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Origins and Measurement of Financial Repression: The British Case in the mid-20th Century

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Abstract: A disagreement has emerged over whether advanced countries such as Britain engaged in financial repression following the Second World War. A review of the historical and archival evidence shows that policies associated with financial repression played an important role in sustaining post-war Britain's record-setting levels of public debt. In Britain, eleven pieces of legislation and sixteen polices/directives are identified that supported financial repression during this period. A critique of two leading methods for measuring financial repression highlights the need for additional measurement tools, such as a proposed composite indicator of financial repression. The paper discusses various aspects of British financial repression, such as interest rate policy, capital controls, directed lending, and the conscription of the British banking system. Free market bond yield data are used to calculate British government savings attributable to financial repression of over 8% of GDP in 1948, which is more than double previous estimates for Britain and significantly greater than estimates for developing countries during the 1970s-80s.

JEL: H63, E58, E61, E62, H12, H27, P24

Keywords: financial repression, capital controls, sovereign debt, debt sustainability, inflation, British economic history, British banking system, interest rates, financial regulation, macroprudential regulation

1 Introduction

Financial repression has received renewed academic and public attention in recent years as part of the ongoing economic and policy debate over how best to achieve economic growth while sustaining public debts. The renewed interest in financial repression has been prompted in part by the highest levels of public and private sector debts in advanced economies since the Second World War, the period which some scholars argue was the last time advanced countries practiced financial repression on a wide scale.

Until recently problems posed by unsustainable levels of sovereign debt were nearly exclusive to developing economies. Accordingly, emerging markets have been the focus of sovereign debt research and policymakers over the last four decades. However, debt sustainability measures that are typically employed by developing countries, such as repudiation and inflation, are viewed as impractical, undesirable, or even impossible for many advanced economies to implement. At the same time, outstanding debts and deficits are large enough that other traditional mechanisms for achieving fiscal balance, such as reductions in government expenditures or asset sales, are viewed by many as insufficient to make a material impact on sovereign debt sustainability. If advanced economies are ultimately unable to achieve sufficient economic growth to make their debts sustainable then financial repression may be the most compelling policy option.

A disagreement emerged between Reinhart and Sbrancia (2011) and Taylor (2011) over the evidence of widespread financial repression in the post-Second World War period.¹ The disagreement is explored in more depth later in the paper but can be summarized as follows: Reinhart and Sbrancia state that the decline in the real value of public debt is *prima facie* evidence of financial repression, while Taylor countered that the true reasons why real yields on government debt may turn negative are not always clear.

¹ (C. M. Reinhart & Sbrancia, 2011; Taylor, 2011)

This paper makes three contributions: first, existing methods for measuring the effects of financial repression are critiqued, revealing a number of methodological issues and limitations that can be addressed in part through a proposed composite indicator (composite index) of financial repression. Second, the disagreement over the existence of financial repression in post-Second World War period is explored by examining the British case in-depth, and a wide range of financial repression policies employed by Britain are identified. Last, an alternative measure of British financial repression is presented using free market bond yield data; British financial repression 'savings' are calculated at over 8% of GDP in 1948, which is significantly greater than savings estimates for other countries during the post-Second World War period.

The remainder of the paper is structured as follows: section 2 covers the definition and history of financial repression. Section 3 compares two leading methods for measuring financial repression. Section 4 explores the case of British post-Second War financial repression. Section 5 concludes.

2 Literature survey

Before any study can be undertaken it is useful to have a precise definition of the topic to be studied. However, arriving at both a clear and generally agreed upon definition of the term *financial repression* is problematic; a wide range of policies and practices can be, and often are, placed under its banner. The term financial repression is frequently employed as a pejorative to criticize particular policies, evoking strong reactions in academic and policy discussions. Adding further trouble is the interchangeable use by some scholars of terms like *fiscal repression* with financial repression, sometimes in the same paper.² Overlap can also be found between policies associated with financial repression and the policies that fall under the more agreeably termed *macroprudential regulation*.³ For example, increased reserve requirements and holding more 'safe' government debt in lieu of other capital is considered both prudent orthodoxy for achieving financial stability as well as a core component of financial repression.

Financial repression can be defined as any measure taken by central authorities that directs lendable funds towards the sovereign's publicly issued debt, often on attractive terms (below market). In other words, in the absence of financial repression the government would have to pay a higher rate of interest to entice lenders; otherwise the government would risk losing significant investor funds to other free market investments that generate higher rates of return. Here we see one of the difficulties in identifying financial repression, which is the reliance on the counterfactual that economic actors would behave differently if certain policies were not in place.

The core policy elements of financial repression can perhaps be best grouped into two categories⁴ – capital controls and domestic financial regulation:

² (Drelichman & Voth, 2008)

³ For further discussion see (C. Reinhart, Kirkegaard, & Sbrancia, 2011)

⁴ Framework adapted from (C. M. Reinhart & Sbrancia, 2011, p. 6)

1. **Captive domestic credit providers**, which typically include the banking system, pension funds, insurance companies and other institutions (e.g., government agencies). Such entities can be owned or directly operated by the government under a regime of financial repression. Alternatively, firms can also be regulated or nudged through moral suasion. Public debt financing from these entities is often directed by the government via the following mechanisms:

- a. Reserve requirements that govern both the percentage and type of capital (e.g., government debt) and must be retained by the banking system in reserve against deposits.
- b. Exchange and capital controls that restrict both institutions and individuals to domestic savings and investment vehicles, thereby preventing them from taking advantage of potentially more attractive offshore returns.
- c. Preferential tax treatment for government debt over other competing financial instruments, such as equities.⁵
- d. Restrictions on holding certain assets (i.e., foreign currency, gold), including prohibiting the ownership of gold, or limitations on the sale or transfer of gold within or beyond the domestic market.

2. **Interest rate caps** in the form of rate ceilings, or other indirect measures that help maintain low interest rates. Low rates can both reduce government debt expense and influence the demand for government debt. For example, savings deposits that are regulated to pay a lower rate of interest than government debt will incentivize the migration of capital into government debt.

The above definition of financial repression is by no means comprehensive. Indeed, a myriad of measures are often suggested as a form financial repression. For example, government restrictions on the actions of credit ratings agencies has been characterized as financial repression.⁶ In sum, while the broad concept of financial repression is generally well

⁵ For more on this specific area see (Campbell & Froot, 1994)

⁶ (Evans-Pritchard, 7 July, 2011)

established, there is room for debate over precisely which policies or actions should and should not be considered financial repression.

2.1 Historical overview of financial repression

To more clearly define and understand financial repression it is helpful to examine its origins. Some policies associated with what came to be called financial repression in the latter-half of the 20th century have existed long before the term was invented. Restrictions on interest and usury date back to at least 1800 B.C. and the Babylonian Code of Hammurabi.⁷ Lending with interest, or interest rates considered usurious, have often been framed in moral and religious terms and are chastised in both the *Koran* and *Old Testament*. For example, Jews, like Christians, were in general not supposed to lend money at usurious rates of interest, but the Old Testament book of Deuteronomy contained a 'get-out clause' for Jews lending to gentiles.⁸

More recently a system of compulsory government finance called *prestiti* was in operation in 14th and 15th century Venice and Florence.⁹ Restrictions on the free movement of capital, such as the export of specie, are seen as early as 16th century Spain and the Napoleonic period.¹⁰ However, exchange controls, as they are commonly understood and practiced today, arguably first came into wider existence during the First World War when Germany introduced exchange regulations shortly after hostilities commenced.¹¹ On 3 April, 1918 France followed suit and enacted exchange controls to limit capital flight. Britain, under the guidance of a then young employee of the Exchequer named John Maynard Keynes, practiced a lighter version of capital controls, which included licensing imports and placing restrictions on the way in which war loans could be spent.¹² Later, in his 1936 *General Theory*, Keynes expressed himself to be at least a sometime proponent of interest rate caps, stating:

⁷ (Lane, 1937)

⁸ (Ferguson, 2008, pp. 35-36) 'Unto a stranger thou mayest lend upon usury; but unto thy brother thou shalt not lend upon usury'

⁹ (Blitz & Long, 1965)

¹⁰ (Cooper, Tarullo, & Williamson, 1999, pp. 6-7)

¹¹ (Dulles, 1929, p. 223; Moulton & Mcguire, 1923, p. 166)

¹² (R. F. Harrod, 1951, pp. 204-205)

“...the rate of interest is not self-adjusting at a level best suited to the social advantage but constantly tends to rise too high, so that a wise government is concerned to curb it by statute and custom and even by invoking the sanctions of moral law.”¹³

While caps on interest can prevent monopolist or oligopolistic lenders from abusing their pricing power, caps also bring down the cost of borrowing for government.

Gurley and Shaw (1955, 1960) were the first to articulate the broader economic system of financial repression.¹⁴ In 1973 Shaw and McKinnon simultaneously coined the term ‘financial repression’ in their respective books on the role of the financial sector in economic development.¹⁵ McKinnon and Shaw focused on two channels for transmitting financial repression: first, the reduction in the efficiency of the banking sector in allocating savings, meaning bankers operating in a financially repressed environment are unable to manage credit according to market rates and prices. Second, maintaining artificially low interest rates reduces the savings level, which in turn can reduce capital accumulation.¹⁶

The term financial repression became somewhat of a catch-all description for excessive financial regulation in developing economies by promoters of the ‘Washington consensus’, which was a set of policies associated with the push for market liberalization in the 1970s-1980s. McKinnon, Shaw and subsequent scholars focused their research on the economic development barriers created by financial repression for less developed economies.

¹³ (Keynes, 1936, p. 351)

¹⁴ (J. G. Gurley & Shaw, 1955; John G. Gurley, Shaw, Enthoven, & Brookings Institution., 1960)

¹⁵ (McKinnon, 1973; Shaw, 1973)

¹⁶ (Shaw, 1973, Ch. 2 and 3)

2.2 Economic impact of financial repression

Since Gurley and Shaw's ground breaking work in the mid-1950s, a number of research studies have found that financial repression has a negative impact on economic growth.¹⁷ A more specific criticism of financial repression is the negative impact it has on the marginal productivity of capital; controls suppressing interest rates below their equilibrium level cause projects with otherwise positive returns on investment to go unfinanced.¹⁸ Financial development is likely to suffer under such conditions as the low return on financial assets reduces the incentive for savings to be allocated to the financial system for intermediation.¹⁹ The resulting drag on capital accumulation undercuts entrepreneurship and economic development.

Capital mobility, which is restricted by financial repression, helps channel resources to their most productive uses both locally and worldwide. Capie and Wood (2002) studied the effects of British capital controls and found that they result in 'deadweight losses', meaning higher prices, reduced production, and increased bureaucratic and administrative costs.²⁰ Capital controls can also be difficult to abandon once they are in place, and they can negatively impact a country's attractiveness as a destination for foreign capital by reducing the 'free market' credibility of the nations that implement capital controls. Exchange controls can also create what amounts to a quota on imports, thus triggering an increase in relative domestic prices.²¹ Foreign exchange rationing has also been shown to have a negative impact on output and employment.²²

Both the empirical and theoretical literature clearly support the case that financial repression can negatively impact economic growth. However, it must be noted that robust

¹⁷ See for example (Easterly, 1993; Galindo, Micco, Ordoñez, Bris, & Repetto, 2002; Lanyi & Saracoglu, 1983; Roubini & Salaimartin, 1992; World Bank, 1989)

¹⁸ (Goldsmith, 1969)

¹⁹ (De la Torre, Gozzi, & Schmukler, 2007)

²⁰ (Capie & Wood, 2002)

²¹ (Agénor, 1992, p. 11; Bhagwati, 1978; Greenwood & Kimbrough, 1987)

²² (Austin, 1989)

economic growth and financial repression may not be mutually exclusive. For example, many of the countries that Reinhart and Sbrancia argue as having actively engaged in financial repression following the Second World War also managed to generate outsized economic growth. From 1948 to 1973 the real GDP of Western Europe grew twice as fast as during any other period of comparable length, before or since.²³ In other words, if Reinhart and Sbrancia are correct in their assessment, the 'era of financial repression' following the Second World War coincided with the 'golden age of economic growth'.

Also of note is the fact that from 1945 through 1980 there was not a single major systemic international banking crisis. This fact stands in stark contrast with repeated banking crises that occurred both before and following the 'era of financial repression'.²⁴ One possible explanation for this phenomenon is that, in contrast to the growing international trade integration following the Second World War, financial integration across borders was prevented through a number of restrictions.²⁵ As noted earlier, financial repression policies share some common features with prudential measures, such as bank reserve requirements that mandate an increase in government debt holdings. Research has shown that banking crises often foreshadow sovereign debt defaults.²⁶

Arguably one of the most important elements of financial repression is its impact on public debt. Governments are often forced to pay a higher rate of debt interest, or in extreme cases can be entirely shutout of debt markets, as the ratio of public debt-to-national income (debt-to-GDP) climbs. Inflation, which often accompanies financial repression, is captured in nominal GDP and can help reduce the debt-to-GDP ratio. However, significant inflation, or negative real interest rates, need not accompany financial repression to have a positive debt sustainability effect; any below-market interest rate reduces the servicing cost of government

²³ (B. Eichengreen, 1996)

²⁴ (Bordo & Landon-Lane, 2010; Carmen M. Reinhart & Rogoff, 2009)

²⁵ (Obstfeld & Taylor, 2004)

²⁶ (C. M. Reinhart & Rogoff, 2011)

debt. However, like inflation, financial repression is only effective against government debts that are denominated in the domestic currency.

3 Measurement of financial repression

Giovannini and de Melo (1993) and Reinhart and Sbrancia (2011) developed methods for quantifying and measuring the impact of financial repression. This section contains a discussion of these methods, their results, and suggested alternative approaches.

3.1 Giovannini and de Melo

Giovannini's and de Melo assemble data for a sample of twenty-four emerging market countries for the period of 1972 through 1987.²⁷ Giovannini and de Melo calculate government revenue from financial repression as the difference between the government's foreign and domestic cost of funds, multiplied by the public debt of the central government:

$$FR = (i_f - i_d) * PD$$

where government revenue from financial repression (FR) is calculated by subtracting the artificially low domestic interest rate (i_d) from the foreign market interest rate (i_f), and then multiplying by government public debt (PD).

Their results estimate the 'government revenue' from financial repression ranged as high as 5.8% of annual GDP in Mexico, or 40% of the Mexican government's tax levies. To determine their 'market' rate the authors utilize data from the *World Bank Debtor Reporting System*, which is based on foreign 'commercial' debt interest from financial institutions that have floated LIBOR-based borrowings on international markets, such as New York and London.

²⁷ (Giovannini & Demelo, 1993, p. 957) Some data is missing for some years, and the authors acknowledge the debatable decision of including Greece and Portugal in their sample, both of which are generally considered as 'advanced' countries.

One problem with this method, which the authors do not discuss, is that commercial rates of interest are nearly always higher than government rates, often by a significant margin. Accordingly, commercial rates may not be representative of foreign sovereign rates, leading to an upward bias in their financial repression calculations. A second issue with their method is that rates of interest can significantly vary by type of financial institution. Many different types of financial operating entities besides depositories, such as insurance companies, investment banks, specialty finance lenders, and auto finance companies, can be classified as a 'financial institution'. In defence of the authors, it was a not uncommon practice during the period studied for governments to own, or exercise some degree of control, over domestic financial institutions. It could therefore be reasonable to argue that financial institutions serves are a reasonable proxy for the market interest rate that foreign investors would require to hold government's debt. However, the authors fail to make this case.

