

The Roots of Economic Inequality: Evidence from a 250-Year Data Set.

Plamen Ivanov, University of Southampton (p.ivanov@soton.ac.uk).

Abstract. Geoffrey Hodgson (2017) argued that the rise of the military-fiscal state permitted for the transition of England from a second-rank European country to a world empire. A critical new interpretation of the historical record is presented here. Next to his reading of the emergence of Britain as the new hegemon in the world order (Braudel, 1977; Wallerstein, 1984), the new domestic institutional landscape gave rise to economic inequality (Kuznets, 1955; Atkinson et al., 2011; Piketty, 2014). The military-fiscal state acted as a redistributive mechanism. It collected an increasingly higher level of national output (Brewer, 1988; O'Brien, 1988, 2011) by the many, bounded under the social contract (Locke, 1690), and subsequently allocated a large proportion of the proceeds into the hands of a concentrated base of public creditors, bounded under debt contracts (Pistor, 2013, 2019; Desan, 2014; Rahmatian, 2014, 2018). This rent extraction of political resources forms a keystone in the current debate on economic inequality (Piketty, 2014; Stiglitz, 2012, 2015, 2017; Atkinson, 2015).

1. Introduction

The distinguished international diplomat Henry Kissinger (1994: 31) reports in his magnum opus that: “James Madison condemned war as the germ of all evils – as the precursor of taxes and armies and all other instruments for bringing the many under the domination of the few”. Is there a grain of truth behind this deep proclamation of one of the great American presidents? This is the aim of this paper.

Fortuitously, institutionalist Geoffrey Hodgson (2017) recently penciled the major role of warfare and the Atlantic trade (Acemoglu et al. 2005) in the expansion of the British Empire. At an earlier stage, Goldstein (1985) researched a related topic - precisely, the interlink between wars amongst core nations of the Occident and the economic cycle over the long run between 1495 - 1975. He delineated ten highly-correlated cycles of warfare and economic performance over the period with a dynamic shift in the centre of the international order at every other cycle. This paper extends these intertwined academic discourses to the contemporaneous economics of inequality debate.

The interest in this socio-economic curse heightened in the aftermath of the Global Financial Crisis. The meteoric rise in popularity of the English-language version of the book by Piketty (2014) illuminates the inclinations of reading audience towards the topic as the recovery was captured by the 1% (Tcherneva, 2014) rather than spread equitably (Stiglitz, 2012, 2015, 2019). The unfair income and wealth distribution through macroeconomic policy-

making affects lives, productivity and, ultimately, the security of the (0.0)1%. Capitalism must be snatched back from free market fundamentalism (the Chicago boys, the World Bank and the IMF) and instead be put to the service of the many, not the few economic agents, with the aim to avoid a social revolution, Joseph Stiglitz (2012: 151) warns: “When the social contract is abrogated, when trust between a government and its citizens fails, disillusionment, disengagement, or worse follows. In the United States today, and in many other democracies around the world, mistrust is ascendant”.

The well-received historiographical work by the modern-day Karl Marx on income and wealth division, like most academic works on the topic do (Piketty, 2003; Piketty and Saez, 2003; Zucman, 2019; Novokmet et al., 2018; Aghion et al., 2018; Atkinson et al. 2011), describes its evolution through space and time, predominantly in Occident countries and over the 20th and 21st centuries (Savoia et al., 2010). In lieu of shadowing the widespread trend of measuring economic inequality, this paper examines how economic inequality was seeded within the fundamentals of the British capitalist framework through institutional analysis over a 250-year period (Kuznets 1955; Williamson 1985; Lindert, 1986; Aghion and Bolton 1997; Acemoglu and Robinson 2002, 2012, 2019). I do so by probing the ascent of the military state amassing public deficits financed through private money and the expansion of an efficacious fiscal arm over nearly a quarter of a millennium - 1694 to 1940. The period under examination covers the laying of the foundations of the Great British Empire with the institutional changes in post-Revolution England (North and Weingast, 1989; Cox 2012, 2015, 2017; Allen, 2009; Carruthers, 1996, 2007; Pincus and Robinson 2014; Acemoglu et al., 2005; Acemoglu and Robinson, 2012, 2019) through its upsurge as a political and economic hegemon in the 18th and 19th centuries, displacing the United Provinces (Israel 1991, 2002; Modelski 1978, 1981, 1984) in the process, and ends with its demise in the 20th century with the two World Wars (Kindleberger, 1986; Goldstein, 1985). The domestic order of private money funding military warfare to expand the political and economic boundaries of the nation was institutionalized with the purpose to transfer fiscal proceeds from the many taxpayers to the few Bank (of England) shareholders. Economic inequality was engraved in the fabric of the Anglo-American capitalist framework since its very founding. This chain of institutional relations, as deduced by the great American President, drives the diverging fates of economic agents across the social spectrum, at least since the rise of modern capitalism at the beginning of 18th century in Britain.

The paper furnishes a supplementary explanatory variable, the fiscal apparatus as a rent extracting institution, to well-recognized ones that have effect on economic inequality such as the frictions between exploiters and the exploited (Marx, 1867), diverging economic growth rates and capital returns (the T-shirted ‘ $r > g$ ’) (Piketty, 2014) and diverging wages and return on capital (Williamson, 1985), changes in public policy and the demise of the welfare state (Atkinson, 2015; Mazzucato, 2015, 2019; Bourdieu, 2003, 2008; Offer and Soderberg, 2016), monetary and macroeconomic policy (Stiglitz, 2012, 2015, 2019), the financialization of the economy (Galbraith, 2012) and the role of tax havens (Aldtstader et al., 2018; Zucman, 2019). The proposed hypothesis runs explicitly against the neo-institutionalist theory on inclusive institutions governing the Anglo-American capitalist framework (North and Weingast, 1989, North, 1990; La Porta et al., 2008; Acemoglu and Robinson, 2002, 2012, 2019).

This paper is organized as follows: Section 2 building on the academic literature on the political economy of warfare and the resultant growth in public indebtedness. It theorizes that

interest payments on national debt funded through private money creation are a fundamental explanatory variable of economic inequality. Section 3 engages in the cliometrics examination of the two key hypotheses: 1) political actors are more concerned with contractual debt obligations (i.e. national debt) than with the contractual obligations under the social contract with political voters (Locke, 1690); and 2) that the fiscal apparatus acts as a rent extracting institution from the many to the few. Section 4 concludes and draws recommendations for future institutional research.

2. The Sinews of War and the Roots of Economic Inequality

The Political Economy of Warfare

Academic interest in the post-War period shifted away from the war school of the long wave debate (Silberling, 1943; Akerman, 1944) to a dispute on long cycles of wars and hegemony. The idea was first conceptualized by Quincy Wright (1942: 227), who dated concentrations of warfare in 1701 – 14, 1756 – 63, 1795 – 1815, 1853 – 56 and 1914 – 18. The last entry in a war cycle was ‘renewed’ in 1939 with the commencement of World War II. In the eyes of the father of long economic cycles, the Russian economist Kondratieff (1928: 95), causality runs from cycles to wars. The opposite is proclaimed by Akerman (1944: 125). Wright maintains neutrality upon the issue due to inadequate evidence in order to specify a chain of causation.

He though suggested three alternative theories about the 50-year cycle of major wars. The first theory holds that the alternation of *génération*s, once every 25-years, as a causal factor. The emerging reacts against the previous one, resulting in a major conflict (Richardson, 1960). The second theory conjectures that after a conclusion of a war cycle, a time lag is necessitated for a recovery and preparation for a new major war. Front line countries are particularly affected due to war damage, labor shortages, blockades (Bernstein, 1940). The third path is the political cycle. Domestic politics are dominated by a single political party for a 40-60-year period. A subsequent shift in the political equilibrium culminates in a major war. The scholar lends his support for the first two theories. Building on his work, three schools of thought emerged: 1) the ‘leadership cycle’, 2) the ‘world system’, and 3) the ‘power transition’ school, which are summarized in Table 1.

Table 1: Summary of International Relations Literature on the World Order

School of Thought	Arguments	Papers
Leadership Cycle	A 50-year major war followed by periods of lesser wars and of peace, make a 115-year cycle in all. A leading nation, usually a naval power, polices the international order.	Toynbee (1954) Modolski (1978, 1981, 1983)
World System	100-year cycle in world politics synchronized with Kondratieff waves. Hegemony is rooted in the economic superiority of core nations.	Hopkins and Wallerstein (1979)
Power Transition	Diverging national capabilities leads to shifts in the relative power of core nations over time. While one power holds the hegemon position, rising powers with growing potency, economic and military, try to establish themselves in the international order. The leading power fearing losing its position and its attempts to preserve the status quo in the international order can lead to a major war cycle.	Organski (1958); Farrar (1977).

In a seminal work, Goldstein (1985) takes the argument a step further. He scrutinizes the empirical link between wars leading to a new hegemon in the international world order and Kondratieff's (1928) long economic cycles. The intellectual examines the period between 1495 and 1975, unearthing a close correlation: “[the] long economic waves are synchronous with a cycle of war between core nations, in which an escalatory war upswing recurs roughly every 50 years... Over five centuries, the war cycle has lengthened somewhat, the wars ... have shortened, and their severity has increased a hundredfold” (Goldstein, 1985: 411). The study also finds support about a dynamic transition in the economic ‘centre’ of the international order (Braudel, 1977). Wallerstein’s (1984) three instances of hegemony in the world-economy (the United Provinces, the United Kingdom and the United States of America) are established, too. Goldstein’s reading of the historical record is depicted in Table 2.

Table 2: War Cycles (1495 - 1946)

Cycle	Starting date of war cycle	Peak war years	Length	Shift of ‘Centre’ of the World Economy (Braudel, 1977)	Hegemony in the I’nal Order (Wallerstein, 1984)
1	1495	1521 – 1529	35		
2	1530	1552 – 1556	28		
3	1558	1593 – 1604	47	Amsterdam (1590 – 1610)	
4	1605	1635 – 1648	44		United Provinces (1625 – 1672)
5	1649	1701 – 1713	65		
6	1714	1755 – 1763	50		
7	1764	1803 – 1815	52	London (1780 – 1815)	
8	1816	1870 – 1871	56		United Kingdom (1815 – 1873)
9	1872	1939 – 1945	74	New York (1929)	
10	1945				USA (1945)

The period examined hereinafter, 1688 through the Wars, coincides with his defined timing of Cycle 5 through to Cycle 9. The full cycle of the rise and fall of the British Empire is captured. The power transition in the international order from the United Provinces to the Britain and later from Britain to the United States is, though, a future research avenue (Boswell and Sweat 1991; Braudel, 1977). A comparative examination of the institutional frameworks (Djankov et al., 2003; Schumpeter, 1954) which governed the former and the current hegemon countries is likely to yield insights about contemporary public policy recommendations.

