# Navigating Global Crises. Unorthodox Monetary Policy, Debt Management and International Institutions in Britain and Italy from WWI to Covid-19

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ABSTRACT

The paper offers a theoretical and comparative reflection on the importance of historical narratives in interpreting economic crises and informing effective policy responses. It takes as its foundation four emblematic episodes of extraordinary public spending –World War I, World War II, the Great Depression of 1929, and the Global Financial Crisis of 2008 – collectively referred to as Big Fiscal Government Spending (BFGS) episodes. These are used as a lens through which to consider the COVID-19 crisis and explore what lessons past experiences may offer for the present and future.

The essay adopts a heterodox, interdisciplinary approach, grounded in critical realism and historical inquiry, and deliberately distances itself from a rigidly orthodox economic framework. Drawing on perspectives from scholars like Harold James and Barry Eichengreen, the text argues that public responses to crises are the outcome of political and institutional choices, rather than deterministic economic laws. Accordingly, historical analysis is not aimed at prescribing a single optimal policy solution, but rather at illuminating a range of potential strategies and outcomes—always sensitive to national specificities, institutional architectures, and the influence of individual leadership.

A central section of the paper contrasts orthodox and heterodox responses to crisis. A key insight is that in all four BFGS episodes, breaking with orthodoxy was a common feature: from the creation of new monetary instruments and direct central bank financing of war deficits, to expansive fiscal policies, bailouts, and off-balance-sheet solutions. International institutions are considered both as guardians of orthodoxy and, at times, as enablers of unconventional approaches during critical junctures.

In the case of COVID-19, the author argues that the decision by governments to shut down economies in order to protect public health marked a dramatic departure from market-driven logic, underlining the centrality of public action. War metaphors are used not merely rhetorically, but analytically, to underscore how debt and public spending take on a different meaning in exceptional circumstances. The analogy with wartime economies supports the idea that public debt incurred to meet existential threats should not be treated as ordinary fiscal burdens.

The essay concludes with the view that economics cannot be reduced to technical management of abstract systems – it must also be understood as a historically grounded social science. Crises do not demand uniform solutions, but rather call for learning, and courageous unorthodox political decision-making. Historical examples offer up a range of possible policy actions faced with global crises that are wider than economists in thrall to today's orthodoxies may care to acknowledge.



**Keywords**

1. Global economic crises
2. 20th-21st cc
3. Unorthodox fiscal policies
4. Metanarrative
5. Critical realism
6. International institutions


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## 1. Global shocks, aftershocks and recoveries

According to the IMF, the *confluence of calamities* or *polycrisis* (Covid-19 pandemic, inflation, war in Ukraine and worldwide climate disasters) hitting the global economy since 2020 represents the biggest challenge since World War II[4]. Worldwide, sovereign debt has risen towards levels not seen since the 1940s. The 2008 Global financial crisis (GFC) and now polycrisis add to the familiar three peaks story of sovereign debt evolution during the twentieth century[5] over two world wars and the Great Depression. Central bank balance sheets' trend shows a similar pattern.

From the start of the pandemic, governments and central banks adopted a 'whatever it takes' approach and in monetary policy the unconventional rapidly became conventional[6]. As the pandemic hit, governments made extraordinary fiscal efforts to furlough workers, provide support to firms and prop up health and banking systems. Central bankers played their part, building on the unconventional monetary policies developed in response to the 2008 GFC: quantitative easing, swap lines, emergency lending, negative interest rates, forward guidance. Central bank balance sheets are now acknowledged as an essential tool to confront a crisis[7]. 'Twas ever thus.

At the outbreak of WWI, Britain came off the gold standard, introduced a new fiat currency, the Bradburys, and the Bank of England (BoE) secretly purchased a major part of the first war bond issue, all masterfully hidden on the BoE balance sheet. In the 1930s, the Italian government used the Bank o Italy (BoI) balance sheet to bail out commercial banks and financially vulnerable industries and consolidate them into a new industrial conglomerate holding company IRI (Istituto per la Ricostruzione Industriale)[8]. Sovereign debt forgiveness, restructuring and repudiation were constant themes after both world wars.

As crises subside, economic orthodoxies tend to reassert themselves. How to deal with high levels of post-crisis debt? Is austerity or continued fiscal stimulus the right policy? These questions were at the heart of British policy debates in the polycrisis (pandemic, inflation, Irish independence war) in the aftermath of WWI, with counterfactual analysis suggesting deflation and half a million unemployed workers could have been avoided[9].

[4] In 2022, IMF Managing Director Kristalina Georgieva compared the post-pandemic confluence of to the end of WWII, M. Lawrence, H. Dixon, T. Janzwood, S. Rockstöm, J. Renn, J. Donges, *Global Polycrisis: The Causal Mechanisms of Crisis Entanglement*, in "Global Sustainability". 7 (2024) 7, pp. . 1-36.
[5] M. Ali Abbas, L. Blattner, M. De Broeck, A. El-Ganainy, M. Hu, *Sovereign Debt Composition in Advanced Economies: A Historical Perspective*, International Monetary Fund, 2014, WP/14/162; B. Eichengreen, A. El-Ganainy, R. Esteves, *In Defense of Public Debt*, Oxford, Oxford University Press, 2021.
[6] Economics Observatory, How Did Central Banks Respond to the Coronavirus Crisis?, in Economics Observatory", April 2020; S. Fischer, Stanley, Comparing the Monetary Policy Responses of Major Central Banks to the Great Financial Crisis and the COVID-19 Pandemic, MIT Sloan Research Paper, November 2021.
[7] An early conclusion of the Bank of England is that «A common lesson from both the GFC and the Covid crisis is that policymakers must be prepared to react decisively to the unexpected. For central banks, readiness to use the balance sheet as a policy tool lies at the heart of that preparedness» in A.J. Bailey, J, Bridges, R. Harrison, J. Jones, A. Mankodi, Paper prepared for the Jackson Hole Economic Policy Symposium, 27-28 August 2020, p. 4.
[8] C. A. Russo, *Bank Nationalizations of the 1930s in Italy: The IRI Formula*, in "Theoretical Inquiries in Law", vol. 13, no. 2, 2012, pp. 407-428.
[9] G.C. Peden (*The road to and from Gairloch: Lloyd George, unemployment, inflation, and the 'Treasury view' in 1921*, in "Twentieth Century British History", 4 (1993), pp. 224-49) lays out the 1921 internal policy debates in the Lloyd George government that considered a £250 million stimulus package (4.9% of