A perhaps significant conceptual problem with representing an interest rate from the period under study as a 'market' rate is the pervasiveness of financial repression during the period.²⁸ The loosening of capital controls and financial deregulation took place over the course of the sample period, not before the period of study.²⁹ One possible way of addressing this issue would be to segment and compare data between different sub periods. However, such an approach was not undertaken or discussed by the authors.

The authors exclude debt held by the central bank in their final calculation, as the interest is returned to the government. However, the debt holdings of monetary authorities are included in their effective domestic interest rate calculations "because the treasury normally remunerates the central bank for its holdings of interest-bearing treasury debt".³⁰ While the explanation for excluding central bank holdings in the first instance seems reasonable, the inconsistent treatment of central bank holdings is not sufficiently justified by the authors.

²⁸ (C. M. Reinhart & Sbrancia, 2011)

²⁹ (Obstfeld & Taylor, 2004; D. Quinn, 1997)

³⁰ (Giovannini & Demelo, 1993, pp. 956-957)

Last, the authors use of the term ‘government revenue’ to describe the effects of financial repression is problematic. The government does not in fact collect any tax revenue from financial repression. The benefits government’s realize from financial repression, such as reduced interest expense, are in fact more akin to ‘savings’ than revenue.

3.2 Reinhart and Sbrancia

Reinhart and Sbrancia reference Giovannini's and de Melo's methods and take a similar ‘bottom line’ approach to calculate the ‘liquidation effect’, which they also refer to as ‘financial repression tax’, through an examination of real interest rates of government debt.³¹ They assemble data for a ten-country sample of advanced and developing economies, including the United Kingdom for 1945-1980. Their results show that negative real interest rates had a significant impact on reducing the real cost of public debt. Reinhart and Sbrancia acknowledge the similarity between theirs and Giovannini and de Melo’s method. They do not, however, consider the Giovannini and de Melo method appropriate for the post-Bretton Woods era because many countries did not have much if any external debt denominated in a foreign currency.

Reinhart and Sbrancia construct a ‘synthetic’ debt portfolio for each sample country to determine the appropriate domestic interest rate. Next, they calculate the real interest rate (r_t) for each country as follows:

$$r_t = \frac{i_{t-1} - \pi_t}{1 + \pi_t}$$

Where π and i are CPI inflation and nominal interest rates, respectively. Savings to government occur any year in which the real interest rate (r_t) is negative. The ‘liquidation effect’, or

³¹ (Sbrancia, 2011, p. 35) The authors also state they have also chosen to remain “silent about the optimality or desirability of relying on this mechanism to reduce debts”.

‘financial repression tax’ in any given year, is simply calculated by multiplying the negative real interest rate (r_t) by the outstanding public debt.

Reinhart and Sbrancia also propose a “supplementary” method for calculating debt liquidation that takes into account capital losses, or declines in bond prices, on government debt. This method could be important for governments (or central banks) that purchase their country’s debt in significant quantity when it is advantageous to do so. Reinhart and Sbrancia calculate a holding period return (HPR) for each debt instrument as follows:

$$HPR_t = \frac{(P_t - P_{t-1}) + C_t}{P_{t-1}}$$

Where P_t and P_{t-1} are bond prices at time t and $t-1$, respectively, and C_t is the yearly interest payment. Similar to their previous method presented above, a government debt liquidation year is determined as any year in which the real return of the debt portfolio is negative. The authors do note several problems with this second approach, such as how to factor in non-marketable debt (for which there is no price data), as well as the general difficulty of obtaining historical bond price data for some countries.

With the first method, Reinhart’s and Sbrancia’s findings for the United Kingdom suggest that nearly one-half of the years from 1945-1980 (including 1948-1953) were debt liquidation years, with an average negative real interest rate of 3.8%.³² Their results for the UK using the second measure were slightly lower than their first, with liquidation as a percentage of GDP of 2.4% versus 3.2%, respectively. However, they only utilize bond price data for the UK from the 1960 onwards.

³² At the time of writing their full database has not yet been made available for a more detailed review of methods and results (i.e., individual years or isolated periods).

One of the first questions to emerge from Reinhart's and Sbrancia's work is why the years 1945-1947 were found to be non-debt liquidation years for the United Kingdom? As shown later, significant inflation continued after the end of the war. Further, while debt levels peaked in 1946, the UK's overall debt position was roughly similar in 1948 as it was in 1945, the first post-war year that authors identify as a debt liquidation year. Part of the explanation is that their methodology may be overly conservative. They consider a debt liquidation year as one in which real interest rates are *negative* as opposed to when real interest rates are simply *below market rates*. The authors justify their higher threshold due to the difficulty and conceptual challenges associated with determining a true 'market' rate during a period of widespread financial repression. True, negative real returns on deposits and bonds were a near universal phenomenon during much of the post-war period. Further, even if there were no restrictions on interest rates in a relatively free market like Switzerland, it is reasonable to believe that global rates had some downward influence on Swiss rates.

While it is unclear how to best to adjust for the effect of 'world interest rates' in any use of market rates in calculating the effects of financial repression, acknowledgement of this problem is insufficient justification for altogether disregarding market rates.³³ During and after the Second World War sophisticated free markets developed in lightly regulated venues.³⁴ In Switzerland, for example, foreign securities and currencies were traded at significant discounts to their official rates.³⁵ The Bank of England "obsessed" with overseas trading of 'free' sterling, and approximately \$300 million of free sterling was traded during one year in New York alone.³⁶ Further, currency black markets undermine the efficacy of capital controls, which typically play a crucial role in financial repression. The existence of sizable currency black markets could conceivably negate the effectiveness of financial repression, particularly for economic actors that have access to such markets. These free markets are not mentioned by the authors.

³³ For further discussion of a 'world interest rate' see (Barro & Sala-i-Martin, 1990; Blanchard & Summers, 1984; Chinn & Frankel, 2005; Koedijk, Kool, & Kroes, 1994; Lucas, 1990; Yi, Blankenau, & Kose, 2001)

³⁴ See for example (Frey & Waldenström, 2004)

³⁵ (The Economist, 22 May, 1948)

³⁶ (Cairncross, 1985, pp. 258, 263)

A second way in which the author's calculations may prove conservative relates to their use of official inflation data sources.³⁷ For example, the inflation statistics reflected in Richards (2002) show consistently lower levels of inflation than other estimates for the same period that are shown later in this paper. The authors do make note of this issue, but for reasons that are unclear they do not utilize arguably more realistic inflation figures.

There is, however, a perhaps more fundamental issue in Reinhart's and Sbrancia's second method that is not discussed by the authors.³⁸ It is true that a government, following a decline in the prices of its bonds, can retire debt at an advantageous cost to the government. However, the interest expense incurred by that government on subsequent debt issuance may increase as the price investors are willing to pay on any newly issued debt is determined by the current yield on already issued bonds. Bond yields are inversely related to bond prices:

$$\text{current yield} = \frac{\text{annual coupon}}{\text{market price}}$$

In other words, for fixed coupon government bonds, as bond prices decline yields increase, and higher yields equate to higher nominal interest expense born by the issuing government on any newly issued government debt. In sum, any economic gain a government realizes by retiring any of its bonds that have declined in value may be offset or exceeded by higher interest costs associated with new debt issuance. A simple hypothetical illustration of the above point is presented in Table 1, which shows the impact of debt retirement and new sovereign bond issuance on a government balance sheet.

³⁷ (C. M. Reinhart & Sbrancia, 2011, p. 28)

³⁸ (C. M. Reinhart & Sbrancia, 2011, pp. 30-31)

Table 1: Illustration of Intertemporal Changes in Public Debt Interest Expense Due to Capital Gains (Losses)

Hypothetical Treasury Bond Issuance and Treasury Balance Sheet

Treasury Bond Issuance	1950	1951	1952	1953	1954
Bond(1) principal	£100				
Coupon payment (fixed)	£2.50	£2.50	£2.50		
Coupon yield (fixed)	2.50%				
Market price of Bond(1)	£100	£100	£75.00		
Current Yield	2.50%	2.50%	3.33%		
Bond(2) - principal				£100	
Coupon payment (fixed)				£3.33	£3.33
Coupon yield (fixed)				3.33%	
Market price of Bond(2)				£100	£100
Current Yield				3.33%	3.33%
Treasury Balance Sheet	1950	1951	1952	1953	1954
Beginning of Year Cash	£0.00	£100.00	£97.50	£10.00	£10.00
Annual Surplus / Deficit	£0.00	£0.00	-£10.00	-£100.00	£0.00
Interest expense	£0.00	£2.50	£2.50		£3.33
Debt Issued - Deficit - Interest = Cash	£100.00	£97.50	£85.00	£10.00	£6.67
Bond Repurchases			£75.00	£0.00	£0.00
Gain (Loss) on Bond Repurchase (one time)			£25.00		
Gain (Loss) on interest refinancing (reoccurring)					-£0.83
Cash - Bond Repurchases	£100.00	£97.50	£10.00	£10.00	£6.67

The above illustration demonstrates how a beneficial one-time capital gain realized by a government through a decline in the market value of its bonds can be partially, if not wholly, offset by modestly higher reoccurring interest expense the government will incur on

subsequent debt issuance. The reason for this is that a decline in bond prices results in higher yields on outstanding debt, and it is these *ex post* yields that guide the pricing of newly issued debt.

Last, the authors acknowledge that in the reduction of post-Second World War debts that “other factors, such as real growth, may have been relevant as well.”³⁹ As noted in Chapter 2, popular narratives as well as academic analysis by Buitert (1985) and others on how post-Second World War debts were reduced through economic growth are incomplete at best, and possibly misleading. However, Reinhart and Sbrancia do not attempt to compare or quantify the relative contribution of real growth and financial repression. Such a comparison could be helpful for understanding the relative impact of each on post-Second World War debt reduction.

3.3 Alternatives measures of financial repression

This section presents an alternative calculation of government savings from financial repression for Britain during the post-Second World War period. This alternative calculation can be characterized as a hybrid of the previously described methods developed by Giovannini and de Melo and Reinhart and Sbrancia and addresses some of the issues identified earlier. Specifically, the alternative calculation presented below does away with the commercial rate of interest used by Giovannini and de Melo and instead utilizes a free market rate.⁴⁰

In addition to ‘free’ sterling, there is evidence of a market for ‘free’ British sovereign debt. In America, New York-traded UK bearer bonds were yielding 7%, which was more than

³⁹ (Sbrancia, 2011, p. 35)

⁴⁰ Another supplementary approach to the Reinhart and Sbrancia method not performed here that could be useful would be to allow for a lower threshold of what constitutes a debt liquidation year, such as whenever real interest rates are below market rates.

double the approximately 3% yield that British 2.5% coupon Consols were paying in London during this time (Table 2).⁴¹

Table 2: Prices and Yields of Long-Term British Government Securities, 1935-1961

							Yield Range of All Issues 30-years or Longer		
Annual									Max Current Yield of Premium Issues
Year	Avg.	Yield %	High	Yield	Low	Yield	Low	High	
1935	86.500	2.89%	94.3750	2.65%	80.000	3.13%	2.88%	3.13%	3.48%
1936	85.000	2.94%	87.2400	2.87%	82.250	3.04%	2.96%	3.17%	3.54%
1937	76.250	2.28%	84.8125	2.95%	73.125	3.42%	3.37%	3.43%	3.64%
1938	74.000	3.38%	79.3750	3.16%	64.000	3.91%	3.56%	3.62%	3.87%
1939	67.250	3.72%	71.1250	3.51%	61.000	4.10%	3.65%	3.77%	3.62%
1940	73.500	3.40%	77.0000	3.25%	68.125	3.67%	3.25%	3.44%	3.58%
1941	79.875	3.13%	82.8750	3.02%	76.750	3.26%	3.03%	3.19%	3.62%
1942	82.500	3.03%	83.6250	2.99%	81.000	3.09%	3.03%	3.18%	3.62%
1943	80.625	3.10%	83.2500	3.00%	78.250	3.19%	3.14%	3.23%	3.62%
1944	79.625	3.14%	82.2500	3.04%	78.688	3.18%	3.07%	3.18%	3.62%
1945	85.625	2.92%	92.8125	2.69%	91.563	3.06%	2.74%	2.91%	3.44%
1946	96.188	2.60%	99.6250	2.51%	81.125	3.08%	2.53%	2.67%	3.69%
1947	90.500	2.76%	99.1250	2.52%	80.000	3.12%	3.00%	3.05%	3.65%
1948	77.875	3.21%	83.3750	3.01%	74.500	3.36%	3.13%	3.19%	3.94%
1949	75.750	3.30%	81.9375	3.05%	65.128	3.84%	3.56%	3.81%	3.90%
1950	70.375	3.55%	74.6875	3.35%	68.125	3.67%	3.53%	3.73%	
1951	66.000	3.79%	71.5000	3.50%	60.125	4.16%	4.06%	4.44%	
1952	59.125	4.23%	62.0000	4.03%	55.000	4.55%	4.27%	4.61%	
1953	61.240	4.08%	65.2500	3.83%	58.375	4.28%	3.89%	4.27%	
1954	66.500	3.76%	69.7500	3.58%	58.375	4.28%	3.81%	4.15%	
1955	60.000	4.17%	66.5000	3.76%	54.875	4.56%	4.39%	4.50%	
1956	52.750	4.74%	56.7500	4.41%	49.875	5.01%	4.90%	5.08%	
1957	50.250	4.98%	55.6875	4.49%	45.000	5.56%	5.41%	5.62%	
1958	50.250	4.98%	52.8125	4.73%	46.750	5.35%	4.89%	5.20%	
1959	51.875	4.82%	53.6250	4.66%	48.625	5.14%	4.99%	5.40%	
1960	46.375	5.40%	49.7500	5.02%	43.875	5.71%	5.68%	6.07%	
1961	40.375	6.20%	44.0000	5.70%	36.250	6.90%	6.45%	6.85%	

⁴¹ ('Free Sterling in Europe', The Economist, 22 May, 1948) At present only a single free yield data point has been located.

Source: Homer (1963)⁴²

The New York 'free' yield can be employed to calculate government savings from financial repression through a slightly modified version of Giovannini and de Melo's method:

$$(1) \quad FRS = (i_m - i_d) * PD$$

where government savings from financial repression (FRS) is calculated by subtracting the artificially low domestic interest rate (i_d) from the free market interest rate (i_m), and then multiplying by government public debt (PD). The results of such a calculation for the years 1945-1951 are presented in Table 3.