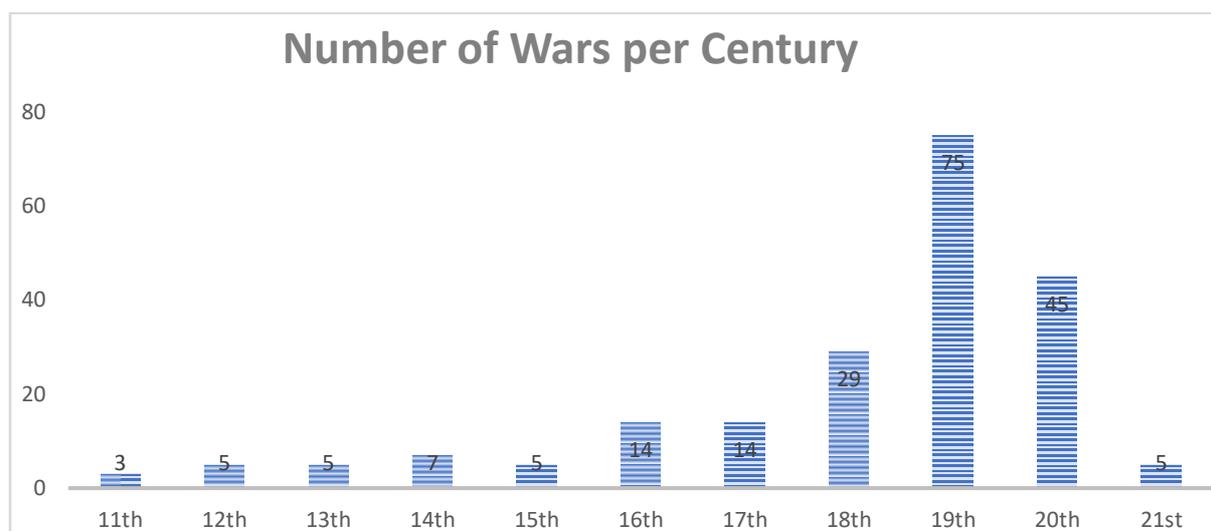
Notwithstanding, the foundations are laid with this study. It focuses onto a single nation state, offering a comprehensive analysis of Britain’s institutional evolution over a 250-year period. The island nation was transformed from a second-grade European power to a world hegemon in the event. The foundations of the new order in Britain were laid, with an Orange-

led invasion (Pincus, 2009; Troost, 2005), in 1688 as articulated by neo-institutionalist North and political scientist Weingast in their seminal article. The constitutional changes guaranteed the removal of authoritarian power vested in the king. The despotic Stuarts no longer enjoyed divine rights (Locke, 1690). A swift transition to pluralistic political institutions materialized (Acemoglu and Robinson, 2012). The successor, the Dutch Stadtholder Willem von Oranje (Renier, 1932), was reduced to a *king-in-parliament* (North and Weingast, 1989).

The political equilibrium recalibration was supplemented with a complete overhaul of the financial system (Kindleberger, 1984; Coffman et al., 2013; Murphy, 2009, 2010, 2013) and an administrative expansion to economically rear taxation (O’Brien, 1988; Brewer 1988), servicing the newly-founded publicly-backed national debt (Clapham, 1944). The new-fangled institutional landscape stamped with segregation of power allowed economic agents of every ilk (Dickson, 1967) to lend funds to democratic political institutions with greater security in contrast to the quondam order (North and Weingast, 1989). The heightened fiscal pressure on sovereigns of earlier times, due to frequent warfare amongst nation states in early modern Europe (North and Weingast, 1989: 807), gave the late Stuarts incentives to “violate [the] economic rights” of their lenders (North and Weingast, 1989: 816) and seize private property, including monies (Hargreaves, 1930).¹ The Bill of Rights (1688) guaranteed that no new taxes are to be imposed without political representation and Parliamentary approval, particularly at times of war (North and Weingast, 1989; Carruthers, 1996; Pincus, 2009).

A highly-contrasting picture is revealed once the Whig-inspired claim on frequency of warfare is juxtaposed against the historical record. Figure 1 indicates that the post-Revolution order engaged in a greater amount of wars than the monarchy-based order, which, *ipso facto*, attracted constantly increasing casualty count as the new leader in the capitalist system matured (Sombart, 1913; Goldstein, 1985). A full list of the wars concerning the Kingdom of England (926 – 1707), the United Kingdom (1708 – 1922) and the United Kingdom of Great Britain and Northern Ireland (1922 – 1946) over the last millennium is presented in Appendix A.

Figure 1: Number of Wars involving Britain from the 11th to the 21st century



¹ For an elaboration on the recalibration of the institutional order please see the sister article, Section 3 “The Financial Revolution” and Section 4 “The Administrative Revolution”.

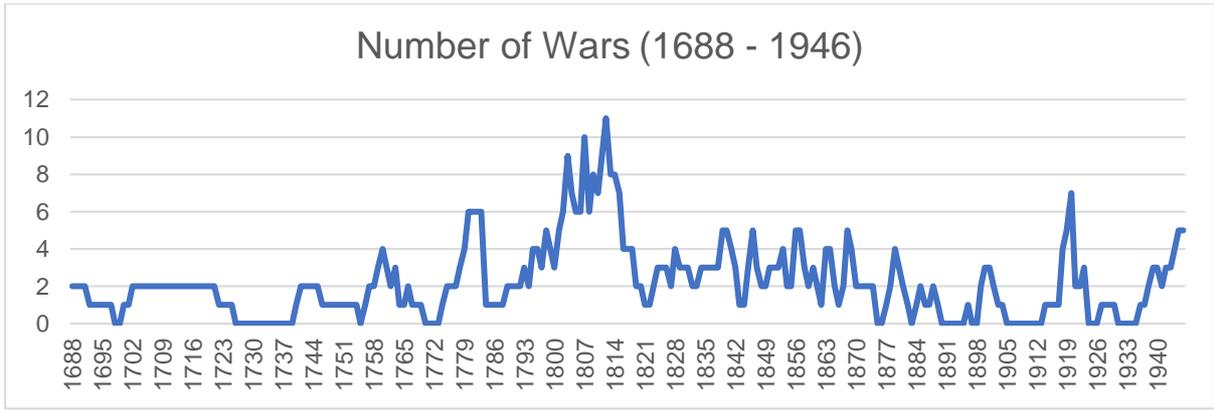


Figure 2: Annual Number of Wars Involving Britain (1688 - 1946)

The presented high-level count on the number of wars in Figure 1 is unsatisfactory. It does not inform us about the distribution of warfare over time (Mansfield, 1988). Therefore, Figure 2 segregates the number of wars per annum in which the United Kingdom was involved over its full cycle as a hegemon. This nearly 250-year cycle can be delineated into three major stages following international relations literature.

The first, emulating the thinking of world-system backers (Hopkins and Wallerstein, 1979), was the expansion to a political and an economic hegemon over the course of the 18th century, up until 1815 with the win in the Napoleonic Wars. The defense of its hegemon stance over the 19th century was the second period (Boswell and Sweat, 1991). Figure 2 conforms Kondratieff's (1928) claim that the 1790 – 1922 period was war-dominated. The third period was Britain's demise in the international order in the beginning of the 20th century, lest we forget, a rising industrial power challenged the status quo (Kindleberger, 1986). The latter two periods lend support for the arguments advanced by the 'power transition' school (Ogrinski, 1958; Farrar, 1977). Figure 3 reflects this changing fortune of the importance of total military expenditure in national accounts (Mitchell, 1988).

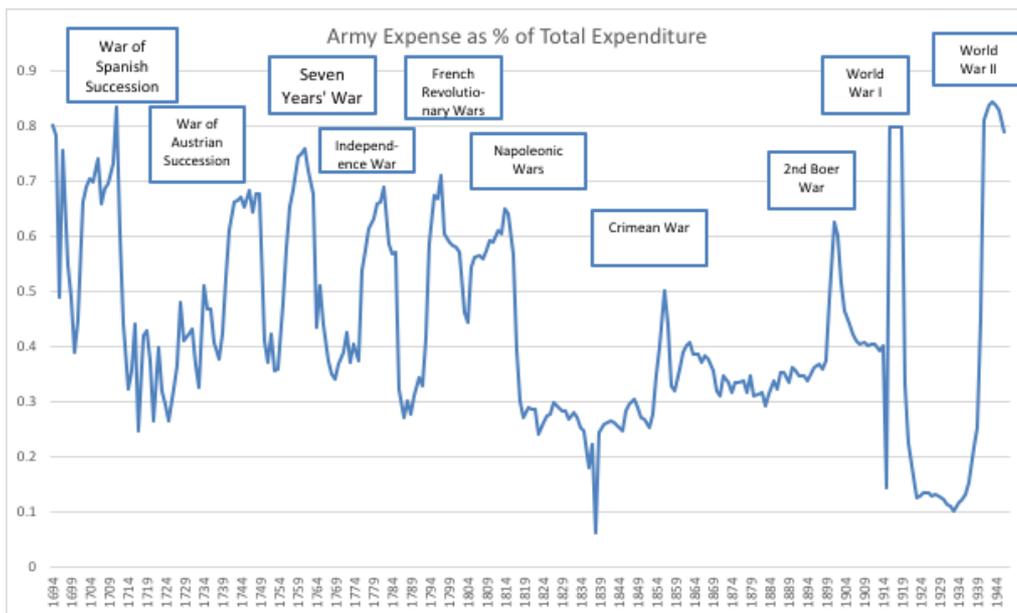


Figure 3: Army Expenditure as Percentage of Total Expenditure (Britain, 1694 - 1946)

The Sinews of War

The 1689 Mutiny Act defined that no standing army shall be maintained in England (Pincus, 2009) unless for a military conflict for the fear of an authoritarian king abusing the military to extract economic surpluses from his subjects. Ironically, the legislature came to no avail.

The constant warfare in the post-Revolution institutional order subsidized immensely the disproportionate accumulation of fiscal expenditure. During the Nine Years' War (1688-1697) it had quadrupled, vastly outstripping fiscal revenue. The trend continued over the next decades (Danvers, MP (1733) cited by Dickson, 1967: 28; Hume, 1754 - 61). The foundations for the accumulation of public debt were laid as a result. The Bank of England was set up as a temporary privately-held institution to finance the public deficit (Bank Charter Act, 1694), accumulated by the most expensive war up to this point in recorded history, secured against future Treasury income (Brewer, 1988; O'Brien, 1988, 2011, 2014; Hodgson, 2017). At the time of the Revolution, the public debt was zero since a practice was developed since the Norman invasion that crowned monarchs were backing any loans taken out with their own personal promise (Morris, 2016).

Public indebtedness accumulated by the *mos maiorum* political institutions guaranteed on increasing public burden, as exacted by the new credit mechanisms (Brewer 1988), boomed. Despite the improved state capacity to commendably raise tax (Hodgson, 2017; O'Brien, 2011, 2014), each ensuing military conflict brought public debt level to new heights (see Figure 4). It is worth noting that public indebtedness grew unprecedentedly during the two World Wars in the 20th century, which were, correspondingly, the deadliest conflicts in the history of mankind (Goldstein, 1985: 432). As a result, the national debt accumulated in the preceding period (1689 - 1913) because of deadly quarrels such as the War of Spanish Succession and that of Austrian Succession, the American Independence War and the Napoleonic Wars appear as insignificant, flattening the public debt line (see Figure 5). Thus, the period 1940 - 1946 was removed from the econometrics analysis as it skews the computational results.

