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LOCAL ACTION WITH INTERNATIONAL COOPERATION TO IMPROVE AND  
SUSTAIN WATER, SANITATION AND HYGIENE SERVICES

**Financing access to improved water and sanitation,  
Public Works Loans Board, UK**

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*The challenge of funding the SDG's has led to considerable interest in 'innovative financing'. This paper reports on an analysis of sector lending, capital expenditure, and resulting, consumer paid, interest rates, during the rapid expansion of water and sewerage services in England and Wales over a 150 year period. Government minimised the cost to consumers by establishing a Public Works Loans Board (PWLB) which on-lent national borrowing to local municipal service providers at the lowest possible interest rate so as to accelerate access to improved services. With the cost of achieving basic WASH services for all now estimated at \$28.4bn per year (Hutton & Varughese, 2016) and tariffs and taxes being insufficient to meet the needs, repayable finance becomes critical to achieve the desired SDG benefits. PWLB long-term average 'real' interest rates of 1.95% (5% nominal) made a significant difference to affordability in Britain as compared to some present 'innovative financing' reports of 15-20% per year nominal interest costs.*

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## **Introduction**

The Public Works Loans Board has been a long-standing and simple mechanism for local government and sanitary authorities in Britain to access low cost loans, ever since its initial 1793 mandate was renewed in the 1875 Public Works Loans Act (PWLB Annual Report, 2014).

Over the course of the 19th Century the urban population in Britain increased from 29% to 77% of the total growing population, leading to a nine-fold increase in urban dwellers. Resulting living conditions in the rapidly growing cities and towns led to increasing awareness of the resulting public health challenges, emphasised by the, coincidentally similarly dated, 1875 Public Health Act. This Act 'requiring' local authorities to deliver adequate water and sanitation, a change from the 'permissive' legislation dating from 1845. The challenge was clear as in 1879, with GDP per person of \$3,500 (All costs given in USD\$1.55/£ in 2014 prices), over one quarter of all the local authorities in Great Britain had no piped water, with equally significant sanitation needs (Wohl, 1984).

Major works in London, for example the main collector sewer on the northern Thames embankment, had been funded through an Act of Parliament allowing for borrowing against future collection of local taxes and on wine and coal import duties at the London docks (Porter, 1998). This approach could not be replicated for the many smaller municipal sanitary authorities.

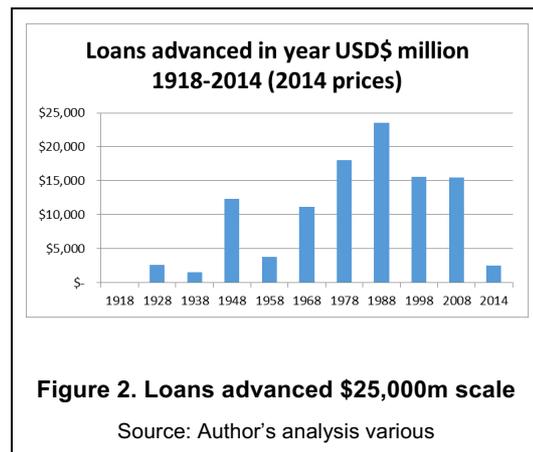
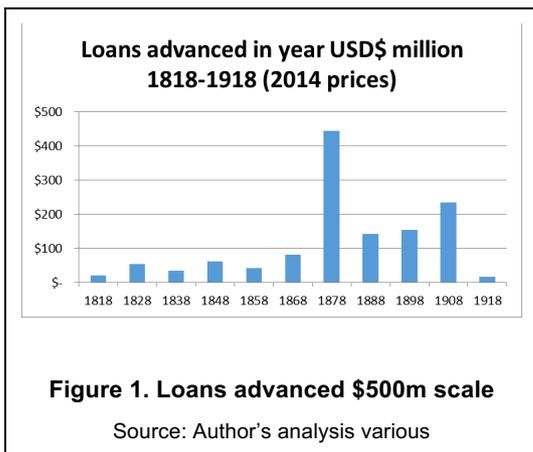
"The UK central government, on the face of it committed to a 'light touch', left much of the responsibility for living conditions to local government, though it found itself unable to escape legislating for a tougher regulatory environment; the health hazard was not just a local matter. Investment in that part of the economy labelled 'social overhead and infrastructure' accounted for some 40% of all UK investment in the 1870s, with a slight tendency to rise to 45-50% in the 1930s .... reflecting the capital intensity of the sector." Floud et. al., 2014).