⁴² (Homer, 1963, p. 16)

Table 3: UK Financial Repression Savings Estimate, Constant Free Market Interest Rate, 1946-60

Year	UK Net Public Debt (£bs)	Free market interest rate*	Avg. Yield of Long-Term UK Debt	Financial Repression Savings (£bs)	Financial Repression Savings % of GDP
1946	23.64	7.00%	2.60%	1.04	10.9%
1947	25.63	7.00%	2.76%	1.09	10.1%
1948	25.62	7.00%	3.21%	0.97	8.1%
1949	25.17	7.00%	3.30%	0.93	7.3%
1950	25.80	7.00%	3.55%	0.89	6.7%
1951	25.92	7.00%	3.79%	0.83	5.6%
1952	25.89	7.00%	4.23%	0.72	4.5%
1953	26.05	7.00%	4.08%	0.76	4.4%
1954	26.58	7.00%	3.76%	0.86	4.8%
1955	26.93	7.00%	4.17%	0.76	3.9%
1956	27.04	7.00%	4.74%	0.61	2.9%
1957	27.01	7.00%	4.98%	0.55	2.5%
1958	27.23	7.00%	4.98%	0.55	2.4%
1959	27.38	7.00%	4.82%	0.60	2.5%
1960	27.73	7.00%	5.40%	0.44	1.7%

*Note: At present only a single free yield data point has been sourced ('Free Sterling in Europe', The Economist 22 May, 1948)

Sources: HM Treasury, *The Economist*, Homer (1963), IMF, UK ONS

The results indicate that the effects of UK financial repression were likely largest (as a percentage of GDP) in the years immediately following the Second World War, but then steadily diminished. In 1948, savings attributable to financial repression were over 8% of GDP, or significantly larger than Giovannini and de Melo's largest finding of 5.8% of GDP for Mexico. However, as time progresses the average yield of long-term UK debt nearly doubles while the net public debt only increases from £23.6 billion in 1946 to £27.7 billion in 1960, or by 17%. However, the above estimation assumes no change over time in the 7% free market yield on UK debt sourced from the 1948 *The Economist* article. The results from adjusting the free market yield proportionally to the adjustment in official market yields are found in Table 4.

Table 4: UK Financial Repression Savings Estimate, Adjusted Free Market Interest Rate, 1946-60

Year	UK Net Public Debt (£bs)	Free market interest rate*	Avg. Yield of Long-Term UK Debt	Financial Repression Savings (£bs)	Financial Repression Savings % of GDP
1946	23.64	5.50%	2.60%	0.69	7.2%
1947	25.63	5.86%	2.76%	0.79	7.4%
1948	25.62	7.00%	3.21%	0.97	8.1%
1949	25.17	7.20%	3.30%	0.98	7.7%
1950	25.80	7.74%	3.55%	1.08	8.1%
1951	25.92	8.26%	3.79%	1.16	7.8%
1952	25.89	9.22%	4.23%	1.29	8.1%
1953	26.05	8.90%	4.08%	1.25	7.3%
1954	26.58	8.20%	3.76%	1.18	6.5%
1955	26.93	9.09%	4.17%	1.33	6.8%
1956	27.04	10.34%	4.74%	1.51	7.2%
1957	27.01	10.86%	4.98%	1.59	7.2%
1958	27.23	10.86%	4.98%	1.60	6.9%
1959	27.38	10.51%	4.82%	1.56	6.4%
1960	27.73	11.78%	5.40%	1.77	6.8%

*Note: Adjusted proportionally based on changes in the yield of long-term British government debt. At present only a single free yield data point has been sourced ('Free Sterling in Europe', The Economist 22 May, 1948)

Sources: HM Treasury, *The Economist*, Homer (1963), IMF, UK ONS

One untested method for calculating financial repression savings that is beyond the scope of this paper involves the creation of synthetic market yield. As noted earlier, the lack of a market interest rate would address one the most significant issues with the Giovannini and de Melo method, which is the determination of a suitable free market rate of interest (i_f) to compare with the financially repressed rate of interest (i_d). 'Free' currency exchange rate data could be used to construct a synthetic market yield for bonds by employing a modified version of the uncovered interest rate parity equation:

$$(2) \quad (1 + i_E) = \frac{F_t}{S_t} (1 + i_f)$$

where F_t is the current 'free' exchange rate (which substitutes in the classic version of the equation for the expected future spot exchange rate, given that free currency was often trading at a devalued free rate that anticipated future official devaluations), S_t is the current fixed official exchange rate at time t , i_E is the interest rate in the the free currency issuing country, and i_f is the synthetic market yield.

Further study is necessary to determine the feasibility of the above approach, but research suggests a statistically significant, negatively lagged influence of currencies on debt.⁴³ Further, Flandreau & Oosterlinck (2011) imputed currency values from government debt yields, and it could be worth exploring whether such a transformation can be reversed to calculate a synthetic market yield.⁴⁴

3.4 The Financial Repression Index

Both Giovannini and de Melo and Reinhart and Sbrancia use the results from their quantitative methods to compare the degree of financial repression across different countries. However, with regards to the Reinhart and Sbrancia method, Taylor (2011) notes that the actual reason(s) behind negative real yields on government debt are not always clear. For example, in May 2012 the German government successfully floated two-year bonds with a zero coupon, and in 2015 the Swiss government issued new debt with a negative nominal yield. These events occurred in spite of the fact that positive inflation existed in both Germany and Switzerland at the time of debt issuance, and future expectations of inflation were also positive. Investors appear to be paying the German and Swiss government in real and nominal terms, respectively, for the opportunity to lend money to the government. If the Reinhart and Sbrancia method were employed in these cases the results would suggest that both Germany and

⁴³ (Dreher, Herz, & Karb, 2006)

⁴⁴ (Flandreau & Oosterlinck, 2011)

Switzerland were engaged in financial repression. However, the notion that financial repression in either country is responsible for the observed negative yields is dubious. Instead, a flight to higher credit quality in response to the European sovereign debt crises is the likely explanation behind the German and Swiss rates.

In sum, 'bottom's-up' approaches to identifying financial repression can produce incomplete or misleading results. Further insights can be gained by comparing countries across qualitative measures of financial repression such as a composite indicator (composite index), which allows for cross-country comparisons of financial repression over a series of standardized measures and different time periods. Sample variables that could be utilized for the construction of an index taken from existing data sources such as the IMF, BIS, World Bank, and OECD are summarized in Appendix 1.⁴⁵

⁴⁵ Unfortunately, for the time period under study in this thesis much of the data required to create a financial repression composite index was either never collected or has not yet been located.

4 British financial repression

This section of the paper addresses the disagreement in the literature over what role financial repression may have played in sustaining Britain's record-setting levels of public debt following the Second World War. Largely missing is a detailed historical account of the policies and practices that may or may not have facilitated financial repression in countries such as Britain. In other words, does the historical record support or contradict Reinhart and Sbrancia's quantitative argument of financial repression? The short answer to the above question is that yes, Britain did in fact enact numerous policies and legislation that can be characterized as financial repression. Further, these policies played a useful role in sustaining British sovereign debt. However, it is far too simplistic to refer to financial repression in a simple binary, yes or no, fashion. Different degrees and types of financial repression exist.

The remainder of this paper describes the nuanced, multi-faceted nature of British financial repression by first exploring the origins of British financial repression, then examining the various aspects of British financial repression, and concludes with the impact financial repression had on select areas of the British economy.

4.1 The origins of British financial repression

The growing threat posed by an ever more assertive Nazi Germany led the British to rearm in the latter-half of the 1930s. While this brought full employment it also triggered concerns over inflation and imbalances in Britain's national accounts.⁴⁶ It was during this time that John Maynard Keynes' theories on wartime and post-war finance, which would prove highly influential to British financial repression, took shape. In April and July 1939 Keynes wrote several articles in the *Times* outlining a dual policy of low interest rates and capital controls, which went on to be partially adopted in April 1941.⁴⁷ Keynes also advocated for deferred

⁴⁶ (Skidelsky, 2000, p. 20)

⁴⁷ Keynes' ideas were first publicized via two editorials in the *Times* on the 14th and 15th November 1939. A booklet version titled *How to Pay for the War* followed on 27 February in 1940. However, an earlier lecture on this topic was given by Keynes at Cambridge's Marshall Society on 20 October, 1939 titled 'War Potential and War Finance'

deposits, which were to be blocked and have an open-ended release date to be determined at the discretion of the Treasury.⁴⁸ Originally called ‘compulsory savings’, the program was later rebranded as ‘deferred pay’ for marketing purposes.⁴⁹ The plan called for the government to set long-term interest rates at 2.5%, which represented a 17% reduction on the approximately 3% yields of longer-term British debt instruments at that time.⁵⁰

Lord Keynes professed himself to be a proponent of interest rate caps in his *General Theory*⁵¹, and in a 12 January, 1937 *Times* editorial Keynes stated “we must avoid [dear money]...as we would hell-fire”.⁵² The doctrine of ‘permanently cheap money’ would go on to reign over British monetary policy until 1951. Keynes advocated that the British Chancellor of the Exchequer should announce that he would borrow at no more than 2.5% so creditors have zero doubt that these are the best terms available for long-dated British debt. Keynes had ‘an appreciation that the social and political climate would not permit a repeat of the *rentier*-friendly policy of First World War’, although Keynes later revised upwards his suggested interest rate to 3%.⁵³ To be effective Keynes felt the Chancellor’s statement would need to be buttressed by control over domestic capital issues and an embargo on foreign lending, meaning capital controls would need to be instituted.⁵⁴ Low interest rates, one of the hallmarks of financial repression, were facilitated by the Bank of England (where Keynes was a Court member), which kept the short-term Treasury bill rate at 1% from 1939-1945.

It is here with these late-1930s proposals that we see Keynes laying some, but not all, of the theoretical and policy foundations for post-war British financial repression. However,

(Skidelsky, 2000, p. 43). Coincidentally, the Labour party also published at this time an identically titled book on war finance (Durbin, 1939). The reason Keynes’ ideas ultimately won out was because, as Skidelsky put it, he had the “only theory on offer which promised both guns, butter and low interest rates” (Skidelsky, 2000, p. 20).

⁴⁸ (Keynes, 1940, p. 47)

⁴⁹ (Skidelsky, 2000, p. 59)

⁵⁰ (Keynes, 1940, p. 44)

⁵¹ (Keynes, 1936, p. 351)

⁵² (Skidelsky, 2000, p.22)

⁵³ (Kynaston, 1999, p. 464)

⁵⁴ (Skidelsky, 2000, pp. 24-25)

Keynes' crucial contributions to British financial repression go entirely unacknowledged by Keynes' biographers and other economic historians.⁵⁵

Evidence of British financial repression prior to the 1940s also exists. After Britain abandoned the gold standard for a second and final time in 1931, a prohibition on loans to overseas borrowers was imposed. In 1933 the purchase of foreign securities was also prohibited, although direct investments abroad were treated more leniently.⁵⁶ It is unclear what role if any Keynes had on shaping these policies. One difference between this period and with the following decade appears to be the reliance of the Bank of England and Whitehall on the use of moral suasion, as opposed to regulations or law, to execute 1930s policy changes. This approach may have also played at least some role in the relatively speedy reversal of some policies, such as the relaxation of loan restrictions to Commonwealth borrowers in 1933. These examples illustrate how financial repression can take both explicit and implicit form.

As early as September 1941 British officials were contemplating the post-war financial and economic order.⁵⁷ In December 1941, on the other side of the Atlantic, Treasury Secretary Morgenthau asked Harry Dexter White to begin work on what was to become the Bretton Woods agreement.⁵⁸ It was during this time that groundwork was laid in both Britain and the U.S. for the post-war international framework that would prove so conducive to financial repression. Stringent capital controls, imposed at the beginning of the Second World War in September 1939, provided the necessary condition for the creation of the Sterling Area, which would play a supporting role in enforcing international financial repression.⁵⁹ Under the new rules all purchases of foreign exchange required prior approval of British officials, and countries that did not participate in the war ceased to be a part of the Sterling Bloc (e.g., Sweden). The outbreak of war led Britain to impose exchange control on payments outside the Sterling Bloc, while relatively free movement of capital, coordinated by the Bank of England, was permitted

⁵⁵ (R. F. Harrod, 1951; Skidelsky, 2000)

⁵⁶ (Cairncross and Eichengreen, 1983, p. 22)

⁵⁷ (Fforde, 1992, p. 36)

⁵⁸ (Skidelsky, 2000, pp. 256-263)

⁵⁹ (Capie, 2010, p. 146)

within.⁶⁰ The regulations and rules governing the Sterling Area were complex; varying degrees of freedom existed on the transferability of currency, dependent upon location and purpose. Import restrictions also existed so that “while there might be freedom to make a payment, there was not always freedom to make a purchase”.⁶¹ During the war a ‘Dollar Pool’ was established among Sterling Area countries that would remain in place after hostilities ended. Its purpose was to conserve U.S. dollars amongst Sterling Area members by imposing licensing restrictions on dollar imports, and members were required to deposit excess dollars and gold at the Bank of England.⁶²

Keynes, in addition to providing the intellectual foundations for much of British financial repression, would also go on to play a leading role in implementing financial repression policies during and after the war from inside Treasury. However, it is important to note that not all facets of post-war British financial repression were prescribed by Keynes. Further, Keynes was not alone in advocating for British financial repression. For example, the Bank of England was at least willing to go along with, if not play the role of accomplice, in the maintenance of low interest rates.

While other economic historians have indirectly covered various aspects of British financial repression without labelling it as such, Reinhart and Sbrancia (2011) are the first to explicitly make the case that financial repression was practiced in post-Second World War Britain and other advanced countries. One of the first questions which emerges after reviewing Reinhart’s and Sbrancia’s research that prompted Taylor’s critique is what policies and outcomes should constitute sufficient evidence, or proof, of financial repression? In other words, is financial repression akin to the U.S. Supreme Court’s definition of pornography, which basically amounts to ‘we know it when we see it’? Or can the ‘financial repression’ label be assigned in a more rigorous, systematic fashion? Debt liquidation does not require financial

⁶⁰ (Cairncross & Eichengreen, 1983, p. 24).

⁶¹ (Capie, 2010, p. 146; Catherine Ruth Schenk, 1994)

⁶² (Cairncross & Eichengreen, 1983, p. 25)

repression as it can be due solely to the effects of inflation in excess of nominal interest rates. In other words, demonstrating that debt liquidation occurred in any given year, or over an extended period due to negative real interest rates, is insufficient proof of financial repression.⁶³

Reinhart and Sbrancia support their quantitative evidence by identifying several financial repression measures in each sample country.⁶⁴ For the UK, they highlight the following three Domestic Financial Regulations measures:

1. The Gold market closed in early Second World War, reopened only in 1954.⁶⁵
2. The Bank of England stopped publishing the Minimum Lending Rate in 1981.
3. In 1986, the government withdrew its guidance on mortgage lending.

The following two measures are listed for Capital Account-Exchange Restrictions in the UK:

1. All restrictions on outward Foreign Direct Investment abolished, and outward portfolio investment liberalized.
2. Exchange Control Act of 1947 suspended in October 1979; all remaining barriers to inward and outward flows of capital removed.

The above measures are perhaps some of the more significant financial repression policies in Britain following the Second World War. However, the authors do not make any reference to the relative importance of these policies, or explain why these were highlighted over other policies that could constitute financial repression. Further, they overlook a number of other British financial repression policies. For example, Chancellor Dalton directed

⁶³ Sbrancia (2011) develops a conceptual framework utilizing inflation expectation estimates to distinguish between debt liquidation related to unanticipated inflation and financial repression.

⁶⁴ (C. M. Reinhart & Sbrancia, 2011, p. 17)

⁶⁵ (Bank for International Settlements., 1941)

government departments to support Treasury debt auctions by making purchases that helped finance government debt at low rates of interest.⁶⁶

British financial repression during this period, in the form of legislation and directives/policies, are summarized in Table 5 and Table 6, respectively. In total, eleven pieces of legislation and sixteen policies/directives that supported British financial repression were found either in archival evidence or the literature. These legislative and policy acts highlight the intricate and comprehensive nature of British financial repression during this period.