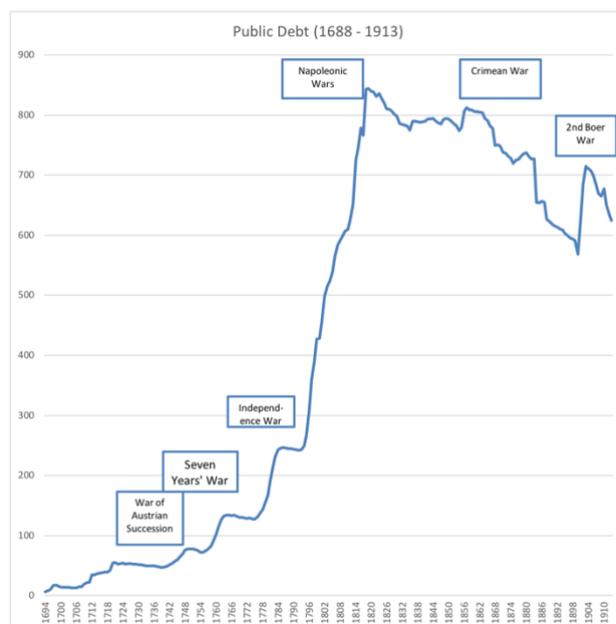


Figure 4: British Public Debt (1688 - 1913)

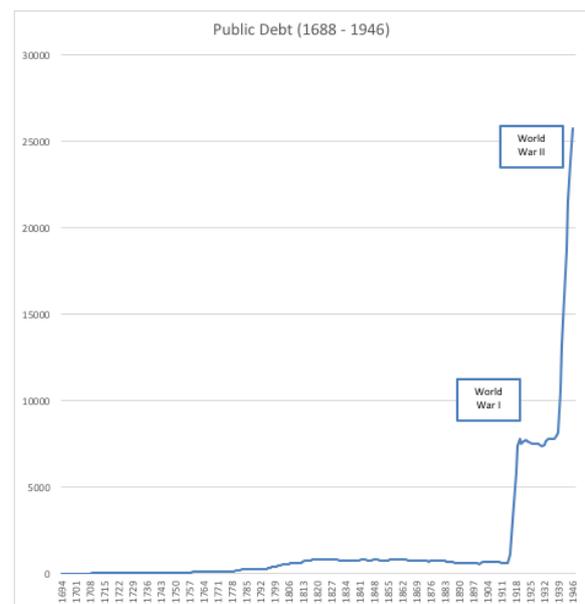


Figure 5: British Public Debt (1688 - 1946)

Public debt financing though carries a burden of interest. With the shift of promise for repayment from the despotic Stuarts to Parliament (North and Weingast, 1989), an examination into the interest payments paid by political institutions (Clark 1996, 2007; Carruthers 1996) to public creditors, epitomized with the Bank's concentrated holding structure, is necessitated.

Naturally, as public debt grew the political institutions had to resort to the imposition of an ever-growing number of public levies (Dickson, 1967) in order to satisfy their contractual debt obligations (Rahmatian, 2014, 2018; Pistor, 2013, 2019; Desan, 2014) towards the public creditors. Figure 6 illuminates that for the greater part of the 18th and 19th centuries the interest (debt) charge on national (public) debt was averaging 30% though on occasion the amount of public funds advanced to satisfy the debt burden were in excess of 60%.

An interesting pattern emerges out of the historical statistics compiled by B. Mitchell (1988) once funded debt charges and military expenditure are juxtaposed in a graphical form. Figure 6 depicts their negative correlation. Once a major war cycle, as outlined in international relations literature (Braudell, 1977; Wallerstein, 1984; Goldstein, 1985), concludes, a period of peace begins (Toynbee, 1954; Modelski, 1978, 1981, 1984) with the amount of interest paid to national debt funders increasing dramatically. The spikes in debt charges follow the ascent of the British Empire in the international order – after the War of Spanish Succession (1701 – 1714), after War of Austrian Succession (1740 – 1748), after the American Independence War (1775 – 1783) and after the Napoleonic War (1803 – 1815). Irrespective of the variation in public expenditure allocation in the period from 1720 to 1820, at least 70% of the annual budget was spent on the combined military expenses and national debt charges, leaving a meagre slice for welfare spending.

Following the victory over Napoleonic France in the beginning of the 19th century the British Empire's position as a world hegemon in the international order for the next 100 years was solidified (Braudel, 1977; Wallerstein, 1984; Tellier, 2009; Pincus, 2009). Public debt was, though, so high that political enlargement through costly warfare accumulating further public debt fostered by more borrowing was unconceivable. Despite the dire fiscal position, the new hegemon expanded to become the largest empire known to mankind. For the greater part of the 19th century, a large amount of the national revenue was set aside to satisfy debt obligations, both interest and capital repayments, with costs plateauing in the 1814 – 1850 period. A period of reduction in the capital sum outstanding commenced with the Gladstonian reforms, which subsequently reduced the interest burden, too (Acemoglu and Robinson, 2002), partially aided by the increasing trade which reduced the relative cost of warfare (Piagnelli and Schumacher, 2019). The great public servant was an advanced autodidact and as such read he voraciously - on finance, on banking, on taxation, on general economics, on trade, on warfare and on double-entry book-keeping amid other moral philosophical readings (Caernarven-Smith 2007). Drawing on these insights, he oft challenged the institutional status quo with the aim to better the position of the struggling British populace.

From the time I took office as [C]hancellor of the [E]xchequer I began to learn that the state held in the face of the Bank and the City an essentially false position as to finance. When those relations began [in 1694], the state was justly in ill ordour as a fraudulent bankrupt who was ready on occasion to add force to fraud. After the revolution [of 1688] it [the government] adopted better methods although often for unwise purposes,

and in order to induce monied men to be lenders it came forward under the countenance of the Bank as its sponsor. Hence a position of subserviency which, as the idea of public faith grew up and gradually attained to solidity, it became the interest of the Bank and the City to prolong. This was done by amicable and accommodating measures toward the government, whose position was thus cushioned and made easy in order that it might be willing to give it [the Bank] a continued acquiescence. The hinge of the whole situation was this: the government itself was not to be a substantive power in matters of finance, but was to leave the money power supreme and unquestioned. In the conditions of that situation I was reluctant to acquiesce ... I was tenaciously opposed by the governor and deputy governor of the Bank, who had seats in parliament, and I had the City for an antagonist on almost every occasion.

William E. Gladstone, undated fragment in John Morley, 1903, vol. 1: 650-651.

His structural reforms breathed life into the debt-burdened country. A contemporary to the events evidenced the positive effects of debt diminution and the related interest burden: "... nothing but [a] drastic reform", Bastable (1903: 508) comments, "restored the English finances after 1840, the normal working conditions of a good system placed the country in able to meet with comparative ease the pressure of a costly war in 1899 – 1902. If productiveness, elasticity and lightness of burden be good attributes in a tax system, then the existing English one need not fear comparison with former times". This reading of the historical record lends support for the inverted U-curve on economic equality by Kuznets (1955). Late 19th century Great Britain laid the beginnings of the rise of the post-Wars welfare state, known to contemporaries (which is on the retreat as illuminated by Piketty, 2014; Lindert and Williamson, 2016). Concurrently, the public policy turn lends support for the political cycle theory discounted by Wright (1942).

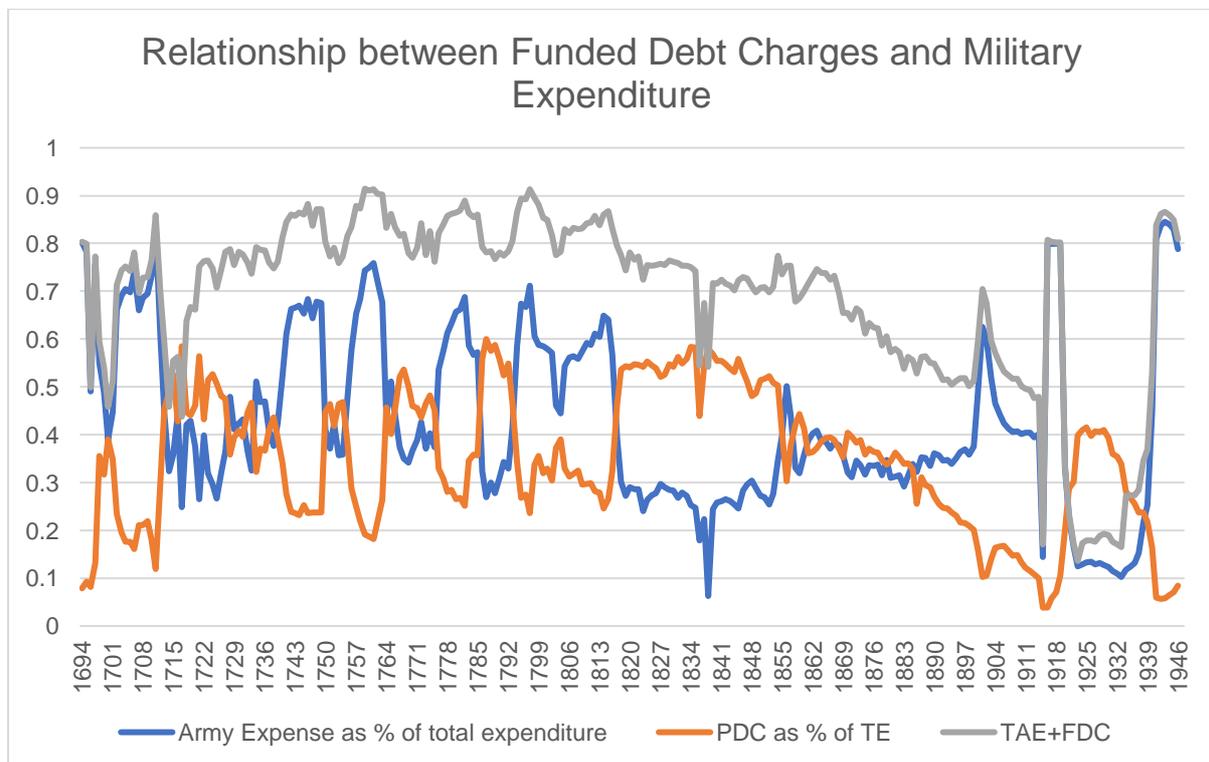


Figure 6: Relationship between Military Expenditure and Interest Payments on National Debt

(Private) Money as (Public) Debt

Notwithstanding, modern-day legal scholars resurfaced the understanding of money as (public) debt and a credit / trust-based system (Desan, 2014; Pistor, 2013, 2019; Rahmatian 2014, 2018) which rejuvenates forgotten knowledge in legal studies (MacLeod, 1858, 1891; Innes, 1914). Contemporary economists slowly adapt this view as well (McLeay et al., 2014, Bundesbank, 2017; Banque du France, 2018; Jakab and Kumhof, 2015, 2019; Kumhof and Wang, 2018).² Credit as a driving macroeconomic variable grows in recognition: “Credit has been found to be an important variable ... It is therefore a first order issue to understand better credit creation and credit dynamics” (Coimbra and Rey, 2018).

The Cambridge sociologist Ingham (2004) testifies that money, and so debt, allows to expand the horizon of human activities. Werner (2003) validates his high theory with a case study on the Japanese post-War economic miracle. With a meticulous bank credit allocation policy (window guidance, Kreditrahmen) to boost its national economic capabilities (Ogranski, 1958; Farrar, 1977), the endogenous money creation allowed the country to transcend from a destroyed Axis power to an East Asian Tiger challenging the world order in less than 25 years (Werner, 2005).³ J. A. Schumpeter (1939: 153) chimes. The credit mechanism is so designed, he asserted, that it can function in one of many different ways, evidenced with its variant design in early modern Britain (Bezemer et al., 2018; Monnet, 2014).⁴ Credit was due predominantly for military warfare advanced to the state apparatus. A chief source of money funds was the private Bank of England, particularly at times of unforeseen military expenditure (Broz and Grossman, 2004).