There is nothing new about the challenge of how to finance massive, unexpected expenditures by government nor how to build economic recovery following wars or financial crises. Neither are debates about austerity policies, taxation of wartime profiteering, sustainable levels of public debt nor the role of central banks during and after such crises. On the one hand, every global crisis is unique. On the other, the economics of cashflow and the government budget constraint are perennial.

In this paper we explore unconventional monetary policy and the treatment of sovereign debts during and immediately after the four global crises of the past 120 years, two world wars and two global financial crises. Our approach is historiographic, drawing on a wealth of recent economic history research and new, publicly available databases of long run macroeconomic and central bank statistics mostly developed following the GFC in 2008. For this research, we developed a contextual global overview of fiscal and monetary policies during the four global shocks with particular attention to the role and rules imposed by international institutions (when they were put in place). What was the scale of finance that needed to be raised, how was that achieved, and what were the trajectories of key macroeconomic variables? We use in-depth case studies of UK and Italy to highlight examples of unorthodox policies considered and adopted (or not) to deal with specific economic challenges in each nation[10]. These policies are contextualised and quantified alongside different interpretations of resulting paths of growth, inflation, unemployment and public sector debt. Whilst we do not seek to test any economic theory, we do reflect on what the case studies imply for the current crisis in orthodox macroeconomic theory and the challenge posed by modern monetary theorists.

Barry Eichengreen argues that whilst economic crises are usually fertile ground for politicians seeking lessons of history from analogous events, judicious policy makers should try to compile a portfolio of historical analogies to develop a consideration set of options for evaluation. However, ultimately he concludes that «the policy response is as much a matter of ideology and politics as it is a matter of economics»[11].

Our working hypothesis, supported by the case studies, is that there is nothing new about governments doing whatever it takes to survive a global crisis, be that a world war or a meltdown in the financial system. Breaking with the economic policy orthodoxy of the day is a pragmatic response in the face of an existential threat. Whether a new policy paradigm emerges during a post-crisis recovery/reconstruction period is a matter of national political-economy and the dominant ideology, embodied also by international economic institutions, regarding the role of government and markets.

The paper is organised as follows. Section 2 is a descriptive narrative of the two world wars and the two global financial crises in chronological order, each with additional detailed case studies for UK and Italy. Section 3 compares both pairs of events, the two world wars and two financial crises, and tells narratives of how lessons drawn from the first affected decisions in the second. In Section 3 after facing with some methodological issues we discuss the different unorthodox monetary and public debt management policies that have been used in the past and their possible policy relevance today.

then GDP) funded through monetary expansion to avoid austerity measures and launch public works to reduce unemployment. Eventually the orthodox Treasury view prevailed.

[10] Britain and Italy provide interesting contrasts for their relative importance and vulnerabilities to the global economy as well as being on the same then different sides in the world wars. Italy's later industrialisation, different political ideology during the fascist era and constraints imposed by EU and Eurozone membership offer further contrasts.

[11] B. Eichengreen, *Economic history and economic policy*, in "The Journal of Economic History" 72, 2 (2012), pp. 289-307.

## 1. Big Four Global Shocks (BFGS)

### 1.1. The Great War

By 1913, the international economic and financial system of production, trade and investment had been growing in scale and interdependency under the ~~G~~gold ~~S~~standard of foreign currency convertibility for more than 30 years. Europe was the world's banker, with British, French and, to a lesser extent, German surplus savings financing private enterprise, colonial investments, foreign governments and cities across the rest of the world[12]. The London Stock Exchange was the global centre of securities trading in stocks, shares and bonds, followed at some distance by Paris and New York. Although on the eve of WWI the US was already the world's largest economic power with double UK's GDP, the British Empire was the largest in history and the pound sterling was still the international reference currency. The dollar was not yet a competitor for lack of national monetary policy as the Fed (US Federal Reserve Bank system) was only founded in 1913. Central banks~~[13]~~, still mainly constituted as private for-profit companies, had been evolving for centuries in their role to act *inter alia* as the bank of government, control the issue of banknotes and credit, and act as a lender of last resort.

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Including indirect costs of lost lives, destroyed property, lost industrial production, and net of loans between allies, the total cost of WWI was around £68 billion, of which £25 billion was the direct cost to the Allies as estimated from budget deficits through the war years plus whatever extra had been raised through additional taxation~~.~~[14]. The direct costs of the war rose from £4 billion in the first year to £8 billion by the third and to a crescendo in the final year, which cost as much as the previous three combined. In summer 1914, the nations declaring war on each other were convinced that the war would be over quickly and that in any case the losing party would pay. Each country adopted different ways were to raise funds collected through a mix of taxes, confiscation of assets, tapping domestic savings, foreign loans, and printing money. In the final years of the war, how to raise funds other than by printing money became increasingly challenging[15].