⁶⁶ (Cairncross, 1985, pp. 432-433; Worswick & Ady, 1952, pp. 196-198).

Table 5: UK Financial Repression Legislation, 1936 – 1998

Legislation	Date Enacted	Repealed/ Reduced	Description
Tripartite Agreement	1936	1973	Beginning with the 1936 Tripartite agreement between the U.K., France and the U.S. and subsequent bilateral and multilateral agreements though Second World War and the 1944 Bretton Woods agreement, exchange rates were managed so that foreign exchange could only be legally converted at official exchange
Capital Issues Committee	1936	Late-1950s	Formal government application process for controlling capital flows to foreign and domestic applicants; only £31 million exported annually from 1932-36 ⁶⁷ ; also reviewed all domestic issues over £50,000, and the Bank of England reviewed anything over £100,000 ⁶⁸
Deferred Pay	April 1941	post- WWII	Originally called ‘compulsory savings’, deposits were to be blocked and have an open-ended release date, to be determined at the whim of the Treasury. An interest rate of only 2.5% a year, which was 17% cut on the roughly 3% yielded by longer-term instruments at that time.
Capital Controls	Sept. 1939	post-WWII	Permission from authorities required prior to making any forex purchases; restrictions on foreign exchange on payments made outside the Sterling Area. Limits on sterling banknotes travellers can take out of the UK of £20 and £10, respectively, and “no sterling can be sent out of the United Kingdom without permission”. ⁶⁹
Treasury Deposit Receipt (TDRs)	WWII	post-WWII	New security which allowed the Treasury to bypass the London money market and borrow directly from banks through the issuance of non-marketable TDRs
Closure of London Gold Market	WWII	1945	Closure of London gold market, trading and ownership of gold, and restrictions on imports/exports of gold

⁶⁷ (Ingham, 1984, pp. 195-197; Wilson, 1995, p. 183)

⁶⁸ (Morgan & Thomas, 1962, p. 210; Wilson, 1995, p. 189)

⁶⁹ C261, Letter from Bank of England to Manager of the Federal Reserve Bank of New York, New York Federal Reserve Bank Archive, 17 October, 1946

Legislation	Date Enacted	Repealed/ Reduced	Description
Bank of England Act	Aug. 1946	1998	Bank of England nationalized by the UK government; clause 4(3) gave the Bank, with Treasury approval, explicit power to govern the proportion of commercial bank assets
Exchange Control Act	1947	Oct. 1979	Restricted some external loans as well as inward capital flows; repeal in 1979 led to the removal of all remaining barriers on inward and outward capital flows
Minimum Lending Rate	post- WWII	1981	Published by the Bank of England
Tax Increase on Dividends	post- WWII	N/A	Increase in the dividends tax from 5% to 12.5% made Britain's sovereign debt a more attractive investment vis-à-vis equities
Mortgage Lending Guidance	post- WWII	1986	Government guidance on UK mortgage lending

Table 6: UK Financial Repression Policies and Directives, 1931 – 1973

Policy	Date Enacted	Repealed/ Reduced	Description
Low Interest Rates ('Cheap Money')	1931	1951	Except for a brief fluctuation at the beginning of the war, Bank Rate was maintained at 2%; short-term Treasury bill rate at 1% from 1939-1945
Foreign loan embargo	1932	1934 for Sterling bloc	The ban on foreign loans partially removed for other countries in Feb. 1938 but then reinstated in Dec. 1938 ⁷⁰
Withdrawal of large sterling notes	1943	post- WWII	Retirement of all notes of £10 and up to "provide an additional handicap for those who may contemplate breaches of Exchange Control" ⁷¹
Bank Advances Restrictions	1945, 1947, 1949	post- WWII	Restrictions on bank advances were issued three times by the Capital Issues Committee (CIC) ⁷²
Issuing Houses Association	1945	post- WWII	Organization of 52 British merchant banks which facilitated the monitoring and control of lending ⁷³
Bank Lending Restrictions	Mid-1950s	post- WWII	Enactment of the first quantitative limits on loans from banks. ⁷⁴
Special Deposits	Mid-1950s	post- WWII	"a (relatively small) call for 'special deposits' made by CIC" ⁷⁵

⁷⁰ C261, 'British and Canadian Conversion Policies. Appendix: British Treasury Control over the Price of Gilt-Edged Securities, 1932-39', Correspondence between L. M. Pumphrey to Mr. House, New York Federal Reserve Bank Archive, 23 October, 1941

⁷¹ From C261 p. 1, 'Withdrawal of Large Bank Notes: The British Experience', New York Federal Reserve Bank Archive, 4 December, 1944: "The real purposes were to make more difficult the illegal operation of note smugglers desirous of evading exchange control regulations, of black market operators, and of tax evaders—all of whom predominantly use large denomination notes in order to cover up their tracks". Bank of England notes in circulation during this time consisted of £1, £5, £10, £20, £50, £100, £200, £500 and £1000.

⁷² (Capie, Collins, & Institute of Economic Affairs., 1992, p. 68)

⁷³ (Wilson, 1995, p. 189)

⁷⁴ (Capie et al., 1992, p. 68)

⁷⁵ (Capie et al., 1992, p. 68)

Policy	Date Enacted	Repealed/ Reduced	Description
Export Lending	1964	post-Second World War	Bank of England established loan priorities which gave preference to exports and discouraged speculation ⁷⁶
Stamp Duty on Transfers of Financial Securities	post- WWII	1963	Cut securities transfer tax from 2% to 1% to encourage international financial activity in the City of London ⁷⁷
Restrictions on Lending in Foreign Currency	post- WWII	Oct. 1963	Chancellor announces that foreign currency loans 'allowed almost without restriction' ⁷⁸
Taxes on Bearer Securities	post-WWII	1963	Reduced from 6% of nominal value to 3% and 2% of the market value for residents and non-residents, respectively ⁷⁹
Registered Securities Tax	post- WWII	1963	Rate reduced from 2% to 1% ⁸⁰
Dollar Pool	WWII	post- WWII	Required that members deposit their excess U.S. dollars and gold at Bank of England
Bank advances-to-government debt ratio	WWII	post- WWII	Reduction in bank advances-to-government debt ratio so that banks could hold more government debt
Restrictions on forward exchange (forex options)	WWII	post- WWII	Restrictions on UK Banks dealing in forward exchange included: i) a "genuine commercial contract is in existence"; ii) "it is not a swap" but an "outright purchase or sale of exchange"; iii) "the maturity date must not be more than four months ahead". Some exceptions were allowed by the Bank of England "when such a practice is a normal and necessary facility of the trade in question". ⁸¹

⁷⁶ (Capie et al., 1992, p. 68)

⁷⁷ (Quennouëlle-Corre & Cassis, 2011, p. 225)

⁷⁸ (Quennouëlle-Corre & Cassis, 2011, p. 225)

⁷⁹ (Quennouëlle-Corre & Cassis, 2011, p. 226)

⁸⁰ (Quennouëlle-Corre & Cassis, 2011, p. 226)

⁸¹ C260.3 p. 1, New York Federal Reserve Bank Archive, 9 October, 1945

Policy	Date Enacted	Repealed/ Reduced	Description
Fixed Exchange Rates	1936	1973	Beginning with the 1936 Tripartite agreement between the U.K., France and the U.S. and subsequent bilateral and multilateral agreements though Second World War and the 1944 Bretton Woods agreement, exchange rates were managed so that foreign exchange could only be legally converted at official exchange.

Regarding the efficacy of the policies highlighted by Reinhart and Sbrancia, even with exchange restrictions Britain experienced significant capital outflows to the Sterling Area, which calls into question just how effective capital restrictions were during this time. Dow (1964) claims that 20% of capital outflows were due to the looseness of controls.⁸² There are also frequent reports in archival documents of gold trade occurring despite of restrictions in the London market. For example, in a letter dated 30 January, 1947 from Mr. Werner Knoke at the New York Federal Reserve Bank (NYFRB) to his counterpart and frequent correspondent at the Bank of England, Mr. George Bolton, Knoke inquires about the London gold transactions that are:

“carried on a very substantial scale we are told, for instance by Samuel Montagu, who purchases the gold all over the world, shipping it directly or via London for sale in markets like China, the Near East, etc.”⁸³

Samuel Montagu was the proprietor for Samuel Montagu & Co, which was one of the six ‘Authorised Dealers’ in gold other than the Bank of England.⁸⁴ In a reply dated 13 February, 1947, Bolton informs Knoke that “before the war London was an international centre for gold arbitrage and we are therefore under great pressure to allow London firms to participate in the

⁸² (Dow & National Institute of Economic and Social Research., 1964, p. 24; Catherine R. Schenk, 2010) For further discussion on the effects and effectiveness of capital controls see (Dulles, 1929, pp. 226-227; Edwards, 1999; B. J. Eichengreen, 1998; Montiel & Reinhart, 1999)

⁸³ C261, New York Federal Reserve Bank Archive, 30 January, 1947

⁸⁴ The other authorized London bullion banks at this time were Johnson Matthey & Co. Ltd, Mocatta & Goldsmid, Pixley & Abbell, N.M. Rothschild & Sons, and Sharps & Wilkins. C261 p. 2, New York Federal Reserve Bank Archive, 10 February, 1947

business”.⁸⁵ He goes on to say that there are exceptions to the UK rules against gold ownership, including:

“any person not resident in the United Kingdom or those parts of the Sterling Area which prohibit the holding of gold by residents, may own gold in the United Kingdom” and claim that any trade in the various “free markets” of gold at premium to the official “does not necessarily damage the major currencies”.⁸⁶

While the UK officially posed restrictions on the export of gold, importation was encouraged as it served to enhance London’s status as a financial capital and increased the likelihood that it may be offered for sale (or otherwise made available) to a gold-strapped Bank of England. Bolton also speaks of the “handsome profit” that can be earned in the gold arbitrage trade, where gold is purchased at \$43 per ounce, claiming that:

“no irreparable harm results from the sale of the relatively small gold production of Latin America in the various ‘free markets’ at a substantial premium. It feeds a hoarding demand causes a minor wave of disturbance and many consequential reactions but, while it underlies the weakness of certain paper currencies.”⁸⁷

However, this trade may have also increased the opportunity for speculation and profiteering at black market rates. In a memo dated 2 July, 1947, the NYFRB confronted the Bank of England about how “Franck of Samuel Montagu and Goldsmid of Mocatta & Goldsmid seemed the most active factors in the premium gold market”. Bolton, in his reply to Knoke, said he “would try to keep them in line”.⁸⁸

This above exchange between Bolton and Knoke on the subject of free market gold trade is one of several found in both the NYFRB and Bank of England archival records on this subject. While the correspondence generally implies a close relationship between officials,

⁸⁵ C261 p. 2, New York Federal Reserve Bank Archive, 10 February, 1947

⁸⁶ C261 p. 1, New York Federal Reserve Bank Archive, 10 February, 1947

⁸⁷ C261 p. 2, New York Federal Reserve Bank Archive, 10 February, 1947

⁸⁸ C261 p. 2, Peter Lang record of telephone conversation with Mr. Bolton, Bank of England, New York Federal Reserve Bank Archive, 2 July, 1947

differences of both opinion and facts frequently emerge. For example, Knoke takes issue with Bolton's claim that gold is selling in New York at \$43 an ounce, stating "we have not sunk so low as to have (black) market at this country at \$43!!!"⁸⁹ Per a NYFRB memo, a claim made by Lord Catto of the Bank of England that Britain "disapproves of the sales of gold on the black markets in Greece" is doubted inside the Federal Reserve. NYFRB head Sproul conveys to Knoke that "it has always been my understanding that in Greece the British had been the ones anxious to make sovereigns available for sale there".⁹⁰

At other times, typically on the eve of a crisis, a palpable tension emerges between the Bank of England and NYFRB. For example, on 17 June, 1947, shortly before the sterling convertibility crisis, Knoke spoke with an "audibly disturbed" Bolton who complained that the NYFRB was being "unnecessarily legalistic" on a "question concerning the whole constitutional position between the British Treasury and Bank of England" with regard to a request by the Bank of England for an uncollateralized loan. The prior custom at the NYFRB had been to secure loans with gold on hand in the basement safe, and the British government had previously informed the NYFRB that all gold on hand was the property of the government, not the Bank of England.⁹¹

Knoke also emphasizes the "serious monetary consequences if dealings in gold at unofficial and varying prices should become widespread".⁹² Free markets in gold and currencies were a serious concern on both sides of the North Atlantic, and there appears to be a *quid pro quo*, where Mr. Bolton of the Bank of England would "appreciate keeping him informed of any unusual developments in the sterling market here (New York)", and vice versa on the Federal Reserve's interest in London free gold activity. Overall, ample archival evidence indicates that significant gold trade was occurring in London, and that this trade would have undercut the impact of British financial repression. London played a critical role in managing the global gold

⁸⁹ C261 p. 2, New York Federal Reserve Bank Archive, 18 February, 1947

⁹⁰ C261 p. 1, Letter from Sproul to Knoke, New York Federal Reserve Bank Archive, 6 March, 1947

⁹¹ C261 p. 1, New York Federal Reserve Bank Archive, 17 June, 1947

⁹² C261 p. 2, New York Federal Reserve Bank Archive, 18 February, 1947

market, through locally-headquartered South African mining interests, as well through the relationship with the South African government that purchased all locally mined gold at parity.⁹³ However, in contrast to Britain's focus on free sterling trade in New York, the Americans were the ones who were primarily concerned about free trade in gold. The NYFRB wanted Britain's help to "smash the premium between free market transactions between gold and the dollar", but the Fed also recognized that "it might be much more difficult to smash the premium in transactions between gold and the pound sterling".⁹⁴ Per the Bretton Woods agreements, the U.S. dollar was the one currency tied at a fixed rate to the value of gold. Bolton and the Bank of England's partial assurances notwithstanding, any trade in gold at a premium over \$35 per ounce official parity was clearly of significant concern to the U.S. government as it suggested that the U.S. dollar was overvalued, fanning unwanted speculation of official devaluation.

As noted by Cairncross (1985), capital exports to the Sterling Area were not fully blocked until 1972.⁹⁵ As Cairncross' analysis highlights, even with the introduction of the 1947 Exchange Control Act there were capital outflows of £643 million, or a staggering 8% of GDP.⁹⁶ Reinhart and Sbrancia are silent on the actual effect of such controls.

Financial repression is comprised of many interrelated components and cannot be fully appreciated or understood through just the measurement of debt liquidation and the listing of a handful of policies of uncertain effect. In sum, while Reinhart and Sbrancia are the only authors to date to attempt to quantify the effects on debt of British financial repression in the post-Second World War period, their argument that Britain engaged in financial repression is not sufficiently supported. Questions remain over whether financial repression was a conscious policy choice, and what if any alternatives to financial repression did countries such as Britain possess. And with respect to the role of British banks, was moral suasion sufficient to enlist firms into aiding government? Or with the changing political climate and the departure after

⁹³ C261 p. 4, New York Federal Reserve Bank Archive, 10 February, 1947

⁹⁴ C261 p. 2, Letter from J. Burk Knapp of the Fed Board of Governors to Werner Knoke, New York Federal Reserve Bank Archive, 4 March, 1947

⁹⁵ (Cairncross, 1985, p. 119)

⁹⁶ (Cairncross, 1985, pp. 153-154)

twenty-four years of the powerful central bank personality of Montagu Norman, did corralling the City now require the imposition of new formalized edicts?