The then Chancellor of the Exchequer (Finance Minister) explained that "What the Government aimed at was, in the first place, to secure the Treasury against inconvenient, inexpedient, and irregular calls being made upon it through the Public Works Loans Commissioners." [Chancellor of the Exchequer\_ Official Report, 24 May 1875; Vol. 224.]

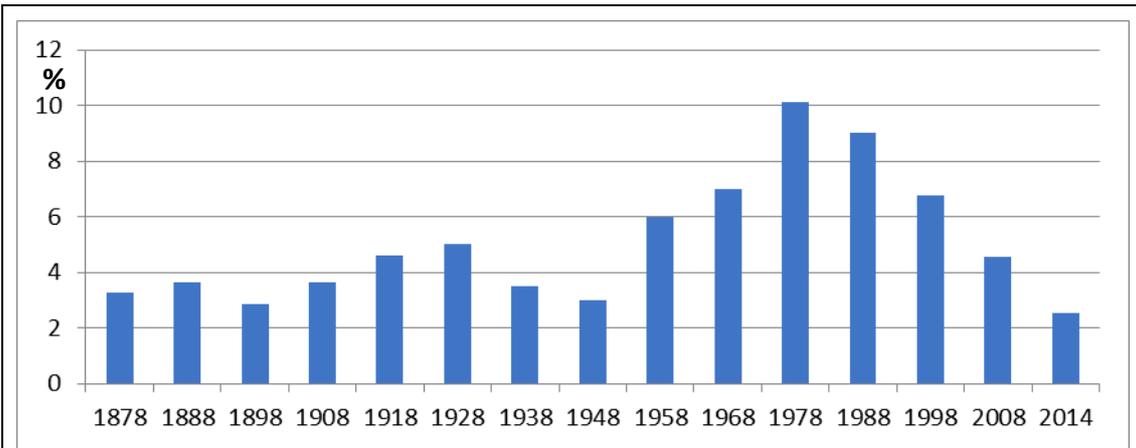
### Patterns of lending

National government was able to borrow at the lowest rates of interest available at any time due to the ‘sovereign guarantee’ of the state. This national borrowing delivered funds to the PWLB for the twelve Commissioners to on-lend to local governments for projects approved by the national ministry. The sanitary authorities were allowed sixty year maximum loan periods under the 1875 Act whereas the “far more prestigious municipal corporations were allowed only thirty years” (Bellamy, 1988).

It was expected that “big city councils and the Metropolitan Board of Works should be encouraged to go the money market [direct] leaving public works loans for the smaller authorities.” However there was concern that the level of debt was building up and that the municipal loans through direct and indirect borrowing through the PWLB would become the responsibility of national government who would then have fund the loans regardless of conditions in the money markets. Birmingham, for example, “appeared to be setting precedents for the creation of a vast, uncontrolled municipal debt; in 1877 and again in 1878, to the indignation of the Treasury, the corporation took unprecedented public works loans of a million pounds a time to finance its own improvement and slum clearance” (Bellamy, 1988) having in 1875 also compulsorily purchased Birmingham Waterworks Company where “good service was not given except where it was profitable to do so”. Interestingly in the light of subsequent debates, the then mayor, Joseph Chamberlain “argued with great force that: ‘the quantity and quality of water to be supplied to the public were matters of greater importance than mere profit and that and that a monopoly like water supply should be controlled and managed by the representatives of the people, and not by private speculators.’ His arguments were triumphant” (Brandon, 1986).



To overcome some of these challenges, the Public Works Loans Board had the responsibility to on-lend at low cost to the hundreds of small local and sanitary authorities, lending based on lowest possible cost national government borrowing through the National Loans Fund. This enabled rapid water and sanitation funding when the alternative had previously often necessitated individual Parliamentary Bills to approve each and every development and its supporting borrowing. This was a particular challenge when demand for capital investment for infrastructure was growing rapidly around the world. Equally having to use a parliamentary approval process was simply not manageable or affordable for the 400 small towns which needed investment.