Therefore, a primary explanatory variable which fueled the political expansion of the debt-based British capitalist system has, thus, eluded the attention of political scientists, neo-institutionalists and economic historians over the last century (Werner, 2014a, 2014b, 2016). This is partially due to the narrow study focus typical for the post-*Methodenstreit* era (Ingham, 2004). Autonomous political institutions still form the core research path for political scientists (Farrar, 1977; Organski, 1958; Hopkins and Wallerstein, 1979; Modelski, 1978, 1981, 1984; Goldstein, 1985). Money, and its origins (Ingham, 2004, 2008; Currethers and Babb, 1996), as an explanatory variable was consigned to oblivion until not too long ago. In lieu, a focus on the price of money persisted as the dominant school of economic thought prescribed in the post-War period (North and Weingast, 1989; Pincus and Robinson, 2011; Temin and Voth, 2005). Such unfortunate chain of developments in the methodology of economics research inadvertently affected the quality of the institutional analysis on post-Revolution Britain and its elevation to the summit of the world order. In light of the growing scholarly awareness of the interdisciplinary nature of money, credit and banking and their umbilical place in the

² Adam Smith (1776) defined it as a long-term or perpetual debt, which bears interest. It formed the greater part of all funding charges contractually-accrued by government bodies.

³ “Over the period 1961–1991, the Bank of Japan attempted to directly control the volume of commercial bank credit by providing lending targets for selected banks... The empirical results show a high degree of compliance in the first two decades of the program and evidence of weakening in the final years.” (Rhodes and Yoshino, 1999).

⁴ His interpretation of the evolution of banks’ balance sheets, within an ever-evolving legislature, was later formalized in the (disaggregated) quantity theories of credit by Werner (2005), Drehmann et al. (2011) and Stiglitz (2016). Whilst a varied economics jargon and presentational techniques were utilized by the three sages, the underpinning principles explaining the operations of the credit system advanced by them are identical.

examination of institutions, both economic and political, a new critical construal of the historical record is appropriate.

The rise of the British Empire was financed through private money creation, chiefly by the Bank of England (Clapham, 1944; Dickson, 1967; Carlos and Neal, 2006; Kynaston, 2017), collateralized against a swelling tax burden imposed upon the general populace (Brewer, 1988; O'Brien, 1988, 2011; Hodgson, 2017). The fiscal proceeds were subsequently duly transferred by the state apparatus to the money cardinals as it will be elucidated in the next section. These rent-extracting institutional principles of Anglo-American capitalism formed upon the triple institutional pillars of military warfare, private money creation and an efficient tax-raising state machine accumulated great financial fortunes, vast estates and social capital for public funders, most notably the Bank of England's management and shareholders, as the firm acted as a 'great engine of state' (Smith, 1776).⁵ At its inception, some 500 investors held more than 75% of the Bank's shares (author's own calculations based on the original list of subscribers).

The following section empirically tests two propositions observed in this paper. The first test examines the less explicitly stated hypothesis that public debt has a significant impact on fiscal income due to its contractual binding character (Pistor, 2013, 2019) in contrast to social outlays by governments (Locke, 1690; Rousseau, 1762). The second test stimulates the hypothesis that charges on national debt act as a redistributive mechanism from the many taxpayers to the few shareholders. To do so, we adopt an econometric time series analysis.

3. Empirical Analysis

Data and Descriptive Statistics

Data extracted from the 'British Historical Statistics' by B.R. Mitchell (1988) is used as the main source for the empirical testing of the two hypotheses. The examined time range covers the period when the Bank was operating as a privately-held profit-maximizing business from 1694 to World War Two. The examined macroeconomic variables grow exponentially in the years from 1940 to 1946 and are therefore excluded from the analysis. A modest number of control variables, including expenditure on social security, trade and demographic factors, are tested, too.

Government Revenue (Dependent variable)

TI = total government income

Key Explanatory variables

PD = public debt

FDC = Funded debt charge

Control Variables

TI = total government income (lags)

CGE = civil government expenditure

nGDP = nominal GDP

IR = base interest rate

Pop = population

⁵ During its existence as a private company, the Bank of England's by-laws required all senior managers to hold a significant amount of qualifying stock in order to hold the position. For example, when founded the Bank's by-laws provisioned a £4,000 threshold for an investor to qualify as eligible for the governorship. Only a few original shareholders qualified for the privilege to be a Bank of England governor.

Descriptive Statistics

Table 3, below, shows summary statistics for all variables used in the empirical analysis. As observed in the previous section of this chapter, a negative relationship is evident between the level national outlay for military expenditure and charges on funded debt (see Figure 6). It is important to note that civil government expenditure has been historically a small proportion of government outlay. Table 3 shows summary statistics for all variables at first difference (i.e. in the growth rate format). However, since the interest rate is a ratio, it remains without change.

Table 3: Summary Statistics

Variables	Observations	Mean	Std. Dev.	Min	Max
Government revenue	245	0.027339	0.102634	-0.316193	0.702494
Public debt	252	0.039199	0.123436	-0.109830	0.956542
Funded debt charge	252	0.073431	0.547010	-0.383180	7.916667
Interest Rate	253	4.347826	1.105347	2	8
Population	252	0.008121	0.004813	-0.01524	0.016913
Civil gov. exp.	252	0.063157	0.499229	-0.55109	7.266187
GDP	252	0.021883	0.063911	-0.17850	0.293375
Total army exp.	247	0.076489	0.429444	-0.73554	4.108557

Unit Roots Testing and Correlations

Prior to estimating the regression models, it is important to ensure that all the included variables in the regression are stationary. To do so, a Dickey-Fuller unit-root test is performed (Dickey and Fuller, 1979). This helps avoid the risk of estimating spurious regressions in the data. Therefore, the growth rates of all variables have been used in order to secure stationarity because the variables are non-stationary at level. Table 4, below, shows the results of Dickey-Fuller test. For all variables, the test statistics reject the null hypothesis that the time series is a unit-root, hence all variables are stationary after transforming the variables into growth rates. In addition, the null hypothesis is rejected at the 1% level of significance without including constant or trend.

Table 4: Unit Roots Test

Variables (Growth Rate)	Z(t)	No. of Observations
Total government revenue (TI)	-12.317***	244
Public debt (PD)	-7.159***	244
Funded debt charge (FDC)	-38.568***	244
Interest rate (IR)	-8.857***	245
Population (Pop)	-4.434***	244
Civil government expenditure (CGE)	-16.791***	244
GDP	-14.571***	244

Note: this table shows the results of the unit-root test statistics for all variables in the growth rate format. However, since the interest rate is a ratio, it remains without change. The symbols ***, ** and * indicate the levels of significance, 1%, 5% and 10%, respectively.

Moreover, the constructed regressions always feature only one of the variables in order to avoid multicollinearity. Correlation is examined as well. The only two variables that are correlated are public debt and funded debt charges. This is, however, hardly surprising since the latter is a function of the former. In addition, for a large timeframe of the examined period, funded debt was the dominant factor in the total public debt. The two variables are not included in the same regression.

Table 5: Correlation

	TI	PD	FDC	TAE	Pop	GDP	CGE	IR
TI	1	-	-	-	-	-	-	-
PD	0.0613	1	-	-	-	-	-	-
FDC	-0.0096	0.3327	1	-	-	-	-	-
TAE	0.1151	0.0218	-0.023	1	-	-	-	-
Pop	0.0309	-0.166	-0.1404	0.0243	1	-	-	-
GDP	0.0031	0.0989	-0.1024	0.0509	0.0997	1	-	-
CGE	0.1923	0.0644	0.0268	0.0774	-0.0178	-0.0528	1	-
IR	0.026	0.073	-0.0204	0.0097	-0.0726	-0.0745	-0.0009	1

Model Specification

The empirical examination of our two hypotheses models the effect of public debt over nearly 250 years (time series) from 1694 to 1940. Based on such long time series data characteristics and statistical tests, an autoregressive distributed lag model with multiple explanatory variables; and hence, Equation (1) represents a general time series regression

model. It allows for k additional variables, where q_1 lags of the first variable are included, q_2 lags of the second variable are also included, and so forth for the rest of the variables (Stock and Watson, 2011: 579):

$$Y_t = \beta_0 + \beta_1 Y_{t-1} + \dots + \beta_p Y_{t-p} + \delta_{11} X_{1t-1} + \dots + \delta_{1q_1} X_{1t-q_1} + \dots + \delta_{k1} X_{kt-1} + \dots + \delta_{kq_k} X_{kt-q_k} + \varepsilon_t \quad (1)$$

The first model (as shown in Equation 2) aims to examine the hypothesis that public debt has significant impact on the amount of annual income that the government needs the raise through tax, as follows:

$$ti_t = \beta_0 + \beta_1 ti_{t-1} + \beta_2 ti_{t-2} + \beta_3 ti_{t-3} + \delta_1 pd_{t-1} + \delta_2 pd_{t-2} + \delta_3 pd_{t-3} + \varpi_1 gdp_{t-1} + \varpi_2 gdp_{t-2} + \varpi_3 gdp_{t-3} + \theta_1 pop_{t-1} + \theta_2 pop_{t-2} + \theta_3 pop_{t-3} + \lambda_1 ir_{t-1} + \lambda_2 ir_{t-2} + \lambda_3 ir_{t-3} + \psi_1 cge_{t-1} + \psi_2 cge_{t-2} + \psi_3 cge_{t-3} + \varepsilon_t \quad (2)$$

where, t represents the year. The dependent variable is ti_t which represents tax income. pd_t is the public debt as the main explanatory variable of interest. The rest of the variables are control variables to account for other factors that affect tax income; namely, gdp_t is the nominal gross domestic product, pop_t is the population, cge_t is the civil government expenditure, and ir_t is the interest rate. ε_t represents the error term.

On the other hand, the second model (as shown in Equation 3) examines the link between the transfer from the many taxpayers to holders on national debt. In this model, I replace the public debt variable by the funded debt charge variable as the key explanatory variable of interest, as follows:

$$ti_t = \beta_0 + \beta_1 ti_{t-1} + \beta_2 ti_{t-2} + \beta_3 ti_{t-3} + \delta_1 fdc_{t-1} + \delta_2 fdc_{t-2} + \delta_3 fdc_{t-3} + \varpi_1 gdp_{t-1} + \varpi_2 gdp_{t-2} + \varpi_3 gdp_{t-3} + \theta_1 pop_{t-1} + \theta_2 pop_{t-2} + \theta_3 pop_{t-3} + \lambda_1 ir_{t-1} + \lambda_2 ir_{t-2} + \lambda_3 ir_{t-3} + \psi_1 cge_{t-1} + \psi_2 cge_{t-2} + \psi_3 cge_{t-3} + \varepsilon_t \quad (3)$$

where, t represents the year. The dependent variable is ti_t which represents tax income. fdc_t is the funded debt charge as the main explanatory variable of interest. The rest of the variables are control variables to account for other factors that affect tax income; namely, gdp_t is the nominal gross domestic product, pop_t is the population, cge_t is the civil government expenditure, and ir_t is the interest rate. ε_t represents the error term.

Regression Estimation Results

This section reports the regression results of the main models presented in Equations 2 and 3. Table 6, below, shows that the first lag of public debt is statistically significant. That is

to say, the first hypothesis yields the result that last year's public debt is a decisive factor on the amount of government tax revenue in the current year.