The remainder of the paper is structured around several of the core areas of the economy which play a role in debt sustainability and financial repression, including interest rates, capital controls, and institutions such as the Bank of England and the British banking system.

4.2 Interest rates

Low nominal and negative real interest rates are generally considered to be a hallmark of financial repression. However, the question of what precisely constitute a 'low' interest rate is unclear.⁹⁷ While there is considerable room for argument over what is and is not an artificially low interest rate there is less debate on the policies and forces that might contribute to low rates of interest paid by governments on public debt.

In the 1940s the UK government sought and secured what it at least considered to be low rates of interest on public debt. Known as 'cheap money', low interest rates had been advocated by Keynes as early as 1937 and was adopted as a cornerstone of wartime credit policy.⁹⁸ Britain's funding strategy during and after the war has been characterized as 'heavy government borrowing at a fixed rate of interest'.⁹⁹ Except for a brief fluctuation at the beginning of the war, the Bank of England's Bank Rate was maintained at 2% through 1951.¹⁰⁰ The long end of the yield curve was managed towards the goal of running 'a 3 percent war'.¹⁰¹

⁹⁷ For a discussion of the 'world interest rate' concept see (Barro & Sala-i-Martin, 1990; Blanchard & Summers, 1984; Chinn & Frankel, 2005; Koedijk et al., 1994; Lucas, 1990; Yi et al., 2001)

⁹⁸ (Skidelsky, 2000, pp. 22, 88) Keynes pushed for "permanently cheap money", saying "we must avoid (dear money)...as we would hell-fire" *The Times*, 12 January, 1937

⁹⁹ (Cairncross, 1985)

¹⁰⁰ (Fforde, 1992, p. 92; R.S. Sayers, 1981) Bank Rate had been lowered to the 2% level in 1931.

¹⁰¹ (R. S. Sayers, 1956)

The First and Second World Wars were financed at five and three percent rates of interest, respectively, and the Second World War's lower rate "prevented a threefold increase in the internal National Debt" from First World War levels while leaving the interest burden in 1945 comparable to what it was in 1919.¹⁰² Worswick and Ady (1952) explain this low rate of interest in financial repression terms by stating "so long as the expenditure of the private sector was limited by rationing and other controls, income recipients would have little else to do with a large part of their earnings but to lend it to the Government".¹⁰³ Debt service expense-to-GDP was roughly 8% and 6% following First and Second World Wars, respectively.¹⁰⁴

Forces that caused "the 'natural' rate of interest to be relatively high" in Britain included inflationary pressures, a low natural savings rate, and the need for capital expenditures.¹⁰⁵ Internal documents from the Bank of England support the view of scholars on the goal of low interest rates. For example, a Bank of England survey marked confidential and titled 'Developments in the Control of Credit in the United Kingdom' shared with the NYFRB on 25 September, 1952 describes how:

"low and stable levels of short-term interest rates, with consequently easy credit conditions, had its origin in the needs of war finance and was continued, and even increased, in the post-war period with the dual object of keeping down the cost of that national debt and of maintaining full employment by facilitating borrowing by industry *and public bodies alike.*" (*italics denote emphasis added*)¹⁰⁶

Post-war Chancellor of the Exchequer Hugh Dalton, who has been characterized simultaneously as the enemy of *rentier* and the friend of the speculator, was not content with the already historically low rates of interest.¹⁰⁷ Dalton sought a policy of even cheaper money from late-1945 through 1947, openly stating his objective to "bring down the long-term rate of

¹⁰² (Worswick & Ady, 1952, pp. 191-192)

¹⁰³ (Worswick & Ady, 1952, pp. 191-192)

¹⁰⁴ (Buiter 1985, p. 17 Figure 2)

¹⁰⁵ CV61 p.2, Mr. Klopstock to Mr. Sproul, 'The Cheaper –Money Policy in Britain – A Lesson for the United States"', New York Federal Reserve Bank Archive, 7 September, 1948

¹⁰⁶ C261A p. 1, New York Federal Reserve Bank Archive, 25 September, 1952

¹⁰⁷ (Paish, 1947, 1950)

interest".¹⁰⁸ In July 1947 Dalton told the House of Commons that "cheap money is to continue".¹⁰⁹ One financial instrument that played a key role in Dalton's effort to deliver lower interest rates was the Treasury Deposit Receipt (TDRs), a new wartime invention that allowed the Treasury to bypass the London money market and borrow directly from banks.¹¹⁰ TDRs were very unpopular with bankers as they were non-marketable instruments, meaning they could not be sold on the open market but instead only exchanged for a loss with the Bank of England's discount window. As noted by Worswick and Ady, "bankers would have welcomed a reduction in the volume of government indebtedness, especially of TDRs."¹¹¹

Rates on TDRs were originally 1-1/8 percent, a rate that Dalton in September 1945 slashed down by nearly in half to just 5/8 of a percent.¹¹² At the same time Dalton also cut the rate on T-Bills by a similar amount to 1/2 a percent. These two changes reduced the nominal interest burden on floating debt by approximately half. Dalton then moved to cut longer-term rates through a number of conversions and the floatation of several issues at a rate of 2.5%, including the Treasury Stock 1975 securities, which thereafter came to be non-affectionately referred to in banking circles as 'Daltons'.¹¹³

The intellectual inspiration behind the Daltons, including the original suggestion of the 2.5% rate, appears to be Keynes. In his *General Theory* Keynes stated that that a government could achieve its interest rate targets if it let the market determine the term structure.¹¹⁴ Keynes originally advocated that the Chancellor should announce that in no circumstance will

¹⁰⁸ C261D p.2, NYFRB Research Memorandum titled 'Notes on the Nationalization of the Bank of England', New York Federal Reserve Bank Archive, 19 October, 1952

¹⁰⁹ CV61 p. 6, Mr. Klopstock to Mr. Sproul, 'The Cheaper –Money Policy in Britain – A Lesson for the United States"', New York Federal Reserve Bank Archive, 7 September, 1948

¹¹⁰ (Howson, 1988; Worswick & Ady, 1952, pp. 212-213)

¹¹¹ Worswick and Ady (1952, p.198, 214)

¹¹² (Worswick & Ady, 1952) The authors provide two different rates for TDRs on pp. 198 and 214 of 5/8 and 7/8, respectively

¹¹³ (Worswick & Ady, 1952, p. 199)

¹¹⁴ (Booth, 1989, p. 157) In *The General Theory* Keynes also states "The remedy for the boom is not a higher rate of interest but a lower rate of interest! For that may enable the so-called boom to last. The right remedy for the so-called trade cycle is not to be found in abolishing booms and thus keeping us permanently in a semi-slump; but in abolishing slumps and thus keeping us in a permanent boom." (Keynes, 1936, p. 322)

he borrow at more than 2.5% so lenders have zero doubts that these are the best terms available for long-dated bonds. Skidelsky summarizes Keynes' position on how to achieve this interest rate as follows:

“In order to enforce this rate the market should be given ‘an increased amount of liquidity’ to prevent the ‘congestion of credit’, which Keynes had warned in 1938. To be effective these techniques would need to be buttressed by the following three elements: 1) Control of domestic capital issues, 2) Prioritizing the use of physical resources (rationing), and 3) an embargo on foreign lending (capital controls).”¹¹⁵

Keynes, however, later expressed that 3% was the appropriate rate at which the government should borrow to ensure demand and he personally opposed the issuance of Daltons.¹¹⁶ As the Daltons were floated on the market the value of longer-dated gilt issues began to soften. By the time Cripps replaced Dalton in November 1947 yields on Consols had climbed back up to 3%, and would climb further to 3.5% during 1949.¹¹⁷ Archival documents state that this climb in yields was “permitted” by the UK Treasury, which had “rigged” the Treasury bond market through the use of public departments to purchase UK public debt.¹¹⁸

The use of interest rate policy, through changes in the Bank of England's Bank Rate, was almost non-existent during the twenty years preceding the Tories return to power in 1951. Previously, Bank Rate had been raised at times when Britain's reserves were declining. Upon the mentioning of this idea as a possible means of addressing the 1949 devaluation crisis, Dalton stated “I say Montagu Norman walks again. I thought we had buried all this stuff about Bank Rate”.¹¹⁹ Keynes agreed with Dalton, adding that the “social and political climate would not permit a repeat of the *rentier*-friendly policy of the First World War”.¹²⁰ Skidelsky describes

¹¹⁵ (Skidelsky, 2000, pp. 24-25)

¹¹⁶ (Booth, 1989, p. 157)

¹¹⁷ (Worswick & Ady, 1952, p. 202) An increase in bond yields reflects a decline the market value of the bonds.

¹¹⁸ CV61 p.1, Mr. Klopstock to Mr. Sproul, ‘The Cheaper –Money Policy in Britain – A Lesson for the United States’’, New York Federal Reserve Bank Archive, 7 September, 1948

¹¹⁹ (Cairncross, 1985, p. 176) Douglas Jay, Economic Secretary to the Treasury, is also quoted to the same effect. Dalton couldn't see the point of higher interest rates because capital expenses “is not now determined by what people want but by what the government permits”.

¹²⁰ (Skidelsky, 2000, p. 69)

Keynes' "hatred of the *rentier*", which "was proof against economic arguments, because at bottom it was theological, not scientific. The bondholder in his mind was nothing but the medieval usurer, or Shylock, someone who sought to make a profit out of lending money."¹²¹

November 1951 saw the first sustained increase in the Bank Rate, which was increased from 2% to 2-1/2%. What followed was a fairly dramatic increase in yields across UK government debt, particularly short-dated issues, as well as private sector securities (Table 7). The effects of the increase on Bank Rate were seen most dramatically on the short-end of the government yield curve, with yields on UK short-dated debt more than doubling from 1.70% to 3.48% from October 1951 to July 1952. Yields on medium-term and the longer-term war loan did not see nearly as large a jump, increasing by 21% and 18%, respectively, which was approximately in-line with the rise seen in private sector securities.

¹²¹ (Skidelsky, 2000, p. 69)

Table 7: Average Yield of UK Securities, 1950-52

	Government Debt Securities			Industrial Securities	
	Short dated	Medium dated	3-1/2% War Loan	Debentures	Ordinary Shares
1950 Avg.	2.03%	2.99%	3.77%	4.07%	5.48%
1951 YTD Avg.	1.84	3.59	3.98	4.28	5.35
Oct. 1951	1.70	3.66	4.06	4.33	5.26
Nov.	1.97	3.78	4.18	4.50	5.76
Dec.	2.29	4.08	4.35	4.70	5.90
Jan. 1952	2.36	4.14	4.37	4.71	6.35
Feb.	2.41	4.17	4.42	4.77	6.43
Mar.	2.92	4.31	4.54	4.92	6.64
April	3.15	4.24	4.50	4.84	6.37
May	3.26	4.27	4.56	4.85	6.95
June	3.51	4.45	4.75	4.94	7.28
July	3.48	4.42	4.78	4.96	6.78
1952 YTD Avg.	3.01%	4.29%	4.56%	4.86%	6.69%
% Δ Oct 1951 to July 1952	105%	21%	18%	15%	29%

Source: CV261A p. 4, New York Federal Reserve Bank Archive, 25 September 1952

The ‘Daltons’ episode and other evidence appears to have demonstrated, to at least some degree, the existence of a ‘market floor’. In other words, if the British government offered debt at a nominal interest rate deemed too low by market participants, then the market was free to sell-off British debt in sufficient quantities to compel authorities to offer a higher yield on new bond issues. For example, the archival records go on to state that:

“Soon after the decline of gilt-edged prices early in 1947, the market became thin, nervous, and anemic. Any large offering that in previous years could have been easily absorbed caused digestive troubles and jumpy reactions”.¹²²

¹²² CV61 p. 4, Mr. Klopstock to Mr. Sproul, ‘The Cheaper –Money Policy in Britain – A Lesson for the United States’, New York Federal Reserve Bank Archive, 7 September, 1948

In October 1947 Dalton remarked that “the establishment of an effective 3 per cent gilt-edge yield is no more than a temporary lapse from the 2 ½ per cent objective”. However, Dalton would be proven wrong.¹²³

The effects of market forces on public debt markets also existed in the 1960s. A NYFRB study highlights how “the margin between (UK) Treasury Bill rates and other short-term rates is greater here than in the United States” (Table 8). This fact suggests that if financial repression was impacting interest rates in both countries the impact was less dramatic in the UK by the early 1960s.¹²⁴

Table 8: Comparison of UK and U.S. Interest Rates, September 1964

Instrument	United Kingdom	United States
Treasury Bills	5.50%	4.00%
Local Authority Deposits (UK) / Finance Paper (U.S.)	6.50%	4.25%
Finance House Deposits (UK) / CDs (U.S.)	7.00%	4.38%

Source: CV61A p. 8, New York Federal Reserve Bank Archive, 18 October 1965

The NYFRB study goes on to comment that in the UK the “market in local authority temporary money has provided foreigners, as well as domestic holders, with an attractive alternative to the Treasury bill”, and that “the local authorities are competing for institutional and private funds not only against the Government (with its higher credit rating), but also against the finance houses and each other”.¹²⁵ Those looking to put cash to work earning interest in London had “many more attractive outlets” than in the U.S.¹²⁶ By the late-1950s the London Eurodollar market generally offered banks the ability to earn interest at 4%.¹²⁷ The fact that rates in the UK private sector remained competitive and above public sector rates of interest on offer, and the

¹²³ CV61 p. 6, Mr. Klopstock to Mr. Sproul, ‘The Cheaper –Money Policy in Britain – A Lesson for the United States’’, New York Federal Reserve Bank Archive, 7 September, 1948

¹²⁴ CV61A p. 8, New York Federal Reserve Bank Archive, 18 October 1965

¹²⁵ CV61A pp. 11, 8. New York Federal Reserve Bank Archive, 18 October 1965

¹²⁶ CV61A p. 16, New York Federal Reserve Bank Archive, 18 October 1965

¹²⁷ CV61A p. 17, New York Federal Reserve Bank Archive, 18 October 1965

lack of compression between the different UK instruments compared to the U.S. marketplace, undermines claims that the UK interest rates operated under a regime of strict financial repression.

In sum, these findings are somewhat at odds with the portrayal of post-war British financial repression as a regime with absolute control over interest rates, or an era where investors had few investment options. Indeed, there was a significant spread in yields across a variety of different debt securities available for investment purposes. This evidence highlights the importance of distinguishing between different types and degrees of financial repression. In other words, while moral suasion and qualitative techniques may have encouraged banks to hold longer-term British debt, other economic actors in the UK had a variety of investment options outside low-yielding government securities.