Although the US did not enter the war until 1917, dollar savings were mobilized to support its Allies. In 1916, France and Britain jointly approached the New York markets for a loan that eventually raised $500 million in 5% bonds maturing in five years, which could be redeemed in cash or converted to long term bonds of the two governments. The UK, France and the US made loans to each other and to other Allies, such that by 1919 the outstanding inter-allied war debts were £4 billion. Although huge, these sums pale

[12] ~~See~~ H. Feis, Europe, the world's banker 1870-1914.~~:~~ An account of European foreign investment and the connection of world finance with diplomacy before the war, New Haven, Yale University Press, ~~New Haven~~ 1930.

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~~[13] The Bank of England was founded in 1694 as a private bank for the British Government to consolidate the national debt and raise funds for the war against France. The Banque de France, modelled on the Bank of England was founded in 1800 by Napoleon to issue a new money (the old franc) and raise funds for the war against England. Following unification in 1861, the banking system in Italy remained fragmented into regional banks until relatively late in the century. The Bank of Italy was formed in 1893 as a merger of regional banks.~~

[14] Data come from E.L. Bogart~~T~~, *Direct and Indirect Costs of the Great World War*~~. Carnegie Endowment for International Peace~~, New York, Oxford University Press, ~~New York~~ 1920. ~~Bogart used original documentation to estimate the direct and indirect economic costs of the Great War as well as the chronology of finance raised by each of the combatant nations. This estimate is based on money expenditures in different currencies, during a period of rapid inflation, with sometimes unreliable government accounts, and hence carries a high degree of uncertainty~~.

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[15] C. Kindleberger, *A Financial History of Western Europe*, UK, Taylor & Francis, 2015, ~~Kindleberger, A financial history of Western Europe,~~ pp. 291-298.

ha formattato: Tipo di carattere: Corsivo before the total amount of domestic debt. As a result of financing the war, outstanding public debt rose as a proportion of GDP in every nation. In the UK it grew more than four-fold from 28% in 1913 up to 140% by 1919, while in Italy almost doubled from 77% up to 132%[16]. To fund budget deficits in wartime, all combatant nations relied on a combination of borrowing, credit expansion and outright printing money. Between 1913 and 1919, the amount of currency as coin and notes in circulation increased three-fold in Britain and six-fold in Italy[17]. Inflation occurred in all nations during the war years.

The Armistice in November 1918 marked the official end of hostilities, but the costs associated with the war were far from over and the economic and socio-political consequences were just beginning. The changes after WWI were dramatic. Not only were international borders moved and empires broken apart, but it changed the political literacy of ordinary men and women. Falling prices for internationally traded goods and commodities became a global phenomenon after 1920 as Britain started to pursue deflationary policies in an effort to rejoin and then maintain adherence to the gold standard at the pre-war exchange rate.

Shortly after the declaration of war, all European combatant nations came off the g~~G~~old s~~S~~tandard and ceased convertibility in order to conserve gold reserves. During the 1920s, attempts to return to the pre-1914 gold standard were fraught with difficulties, and were decisively undermined by the Great Depression. The need for the restoration of the gold standard – or something that achieved the same goal of acting as an international currency to settle any balance of payments deficits between exports and imports – was discussed in two conferences in Brussels and Genoa in 1920 and 1922. To overcome problems of rigidity in balancing the global money supply – constrained under the gold standard to the amount of gold available – it was agreed to adopt a more flexible approach, according to which reserves could be held in gold or in assets denominated in key currencies (the US dollar and British pound), but still fully convertible into gold.

When countries did agree on a return to what became known as the gold-exchange standard – the gold-exchange standard was a softer version of returning into gold – it proved to be a failure[18]. The US returned to gold in 1919, after restricting its exports between 1917 and 1919, and therefore in a sense never actually abandoned the old gold standard. The return to gold convertibility at the pre-war exchange rate (UK) or with a depreciation (France) was later achieved by most other countries in different years, but was short-lived. Firstly, the symmetrical adjustment of gold reserves no longer worked – which should be the case if the value of exports equals the value of imports across the global trading system. Keynes argued that this was because some countries did not respect the rules of the game. The US and France continued to accumulate current account surpluses instead of financing countries in difficulty, such as the UK, preferring to build-up large gold reserves. By 1932, US and France between them held 70% of the world's gold. Secondly, a dominant country was missing in the 1920s and 1930s, given that the UK was in decline and the US did not yet want to take on the responsibility for the international monetary system. Thirdly, the increased political weight of the working

[16] L. Tedoldi, A. Volpi, *Storia del debito pubblico in Italia dall'Unità a oggi*, Bari, Laterza, 2021, pp. 67 ss.

[17] Six-fold also in France and fourteen-fold in Germany, ~~see~~ C. Kindleberger, *A Financial History of Western Europe*, ~~Kindleberger, *A financial history of Western Europe*~~, p. 295.

[18] ~~«Another device to stretch the available gold reserves further (providing traditional levels of backing for an expanded money supply) was to extend the pre-war practice of augmenting gold with foreign exchange – to transform the gold standard into a gold-exchange standard»,~~ B. Eichengreen, *Globalizing Capital. A history of international monetary system*, Princeton, Princeton University Press, 2008, pp. 59 ff.

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class under movements like the British Labour Party resisted the social costs of readjustments through reductions in real wages[19].

Britain's forced departure from the gold standard in 1931, six painful years after having rejoined in 1925 at parity with the pre-1914 exchange rate, marked the «end of an epoch in the world's financial and economic development»[20]. The pound and the Bank of England had relinquished its pivotal role in the global financial architecture for international trade. The US and the Fed would eventually take up the baton.

The 20s was experienced very differently each nation. After an immediate post war recession, in US stock markets boomed and wealth increased. In terms of economic output recovering to the levels of 1913, it took until 1922 for production to return to pre-war levels in Italy and the majority of larger economies, and not until 1925 for UK. Germany lurched from crisis to crisis starting with hyperinflation in 1923 followed by extreme austerity measures in order to achieve a balanced budget under Chancellor Brüning, known as the hunger Chancellor, as part of a strategy to prove that Germany was unable to pay its debts. Output did not return to 1913 levels until 1935 under the Nazis.