Table 6: Hypothesis 1 Summary Results

Dependent Variable: TI	Model 1	p-value
TI (L1)	-0.10237	(0.126)
TI (L2)	-0.14856**	(0.024)
TI (L3)	0.0454	(0.474)
PD (L1)	0.4516829***	(0.00)
PD (L2)	0.0399645	(0.595)
PD (L3)	0.0046309	(0.944)
GDP (L1)	0.234321**	(0.015)
GDP (L2)	0.3733***	(0.00)
GDP (L3)	0.24134***	(0.009)
CGE (L1)	-0.00479	(0.673)
CGE (L2)	-0.01059	(0.368)
CGE (L3)	-0.00868	(0.443)
Pop (L1)	3.525497**	(0.096)
Pop (L2)	-3.94501	(0.173)
Pop (L3)	0.899441	(0.672)
IR (L1)	-0.00639	(0.287)
IR (L2)	-0.00386	(0.537)
IR (L3)	0.002551	(0.674)
Number of Obs.	242	
R-Square	0.4651	
Adj. R Square	0.4219	
F-Stat	10.77***	
Residual	1.31012	

Note: This table reports results from an autoregressive distributed lag model estimation of the effects of public debt on government tax income. The dependent variable is the growth rate of tax income. The key independent variable is the growth rate of public debt. L represents the lag order. The period covers the years 1694 to 1940. P-values of the T-statistics are reported in the third column. The symbols ***, ** and * indicate the levels of significance, 1%, 5% and 10%, respectively.

This finding is hardly surprising once we account for the nature of debt contracts (Pistor, 2013, 2016; Desan, 2014; Rahmatian, 2014, 2018). Political institutions, as defined by North and Weingast (1989), are contractually binded to repay public creditors, including the private Bank of England. Therefore, the former must apply the art of politics to manage the rational expectations of taxpayers in order to extract a sufficient amount of political resources without triggering a social revolution, particularly at austerity time, as feared by Stiglitz (2012: 151), by breaking the social contract. The notion is reaffirmed by the complete discounting of civic expenditure as an explanatory variable for government taxes during the British rule over the international order.

The regression shows that population count, though, plays an important role, too. The rationale can be several-fold. As refined in international relations literature, warfare is a deadly affair (Goldstein, 1985). A high count of casualties will thus impose a heavier tax burden onto a more concentrated base of political voters, which may trigger a social revolution (Stiglitz, 2012). Yet, if the deadly quarrel's outcome is positive and the country emerges as a winner (as was the case more often than not with Britain in the examined 250-year period), the acquired colonial territories with the surviving human, economic and technological capital (Bernstein, 1940) expands the taxable base diluting the national debt burden during the peace period. This is the fundamental rent-extracting method that James Maddison authoritatively proclaimed "for bringing the many under the domination of the few" (Kissinger, 1994: 31) utilized by public creditors, which privatized the right to create credit, and tax the surviving economic agents on both sides of the military conflict.

Notwithstanding, it is found that nominal GDP, irrespective of the number of lags used, has a significant impact over the dependent variable. Considering its nature, following Kuznets (1934) discernment that it is a measure of national income, the GDP figure provides insight to lenders on how much of it can be secured in order to satisfy debt claims (O'Brien, 1988, 2011; Brewer, 1988). This line of thinking follows the same principles as those at consumer level - e.g. when banking officers underwrite mortgage contracts. As the principles of banking entail, spare income must be identified. The interest premium paid by the customer will be inherently dependent on their past performance, repayment capacity, collateral quality, other contractual obligations and overall likelihood for default. With the constantly improving track record in servicing national debt, the economic and political expansion of the Empire and the lessened likelihood for a public default (Cox, 2012, 2015, 2017) as the nation elevated to the summit of the international world order (Braudel, 1977; Wallerstein, 1984), the credit counterparty's creditworthiness increased. The premia paid correspondingly decreased. Through the lens of a credit scoring agency, it is barely surprising that scholars (Temin and Voth, 2005: 325; Pincus and Robinson 2014: 205; North and Weingast, 1989) find empirical evidence for the reduction of interest rates.

It is, though, interesting to note that this key neoclassical variable, the price of money, is completely irrelevant throughout the board. The decision about government income takes no account for civil government expenditure (i.e. social welfare). The finding confirms the notion that political institutions are a socio-legal construct, which serves the interests of holders of the secured property right to underwrite debt contracts rather than political voters (see North and Weingast, 1989; Acemoglu and Robinson, 2001, 2002, 2012, 2019).

Table 7: Hypothesis 2 Summary Results

Dependent Variable: TI	Model 2	p-value
TI (L1)	0.1778968***	(0.009)
TI (L2)	-0.0597433	(0.366)
TI (L3)	0.0722613	(0.292)
FDC (L1)	-0.0099442	(0.705)
FDC (L2)	-0.0060772	(0.807)
FDC (L3)	0.0417508***	(0.00)
GDP (L1)	0.4127055***	(0.00)
GDP (L2)	0.458681***	(0.00)
GDP (L3)	0.2349711**	(0.027)
CGE (L1)	-0.0290012**	(0.02)
CGE (L2)	-0.0215844	(0.103)
CGE (L3)	0.0003314	(0.979)
Pop (L1)	1.338111	(0.576)
Pop (L2)	-3.629771	(0.272)
Pop (L3)	1.347217	(0.58)
IR (L1)	-0.0047425	(0.485)
IR (L2)	-0.0017616	(0.805)
IR (L3)	0.0081449	(0.241)
Number of Obs.	242	
R-Square	0.3083	
Adj. R Square	0.2524	
F-Stat	5.52***	
Residual	1.68271886	

Note: This table reports results from an autoregressive distributed lag model estimation of the effects of funded debt charge on national government income. The dependent variable is the growth rate of tax income. The key independent variable is the growth rate of funded debt charge. L represents the lag order. The period covers the years 1694 to 1940. P-values of the T-statistics are reported in the third column. The symbols ***, ** and * indicate the levels of significance, 1%, 5% and 10%, respectively.

As for Table 7 above, it shows that the third lag of funded debt charge variable is statistically significant. In other words, the second hypothesis depicts that there is a two-year lag between the funded debt charge and the size of the government income. This is slightly surprising since it was a government practice under the new institutional order to earmark taxes to newly issued government debts. However, taking into account that tax collection by a central authority, as undoubtedly was the case with the British fiscal apparatus (O'Brien, 1988, 2011; Brewer, 1988) is characterised with a heavy bureaucratic process (partially explained by Max Weber's theory of the bureaucracy), this lag can be well-provided for. Thomas Piketty (2014) also observes a similar trend in his magnum opus: "No tax authority can move that quickly to levy a tax: it is necessary first to establish a taxable base, set rates, pass a law, collect the taxes, forestall possible challenges, and so on". The contemporary situation with a pillar of the leisure classes (Veblen, 1899) – sports stars, particularly in PIGS countries, evidences that lag (Atkinson, 2015; BBC, 2018).

Within this empirical framework, it must be noted, a small improvement in the role of political institutions in the redistribution of raised tax income is observed with a slight role played by civil government expenditure. On the other hand, yet again a key variable in modern economics research, interest rates, provides no insight about the volume of revenue raised by the fiscal state.

Summary of Empirical Findings

Based on our empirical results, but also as illuminated earlier with the qualitative analysis, it can be concluded that the role of the government through its fiscal policy is limited to assuring that interest payments are collected from a sizeable base of economic agents (Brewer, 1988, O'Brien, 1988, 2011, Hodgson, 2017). The proceeds are subsequently transferred to public creditors (Dickson, 1967; Davenant, 1698). That is to say that political actors are obliged with debt contracts (Pistor, 2013, 2019; Desan, 2014; Rahmatian, 2014, 2018) to extract sufficient financial resources from a contracting taxable income base (GNP/GDP) to repay interest on national debt to claim holders at the expense of supplying the public with vital services (e.g. healthcare, pension) (Dorling, 2014) without seemingly breaking the social contract (Locke, 1690). This is the underlying reason for a possible social revolution as feared by Stiglitz (2012) since social nets (pension, health service, unionism, protection of workers' rights) introduced in the welfare state, as Piketty (2014) comments, are now slowly eliminated or privatised, while debt payments grow at a faster rate in comparison to national income growth. In short, Anglo-American capitalism with private money creation funding government deficits accumulated by military warfare as its focal point breeds economic inequality, confirming the impartial claim by President Madison (Kissinger, 1994: 31). Charles Davenant (1698: 199-200) recognized the nature of the new institutional order soon after its establishment.

Where the Publick is indebted, a large Proportion of the Revenues arising from the Annual Income must issue out to the satisfaction of those Debts: from whence it follows, that the Land and Labour of the People, must go to enrich the Money'd Men and

Usurers and not to support the Government ... all methods should be us'd to get out of their Hands as soon as possible.

Charles Davenant, 1698, vol.1: 199-200

Notwithstanding, the empirical implications of this analysis about the Anglo-American institutional order, it validates Charles Goodhart's (1988) theory that the origins of (central) bank money can be identified in warfare. The fiscal deficits due to warfare allowed the political institutions to act as *tabula rasa* upon whose promises (North and Weingast, 1989; Cox, 2012, 2015, 2017) to rear sufficient tax revenue (O'Brien, 1988, 2011) as exacted by the new credit mechanism (Brewer 1988) through setting their terms and conditions (Goodhart 2017) to procure a constellation of privileges, adhering to Ronald Coase's (1934) theorem of the profit-maximizing firm, for themselves or their shareholders (Broz and Grossman, 2004). Political actors over the course of the hegemony of the British realm in the international order (Braudel, 1977, Wallerstein, 1984) discharged exceedingly well their credible commitment, as did their Dutch counterparts of earlier eras (Hodgson, 2017; Dickson, 1967), to holders of the secured property right to create (paper) credit in order to procure funds for the military expansion of the political boundaries during at times of war (Goodhart, 1988). An exponentially rising sum of financial resources, on the other hand, was set aside at times of peace (see Figure 6) to satisfy payments on national debt payments. The successful expansion of the British Empire (Braudel, 1977, Wallerstein, 1984) allowed the burden of tax to be spread in equitably fashion across the population, though evidence of the heavier tax appropriation by the state remains undisputed (O'Brien, 1988, 2011).

5. Conclusion

The manuscript maps out the rise of the military-fiscal state in Britain fueled by the expansion of national debt, denominated in the local unit of account, funded through the privatized property right to endogenously create credit by a highly-concentrated base of private (Bank of England) shareholders. The military-fiscal state appropriated an increasingly higher amount of taxation by the general public with the aim to transfer the proceeds to national debt funders, particularly at times of peace (Toynbee, 1954; Modelski, 1978, 1981, 1984). This institutional order distinguishing the Anglo-American capitalist variety, based on the institutional model of the early Dutch Republic (Hodgson, 2017), allowed the countries to elevate themselves to the summit of the international order (Braudel, 1977; Wallerstein, 1984). The expansion of the nation state through military warfare, concurrently, allowed for the divergence of economic equality as a large proportion of the fiscal proceeds were transferred from the many taxpaying economic agents to the few privileged (Bank) shareholders. So were great financial and social fortunes earned. The theory may be validated with comparative studies of the institutional framework (Djankov et al., 2003; Schumpeter, 1954) of the other hegemon countries – the predecessor, the United Provinces, and the successor, the United States of America, to the hegemon British Empire examined herein (Goldstein, 1985).