4.3 Capital and exchange controls

Alongside low interest rates, capital controls are typically considered a cornerstone of financial repression.¹²⁸ As noted by internal archival discussions between the Bank of England and Federal Reserve, “the war has diminished confidence in paper currencies” and controls were seen as one means to “avoid the real danger of a breakdown or collapse of social institutions and political structure”.¹²⁹ The stringent controls imposed at the beginning of Second World War laid the groundwork for the Sterling Area.¹³⁰

An example of one policy designed to control the movement of capital was the requirement that permission from authorities be obtained prior to making any forex

¹²⁸ See (Aizenman, Gavin, & Hausmann; Alesina, Grilli, & Milesi-Ferrett, 1993; Alexander, Enoch, Baliño, & International Monetary Fund., 1995; Wyplosz, 1986, 2001) In recent times it has been suggested that low interest rates are the only requirement of financial repression as other mechanisms, such as *quantitative easing*, have replaced the need for stringent capital controls.

¹²⁹ C261 p. 1, Letter from Sproul to Knoke, New York Federal Reserve Bank Archive, 6 March, 1947

¹³⁰ (Capie, 2010, p. 146; De Vegh & Scudder Stevens & Clark., 1939) For a further description of the Sterling Area see (R. Harrod & Princeton University. Department of Economics and Sociology. International Finance Section., 1952)

purchases.¹³¹ Keynes argued against closing down the stock exchange stating that, with foreign exchange controls and a prohibition on new securities issuance, all savings would be accessible by the Treasury, thereby “making cheap borrowing easy” for the government.¹³² Indeed, in 1913 domestic industry only comprised 8% of issues quoted on the London Stock Exchange. However, the figure would rise to and remain over 90% from the late 1940s onward as capital exports “remain(ed) in the doldrums”.¹³³ Another element of British capital controls were the restrictions on foreign exchange on payments made outside the Sterling Area, which were imposed at the outbreak of war and maintained well into peacetime.

Following the conclusion of the war Keynes felt that “nothing is more certain than that the movement of capital funds must be regulated”.¹³⁴ The Bank of England initially sought to trace how so much sterling had wound up in foreign markets such as New York, and complex rules were established on how and by whom sterling could be exchanged for dollars.¹³⁵ The Exchange Control Act was passed in 1947, which had the effect of restricting some external loans as well as inward capital flows.¹³⁶ This act was not repealed until October 1979.¹³⁷ However, persistent capital leakages were an ongoing concern for policymakers in spite of controls. By April 1940 Keynes estimated leakages of £100M since the start of the war. U.S. dollars, which the Treasury was seeking to raise, were leaking through London’s allowance for non-residents to sell British securities for dollars. This caused Keynes to ‘go on the warpath’ to enforce capital controls; others in the Treasury were not in favour of action due to concern about the losses of foreign balances held in London.¹³⁸

¹³¹ (Cairncross & Eichengreen, 1983, p. 24)

¹³² (Skidelsky, 2000, p. 79)

¹³³ (Wilson, 1995, p. 188)

¹³⁴ (Skidelsky, 2000, p. 205) The Bank of England also favoured capital controls (p. 210)

¹³⁵ C261 p. 1, Bank of England letter to NYFRB’s Mr. Knoke, New York Federal Reserve Bank Archive, 7 December, 1945

¹³⁶ (Cairncross & Eichengreen, 1983, p. 22)

¹³⁷ (C. M. Reinhart & Sbrancia, 2011, p. 17)

¹³⁸ (Skidelsky, 2000, pp. 75-76)

As noted earlier in the paper during the discussion of the free gold market, there is some question as to the overall effectiveness of capital controls. Further, in certain areas the export of capital was not prohibited at all. For example, Sophisticated markets for 'free' sterling blossomed in New York and Switzerland. In addition, capital exports were allowed within the Sterling Area up until 1972 at which point exchange control was applied.¹³⁹ Dow (1964) estimates that 20% of capital outflows were due to the 'looseness' of controls (leakages).¹⁴⁰ The regulations and rules governing the Sterling Area and the movement of capital were, put simply, complex. Varying degrees of transferability of currency and different forms of sterling, many of which had unique exchange rates and separate rules about how the currency could be used, made for a confusing regulatory environment.¹⁴¹ As noted by the Federal Reserve Board of Governors, sterling's status varied from place to place, serving "as a hard currency for the Belgians but a soft currency for the Indians".¹⁴²

The British gold market was closed in the early stages of Second World War and did not officially reopen until 1954.¹⁴³ Regulation governed the export of gold, and British citizens residing permanently in Britain were prohibited from owning gold not made into jewellery. However, British citizens residing permanently in a country which does permit personal gold ownership (e.g., France) could own gold. During this period several London gold dealers established subsidiaries in Canada, Beirut, Hong Kong and South Africa while the London market was closed.¹⁴⁴ What is not entirely clear from a review of the literature and archival materials is what effect in practice the closure of the London gold market actually had on flows. In other words, if the British bullion banks – Rothschild, Mocatta and Goldsmid, et al – were still largely able to operate, as the NYFRB claimed, did the closure of the London gold market help

¹³⁹ (Cairncross, 1985, p. 119)

¹⁴⁰ (Dow & National Institute of Economic and Social Research., 1964, p. 24)

¹⁴¹ (Pick, 1953) Some of the many names given to the different versions of sterling include: cheap, free, overseas, external, black market, Handpayments, etc.

¹⁴² C261 p. 2, Letter from J. Burk Knapp of the Fed Board of Governors to Werner Knoke, New York Federal Reserve Bank Archive, 4 March, 1947

¹⁴³ (C. M. Reinhart & Sbrancia, 2011)

¹⁴⁴ (Green, 1968, p. 115) See also (Green, 1973, 1981)

achieve the British objective of minimizing the drain of gold reserves? These and related questions may warrant further research.¹⁴⁵

Britain was not alone in establishing greater control over capital and foreign exchange. Following the Second World War an elaborate set of financial restrictions, interest rate caps, and capital controls remained in effect in advanced economies until the 1970s-1980s, at which point widespread financial liberalization was pursued across much of the non-communist world. The UK had a higher degree of controls in place on its current account from 1950-1980 (Figure 1). Britain's degree of capital account openness fluctuated both above and below the sample average during this time (Figure 2).¹⁴⁶

¹⁴⁵ Unfortunately, a warehouse fire destroyed much of the archival material that was held by Rothschild about the London gold market during this period, so it is not clear what archival materials may exist.

¹⁴⁶ (Obstfeld & Taylor, 2004, pp. 160-171; D. Quinn, 1997; D. P. Quinn & Toyoda, 2008)

Figure 1: Current-account openness, 1950-2004

(100 = more open)

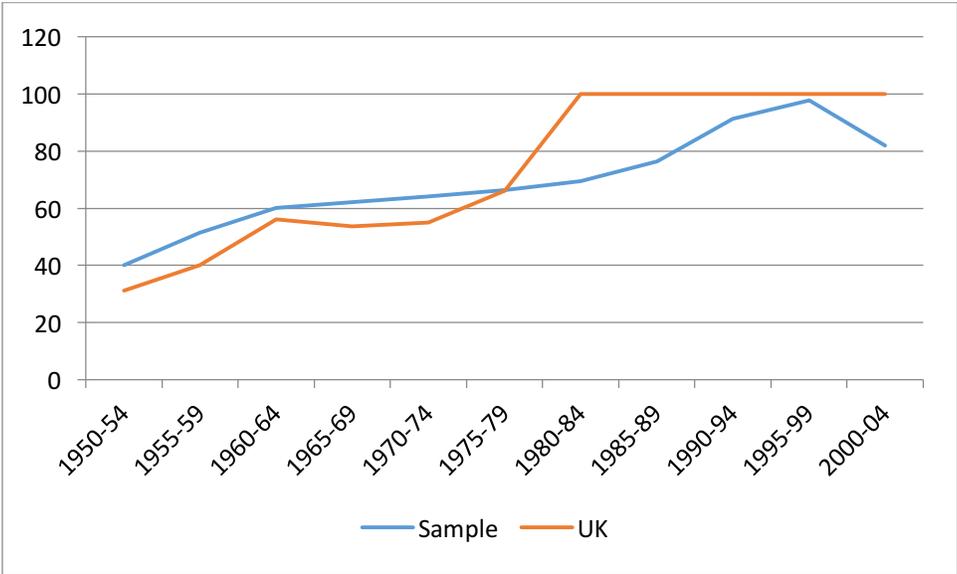
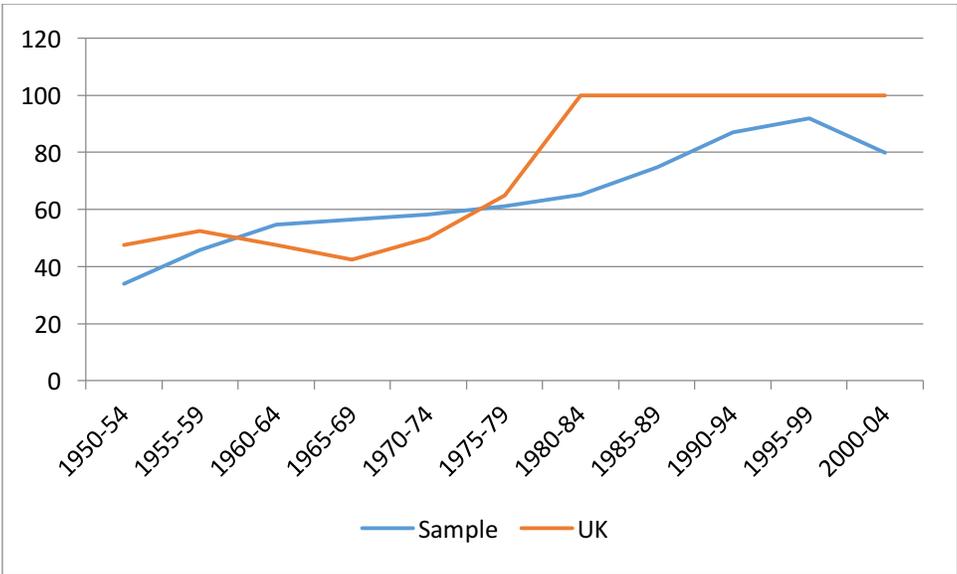


Figure 2: Capital-account openness, 1950-2004

(100 = more open)



Note: sample countries includes: Australia, Austria, Belgium, Denmark, Ireland, Italy, Finland, Germany, Greece, France, Japan, New Zealand, Netherlands, Portugal, Spain, Sweden, and Switzerland.

Sources: Quinn (1997), Quinn and Toyoda (2008)

4.4 Banking system

“The commercial banking system is to be fitted, as an integral part, into what promises to be a greater degree of central organization of the British economy than has ever existed in the past”.

-Anonymous, New York Federal Reserve Bank Archive¹⁴⁷

Before exploring the particulars of the role played by British banking in post-Second World War financial repression it useful to discuss the history and structure of the British financial system. On the whole, the British banking and financial system has proven comparatively stable.¹⁴⁸ While not immune from problems (e.g., the 1890 Baring’s crisis) the buoyancy of British banks compares favourably with other countries during periods of economic distress. For examples, in the 1930s U.S. banks failed *en masse* (thousands) while far fewer British banks failed (both in absolute total number and as a percentage of the number of banks in existence at the time).¹⁴⁹

Since the Barings crisis, the Bank of England had accepted financial responsibility for the principal merchant banks. The Bank was willing to buy merchant bank acceptances in the market without formal limit. Principal merchant banks held accounts at the Bank and were members of the Accepting Houses Committee (AHC), formed in 1914. All AHC members were a liability of the Bank of England, which assisted merchant banks in 1939 (as in 1931 and 1914) when standstills occurred. One further reason for the relative stability of British banks during this period was due to the structure of the British financial system, particularly the clear lines of demarcation between institutions that could engage in different financial functions. Restrictions kept discount, merchant and clearing banks out of each other’s lines of business.¹⁵⁰ It took the 1933 U.S. Glass-Steagall Act, which required that separate companies perform the

¹⁴⁷ CV61A p. 3, New York Federal Reserve Bank Archive, 1946

¹⁴⁸ (Fforde, 1992, p. 749)

¹⁴⁹ (Bemanke & James, 1991, pp. 51-55; Grossman, 1994; Wicker, 2001)

¹⁵⁰ (Capie & City University. Centre for Banking and International Finance . Centre for the Study of Monetary History., 1987; D. T. Llewellyn, 1985; David T. Llewellyn, 1985, p. 10) See also (Fforde 1992, p. 758)

function of managing deposits, investment banking, and insurance, to create what already informally existed in Britain.

Did the greater relative financial stability enjoyed by the British banking system go hand-in-hand with having an oligopolistic banking industry? The British banking 'cartel', as it has been sometimes referred, formed in the late 19th century and has further consolidated through the present day.¹⁵¹ While the Bank of England stepped in to arrange mergers (e.g., Governor Norman's coordination of the merger between the Royal Bank of Scotland and Williams Deacons Bank), mergers and further industry consolidation by London's Big Five clearing banks was eschewed by the Bank of England given the oligopolistic nature of British banking.¹⁵² The Bank of England certainly took the view that low competition, while reducing efficiency, led to higher stability.

The Bank of England also found it easier to deal with a relatively small number of banks, which may have played an important role in the state's ability to influence the composition of bank balance sheets. Indeed, an archival document from an NYFRB study shows how a much greater share of UK Treasury Bills are held by the UK banking system as compared to the United States banking system.¹⁵³ The study goes on to discuss how by this time UK Treasury bills "now fulfil the function once performed by commercial bills" as a means for British banks to convert liquid assets into cash, underscoring the importance in the shift from private instruments of credit to public credit in bank operations and the London bill market. However, there was arguably a trade-off between stability and lower efficiency, which can be seen in the relatively high cash/deposit and liquidity ratios of 8% and 28-30%, respectively.¹⁵⁴

¹⁵¹ (Strange & Royal Institute of International Affairs., 1971, p. 162)

¹⁵² (Capie, 2010, p. 327) The Big Five London Clearing banks during this time were: Midlands, Barclays, Lloyds, National Provincial and Westminster.

¹⁵³ This was true in spite of the fact that the UK and U.S. Treasury bills "fundamentally alike" in structure CV61A p. 1, 18 October 1965, New York Federal Reserve Bank Archive

¹⁵⁴ (Capie et al., 1992, p. 69)

The ‘special relationship’ between the Bank of England and London’s clearing banks allowed their profits and losses to be kept from the public (as well as the Bank of England).¹⁵⁵ As noted by Fforde (1992):

“The special relationship with the bank was far more than that of supervisor and supervised. It is unlikely that those words were ever used. It was more like a relationship between partners, each possessing some degree of control over the other. It was all very informal.”¹⁵⁶

British banks were given a special degree of latitude by their regulator, the Bank of England, in the form of practices such as the maintenance of hidden reserves.¹⁵⁷ The hidden reserves of British banks cloud the question of what precisely were bank profits during this period, and some questionable claims are found in the literature regarding British bank profitability. For example, Worswick and Ady (1952) describe bond dealings for banks as “highly profitable”.¹⁵⁸ However, they do not provide sufficient details on how the effects of inflation may have eroded the real value the bonds held by British banks.