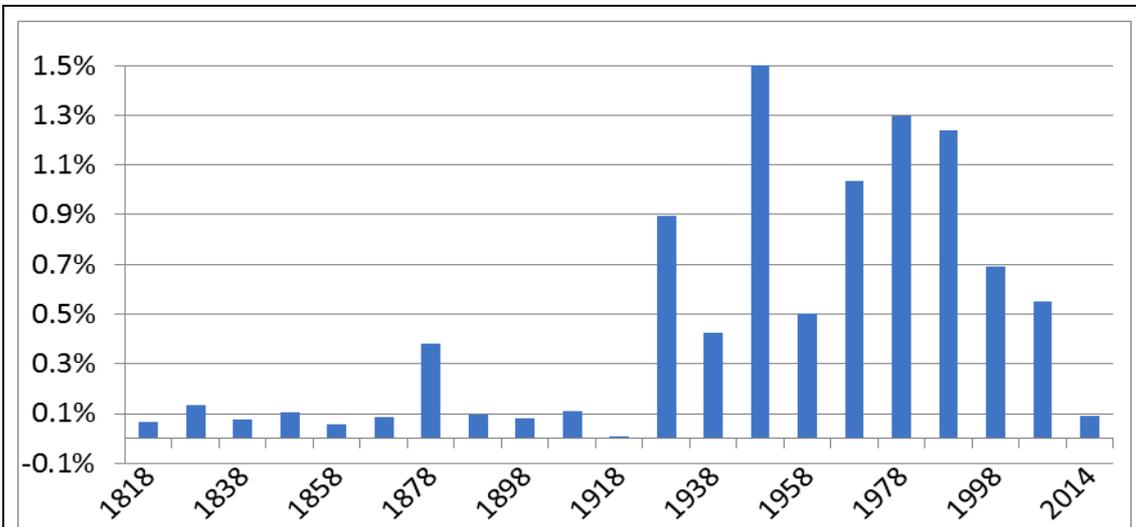


**Figure 3. Average rate of interest on new advances**

Source: Author's analysis of PWLB Annual Reports

Under the Public Works Loans Act, local authorities were able to access low-cost, 'risk free rates', government borrowing with only a small on-lending interest rate mark-up (an average of 0.05% over the past 180 years) and low fees (recently at 0.04% average). The very low cost was maintained due to the very high level of debt repayment (no outstanding bad debts in recent years). Spending plans had to be sanctioned at national ministerial level before loans could then be agreed 'verbally'.

Importantly the Public Works Loan Act of 1875 gave the supervising Local Government Board "the obligation to ensure that work was actually carried out on every project, inspecting beforehand, reviewing its progress and overseeing afterwards". (Richardson, 2008) The technical support was an important component of the success of the borrowing programme, in a period when there was considerable uncertainty as to appropriate technical solutions, particularly for wastewater treatment.



**Figure 4. Loans advanced in year relative to GDP**

Source: Author's analysis of PWLB Annual Reports (not shown 1948 peak 2.13%)

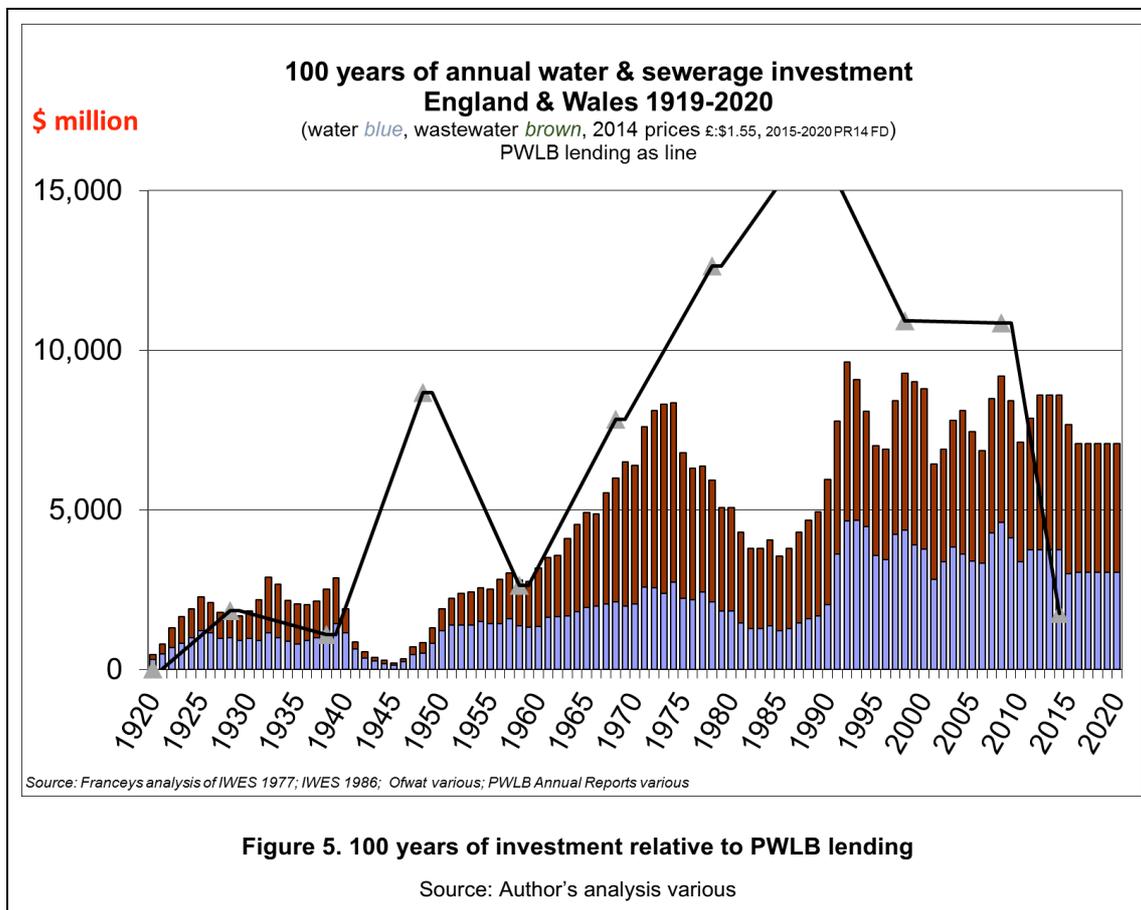
Within 20 years, total local government debt stood at USD\$19.4 billion (2014 prices), though this was not all PWLB debt, of which \$5.7bn was for water supply (19%), \$4.4bn for 'public improvements-mostly sanitary' (15%) and \$3bn for sewerage (10%). In the 1870s the PWLB made 'ten to twenty loans each month' averaging \$1m each. Some local authorities lobbied hard for even lower cost borrowing, suggesting the 3.5% rate was too expensive and the standard repayment period should be extended from 30 years to 50