Equally importantly, the paper through a historical prism demonstrated that political actors are concerned with debt contracts (Pistor, 2013, 2019; Desan, 2014; Rahmatian, 2014,

2018) over social contract with political voters (Locke, 1690; Rousseau, 1762; North and Weingast, 1989; Acemoglu and Robinson, 2001, 2012, 2019). Nevertheless, population count plays an important role in the fiscal capacity to service public debt as a heavy taxation may trigger a social revolution (Stiglitz, 2012). The investigation reaffirmed Goodhart's (1988) theory of the warfare origins of money.

With the analysis of historical statistics as the prevailing principles of neo-institutional research require, this paper failed to examine in great detail the agency behind founding of the early modern capitalist framework in England as the principles of Old Institutionalism require (Veblen, 1899; Commons, 1934; Selznick, 1996; Stinchcombe, 1997). A better understanding of the profiteering agents, contrasting to North and Weingast's (1989) *faceless winners*, along with the adopted (non-)market strategies by the Whig elite (Acemoglu and Robinson, 2002; Butterfield, 1931; Bourdieu, 1996) will undoubtedly improve the academic know-how on the institutional equilibrium recalibration through the re-invention of the fiscal, political and judicial apparatus (Hodgson, 2017). The microhistory research (Quinn, 2001; Carlos and Neal, 2006; Murphy, 2010) is a fundamental task for future institutional research in the original spirit of this school of thought.

Reference

- Acemoglu, D. and J. Robinson (2001), 'A Theory of Political Transitions', *American Economic Review* **91** (4): 938 - 963
- Acemoglu, D. and J. Robinson (2019), 'Rents and Economic Development: The Perspective of Why Nations Fail'. *Public Choice* (forthcoming)
- Acemoglu, D. and J. Robinson (2012) *Why Nations Fail?: The Origins of Power, Prosperity, and Poverty*. Crown Publishers.
- Acemoglu, D., S. Johnson and J. Robinson (2001), 'The Colonial Origins of Comparative Development: An Empirical Investigation'. *American Economic Review* **91** (5): 1369 - 1401
- Acemoglu, D., S. Johnson and J. Robinson (2005a), 'The Rise of Europe: Atlantic Trade, Institutional Change and Economic Growth', *American Economic Review* **95** (3): 546 – 579.
- Acemoglu, D., S. Johnson and J. Robinson (2005b), 'Institutions as a fundamental cause of long-run growth', in P. Aghion and S.N. Durlauf (eds.), *Handbook of Economic Growth: Volume 1A*, North Holland: Elsevier, pp. 385 – 472.
- Aghion, P. and P. Bolton (1997), 'A Theory of Trickle-Down Growth and Development', *The Review of Economic Studies* **64** (2): 151 – 172.
- Aghion, P., V. Ciornohuz, M. Gravouelle and S. Stantcheva (2018), 'Anatomy of Inequality in France', *Harvard Business School Working Paper*.
- Akerman, J. (1944) *Ekonomisk Teori*. II. Lund, Sweden: Gleerups
- Allen, R. C. (2009) *The British Industrial Revolution in Global Perspective*, Cambridge and New York: Cambridge University Press.
- Alstadsæter, A., N. Johannesen and G. Zucman (2018), 'Who owns the Wealth in Tax Havens? Macro Evidence and Implications for Global Inequality'. *Journal of Public Economics* **162**: 89–100
- Alvaredo, F., L. Chancel, T. Piketty, E. Saez and G. Zucman (2017), 'Global Inequality Dynamics: New Findings from WID. World', NBER Working Paper Series, WP 23119

- Alvaredo, F., L. Chancel, T. Piketty, E. Saez and G. Zucman (2018) The Elephant Curve of Global Inequality and Growth. *AEA Papers and Proceedings* **108**: 103 – 108.
- Atkinson, A., T. Piketty, and E. Saez (2011), ‘Top Incomes in the Long Run of History’, *Journal of Economic Literature* **49** (1): 3-71
- Atkinson, A. (2015) *Inequality: What Can be Done?*, Harvard: Harvard University Press
- Banque du France (2018), ‘Statistics: Loans’, accessed online via <https://www.banque-france.fr/en/statistics/loans/loans> on the 15th April 2018
- Bernstein, E. M. (1940), ‘War and the 'Pattern of Business Cycles’, *American Economic Review* **30**: 524- 535
- Bezemer, D., J. Ryan-Collins, F. van Lerven and L. Zhang (2018). ‘Credit where it’s due: A historical, theoretical and empirical review of credit guidance policies in the 20th century’, *UCL Institute for Innovation and Public Purpose Working Paper Series* (IIPP WP 2018-11)
- Boswell, T. and M. Sweat (1991) ‘Hegemony, Long Waves, and Major Wars: A Time Series Analysis of Systemic Dynamics, 1496–1967’, *International Studies Quarterly* **35** (2): 123–149
- Bourdieu, P. (1996) *State Nobility: Elite Schools in the Field of Power*, Stanford: Stanford University Press.
- Bourdieu, P. (2003) ‘El neoliberalismo, utopia (en vias de realizacion) de una explotacion ilimitada’, in *Contrafuegos*. ed. Pierre Bourdieu, pp. 136 – 150. Barcelona: Anagrama.
- Bourdieu, P. (2008) ‘La esencia del neoliberalismo’ *El Punto de Vista* **5**: 40 - 43.
- Braudel, F. (1972) *The Mediterranean and the Mediterranean World in the Age of Philip II*. London, UK: Collins.
- Braudel, F. (1977) *Afterthoughts on Material Civilization and Capitalism*. Baltimore, MD: Johns Hopkins University Press.
- Braudel, F. (1984) *The Perspective of the World. Civilization and Capitalism 15th-18th Century*, Vol. 3. New York, NY: Harper and Row.
- Brewer, J. (1988) *The Sinews of Power: War, Money & the English State 1688 – 1783*. Harvard: Harvard University Press.
- Broz, J. and K. Grossman (2004), ‘Paying for privilege: the political economy of the Bank of England charters, 1694 – 1844’. *Explorations in Economic History*, **41** (1): 48 – 72.
- Bundesbank (2017), ‘The role of banks, non-banks and the central bank in the money creation process’. *Monthly Report* April 2017: pp. 13 – 33.
- Butterfield, H. (1931) *The Whig Interpretation of History*. New York and London: W.W. Norton & Company.
- Caernarven-Smith, P. (2007) *Gladstone and the Bank of England: A Study in Mid-Victorian Finance, 1833 – 1866*. University of North Texas, M.A. Thesis, May 2007
- Carlos, A. M. and L. Neal (2006), ‘The micro-foundations of the early London capital market: Bank of England shareholders during and after the South Sea Bubble, 1720–25’, *The Economic History Review* **59** (3): 498-538
- Carruthers, B. (1996) *City of Capital: Politics and Markets in the English Financial Revolution*. Princeton: Princeton University Press
- Carruthers, B. (2007), ‘Rules, institutions, and North’s institutionalism: state and market in early modern England’. *European Management Review* **4** (1): 40 – 53
- Carruthers, B. and S. Babb (1996), ‘The colour of money and the nature of value: Greenbacks and Gold in Postbellum America’, *The American Journal of Sociology*, **101** (6): 1556 – 1591.
- Clapham, J. (1944) *The Bank of England: A History*, 2 vols., Cambridge: Cambridge University Press

- Clark, G. (1996), 'The Political Foundations of Modern Economic Growth: England, 1540 – 1800', *Journal of Interdisciplinary History* **26** (4): 563 – 588.
- Clark, G. (2007) *A Farewell to Alms: A Brief Economic History of the World*, Princeton: Princeton University Press.
- Coffman, D., A. Leonard and L. Neal (2013) *Questioning Credible Commitment: Perspectives on the Rise of Financial Capitalism*, Cambridge: Cambridge University Press.
- Coimbra, N. and H. Rey. (2018). 'Financial Cycles and Credit Growth across Countries.' *AEA Papers and Proceedings* **108**: 509-12.
- Commons, J. R. (1934), *Institutional Economics – Its Place in Political Economy*, New York: Macmillan.
- Cox, G. (2012), 'Was the Glorious Revolution a Constitutional Watershed?', *The Journal of Economic History*, **72** (3): 567-600
- Cox, G. (2015), 'Marketing Sovereign Promises: The English Model', *The Journal of Economic History*, **75** (1): 190 – 218
- Cox, G. (2017), 'Political Institutions, Economic Liberty, and the Great Divergence'. *The Journal of Economic History*, **77** (3): 724-755
- Davenant, C. (1698) *Two Discourses on the Public Revenues and Trade of England*
- Desan, C. (2014) *Making Money: Coin, Currency, and the Coming of Capitalism*, Oxford: Oxford University Press.
- Dickey, D. and W. Fuller (1979), 'Distribution of the estimators for autoregressive time series with a unit root'. *Journal of the American Statistical Association* **74**: 427 – 431.
- Dickson, P. (1967), *The Financial Revolution in England: A Study in the Development of Public Credit, 1688-1756*. London: Routledge.
- Djankov, S., Glaeser, E., La Porta, R., Lopez-de-Silanes, F., and A. Shleifer (2003) 'The New Comparative Economics', *Journal of Comparative Economics* **31** (4): 595-619
- Dorling, D. (2014) *Inequality and the 1%*, London: Verso
- Drehmann, M., Borio, C. and Tsatsaronis, K. (2011). 'Anchoring countercyclical capital buffers: the role of credit aggregates'. *BIS Working Papers No. 355*
- Farrar, L. L. (1977), 'Cycles of War: Historical Speculations on Future International Violence'. *International Interactions* **3** (1): 161 – 179.
- Galbraith, J.K. (2012) *Inequality and Instability: A Study of the World Economy Just before the Great Crisis*, Oxford University Press.
- Godfrey, M. (1695) *A Short Account on the Bank of England*. Ann Arbor, Michigan: University of Michigan, Digital Library Production Service 2011 April
- Goldstein, J. (1985) 'Kondratieff Waves as War Cycles', *International Studies Quarterly* **29** (4): 411 – 444
- Goodhart, C. A.E. (1988) *The Evolution of Central Banks*. Cambridge, MA: Massachusetts Institute of Technology Press.
- Goodhart, C. A.E. (2017), 'The Determination of the Money Supply', *The Manchester School*, **85** (1): 33-56
- Hargreaves, E.L (1930) *The National Debt*, London: Edward Arnold and Co.
- Harris, R. (2013), 'Could the crown credibly commit to respect its charters? England 1558–1640', in D. Coffman, A. Leonard, and L. Neal (eds.), *Questioning the Credible Commitment*, Cambridge: Cambridge University Press.
- Hodgson, G. (2017). '1688 and all that: property rights, the Glorious Revolution and the rise of British capitalism'. *Journal of Institutional Economics*, **13** (1): 79 – 107
- Hopkins, T. K. and I. Wallerstein. (1979) 'Cyclical Rhythms and Secular Trends of the Capitalist World-Economy: Some premises, hypotheses, and questions'. *Review* **2** (4): 483-500.