*Britain*

In the financial panic at the outbreak of war, a holiday to keep banks shut was extended, the stock exchange was temporarily closed, bills of exchange were suspended and Britain went off the Gold Standard to avoid a massive outflow of bullion reserves when overseas investors insisted on payment in gold.

The cost of the war to Britain was £9.5 billion, with expenditure in the final year of the war exceeding the total national income of 1913. The British Treasury customarily funded its short-term cash flow needs by issuing six-month Treasury bills discounted to the Bank of England and commercial banks. It continued this practice during the initial months of the war whilst the costs of mobilization were not so large. However, by November 1914 the sums required for the war became too large and the first of three war bond was issued to the public; a second war bond was issued in 1915. The third war bond issued in 1917 gave investors a choice between a higher taxed interest rate and a tax-free lower interest rate. For the 1917 war loan, the Treasury introduced a program of continuous sale of war bonds at the Treasury, Bank of England and post offices. It raised almost £1 billion in 'new money' in the largest loan in the financial history of the world up to that point. Several years after the war, the Treasury consolidated Exchequer bonds and war bonds into 'consols', perpetual bonds that paid interest, but did not require payment of the principle until the Government chose[21]. At the outbreak of WWI, the Liberal Government doubled income tax. In the first three war budgets, Britain increased taxation on incomes, tea, beer and on certain luxury items such that overall tax revenues increased by around 30% compared to pre-war levels. There was also an excess tax on profits above pre-war levels set initially at 50%,– but raised in the final war years. British Government expenditure as a proportion of GDP rose from less than 10% to around 60% of GDP, and the annual budget deficit swelled to over 40% of GDP. The doubling of income tax and other measures raised the tax base to a higher level that was then maintained after the war.

[19] It was Karl Polanyi who introduced the thesis that interwar monetary instability was primarily due to a reversal in central banks' priorities. After WW1, they were compelled to support a previously unknown level of social spending due to the rise of parliamentary labour parties. Labour and commodity markets lost the traditional flexibility of, as well as their capacity to absorb shocks with ease; K. Polany, *The Great Transformation*, New York, Rinehart, 1944.

[20] *The End of an Epoch*, in "The Economist", ~~*The End of an Epoch*~~, Saturday, 26 September 1931.

[21] The last part of this WWI debt was paid off in 2015, 101 years after the declaration of war.

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Through to 1919, the cumulative budget deficit plus interest payments to be financed amounted to around £7.5 billion, which was funded roughly half by war bonds and war savings certificates and half by short term borrowing instruments, later consolidated into government consols.

At the start of WWI, Britain used three unorthodox monetary operations to raise finances. Firstly, the Government literally printed money and lifted all legal restrictions on its ability to do so. The Treasury wanted to bring the large amount of gold sovereign and half-sovereign coins, either in circulation or hoarded at home as cash savings, into the national coffers to add to the war chest. Keynes described this as the elimination of the 'internal' demand for gold as opposed to the external demand for gold for balance of payments transactions with foreign nations, which was not formally suspended until 1919. The Treasury decided to introduce a new paper money (*unbacked money*) in the form of £1 and 10 shilling (£0.5) notes and start to recall all gold coins. Claiming that the Bank of England could not print the necessary amount of notes quickly enough, the Government issued the notes itself under the signature of the permanent secretary to the Treasury, Sir John Bradbury. The notes were subsequently referred to as Bradburys or Treasury notes. £2.5 million in £1 notes were issued to banks only two days after the declaration of war. Aided by inflation over the course of the war, the *Bradburys* established the widespread use of paper money in the UK.

The enabling Act of Parliament~~[22]~~ authorised the Treasury to issue Bradbury notes not backed by gold and without any legal limits[23]. The same Act removed all fiduciary limits on the issue of all forms of notes by the B~~ank ~~o~~f ~~E~~ngland~~, which no longer had to be backed by gold reserves. In wartime letters between the Chancellor of the Exchequer and Governor of the B~~ank ~~o~~f ~~E~~ngland~~ made clear that the Bank was to act as instrument of government policy. De facto, the Government took over control of monetary policy for the war. There are conflicting reports of the total amount of Treasury note issue. When Bradburys were eventually consolidated onto the Bank of England balance sheet in 1929, there was an increase of around £240 million, equivalent to around 10% of 1913 GDP, under the heading «notes in circulation and government bonds».

The other unorthodox monetary intervention by the bank at the start of WWI is linked to the first issue of War Bonds in 1914[24]. The original war bond issue was planned to raise £350 million. Of this amount, £60 million was to be subscribed by commercial banks using 10% of their deposit and credit accounts, the B~~ank ~~o~~f ~~E~~ngland~~ was to take £40 million, with the balance of £250 million sold to the public. In fact, a very limited number of individual investors subscribed for only £90 million. To avoid a propaganda disaster, the bank subscribed the remaining £160 million, under the signature of the chief cashier, Gorn(d)on Nairn, and his deputy, Ernest Harvey. The public was deceived to imagine the

~~22 Currency and Bank Notes Act, August 6, 1914. The act became law one day after the declaration of war. It allowed the Treasury to print bank notes as legal tender to cover its obligations in excess of any limit fixed by law. There was no statutory regulation as to the amount of the issue, nor was there any statutory provision as to the gold reserves to be held against those notes. Additionally, power was given to the Treasury to suspend temporarily the fiduciary limit of BoE notes. See https://api.parliament.uk/historic-hansard/commons/1928/may/14/currency-and-bank-notes-bill-1 Parliamentary discussion of the circumstances surrounding the issue of Bradburys and their reabsorption into the Bank of England's Balance Sheet in 1929.~~

23 Currency and Bank Notes Act, August 6, 1914; https://api.parliament.uk/historic-hansard/commons/1928/may/14/currency-and-bank-notes-bill-1 Parliamentary discussion of the circumstances surrounding the issue of Bradburys and their reabsorption into the Bank of England's Balance Sheet in 1929.