years. They were refused this change and the interest rate subsequently increased to 5 per cent. (Richardson, 2008)

In this way national government controlled overall PWLB borrowing, through varying the interest rate but also the loans ceiling (\$400 million annual lending ceiling in 1875, most recently \$108 billion) as national economic interest required. Though of interest, that loan ceiling was reportedly used (personal communication, 2016) to limit much needed renewal spending in the 1970's and 1980's in order to limit overall government borrowing – a restriction to investment which can be clearly seen in Figure 5.

Subsequently in the 1984 White Paper on Public Expenditure, although the water authorities were expected to increase their spending on fixed assets by 30% at the end of the decade “the water industry was required to reduce its net borrowing (or external financing limits) to nil by 1987/88.” (Brandon, 1986) in order for government to meet its reduced public sector borrowing targets.

They had the size and capability to manage their own financing needs directly and did so effectively until privatisation in 1989 when private equity was introduced into the funding mix (though not forgetting the 27 private water suppliers that had continued their separate existence from the nineteenth century, with their prescribed levels of dividends). The resulting dramatic increase in the cost of capital, to meet the demands of the new shareholders, led to customers paying hundreds of millions of dollars per year over and above a fair cost of capital, let alone PWLB type rates.

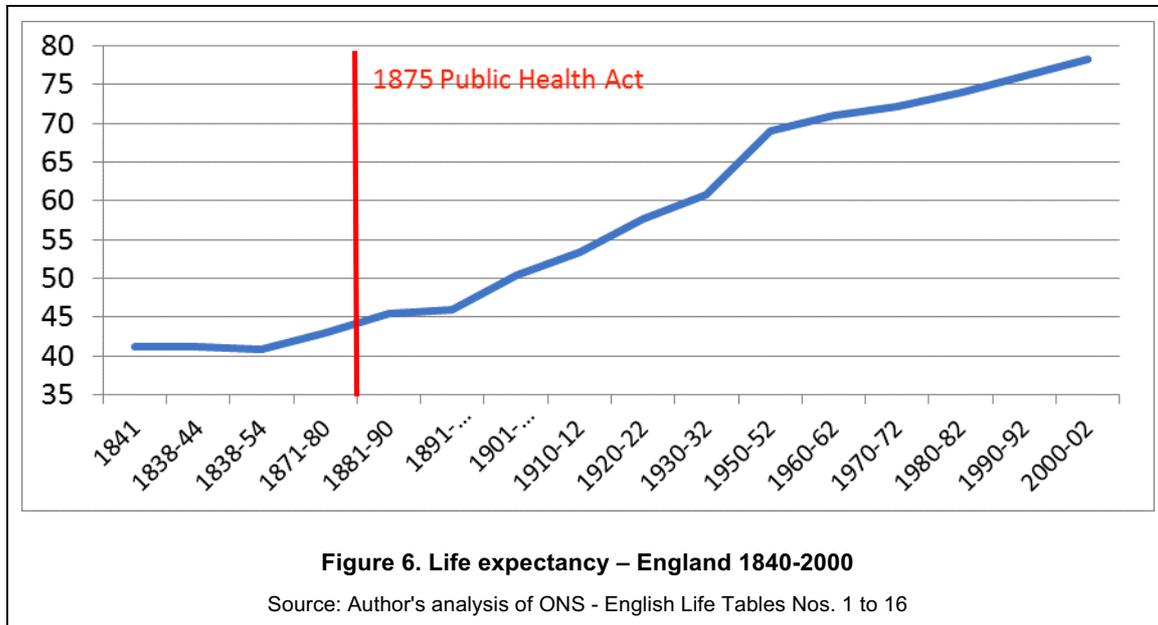


**Impacts of investments**

Public Works Loans have been used to fund necessary capital investment in networked water and sanitation until the mid-1980s, along with other local authority needs, the latter continuing until 2015, when a new ‘private’ lending entity has been introduced, the ‘Municipal Bonds Agency’, with the 12 PWLB Commissioners stood down. The PWLB stopped funding water and sanitation in the mid-1980s, when government required the then ‘nationalised’ regional water authorities (the local and sanitary authorities having been merged, often against the wishes of local people, at least in the early years) to fund investment from water charges and retained earnings. Subsequently the privatisation in 1989 enabled the sector to

borrow directly from commercial sources, at that point the government also cancelling the outstanding \$8 billion of water and sanitation related PWLB loans.

The results in Britain to PWLB financing have been overwhelmingly positive as shown in the graph of life expectancy.



#### Applicability to lower-income country service providers

David Jones (2004) describes the PWLB as ‘a mother of all subsequent “local government loans funds” or “municipal development funds.” This includes those, of a many and varied nature, that have originated from the activities of the World Bank and other international entities. Its success and long endurance seems to emanate from its operating principles, which are grounded in simplicity. It confines itself to doing well what it does best’.