- Hume, D. (1754 - 61) *History of England*, 6 Vols.
- Ingham, G. (2004) *The Nature of Money*, Cambridge: Polity Press.
- Ingham, G. (2008) *Capitalism*, Cambridge: Polity Press.
- Innes, M. (1914), 'The Credit Theory of Money'. *The Banking Law Journal*, **31**:151-168.
- Israel, J. (1989), *Dutch Primacy in World Trade 1585 – 1740*, Oxford and New York: Oxford University Press.
- Israel, J. (1991) *The Anglo-Dutch Moment: Essays on the Glorious Revolution and Its World Impact*. Cambridge: Cambridge University Press
- Israel, J. (2002) *Diaspora within a Diaspora: Jews, Crypto-Jews and Maritime Empires 1540-1740*. The Brill Series in Jewish Studies, vol. 30.
- Jakab, Z. and M. Kumhof (2015), 'Banks are not intermediaries of loanable funds — and why this matters', *Bank of England Working Paper No. 529*
- Jakab, Z. and M. Kumhof (2019), 'Banks are not intermediaries of loanable funds — facts, theory and evidence', *Bank of England Working Paper No. 761*
- Kindleberger, C. P. (1984), 'Financial institutions and economic development: A comparison of Great Britain and France in the eighteenth and nineteenth centuries', *Explorations in Economic History* **21** (2): 103-124
- Kindleberger, C. P. (1986) *The World in Depression, 1929 – 1939, Revised and Enlarged Edition*. University of California Press: Berkeley, Los Angeles, and London.
- Kissenger, H. (1994) *Diplomacy*. New York, London, Toronto and Sydney: Simon and Schuster Paperbacks
- Kondratieff, N. D. (1928) *The Long Wave Cycle*. New York: Richardson & Snyder, 1984.
- Kumhof, M. and X. Wang (2019), 'Banks, money and the zero lower bound on deposit rates', *Bank of England Working Paper No. 752*
- Kuznets, S. (1955) 'Economic Growth and Income Inequality', *The American Economic Review* **45** (1): 1-28
- Kynaston, D. (2017) *Till Times Last Sand: A History of the Bank of England 1694 – 2013*, London: Bloomsbury Export
- La Porta, R., Lopez-de-Silanes, F. and A. Shleifer (2008), 'The Economic Consequences of Legal Origins', *Journal of Economic Literature* **46** (2): 285– 332, accessible via <http://www.aeaweb.org/articles.php?doi=10.1257/jel.46.2.285>
- Lindert, P. (1986), 'Unequal English Wealth since 1670', *The Journal of Political Economy* **94** (6): 1127-1162.
- Lindert, P. and J. G. Williamson (2016), *Unequal Gains: American Growth and Inequality since 1700*, Princeton N.J., Princeton University Press
- Locke, J. (1690) *Two Treatise of Government*, London: Awnsham Churchill
- MacLeod, H. D. (1858) *Elements of Political Economy*, London: Longmans Green.
- MacLeod, H. D. (1891) *Theory of Credit*, 2 Vol.
- Mansfield, E. D. (1988), 'The Distribution of War over Time'. *World Politics* **41**(1): 21 – 51.
- Marx, K. (1867 [2011]) *Capital: Critique of Political Economy*, Courier Corporation.
- Mazzucato, M. (2015) *The Value of Everything: Making and Taking in the Global Economy*. London: Allen Lane, 1st ed.
- Mazzucato, M. (2019) *The Value of Everything: Making and Taking in the Global Economy*. London: Allen Lane, 2nd ed.
- McLeay, M., A. Radia, and T. Ryland (2014), 'Money creation in the modern economy', *Bank of England Quarterly Bulletin*, Q1 2014
- Mitchell, B.R. (1988) *British Historical Statistics*, Cambridge: Cambridge University Press (Reissue Edition: 2011)
- Modelski, G. (1978), 'The Long Cycle of Global Politics and the Nation-State'. *Comparative Studies in Society and History* **20**: 214-238.

- Modelski, G. (1981) 'Long Cycles, Kondratieffs and Alternating Innovations: Implications for U.S. Foreign Policy'. C. W. Kegley and P. McGowan (eds.) in *The Political Economy of Foreign Policy Behavior*. Beverly Hills, CA: Sage.
- Modelski, G. (1983) 'Long Cycles of World Leadership: An Annotated Bibliography'. *International Studies Notes* **10** (3): 1-5.
- Morris, M. (2016) *William I*, London: Penguin Books (Monarch Series).
- Monnet, E. (2014), 'Monetary Policy without interest rates: Evidence from France's golden age (1948 to 1973) using a narrative approach'. *American Economic Journal: Macroeconomics* 6(4): 137–169.
- Murphy, A. (2010), 'Learning the business of banking: the management of the Bank of England's first tellers'. *Business History*, **52** (1): 150-168.
- Murphy, A. L. (2009) *The Origins of English Financial Markets: Investment and Speculation before the South Sea Bubble*, Cambridge and New York: Cambridge University Press.
- Murphy, A.L. (2013), 'Demanding "Credible Commitment": Public Reactions to the Failures of the Early Financial Revolution', *Economic History Review*, **66** (1): 178 – 197.
- North, D. (1990) *Institutions, Institutional Change and Economic Performance*, Cambridge: Cambridge University Press
- North, D., and Weingast, B. (1989), 'Constitutions and Commitment: Evolution of Institutions Governing Public Choice'. *Journal of Economic History* **49** (4): 803-832.
- Novokmet, F., T. Piketty and G. Zucman (2017), 'From Soviets to Oligarchs: Inequality and Prosperity in Russia, 1905 – 2006'. *Journal of Economic Inequality*, **16** (1): 189 – 223.
- O'Brien, P. (2014), 'The formation of states and transition to modern economies', in L. Neal and J. Williamson (eds.), *The Cambridge History of Capitalism: The Rise of Capitalism – From Ancient Origins to 1848*, vol. 1., Cambridge: Cambridge University Press.
- O'Brien, P. (1988), 'The Political Economy of British Taxation, 1660 – 1815', *Economic History Review: New Series* **41**(1): 1 – 32.
- O'Brien, P. (2011). 'The Nature and Historical Evolution of an Exceptional Fiscal State and its Possible Significance for the Precocious Commercialization and Industrialization of the British Economy from Cromwell to Nelson'. *Economic History Review* **64** (2): 408 – 446.
- Offer, A. and Soderberg, G. (2016) *The Nobel Factor: The Prize in Economics, Social Democracy, and the Market Turn*, Princeton: Princeton University Press.
- Organski, A. (1958) *World Politics*. New York, NY: Alfred A. Knopf.
- Parnell, H. (1832) *On Financial Reform*. London: John Murray, Albemarle Street.
- Piagnelli, M. P. and R. Schumacher (2019) 'Do not take peace for granted: Adam Smith's warning on the relation between commerce and war', *Cambridge Journal of Economics* **43** (3): 785–797
- Piketty, T. (2003). 'Income inequality in France, 1901–1998.' *Journal of Political Economy*, **111** (5): 1004-1042.
- Piketty, T. (2014) *Capital in the Twenty-First Century*, Harvard: Harvard University Press
- Piketty, T. and E. Saez (2003), 'Income Inequality in the United States, 1913–1998'. *Quarterly Journal of Economics*, **118** (1): 1–41.
- Piketty, T., L. Yang and G. Zucman (2017), 'Capital Accumulation, Private Property and Rising Inequality in China, 1978 – 2015', *NBER Working Paper Series WP. 23368*
- Piketty, T., Saez, E. and Stantcheva, S. (2014). 'Optimal Taxation of Top Labor Incomes: A Tale of Three Elasticities'. *American Economic Journal: Economic Policy* **6** (1): 230-271.
- Pincus, S. (2009) *1688: The First Modern Revolution*. Yale: Yale University Press.
- Pincus, S. and J.A. Robinson (2014), 'What Really Happened During the Glorious Revolution?', in G. Sebastian and S. Itai (eds.), *Institutions, Property Rights, and*

- Economic Growth: The Legacy of Douglass North, Cambridge and New York: Cambridge University Press, pp. 192 – 222.
- Pincus, S. and Robinson, J.A. (2011), 'What Really Happened During the Glorious Revolution'. *NBER Working Paper No. 17206*.
- Pistor, K. (2013), 'A Legal Theory of Finance', *Journal of Comparative Economics*, **41** (2): 315 - 330
- Pistor, K. (2019) *The Code of Capital How the Law Creates Wealth and Inequality*, Princeton: Princeton University Press.
- Rahmatian, A. (2014), 'Money as a normative text'. *Journal of International Business and Law* **13**: 221-230.
- Rahmatian, A. (2018), 'Money as a legally enforceable debt'. *European Business Law Review* **29** (2): 205-236.
- Renier, G. J. (1932) *William of Orange*, Indiana University: P. Davies.
- Rhodes, J. and N. Yoshino (1999), 'Window Guidance by the Bank of Japan: Was Lending Controlled?', *Contemporary Economic Policy* 17 (2): 166-176
- Richardson, L. F. (1960) *Statistics of Deadly Quarrels*, Pittsburgh: Boxwood Press.
- Rousseau, J.-J. (1762). *The Social Contract*. Wordsworth Editions Ltd;
- Saez, E. and Zucman, G. (2016), 'Wealth inequality in the United States since 1913: Evidence from Capitalised Income Tax Data'. *The Quarterly Journal of Economics* **131** (2): 519 – 578
- Savoia, A., Easaw, J. and A. McKay (2010). 'Inequality, Democracy, and Institutions: A Critical Review of Recent Research', *World Development* **38**(2):142-154.
- Schumpeter, J. (1954), *History of Economic Analysis*, Oxford and New York: Oxford University Press.
- Selznick, P. (1996), 'Institutionalism "Old" and "New"'. *Administrative Science Quarterly*, **41** (2): 270-277
- Smith, A. (1776 [2017]) *An Inquiry into the Nature and Causes of the Wealth of Nations*, Early Modern Texts: Jonathan Bennett
- Sombart, W. (1913) *Krieg und Kapitalismus*, München : Duncker & Humblot
- Stiglitz, J. (2017) *Inequality, Stagnation and Market Power: The Need for a new Progressive Era*, The Roosevelt Institute.
- Stiglitz, J. (2012) *The Price of Inequality*, New York and London: W.W. Norton & Company.
- Stiglitz, J. (2015) *The Great Divide*, New York and London: W.W. Norton & Company.
- Stiglitz, J. (2016), 'The Theory of Credit and Macro-economic Stability'. NBER Working Paper Series WP 22837.
- Stinchcombe, A. L. (1997), 'On the Virtues of the Old Institutionalism'. *Annual Review of Sociology* **23**: 1-18.
- Sussman, N. and Y. Yafeh (2006), 'Institutional Reforms, Financial Development and Sovereign Debt: Britain 1690–1790'. *The Journal of Economic History*, **66** (4): 906-935
- Tcherneva, P. (2016), 'Money, Power, and Monetary Regimes', *The Levy Economics Institute Working Paper No. 861*
- Tellier, L.-N. (2009). *Urban World History: an Economic and Geographical Perspective*. Quebec: PUQ. p. 463
- Temin, P. (2013), 'The Rise and Fall of Economic History at MIT', *Working Paper Series 13-11, Massachusetts Institute of Technology*.
- Temin, P. and H.-J. Voth (2005), 'Credit Rationing and Crowding Out During The Industrial Revolution: Evidence from Hoare's Bank, 1702 – 1862', *Explorations in Economic History*, **42**: 325 – 348.