24 M. Anson, N. Cohen, A. Owens, D. Todman, *Your country needs funds: The extraordinary story of Britain's early efforts to finance the First World War*, VOX CEPR Policy Portal 4 December 2018. https://voxeu.org/content/extraordinary-story-britain-s-early-efforts-finance-first-world-war

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loan had been over-subscribed by £250 million and a great success. At the same time, the bank was obliged to purchase additional Exchequer bonds, such that the additional total amount ‘hidden’ on its balance sheet under ‘other securities’ was £180 million. A memo marked Secret in the bank archives from John Maynard Keynes to John Bradbury acknowledged the ‘masterful manipulation’ of the institution’s balance sheet. Keynes understood very well that the balance sheet of a bank that could print money was as much fiction as fact. The full extent of the monetary policy interventions during WWI only became visible in 1929. Taking account of the B~~ank~~ ~~of~~ E~~ngland~~ balance sheet sanitizing action in 1929, the unorthodox monetary policy may have contributed around £420 million to the war effort, especially important in the early years, but this is dwarfed by the £7.9 billion of government debt accumulated by 1920.

Post war, in the UK the immediate challenge was to stabilize public finances faced with huge amounts of short-term debt at very high interest rates. Despite debt consolidation and restructuring, debt interest payments rose from 9.6% of government revenues in 1913, to 22.4% by 1920 and 36.4% by 1925[25]. In 1920, in order to reduce the national debt and establish a ‘democratic platform’ to undermine Labour, Churchill proposed a tax on increases in wealth during the war years. It was rejected by his coalition Government colleagues[26]. Inflation remained high until 1920, followed by a period of rising unemployment and price deflation. The old industries of coal, steel and textiles suffered, whilst new industries like automobiles and electrical goods started to flourish. The Government faced a series of political crises including an anti-colonial uprising leading to the eventual creation of an Irish Free State in 1922 and union resistance to real wage reductions culminating in a General s~~S~~trike in 1926.

Throughout the post war period, the dominant economic policy was the Treasury doctrine of balanced budgets and high interest rates to allow Britain to rejoin the Gold Standard at par. The basic tenet of the orthodox Treasury view was that government borrowing for public works to reduce unemployment would crowd out private investment[27]. From 1921 onwards, the Government pursued a policy of deflationary austerity, including cut to civil servant wage, to unemployment benefits and limiting public works investments in order to pursue this goal.

*Italy*

Although there is little agreement between the different sources regarding the total cost of the war for Italy, it was certainly very high even if not comparable with some other belligerent countries. The entire national economy was involved and during the most intense phase of the conflict in 1917-18, it absorbed one third of national income. For several years after the armistice, expenses attributable to the war continued to remain high. Even before the outbreak of war, Italian public finances were unstable. After 1914 until Italy decided to join on the side of the Allies, budget deficits worsened rapidly mainly due to increased prices of raw materials on which the country depended and reduced demand for exports. Due to the war, the expenses of the state rose from 12% to 59% of GDP. When Italy joined the Allies in 1915 it was ill prepared for war. The Italian

[25] M. J. Daunton, *How to pay for the War: State, Society and Taxation in Britain, 1917–24*, in “~~«~~The English Historical Review”~~»~~, ~~Volume~~ CXI (1996), n. ~~Issue~~ 443, ~~September 1996~~, pp. 882–919.
[26] M. Daunton~~DAUNTON~~, *Churchill at the Treasury: Remaking conservative taxation policy, 1924-1929*, ~~.~~ In “~~«~~Revue belge de philologie et d'histoire”~~»~~, 75 ~~(4)~~ ~~(~~1997), n. 4, pp.1063-1083.
[27] G.C. Peden, *The ‘Treasury View’ on Public Works and Employment in the Interwar Period*, in ~~.~~ ~~«~~”Economic History Review”~~»~~, ~~.~~ 37 (1984), n. 2, pp. 167- 181, ~~May 1 1984, pp. 167-81~~ discusses the nuances and different perspectives on the ‘Treasury view’.

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army of 875,000 men was poorly led and lacked heavy artillery and machine guns. During the course of the war, Italy's manufacturing sector dramatically raised output in critical engineering sectors like automobiles and planes, but largely by the military awarding highly profitable contracts to newly formed conglomerates, such as FIAT and Ansaldo~~taldi~~[28]. In contrast, the old-fashioned agricultural system did not produce a food surplus, in addition reliance on imports became a vulnerability.