Flexible arrangements on disclosure and liquidity, along with restrictions on competition and somewhat guaranteed market share, could help explain why banks acquiesced to the substantial reduction seen in the value of their public debt holdings. For example, in the post-war period the deposit reserve ratio for UK banks was relaxed from 10% of deposits required to be kept in notes and coin in reserve to just 8%.¹⁵⁹ British banks did not closely adhere to the defined minimum requirement that 30% of British bank liabilities be held in ‘liquid’ assets such as Treasury bills, commercial bills, and Treasury deposit receipts.¹⁶⁰ Further examination of rates on deposits at British banks could be useful. As noted by Reinhart and Reinhart (1999), “banks pass the reserve requirements component of the financial repression tax on to depositors via

¹⁵⁵ (R. S. Sayers, 1976, pp. 552-560)

¹⁵⁶ (Fforde 1992)

¹⁵⁷ (Capie, 2010, pp. 445, 591; Capie et al., 1992, pp. 68-69)

¹⁵⁸ (Worswick & Ady, 1952, p. 215)

¹⁵⁹ C261A p. 1, New York Federal Reserve Bank Archive, 25 September, 1952

¹⁶⁰ C261A p. 1, New York Federal Reserve Bank Archive, 25 September, 1952

lower deposit rates and/or non-government borrowers via higher lending rates. This mix between the two depends upon which has access to more alternatives".¹⁶¹

Significant change came to the Bank of England in the mid-1940s. First, in 1944, after serving for 24 years, Governor Montagu Norman stepped down at age 72. Then in August 1946, the era of bank regulation referred to as the "the world of the 'Governor's eyebrows", came to an end when the 'Old Lady of Threadneedle Street' was nationalized under the Bank of England Act.¹⁶² As noted by Fforde (1992), the Bank's:

"relations with Whitehall and the City were clear enough in broad outline, but often informal, unmodified, and uncertain on the margins. Maintenance of the authority of the Bank, together with control over the direction in which it moved, therefore depended unusually on the supremacy of the Governor."¹⁶³

This informal arrangement changed when controversial clauses 4(3) and 4(4) of the nationalization act were adopted, which formalized the Bank's relationship with Treasury. Where previously the Bank had employed moral suasion, clause 4(3) gave the Bank, with the approval of the Treasury, explicit power to govern the proportion of commercial bank assets.¹⁶⁴ The formalization of this power and the addition of the Treasury in the decision making framework on the mix of assets banks would hold can be viewed as a significant advancement of financial repression. One of the core elements of financial repression is the ability for government to mandate the composition of firm balance sheets to ensure the government debt is held, and clause 4(3) and 4(4) formalized the government's authority in this regard. These sections allowed the Treasury to:

¹⁶¹ (C. Reinhart & Reinhart, 1999)

¹⁶² (Capie, 2010, p. 590)

¹⁶³ (Fforde, 1992)

¹⁶⁴ (Fforde, 1992, p. 7)

“request information from and make recommendations to bankers, and may, if so authorized by the Treasury, issue directions to any banker for the purpose of securing that effect is given to any such request or recommendation.”¹⁶⁵

Indeed, statements from both the Midlands and Westminster bank chairmen condemned the adoption of clause 4(3) and represent one of the only instances found in the literature of an objection to British financial repression policies by bankers.¹⁶⁶ However, it was stated that “certain safeguards to bankers and customers are provided for”, such as the “right of bankers to make prior representations with the Bank of England and the Treasury before the ‘directions’ are issued to them”.¹⁶⁷ A note in the New York Federal Reserve archives records a quote summarizing Dalton’s view on the new power hierarchy between British banks and the government: “in the last resort...as a matter of principle, if there be a serious case of conflict or challenge, the Bank of England must be master and the leader of the clearing banks”.¹⁶⁸ As noted by Worwick and Ady, “thus the banking system was a useful instrument in the hands of a determined Chancellor.”¹⁶⁹

What ultimately was the impact of the new Bank of England control clauses and nationalization? There are references to the government’s share of the overall business handled by banks increasing significantly following the war.¹⁷⁰ It is unclear how much the establishment of this clause impacted bank assets.¹⁷¹ The literature only addresses the process which led to the Act’s passage, and Worwick and Ady state “no instance of its use has been publicized”.¹⁷² In contrast, archival evidence points to significant influence by the UK Treasury on bank balance sheets. For example, the previously cited 1952 Bank of England study on credit control states that the banks:

¹⁶⁵ C261D pp. 19, NYFRB Research Memorandum titled ‘Notes on the Nationalization of the Bank of England’, New York Federal Reserve Bank Archive, 19 October, 1952

¹⁶⁶ (Fforde, 1992, p. 7)

¹⁶⁷ C261D pp. 19, NYFRB Research Memorandum titled ‘Notes on the Nationalization of the Bank of England’, New York Federal Reserve Bank Archive, 19 October, 1952

¹⁶⁸ CV61A p. 3, New York Federal Reserve Bank Archive, 1946

¹⁶⁹ (Worwick & Ady, 1952, p. 217)

¹⁷⁰ (Institute of Bankers., 1949)

¹⁷¹ (Fforde, 1992) See Ch. 1 (pp. 1-30)

¹⁷² (Worwick & Ady, 1952, p. 218)

“made every effort to comply with the requests of successive Chancellors of the Exchequer that credit should, as in war-time, be granted only for essential purposes, which in the post-war period, were to be judged in the light of the criteria laid down from time to time for the guidance of the Capital Issues Committee. Thus, though the weapons of quantitative control of bank credit could not be used, a broad qualitative control was maintained.”¹⁷³

This qualitative control on bank lending was supplemented with the reintroduction of quantitative measures in November 1951, namely the first sustained increase in Bank Rate in nearly 20 years (from 2% to 2-1/2%).¹⁷⁴ The return to quantitative measures was in part driven by the fact that the “efficacy” of qualitative means of controlling bank balance sheets “was limited, in spite of the cooperative attitudes of the banks”.¹⁷⁵

From the literature there is also a discussion of pressure on banks to support government bonds. For example, new discount houses appear to have been forced to take on a new role of holding government debt.¹⁷⁶ The aforementioned Treasury Deposit Receipts (TDRs) were also unpopular among bankers.¹⁷⁷ UK banks were required to maintain a certain ratio of liquid assets that included Treasury bills, which contrasted with U.S. banks that only had to keep cash and deposits (but not government debt) with the Federal Reserve.¹⁷⁸

How much of this represented a change from the past is not entirely clear. For some time prior to nationalization the Bank of England was described by some as “little more than a handmaiden of the Treasury”.¹⁷⁹ During the Second World War British banks took on all

¹⁷³ C261A p. 2, New York Federal Reserve Bank Archive, 25 September, 1952

¹⁷⁴ C261A p. 2, New York Federal Reserve Bank Archive, 25 September, 1952

¹⁷⁵ C261A p. 2, New York Federal Reserve Bank Archive, 25 September, 1952. The memorandum goes on to note that “the generous compensation to be given to private owners of present (Bank of England) stock, have also done much to dampen opposition of the Bill”.

¹⁷⁶ (Worswick & Ady, 1952, p. 215) “It was made clear that as long as they were prepared to act as genuine jobbers - that is, to buy to capacity on falling markets - the authorities would support their liquidity.”

¹⁷⁷ (R. S. Sayers, 1953)

¹⁷⁸ Source: CV61A p. 20, New York Federal Reserve Bank Archive, 18 October 1965

¹⁷⁹ Source: CV61 p. 1, Research Memorandum on the ‘Pros and Cons of Bank of England Nationalization’, New York Federal Reserve Bank Archive, 22 December 1945

government debt not purchased by the public. British banks' advance ratio (the % of assets allotted to loans and overdrafts) dropped from the peacetime level of 50% to 15%, indicating a large shift away from private sector loans in favour of government debt. The advance ratio did not return to the peacetime level as quickly as it had after First World War, taking until the 1960s for the ratio to return to 40%.¹⁸⁰ A shift by banks away from private sector loans in favour of government debt is a common feature financial repression policy. The banks could discount their T-bills with the Bank of England for any cash that was needed, and by war's end Britain's money supply had doubled.¹⁸¹

After the war British banks were swimming in liquidity with large deposit bases and liquid assets, and the comparatively high level of liquidity possessed by the banks persisted well into the 1950s.¹⁸² The Dalton policy of 'cheap money' initially led to a rise in the value of stocks and gilts.¹⁸³ However, bond prices did decline later by a significant margin following the introduction of the 2.5% 'Daltons'. The clearing banks in particular were required to keep on their balance sheets a large percentage of government securities due to the "subjugation of bank behaviour to the perceived greater needs of government finance".¹⁸⁴ After the war, banks were trying to rebuild their advances-government debt ratio. At the same time authorities were trying to sell more debt and cap and or slow growth in bank advances.¹⁸⁵ For example, archival documents describe a UK government "funding operation" in November 1951, supported by the banks and "important overseas holders of Treasury Bills", whereby £1 billion in UK Treasury Bills were exchanged for 1-3/4% Serial Funding Stock maturing in 1952, 1953, and 1954.¹⁸⁶ The effect of this funding operation was to "sharply" reduce the liquid assets of the clearing banks so that "should the need arise" the banks clearing banks "would be relatively susceptible to pressure" by the Bank of England on the composition of their balance sheet.

¹⁸⁰ (Capie et al., 1992, p. 64) Ratio of advances to total assets at commercial banks in the late 19th century were 60%, 50% in the interwar period, and 16% in 1944.

¹⁸¹ (Fforde, 1992, p. 7)

¹⁸² (Capie et al., 1992, p. 64)

¹⁸³ (Worswick & Ady, 1952, p. 194)

¹⁸⁴ (Capie et al., 1992, pp. 67-68)

¹⁸⁵ (Capie, 2010, pp. 80-81)

¹⁸⁶ C261A p. 5, New York Federal Reserve Bank Archive, 25 September, 1952

There is a large academic literature on London's banks. However, there is very little to no discussion of the policies or sentiments often associated with financial repression in the banking literature covering this period. For example, Burk's (1989) history of Morgan Grenfell, a leading Anglo-American merchant bank, focuses on personalities and transactions, but does not reference financial repression.¹⁸⁷ The same is true of Sayers' (1968) study of Gillets, which includes the years 1945-51.¹⁸⁸ While this absence of financial repression from the literature may in part be due to the fact that many of the histories on British banks were 'official', the private diaries of British merchant banker Siegmund Warburg also do not mention financial repression.¹⁸⁹ One notable exception to the silence from bankers occurred in January 1947, when the chairmen of the Big Five clearing banks urged in their annual letters an end to Dalton's policy of 'cheap money'.¹⁹⁰ However, the general absence of discord raises questions. British banks would hold large quantities of British bonds well into the post-war period (Table 9), and in the UK "a much higher proportion of the total outstanding [Treasury bills] is in the hands of the banking system (including discount houses) than it is in the United States".¹⁹¹

Table 9: Institutional Comparison of UK and U.S. Treasury Bill Holdings, 30 September 1964

Sector	United Kingdom	United States
Commercial banks and discount houses	50%	27%
Foreign holders	42%	19%
Other holders	8%	54%
Total	100%	100%

Source: CV61A p. 10, New York Federal Reserve Bank Archive, 18 October 1965

¹⁸⁷ (Burk, 1989)

¹⁸⁸ (R. S. Sayers, 1968)

¹⁸⁹ (Ferguson, 2010)

¹⁹⁰ (Worswick & Ady, 1952, p. 201) Another example of protest was the earlier noted comments by the chairmen of Midlands and Westminster condemning clause 4(3) in the Bank of England Act (Fforde, 1992, p. 27).

¹⁹¹ CV61A p. 10, New York Federal Reserve Bank Archive, 18 October 1965

As noted earlier, the real value of British bonds experienced a steady and substantial decline following Second World War. One would expect that the post-Second World War liquidation of the value of British debt of perhaps unprecedented proportions to generate at least a mention in passing from bankers, which in turn would be picked up in the historical literature. How can this apparent paradox be explained? It is hard to imagine that British banks were not aware of the fact that the real value of their British debt holdings was being eroded.

There are at least four possibilities that could explain the paradox behind the existence of British financial repression and the absence of mention in the literature and and by financiers: a) historical research to date has simply overlooked this aspect of British financial history; b) British banks found a way to mitigate the effects of financial repression; c) a financial repression bargain, so to speak, existed between the banks and the authorities; d) financial repression's effects were small enough, and stretched out over sufficient time, to escape protest. It is tempting to speculate that the latter two explanations are correct based what later happened to British banking. The merchant banks were considered to be the *crème de la crème* of the London banks. However, once London's financial deregulatory 'Big Bang' occurred most of London's merchant banks ceased to exist as independent going concerns over the next several years. Of the original merchants banks only Rothschild has remained an independent entity.¹⁹² Merchant banks had been sheltered and simply found they were no longer competitive in a globalized financial market.

4.5 Directed lending

Directed lending is a common feature of financial repression, and British government departments such as the National Debt Commissioners and the Post Office Savings Bank were directed to support Treasury bond auctions and the overall government bond market. Other agencies that supported government debt markets included the trustee savings banks, the

¹⁹² Kleinwort was bought by Dresdner. S.G. Warburg was purchased by Swiss Bank Corp. (now Credit Suisse). Morgan Grenfell was bought by Deutsche Bank. Schroeder's was purchased by Citibank. Hambros was sold to Société Générale in 1998. Barings failed in 1995.

social insurance funds, the Exchange Equalization Account and the Issues Department of the Bank of England.¹⁹³ These departments were often used to support conversions through advance buying of the security to be converted, thereby helping to ensure a successful conversion.

Dalton orchestrated directed lending operations with the goal of managing interest rates. Low interest rates were effected by swapping higher interest rate long-term term debt with lower interest rate short-term debt, as well by underwriting new lower-interest rate issues.¹⁹⁴ Both Worswick and Ady (1952) and Cairncross (1985) briefly discuss these operations. However, Cairncross described them as “rumour”, while Worswick and Ady refer to the departments as the “Treasury’s creatures” that were “taking up the slack on those issues which the public would not take”.¹⁹⁵ While these operations were originally concealed from the public archival documents reveal the extent of these operations.¹⁹⁶ A New York Federal Reserve report cites another report by a Mr. Bloomfield titled “Interest Rate Policy in Great Britain- 1945-48” that describes the effects of British directed lending as follows:

*“2 ½ per cent Consols under the impact of vigorous buying by the public departments had risen by November 1946 to within a point of parity, the highest level in 44 years, and the market had been sufficiently ‘rigged’ to permit the issue at part of a 2 ½ per cent Treasury stock redeemable after 1975 at the Treasury’s discretion” (the ‘Daltons’).*¹⁹⁷

Comparing non-bank private sector institutions in the U.S. and UK, we see that in 1963 that U.S. non-bank private sector institutions held a much larger portion of their short-term assets in Treasury Bills than in the UK (

¹⁹³ (Worswick & Ady, 1952, p. 197)

¹⁹⁴ (Worswick & Ady, 1952, p. 197)

¹⁹⁵ (Cairncross, 1985, pp. 432-433; Worswick & Ady, 1952, pp. 196-198, 215)

¹⁹⁶ (Worswick & Ady, 1952, pp. 197, 202) Worswick and Ady also stated that it is possible to make a back-door calculation by monitoring credit creation, particularly the increase of deposits. They also note that the activities of the departments declined under the Cripps Chancellorship.

¹⁹⁷ CV61 p.1, Mr. Klopstock to Mr. Sproul, ‘The Cheaper –Money Policy in Britain – A Lesson for the United States’’, New York Federal Reserve Bank Archive, 7 September, 1948

Table 10).