- Toynbee, A. J. (1954) *A Study of History*, Vol. 9. London, UK: Oxford University Press.
- Troost, W. (2005) *William III: The Stadtholder-King, A Political Biography*. Ashgate
- Veblen, T. (1899), *The Theory of the Leisure Class*. Oxford: Oxford University Press.
- Wallerstein, I. (1984), 'The Three Instances of Hegemony in the History of the Capitalist World- Economy'. *International Journal of Comparative Sociology* **24** (1-2): 100 - 108
- Werner, R. (2003), *Princes of the Yen*. London: ME Sharpe
- Werner, R. (2005), *New Paradigm in Macroeconomics: Solving the Riddle of Japanese Macroeconomic Performance*. Basingstoke: Palgrave MacMillan.
- Werner, R. (2014a), 'How do banks create money, and why can other firms not do the same? An explanation for the coexistence of lending and deposit-taking'. *International Review of Financial Analysis* **36**: 71-77
- Werner, R. (2014b), 'Can banks individually create money out of nothing? — The theories and the empirical evidence', *International Review of Financial Analysis* **36**: 1-19
- Werner, R. (2016), 'A lost century in economics: three theories of banking and the conclusive evidence. *International Review of Financial Analysis* **46**: 361-379
- Williamson, J. (1985) *Did British Capitalism Breed Inequality?* Boston: Allen & Unwin.
- Wright, Q. (1942) *A Study of War*. Chicago, IL: University of Chicago Press.
- Wright, Q. (1965) *A Study of War*. 2nd ed., Chicago: University of Chicago Press.
- Zucman, G. (2019), 'Global Wealth Inequality', NBER Working Paper No. 25462
- Quinn, S. (2001), 'The Glorious Revolution's Effect on English Private Finance: A Microhistory 1680 – 1705', *Journal of Economic History*, 61 (3): 593 – 615.

Appendix – List of Wars

11th Century

1. Viking Invasions of England (967 - 1066)
2. Norman Conquest of England (1066 - 1088)
3. Norman Invasions of Wales (1067)
4. First Crusade (1096 - 1099)

12th Century

1. The Anarchy (1135 - 1154)
2. Second Crusade (1145 - 1149)
3. Revolt of 1173 - 1174 (1173 - 1174)
4. Third Crusade (1189 - 1192)

13th Century

1. First Barons' Wars (1215 - 1217)
2. Saintonge War (1242)
3. Second Barons' Wars (1264 - 1267)
4. Ninth Crusade (1271 - 1272)
5. Conquest of Wales by Edward I (1277 - 1283)
6. Anglo-French War (1294 - 1303)
7. First War of Scottish Independence (1296 - 1328)

14th Century

1. Despenser War (1321 - 1322)
2. War of Saint-Sardos (1324)
3. Second War of Scottish Independence (1332 - 1357)
4. Hundred Years' War (1337 - 1453)
5. Anglo-Scottish Wars (1377 - 1575)
6. Third Ferdinand War (1381 - 1382)
7. Crisis 1383 - 85 (1383 - 1385)

15th Century

1. Glyndŵr Rising (1400 - 1415)
(Part of the Hundred Years' War)
2. Wars of the Roses (1455 - 1485)
3. Anglo-Hanseatic War (1470 - 74)
4. Italian War of 1494 - 98
5. Cornish Rebellion of 1497

16th Century

1. War of the League of Cambrai (1512 - 1514)
2. Italian War of 1522 - 26 (1522 - 1525)
3. War of the League of Cognac (1528 - 29)
4. Italian War of 1542 - 46 (1544 - 46)
5. Rough Wooing (1543 - 1550)
6. Prayer Book Rebellion (1549)
7. Italian War of 1551 - 59 (1556 - 1559)
8. French Wars of Religion (1562 - 1598)
9. Eighty Years' War (1566 - 1648)
10. First Desmond Rebellion (1569 - 1573)
11. Second Desmond Rebellion (1579 - 1583)
12. War of Portuguese Succession (1580 - 1583)
13. Anglo-Spanish War (1585 - 1604)
14. Nine Years' War (Ireland) (1594 - 1605)
15. Dutch - Portuguese War (1602 - 1661)
16. Anglo - Spanish War (1625 - 1630)
17. Anglo-French War (1627 - 1629)
18. Bishop's War (1639 - 1640)

- | | |
|--|--|
| 19. Portuguese Restoration War (1640 - 1668) | 24. Second Anglo - Dutch War (1665 - 1667) |
| 20. Irish Confederate War (1641 - 1653) | 25. Third Anglo - Dutch War (1672 - 1674) |
| 21. English Civil War (1642 - 1651) | 26. Franco - Dutch War (1672 - 1678) |
| 22. First Anglo-Dutch War (1652 - 1654) | 27. Monmouth Rebellion (1685) |
| 23. Anglo - Spanish War (1654 - 1660) | 28. Anglo - Siamese War (1687 - 1688) |

Long 18th Century (1688 – 1801)

- | | |
|--|--|
| 1. Nine Years' War (1688 – 1697). | 18. War of American Independence (1775 – 1783) |
| 2. War in Ireland (1688 – 1691) | 19. The Anglo-French War (1778 – 1783) |
| 3. War of Spanish Succession (1701 – 1714). | 20. The Anglo – Spanish War (1779 – 1783) |
| 4. Great Northern War (1700 – 1715). | 21. The Anglo – Dutch War (1780 – 1783) |
| 5. War of Quadruple Alliance (1717 – 1720). | 22. 2nd Anglo-Mysore War (1781 – 1784) |
| 6. Jacobite Rising (1715 – 1716). | 23. Northwest Indian War (1785 – 1795) |
| 7. Dummer's War (1721 – 1725) | 24. 3 rd Anglo-Mysore (1789 – 1792) |
| 8. The War of Austrian Succession (1740 – 1748) | 25. War of the French Revolution (1793 – 1802) |
| 9. Jacobite Rising (1741 – 1745) | 26. Ibn Ufaisan's Invasion (1793) |
| 10. The 2 nd Carnatic War (1749 – 1754) | 27. Hawkesbury and Nepean Wars (1794 – 1816) |
| 11. The Seven Years' War (1756 – 63) | 28. Second Maroon War (1795 – 1796) |
| 12. The 3 rd Carnatic War (1757 – 63) | 29. 4th Anglo-Mysore War (1798 – 1799) |
| 13. Anglo-Cherokee War (1759 – 61) | 30. Kandyan Wars (1796 – 1818). |
| 14. Tacky's War (1760) | 31. Irish Rebellion of 1798 (1798) |
| 15. Pontiac's Rebellion (1763 – 66) | |
| 16. 1 st Anglo-Mysore War (1766 – 69). | |
| 17. 1 st Anglo-Maratha War (1774 – 83). | |

Starting in 19th Century

- | | |
|---|--|
| 1. Temne War (1801 – 1807) | 8. War of the Fifth Coalition (1809) |
| 2. Tunisian-Sicilian War (1801 – 1804) | 9. British Expedition to Ceylon (1803) |
| 3. Second Anglo-Maratha War (1802 – 1805) | 10. Ashanti-Fante War (1806 – 1807) |
| 4. Anglo-Turkish War (1807 – 1809) | 11. The War of the Third Coalition (1803 – 1805) |
| 5. 4th Xhosa War (1811 – 12) | 12. 5th Xhosa War (1818 – 1819) |
| 6. First Kandyan War (1803 – 1805) | 13. The War of the Fourth Coalition (1806 – 07) |
| 7. Second Kandyan War (1815) | |

14. The British Invasions of Rio de la Plata (1806 – 07)
15. Conquest of French Guiana (1809)
16. Merina Conquest of Madagascar (1810 – 1817).
17. Punjab War (1810 – 20)
18. Anglo-Russian War (1807 – 12)
19. Peninsular War (1807 – 1814)
20. War of 1812 (1812 – 1815)
21. First Anglo-Burmese War (1824 – 26)
22. Revolt of Mercenaries (1828)
23. Portuguese Civil War (1828 – 38)
24. Second Egyptian-Ottoman War (1839 – 1841)
25. First Anglo-Afghan War (1839 – 1842)
26. War of the Sixth Coalition (1812 – 1814)
27. Action of 3 February 1812 (1812)
28. Ga-Fante War (1811)
29. Gunboat War (1807 – 1814)
30. Hundred Days (War of the Seventh Coalition) (1815)
31. Greek War of Independence (1820 – 1830)
32. Baptist War (1831 – 1832)
33. First Carlist War (1833 – 1840)
34. The Sixth Xhosa War (1834 – 36)
35. Rebellions of 1837 (1837 – 38)
36. First Opium War (1839 – 42)
37. First Anglo-Sikh War (1845 – 46)
38. Wanganui Campaign (1847)
39. Flagstaff War (1845 – 46)
40. Hutt Valley Campaign (1847)
41. The War of Axe (1846 – 47)
42. Uruguayan Civil War (1839 – 51)
43. The 8th Xhosa War (1850 – 53)
44. Second Anglo-Burmese War (1852 – 1853)
45. Second Anglo-Sikh War (1848 – 49)
46. Taiping Rebellion (1850 – 64)
47. Crimean War (1853 – 56)
48. Indian Mutiny (1857 – 58)
49. Anglo-Persian War (1856 – 57)
50. National War in Nicaragua (1856 – 57)
51. Second Opium War (1856 – 60)
52. First Taranaki War (1860 – 61)
53. Bombardment of Kagoshima (1862)
54. Second Ashanti War (1863 – 64)
55. Bhutan War (1864 – 1865)
56. British Expedition to Abyssinia (1867 – 68).
57. Red River Rebellion (1869)
58. Klang War (1867 – 1874)
59. Titokowaru's War (1868 – 69)
60. 1868 Expedition to Abyssinia (1868)
61. Te Kooti's War (1868 – 1872)
62. Third Ashanti War (1873 – 74)
63. The 9th Xhosa War (1877 – 1879)
64. The Second Anglo-Afghan War (1878 – 1880)
65. First Boer War (1880 – 1881)
66. Anglo-Zulu War (1879)
67. Urabi Revolt (1879 – 1882)
68. Mahdist War (1884 – 1889)
69. Third-Anglo Burmese War (1885)
70. Sikkim Expedition (1888)
71. Anglo-Zanzibar War (1896)
72. Boxer Rebellion (1899 – 1901)
73. Second Boer War (1899 – 1902)

20th Century Wars

1. Anglo-Aro War (1900 – 1902)
2. British Expedition to Tibet (1903 - 1904)
3. World War I (1914 – 1918)
4. Turkish War of Independence (1919 – 1923)
5. Estonian War of Independence (1918 – 1920)
6. Latvian War of Independence (1918 – 1920)
7. Allied Intervention in the Russian Civil War (1918 – 1920)
8. Irish War of Independence (1919 – 1923)
9. Somaliland campaign (1920)
10. Great Iraqi revolution (1920)
11. Adwan Rebellion (1923)
12. Ikhwan Revolt (1927 - 1930)
13. Great Arab Revolt in Palestine (1936 – 39)
14. S-Plan (1940)
15. Jewish Insurgency in Mandatory Palestine (1938 – 48)
16. Northern Campaign (1943 -44)
17. Indonesian national revolution (1945 – 49)
18. World War II (1939 – 45)
19. Greek Civil War (1944 – 48)
20. Operation Masterdom (1945 – 46)
21. Malayan Emergency (1948 – 60)
22. Border Campaign (1956 – 62)
23. Suez Crisis (1956 – 57)
24. Mau-Mau Uprising (1952 – 60)
25. Corfu Channel Incident (1946 – 48)
26. Korean War (1950 – 1953)
27. Jebel Akhdar war (1954 – 1959)
28. Cyprus Emergency (1955 – 59)
29. First Cod (1958 – 61)
30. Dhofar Rebellion (1962 – 1975)
31. Indonesia-Malaysia confrontation (1962 – 1970)
32. Aden Emergency (1963 – 1967)