According to the latest assessments[29], in the 5 financial years from 1914-5 to 1918-19, 72% of war financing came from contracted loans, taxation as a proportion of national income remained constant and hence contributed virtually nothing. Increasing taxes produced little effect and indeed the deficit of the state budget grew dramatically. The tax burden was especially heavy between 1916 and 1918, but the effect was imperceptible given the parallel explosion of spending for the war. The inefficiency in changing the tax system is evident in the increase in the rate of profit tax, for example, which did not produce more tax revenue proportionally, because at the same time the share of non-taxable profits had widened. In the immediate post-war period it was decided to make an extraordinary levy in the form of a tax on wealth and war profits. In effect these taxes were so badly designed that the businesses they burdened simply added them to prices, the *centesimi di guerra* (war pennies) further fuelling inflation. The internal convertibility of the lira into gold was suspended in August 1914 through the so-called 'bank moratorium' under which the limit of advances that the B~~ank of~~ I~~taly~~ and the two southern Issuing Banks were required to make to the State was raised. During the course of the war, money in circulation rose sharply and continued to grow in 1919 and 1920.  The ensuing inflation spiral led to both a dramatic rise in prices, one of the highest among the warring nations, other than Germany. This in turn led to a significant depreciation of the exchange rate with very negative consequences for the supply of raw materials and on the placement of the national debt abroad. The lira devalued heavily against all foreign currencies: by 20% in 1915, 5% in 1916 and 22% in 1917 to recover only in late 1918 thanks to the American loans and the creation of the National Exchange Institute abroad (Ince) which assumed a virtual monopoly control over foreign trade to limit imports to strictly essential products. More public debt became the only way forward to fund the war effort. Public debt held domestically rose from 81% of GDP in 1914 to 125% in 1920, which further increased to 185% with foreign indebtedness included[30]. Five national war bonds were successfully issued between December 1914 and December 1917, placed by the country's most solid banking institutions. The remarkable success is partly attributed to intense patriotic advertising, but also to the attractive tax treatment of the securities. As in other countries, companies were able to obtain advances on government bonds from credit institutions on terms which allowed for significant net profit margins.

As the war went on, savings thinned and inflation grew, it became increasingly difficult to place long-term debt. The Government progressively resorted to floating debt which by 1918 started to exceed a third of the total, which in turn started to put further pressure on inflation. Once the end of the war was in sight, the VI national loan was offered with less favourable conditions and met with less enthusiasm from the banks, who were then threatened that it would be converted into a forced loan if it not 'voluntarily' subscribed

[28] F. Galassi, M. Harrison, *Italy at war, 1915-1918*, i~~I~~n S. Broadberry, M. Harrison (eds)~~,~~, *The Economics of World War I*, ed. by ~~S. Broadberry, M. Harrison,~~ Cambridge, Cambridge University Press, ~~Cambridge~~ 2005, pp. 276-309.

[29] ~~See~~ F. Degli Espositi, *War Finance (Italy)*, in~~:~~ *1914-1918-online. International Encyclopedia of the First World War*, ~~ed. by D. Ute Et al.,~~ Freie Universität Berlin, Berlin, Version 1.0, ~~0~~7 September 2015 https://encyclopedia.1914-1918-online.net/article/war_finance_italy.

[30] L. Tedoldi, A. Volpi, Storia del debito pubblico in Italia dall'Unità a oggi, pp. 67 ff.

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in full. In addition to the domestic loans, large foreign loans and important lines of credit were obtained from the UK and US, which were essential to guarantee imports of energy and raw materials. The total amount of foreign loans came 64% from the UK and 35% from the USA. By the end of the war, Italy had the highest level of foreign held debt in its history. The settlement of Italian foreign debt took place in the mid-1920s and Italy, together with other debtor countries, benefited from a de facto debt suspension in mid-1932 after the League of Nations conference in Lausanne.

The ill-planned war finances resulted in high inflation and high increases in taxation after the war for debt repayments. In the post-war years, the taxation required to balance the books fed long standing social grievances which «increased the polarisation and violence that helped Mussolini to power as the defender of law and order»[31]. In 1922, Italy became the first major European nation to become a Fascist state after Mussolini's march on Rome. The Italian version of f~~F~~ascism claimed to offer a new economic paradigm of employer and employee syndicates in corporatist associations collectively setting national economic policy with the State. In the 1920s, Britain and its allies saw Mussolini as a benign dictator and an important bulwark against communism~~[32]~~. By the time Mussolini assumed power in 1922, the economy was already starting to grow again, although the output of 1913 would not be regained until 1925. Agricultural and industrial production significantly rose. Growth was positively influenced by export demand for products ranging from cars to olive oil and wine~~[33]~~.  Having declined in value throughout and immediately after the war, the lira remained fairly stable from 1921 to 1924, after which its value started to fall due to speculative pressure on international money markets.

Sterling returned to the gold standard at par in April 1925. Between November 1925 and January 1926, Italy's Minister of Finance, Giuseppe Volpi, successfully renegotiated Italy's war debts with the UK and US, achieving an effective reduction of 84%, equivalent to 64% of Italy's GDP in 1926. The US write-down was sold to the domestic public as a restructuring, which strictly was correct: repayments were spread over 62 years with the first five years free of interest payments~~[34]~~.  Italy was one of the few nations that did not raise the overall tax burden after WWI. The narrative around this decision at the time was explained as being so as not to make the soldiers returning from the front pay for the war they had just fought in. In May 1926, the Fascist government made the B~~ank of~~ I~~taly~~ the only bank able to issue lira notes and simultaneously authorized it to reduce the money supply as part of deliberately deflationary policies to reduce domestic demand. In August 1926, Mussolini announced his intention to set the lira at a level of 90 lira per pound sterling, referred to in Italian as *quota novanta*. After active intervention in the currency markets to raise the value of the lira against sterling, the lira was fixed at 92 to the pound in December 1927 and Italy announced that it was back on the gold-exchange standard. Some historians find evidence that Mussolini fully understood the implications of the over-valuation, which on the one hand was aimed at showing the strength of the Fascist Government, but it was also part of a broader move towards economic independence and isolation agreed with industrialists. The over valuation of the lira immediately hit exports, which fell, and resulted in rising unemployment that by the end of 1928 had tripled to

[31] F. Galassi, M. Harrison, *Italy at war, 1915-1918*~~, In The Economics of World War I, ed. by S. Broadberry, M. Harrison, Cambridge 2005,~~ pp. 276-309.

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10%[~~35~~36]. Workers were forced to take real wage cuts. Thus, by 1929, Italy was already entering a recession just as an even bigger shock was coming from the US.