The dip in capital investment in England and Wales, clearly seen in Figure 5, above, from the early 1970’s onwards, was the result of national government, in the context of a relatively weak national economy, requiring restraint in utility borrowing so as to control the ‘public sector borrowing requirement’ (PSBR). All governments face such challenges of attempting to control national debt at periodic intervals, exacerbated by economic downturns and the pressure to divert borrowing to support recurrent needs. When national debt grows too high, financing costs, that is interest rates, similarly increase. Higher interest rates have to be paid for by consumers through higher tariffs, the direct route, or ultimately through higher taxation, the longer route. Limiting national borrowing to keep some form of balance is the responsibility of government – however the capital intensive water and sanitation sector often appears to be an easy target for reductions in borrowing and investment in the short term. And then struggles to overcome the inertia of getting back to ‘acceptable’ levels of financing and investment. The government in England and Wales overcame this financing ‘trap’ by privatising ownership of the industry and hence removing sector borrowing from the national PSBR. This led to much higher financing costs overall, in addition to much higher capital expenditure, and is not an appropriate solution for lower-income countries.

Proposals for a ‘World Water Financing Facility’ with subsidiary ‘National Water Financing Facilities’, supported by national borrowing as well as international support to enable low cost loans to be accessed in low-income countries, following the Dutch experience of the Nederlandse Waterschapsbank, similar to the PWLB, appear to be a very positive development. Hutton and Varughese (2016) suggest in their analysis that meeting the needs of the unserved will cost 0.1% of the ‘Global Product’ of the poorer 140 countries they studied, with 0.64% required in Sub-Saharan Africa. To give some sort of a benchmark to those figures, the PWLB averaged loans of 0.48% of GDP (Figure 4) over its 200 year life, starting with GDP per person of \$2,135 and taking the 1875 big leap forward at \$3,500, close to the present day ‘boundary’ between lower middle-income and upper middle-income country status. Financing water access through public loans

entities should be viable for middle-income countries. The numbers indicate low-income countries will need significant grant transfers if they are to achieve their goals.

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## Notes

A shorter version of this paper is available as "The UK Public Works Loans Board: central government loans for local government investment". Finance Brief 6, Public Finance for WASH, [www.publicfinanceforwash.org](http://www.publicfinanceforwash.org)

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## Contact details

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