

Otherwise, individual holdings of local authority debt followed a similar pattern to those for Consols and equities. 'Gentlemen' held the largest share of debt, and the average size of their holdings was larger than for women. The average size of local authority debt holdings also fell over time, as investor numbers increased faster than the debt total.

Table 11 shows that 81 per cent of council mortgage borrowing for small authorities came from the local region. For large authorities, 75 per cent came from the local region. The degree of home bias in the municipal mortgage market was far higher than the 54 per cent of early rail finance that Reed found came from the areas through which railway lines passed.<sup>100</sup> It is also much higher than the 40 per cent that Rutterford et al. found that companies raised from near their headquarters between 1870 and 1913.<sup>101</sup> I speculate that the scale of home bias in municipal mortgage holdings reflects four things. The first is that councils enjoyed

<sup>99</sup> Crosthwaite, Knight, Marsh, Paul, and Taylor, *History of financial advice*, pp. 5–14.

<sup>100</sup> Reed, *Investment in railways*, pp. 120, 128, 135, 141, 149, 154, 159, 171, 177, 186.

<sup>101</sup> Rutterford et al., 'Local bias', pp. 1292, 1299.

Table 11. *Home bias in individuals' municipal lending, 1800–99*

	<i>Home region<sup>b</sup></i> (%)	<i>Rest of England</i> (%)	<i>Other countries</i> (%)
Mortgages			
Large authorities <sup>a</sup>	75	20	5
Medium authorities <sup>a</sup>	70	27	3
Small authorities <sup>a</sup>	81	19	0
<i>Subtotal</i>	75	20	5
Stock issues	37	59	4
<i>All</i>	46	50	4

*Notes and sources:* a See tab. 7 for definitions of large, medium, and small authorities.

b 'Regions' are the 10 modern government-defined regions of England and Wales, that is, London, east, south-east, south-west, east midlands, west midlands, north-east, north-west, Yorkshire, and Wales. 'Other countries' include Scotland, Ireland, the Channel Islands, and abroad.

All percentages by value of loans, not by number of lenders.

See tab. 1 and text for sources and sample size. Lending by institutions is excluded.

a high level of local support. The second is that locals enjoyed an information advantage over non-locals.<sup>102</sup> The local press had good news coverage of council decisions, meaning that local people could understand what the council was trying to achieve through its fundraising. Local investors were therefore taking a lower risk than outsiders.<sup>103</sup> For larger and medium-sized authorities, the news coverage of councils' activities would spread further afield, even into the national press for the largest authorities. This greater geographical news coverage would explain the lower levels of home bias for larger authorities. Third, local investors in municipal debt enjoyed a social benefit from the better water supply, healthier air, and better schools that resulted from their investments. Fourth, they could vote out a council they judged to be borrowing too much. Over time, the level of home bias fell, as in other parts of the capital market.<sup>104</sup> Home bias in municipal stock holdings was much lower, close to the equity observations of Reed and Rutterford et al.

## VI. Conclusion

This is the first article on the development of the municipal capital market in nineteenth-century England. Apart from filling a gap in the local government literature, it adds to the literature on the wider capital market. This has focused on government debt, early rail, banks, corporate debt, and foreign stock. This article adds to these sectoral studies by analysing the performance, size, organizational structure, and investor base of the municipal capital market. It also enables comparisons to be made between the different asset classes. In doing so, this article contributes to the wider topics of institutional investment and home bias. In both cases, the experience of the municipal market is markedly different to that of the equity market. The high level of institutional investment came 50 years before the growth of institutional holdings of equities between the wars. Home bias was also higher than that seen in the equity markets of the time, because of the extra

<sup>102</sup> Huberman, 'Familiarity breeds investment', pp. 676–7. Huberman makes a similar point about modern-day US investors in companies.

<sup>103</sup> Rutterford et al., 'Local bias', pp. 1299, 1302.

<sup>104</sup> *Ibid.*, p. 1301.

knowledge and social benefits that local lenders would have enjoyed. Finally, the municipal capital market's experience of investor protection develops our view of the law and finance debate. Better protection for investors was led by larger lenders imposing conditions on borrowers, and was not the result of legislation, court action, or borrower initiatives.

This study of nineteenth-century borrowing by local government opens a number of avenues to broader issues of twentieth-century local government finance. Investment by institutions is one. Why did twentieth-century institutional investment in the municipal market eventually disappear, when institutional holdings in the equity market increased?<sup>105</sup> The second question is whether financial changes produce benefits for society. This would be a good way to examine the three abrupt changes in the financing of local government in the twentieth century. The first was in 1945, when local authorities were told to borrow only from the PWLB, and the second when this policy was reversed in the 1950s. After the 1959 Radcliffe report on the *Working of the monetary system*, there was a third change, back to predominantly PWLB financing.<sup>106</sup> The first and third changes marked a fundamental rejection of the nineteenth-century approach. Did these changes produce social benefits as compelling as the improvements in nineteenth-century health and infrastructure?

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<sup>105</sup> Rutterford and Hannah, 'Rise of institutional investors'; Morecroft and Turnbull, 'Institutional equity investing'.

<sup>106</sup> *Committee on the Working of the Monetary System (Radcliffe Report)* (P.P. 1958–9, XVII), pp. 90–4, 596–600.

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### Supporting information

Additional supporting information may be found online in the Supporting Information section at the end of the article.

#### S1. Sources of data for table 1