### 1.2. The Great Depression

By 1929, all the world's largest trading economies had returned to the gold-exchange standard. Despite episodes of hyperinflation both in Germany and in the ex Austro-Hungarian Empire, since 1924 the global economy had grown continuously and particularly strongly in the US. In the roaring Twenties between 1924 and 1929, the US economy grew at 7% a year, generating wealth looking for investment opportunities. The stock market boom in New York starting in June 1928 was driven partly by irrational optimism, but also by manipulative insider price fixing amongst stockbrokers, investment banks and company directors. At the international level there were serious underlying global imbalances, chiefly the monetary policy of France to build-up gold reserves. On returning to the gold standard, Britain overvalued the pound, whilst France undervalued the franc, contributing to tensions in global trade. War loans and reparation payments weighed heavily on the defeated nations from WWI. At the same time, stock markets were booming around the world, enthralled by growth in new industries like cars, telephones and electrical goods, but also artificially inflated by insider traders. There was global price deflation between 1926 and 1933. In agriculture, the fall in prices of internationally traded products like wheat, stimulated farmers to produce more to maintain incomes, creating an oversupply that further depressed world prices. In the US, whereas the assembly line and financially managed corporations promised large profits and attracted investors, they were responsible for over-production, which from 1928 started to lower industrial prices everywhere. For a time, easy money and credit expansion kept the party going.

The Great Depression 1929-33 saw the largest internationally synchronised fall in output and rise in unemployment in peacetime in history. Keynes described 1930 as «one of the greatest economic catastrophes of modern history» and prompted him to develop his General Theory[37]. Industrial production in large, globalised economies fell some 30% in the US, 25% in Germany and 20% in the UK.

The US saw the worst recession ever. The headline event came in October 1929, when the Wall Street stock market crashed 25% in two days and continued to fall until mid-1932.  Unemployment in the USA increased five-fold to 1.9 million within a year and kept rising. The depression gathered pace with a negative feedback between falling prices, firm and farm bankruptcies and soaring unemployment reducing demand. In 1930, the crisis spread to the banking sector as a fraud at the private Bank of United States triggered a run on banks.

In 1929, stock markets around the world followed the Wall Street lead downwards. The global deflation of prices continued until 1933, affecting countries reliant on agricultural exports to pay their war debts. Cross border investment from the USA dried-up as capital was withdrawn from Europe after the crash, pushing up the cost of capital to finish industrial projects that Germany needed to pay reparations.

In Europe, the first domino in a banking collapse came in 1931, when Kreditanstalt in Austria became the first major bank failure, with contagion rapidly spreading to Germany

[36] Ibidem.

[37] J.M. Keynes, *The Great Slump of 1930*, in Id., *Essays in Persuasion*, London, Palgrave Macmillan, 2010, p. 126.

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and other Danube States from the former Austro-Hungarian Empire. The Austrian government had to step in to bail out the banking sector – only made possible through an emergency loan from the Bank of England, but without a guarantee from the UK Treasury. By 1933, another international loan was proposed with a British government guarantee so that Austria could avoid defaulting on a previous loan from 1923, guaranteed by UK, France, Czechoslovakia and Italy. When the UK Treasury guarantee for this new loan to Austria was debated in the UK Parliament, concern was expressed that, firstly, this was throwing good money after bad (a new loan to pay old debts), and secondly, that investment should be going to support relief for the poor and unemployed in Britain rather than Austria. When Nazi Germany annexed Austria in March 1938 the loan was repudiated with other external debts of the former Austrian Federal Government. ~~-~~In September 1931, Britain left the gold-exchange standard[38]. In 1932, the League of Nations conference at Stresa~~in Italy~~ failed to find an agreement to re-allocate the world's supply of gold reserves held in central banks and the gold standard effectively collapsed, although France, with the largest reserves in Europe, stayed on gold until 1936[39].
Countries that withdrew early from the g~~G~~old s~~S~~tandard and adopted domestic policies to reflate their economies grew and recovered faster during the 1930s. However, much of that restored economic production went into building the machinery for a new war. The bottom of the recession occurred in different countries at different times from 1932-33. In the US, the election of F. D. Roosevelt in 1932 was quickly followed by devaluation of the dollar and launch of New Deal policies that quickly started to reduce unemployment.

*Britain*

Britain's experience of the Great Depression was less severe than the USA and many other leading nations, with a shorter and less deep recession. The defining events for Britain's economy in the inter-war period were rejoining the gold standard in April 1925 at the pre-WWI exchange rate, and then the decision to leave the gold standard again in September 1931.

After going back on the gold standard, from 1926 Britain suffered both high unemployment and deflation. In 1929, the London stock market followed New York downwards, but only lost 16% compared to the 32% fall on Wall Street. Not only was the financial loss half, but fewer individuals were impacted, unlike the US where the 1920s had seen many ordinary households join in the investment mania. UK unemployment rose to 11% and then to a high of 15% in 1932. Towards the end of 1930, inward investment from the US collapsed, meaning that all debt service payments to and imports from US had to be paid for in gold. Deflation continued until 1934. GDP fell in line with industrial output, but started to recover immediately after the UK left the gold standard.

Throughout the recession, the UK government sought to maintain a balanced budget in keeping with the economic orthodoxy of the time. In 1931, this policy required cuts to unemployment benefits and to public sector wages, and a rise in taxation, which further deepened the recession. Then an international run on sterling massively drained gold and foreign reserves from the Bank of England. In September 1931, the pound left the gold-exchange standard and was allowed to float or rather sink against the dollar (from 4.86 to 3.25 $/£ by the end of the year). The pound's fall was followed by all of Britain's Empire

[38] B. Eichengreen, Globalizing Capital. A history of international monetary system, pp. 70-90.
[39] L. Neal, *A Concise History of International Finance*, Cambridge, Cambridge University Press, 2015, pp. 241-249.