Table 10: Private Sector Institutional Comparison of UK and U.S. Treasury Bill Holdings, % of Total Short-term Assets held in Treasury Bills, 1963

<u>Sector</u>	<u>United Kingdom</u>	<u>United States</u>
Insurance companies	2%	10%
Corporate pension funds	1%	40%
Mutual banks	0%	18%
Savings banks	0%	12%

Source: CV61A p. 8, New York Federal Reserve Bank Archive, 18 October 1965

U.S. companies were generally considered to be much more ‘liquid’ than their UK counterparts, with current assets of 40% and 22%, respectively. UK private sectors insurance companies, when asked by the Radcliffe Committee to explain this preference for longer-term securities, stated:

“We do not want to have securities that turn over too rapidly or too frequently, such as bills or short-dated investments; we would rather have something which is going to be there for a reasonable period of time, for purely administrative reasons”.¹⁹⁸

How should we interpret the preference on the part of British insurance and pension organizations for not holding UK Treasury bills, even though as the NYFRB study puts it “it might have paid them to do so”? The NYFRB ascribes a partial explanation to “habit” on the part of British insurance and pension schemes. Perhaps this and the previous explanation evidenced in the above quote from the insurance sector do explain in part the peculiar preference for preferring to earn a lower yield. However, given the active role of government in the management of UK economic affairs in the post-war period, questions abound over whether some degree of moral suasion on the part of the authorities could play a role in these preferences.

¹⁹⁸ Committee on the Working of the Monetary System (Radcliffe Committee), Question 7092. UK National Archives, 1957-59

Other significant differences can be seen between the UK and U.S. Treasury bill holdings in other sectors of the economy (Table 11 and Table 12). UK non-financial corporations held just 8% of the UK Treasury bill market compared to the 18% held by equivalent U.S. firms. However, UK local authorities held just 0.1% of the UK Treasury bill market and so would not appear, at least as of 1964, to have been a party to directed lending schemes.

Table 11: UK % of Total Treasury Bill Market Held by Sector, 30 September 1964

Sector	£s millions	% of T-bill market
Local authorities	£3	0.1%
Insurance	3	-
Trustee savings	2	-
Private sector pension funds	-	0.1%
Other non-bank financial institutions	3	0.2%
Non-corporate bodies (Public Trustee)	5	0.1%
Non-financial corporations	4	7.7%
Total	£229	8.3%

Source: CV61A p. 12, New York Federal Reserve Bank Archive, 18 October 1965

Table 12: U.S. % of Total Treasury Bill Market Held by Sector, 30 September 1964

Sector	£s millions	% of T-bill market
State and local governments	£1,940	12%
Insurance	200	1%
Mutual savings banks	120	1%
Savings & loans	240	1%
Corporate pension trust funds	290	2%
Non-financial corporations	2,830	18%
Misc. (including non-bank security dealers)	3,017	19%
Total	£229	54%

Source: CV61A p. 12, New York Federal Reserve Bank Archive, 18 October 1965

The 1964 NYFRB study remarks on how the institutional holdings of UK (and U.S.) Treasury bills has remained consistent “over the last four years, even though there has been an increase in

alternative outlets (for earning interest) outside the public sector”, particularly the time certificate of deposit.¹⁹⁹

4.6 Inflation

Financial repression can be effective without inflation by simply reducing the level of nominal interest expense on public debt.²⁰⁰ However, inflation often accompanies financial repression, and it need not be significant to have a material impact on debt sustainability over an extended period of time. Further, small differences in the rate of inflation can have a significant impact over time on the value of public debt, as well as determining the number of years or periods which can be labelled as periods of ‘debt liquidation’.

Other than the World Wars and their immediate aftermath, the first half of the 20th century in Britain was marked by very little inflation.²⁰¹ As the Second World War commenced Keynes argued against what he called the ‘old-fashioned laissez-faire solution of inflation’ as a means of paying for the war.²⁰² In a section of *How to Pay for the War* covering inflation during the period surrounding first great conflict of the 20th century, Keynes wrote:

“But what a ridiculous system with wages and prices chasing one another upwards in this manner! No one benefited except the *profiteer*. The seeds of much subsequent trouble were sown. And we ended up with a National Debt vastly greater in terms of money than was necessary and very ill distributed through the community.”²⁰³

Much of Keynes’ pre- and early-war policy efforts were spent advocating against the government’s use of inflation as a means of financing the war.²⁰⁴ Whether or not Keynes

¹⁹⁹ CV61A p. 17, New York Federal Reserve Bank Archive, 18 October 1965

²⁰⁰ (C. M. Reinhart & Sbrancia, 2011)

²⁰¹ (Capie et al., 1992, p. 63) In fact much of the interwar period was marked by deflation.

²⁰² (Keynes, 1940, p. 70; Skidelsky, 2000, p. 63) Keynes: “An individual by saving more cannot protect himself from the consequences of inflation if others do not follow his example.”

²⁰³ (Keynes, 1940, p. 73) Also, in the chapter titled ‘Can the Rich Pay for the War?’, Keynes argues that the rich would be the relative beneficiaries of inflation. (p. 21)

²⁰⁴ (Skidelsky, 2000, p. 55)

intended to remain staunchly anti-inflationary after the war is unclear as he was often criticized during this period for 'making up theory on the hoof'.²⁰⁵

Somewhat surprisingly, deflation was reported by some to be as great a concern as inflation both during the war and the post-war period.²⁰⁶ However, as with many other wars inflation climbed during the Second World War, with retail prices increasing on average by 6.3% annually.²⁰⁷ There is some dispute in the literature on the level of inflation during the war (and afterward) with Cairncross' estimating 50% inflation during the Second World War.²⁰⁸ Inflation in the Second World War was approximately half that of the First, with Woodward (1991) claiming that this "relative success" was achieved through "much less dependence on borrowing and more concerted effort to reduce consumption through increased taxation".²⁰⁹ Rationing was deemed crucial to making price controls effective.²¹⁰ A variety of measures were employed to manage demand, prices, costs, and overall inflation pressure, including price controls, subsidies, standardization schemes, and quality controls. Such measures could perhaps be considered as elements that supported financial repression, but they generally fall outside of the definition of financial repression.

Another hallmark of financial repression is a relatively high savings rate in spite of low interest rates and or inflation due to few (if any) investment or spending alternatives.²¹¹ Average weekly wages from 1940-1945 increased by a rate of 5% per year, lagging slightly behind price increases. Woodward (1991) speculates that trade unions, which had a strong wage bargaining position due to low unemployment, exercised wage restraint due to both sympathies for the war effort and their inclusion in war administration. Paradoxically, the

²⁰⁵ (Skidelsky, 2000, p. 23)

²⁰⁶ (Dow & National Institute of Economic and Social Research., 1964, p. 10) The White Paper on Employment Policy (Cmd. 6527, 1944) warned of deflation.

²⁰⁷ (Cairncross, 1985; Crafts, Woodward, & Duckham, 1991, p. 189; Mitchell, 1975) Wholesale prices during this period rose by 8.8% annually.

²⁰⁸ (Cairncross, 1985, pp. 14-15)

²⁰⁹ (Crafts et al., 1991, p. 190)

²¹⁰ (Capie, Pradhan, Wood, & City University. Centre for the Study of Monetary, 1986; Capie & Wood, 2002)

²¹¹ (McKinnon, 1973; Shaw, 1973)

savings rate also grew during this inflationary period of declining real wages to 15%.²¹² However, this is revealed to be less surprising given rationing and other restrictions on purchases both during and after the war.²¹³

Woodward (1991) claims that post-Second World War (1945-1950) inflation averaged 4.3% per year, ranging between 3-7% annually.²¹⁴ Real wages were unchanged through 1951 but real earnings increased by 10%.²¹⁵ In 1948, 30% of consumption was rationed; by 1950 only 11%. In 1947 83% of UK raw materials were under some degree of official control; by 1950 the figure had declined to 47%.²¹⁶ Woodward also states that for this period “at no time was there a return to the excess of 1919-20”, when annual inflation ran at 21.5% and 24.8%, respectively.²¹⁷ However, other research suggests that actual post-war inflation was significantly higher than nationally reported figures used by Woodward and Richard (2002), particularly if one adds the early 1950s into the analysis when inflation approached post-First World War levels.²¹⁸

Cairncross (1985) notes that the official Cost-of-Living index, based on pre-First World War estimates, was “far from being a true measure of the change in the value of money”.²¹⁹ Woodward also stated “in the early post-war years controls were deliberately used to contain demand pressures and to prevent the prices of a number of key commodities from rising rapidly. However, from 1947 onwards the controls were gradually relaxed, and had more or less disappeared with the change in government in 1951”.²²⁰ While it is true that price and demand controls were largely removed by the early 1950s, Woodward says nothing of financial controls, such as those on foreign exchange conversion and other restrictions, which may have played a

²¹² (Cairncross, 1985, pp. 13-14)

²¹³ (Zweiniger-Bargielowska, 2000)

²¹⁴ These figures are in-line with Richards (2002) more recent numbers.

²¹⁵ (Cairncross, 1985, p. 18)

²¹⁶ (Cairncross, 1985, p. 23)

²¹⁷ (Richards, 2002, p. 15)

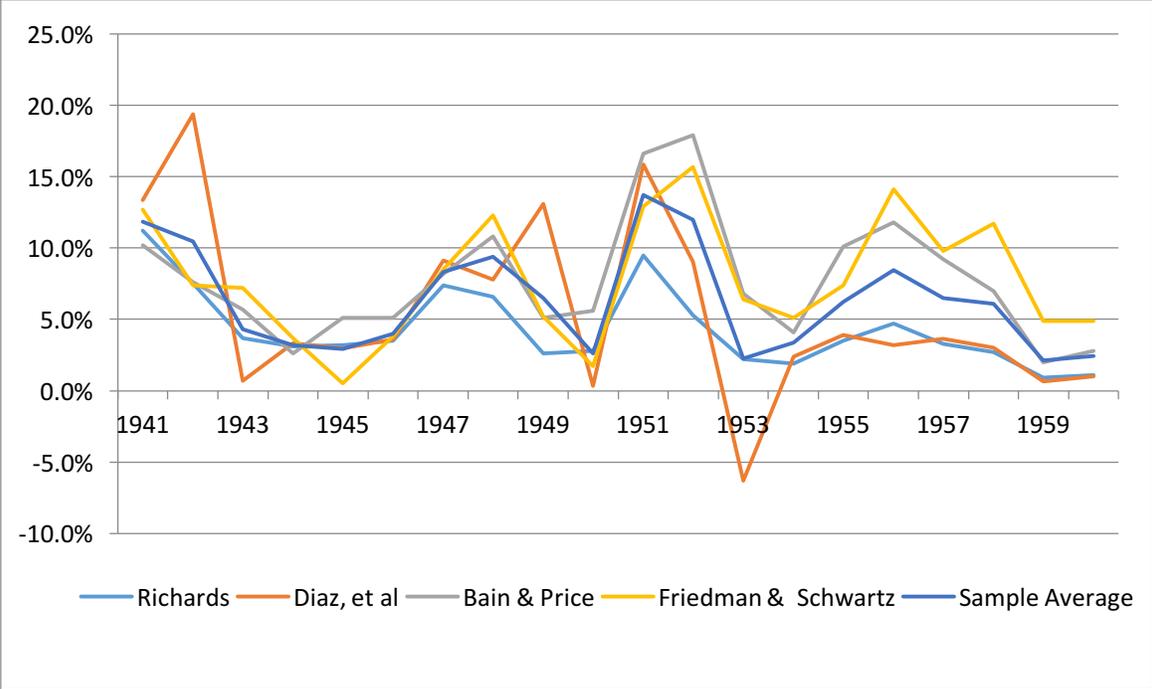
²¹⁸ (Díaz, Lüders, & Wagner, 2003; Feinstein, 1972; Friedman & Schwartz, 1982; Price, 1988; Wiles, 1952)

²¹⁹ (Cairncross, 1985, p. 39)

²²⁰ (Crafts et al., 1991, p. 191)

significant role in suppressing inflation during this time.²²¹ The growing conflict on the Korean peninsula in 1950-51 is largely credited with the spike in inflation during this period. The cost of rubber tripled, wool and cotton doubled, and numerous other commodities went up in price by 50%.²²² The various inflation series found in the literature are presented in Figure 10 and Table 21.

Figure 3: UK Inflation (Retail Prices), Annual Percentage Change, 1941-1960



Sources: Diaz, Luders and Wagner (2005) Richards (2002), Friedman and Schwartz (1982), Price and Bain (1988)

The smallest and largest variance in the range of values for any given year during this period are 1.6% and 10.5% for the years 1946 and 1949, respectively. Overall, given the wide variation in inflation estimates for this period it may be more accurate to utilize a range of inflation estimates for calculating debt liquidation.

²²¹ (Crafts et al., 1991, p. 191) Woodward argues the post war Labour Government used its close relationship with the trade union movement to exercise wage restraint; 1948 was the year of the first voluntary income policy, which insured wage increases were kept well below inflation.

²²² (Dow & National Institute of Economic and Social Research., 1964, p. 55)

Table 13: UK Inflation (Retail Prices), Annual Percentage Change, 1945-1951

Year	Richards	Diaz	Bain & Price	Friedman & Schwartz	Sample Average	Range High-Low*
1945	3.2%	3.0%	5.1%	0.5%	2.9%	4.6%
1946	3.5%	3.6%	5.1%	3.8%	4.0%	1.6%
1947	7.4%	9.1%	8.2%	8.5%	8.3%	1.7%
1948	6.6%	7.8%	10.8%	12.3%	9.4%	5.7%
1949	2.6%	13.1%	5.1%	5.2%	6.5%	10.5%
1950	2.8%	0.3%	5.6%	1.7%	2.6%	5.3%
1951	9.5%	15.9%	16.6%	12.9%	13.7%	7.1%
Annual Average	5.1%	7.5%	8.1%	6.4%	6.8%	5.2%

*Note: the difference between the highest and lowest estimate each year.

Sources: Diaz, Luders and Wagner (2005) Richards (2002), Friedman and Schwartz (1982), Price and Bain (1988)

5 Conclusion

This paper has shown that opportunities exist for improving both our quantitative and qualitative understanding of financial repression through an in-depth examination of British mid-20th century financial repression. Further research is necessary on who were the winners and losers of low interest rates. Worswick and Ady (1952) state that low interest rates in the UK may have caused a "redistribution from the smaller to the larger *rentier*".²²³ However, little to no quantitative evidence is presented to support this claim. There is also the question of the knock-on effects of low interest rates on the British economy and financial system. During the post-war years "an unduly large proportion of world trade had come to be financed in London in order to take advantage of the low interest rates".²²⁴ But how much did this inflow of funds for trade finance further destabilize the fragile balance in Britain, with its high-debt and overvalued currency?

Further research is also necessary to understand the trade-offs between the negative consequences of financial repression, such as its impact on economic growth, and its potentially positive features, such as buttressing the financial system. In addition to promoting financial stability, financial repression can help achieve debt sustainability. Contrary to what its name implies, financial repression may on occasion be an appropriate policy. It may therefore be appropriate to determine a more neutral name for financial repression, which is often used as pejorative for scoring rhetorical points in policy debates.

²²³ (Worswick & Ady, 1952, pp. 204-205)

²²⁴ C261A p. 5, New York Federal Reserve Bank Archive, 25 September, 1952

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