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nations and main trading partners. As a proportion of GDP, public sector debt crept up during the depression from 166% to 190%, but then rapidly reduced with the recovery to below the 1929 level.

In 1934, the British government defaulted on $4.2 billion (equivalent to 6.2% of UK GDP) outstanding of its WWI war loan from the US. Since 1922, the British had argued for cancellation of all outstanding war debts and reparations, but that whilst the US insisted on repayment of its loans, the UK continued to seek payment from its Allied debtors sufficient to pay to its US creditors[40].

As early as 1926, Churchill oversaw negotiations to write down the debt owed by Italy by 86% and by France by 62%. In 1930, the debts owed to the US from Europe were restructured under the Young Plan (replacing the 1924 Dawes Plan prepared after the German hyperinflation crisis) to be supervised by the newly created Bank for International Settlements (BIS), which, being based in Basel, emerged as the natural coordinator of international financial cooperation[41]. The US steadfastly resisted pressure from the UK to write off all outstanding WWI debts. As the financial crisis swept Europe in 1931, a series of conferences convened by the League of Nations failed to find a long-term solution. After the pound left the gold standard, exports to the US collapsed during the Great Depression, and other European nations defaulted on their own debt repayments to the UK, the burden of US debts became too heavy to bear. In December 1932, the UK made a payment in full of the instalment of £29.5 million in gold from Bank of England to the Fed[42]. After the UK made a number of part payments, the US passed an Act of Congress that rejected any further partial payments which would be treated as a default. So from 1934 onwards, Britain repudiated[43]. The UK default briefly became an issue again in the negotiations of the Lend-Lease agreement in 1941 and again when the UK wanted to return to the New York bond market in 1978. The debt was never repaid.

*Italy*

The backwardness of the Italian economy, that was still predominantly agricultural[44], protected the country from the most devastating effects of the Great Depression, although recent studies have shown that the crisis lasted longer than previously thought. Between 1929 and 1934 the index of agricultural production fell 48% and national income fell by 7.1%[45]. Only in 1935 did industrial production regain the output of 1929, to drop again

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[40] The so-called Balfour Note sent to Britain's debtor allies in 1922, followed the logic of debt cancellation set-out by J.M. Keynes in *The Economic Consequences of the Peace* (Macmillan, London, 1919), taking the view that those who fought side-by-side should not make money, or lend money, or charge interest to one another. The note even proposes writing off the war reparation debts of Germany on the moral stance that «A general settlement would … be of more value to mankind than any gains that could accrue even from the most successful enforcement of legal obligations», (p. 208). https://fraser.stlouisfed.org/files/docs/publications/FRB/pages/1920-1924/27269_1920-1924.pdf

[41] G. Toniolo, *Central Bank Cooperation at the Bank for International Settlements, 1930-1973*, Cambridge, Cambridge University Press, 2005.

[42] https://api.parliament.uk/historic-hansard/commons/1932/dec/14/reparations-and-war-debts-1

[43] In Parliamentary debates on the matter, one MP suggested that the US be reminded that «the Southern States of America owe us a much bigger sum, repudiated after the Civil War, and that it should be set off against any debt, with interest, owing by us».

[44] In 1929, the contribution of agriculture to GDP in Italy was around 28%, whereas in the UK it was less than 5%.

[45] A. Cova, Dalla crisi alla fine del secondo conflitto mondiale, 1929-1933, in A. Leonardi, A. Cova, P. Galea, Il Novecento economico italiano, Bologna, Monduzzi, 1997, p 136.

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in 1936, also due to the distorting effects brought about by the autarchic turn[46].
Between 1925 and 1926 the Fascist government, in alliance with the county's industrial capitalists, changed its economic policy, orienting itself more-and-more inward. The settlement of the war debt with the UK and US re-opened access to the US financial markets to both the state and to large Italian companies, which had faced financing problems since the 1925 Italian stock market crisis and national banking crisis. Revaluation of the lira and return to the gold-exchange standard in 1927 went in the same direction[47], even if there was political pressure to defend savings and with it the middle classes that formed the basis of the political consensus.
The global crisis in 1929, reversed the direction of international capital flows as US investors withdrew funds to meet their domestic liabilities[48]. The deficits in Italy's balance of payments began to erode gold reserves in a process that would have proved unsustainable, and which determined the trend towards autarky. Nevertheless, the government did not want to give up the granting of prestige loans which contributed to the reduction of reserves, keeping the discount rate high and reducing money circulation.
This process was slow enough to explain the underestimation of the crisis that the Government thought could be tackled according to the rules of classical economics, that is, by reducing public and private consumption and enhancing savings to defend the exchange rate. At first, the excess money supply was drained through the issuance of debt as well as the opportunities for repurchasing Italian securities issued abroad, while the increase in the tax burden was limited to redistribution of income to the detriment of the weakest in society.
After a period of stability until 1930-31, state expenditures and the budget deficit began to accelerate. It went from 900 million lira in 1931-32, to 3.7 billion in the following year, and 2.4 billion in 1933-34. The extraordinary expenses in the African campaign to settle the new colony and preparations for the war with Ethiopia caused the deficit to jump to 6 billion in 1935-36 and to 10 the following year[49].
The capital employed by the state in supporting banks and in the functioning of public institutions engaged in financing various key sectors also contributed significantly to the worsening of the deficit. The effects of the crisis would in fact have been even worse without the measures taken to save and reform the large universal commercial banks and for industrial reconstruction through the foundation of IMI (Istituto Mobiliare Italiano) in 1931 and creation of IRI ~~(Istituto per la Ricostruzione Industriale)~~ in 1933, applying an innovative and unorthodox model of state intervention. IRI was a state-owned holding company that rescued industrial corporations and banks from bankruptcy during the Great Depression. Over the years, this transformed into something similar to a state-owned industrial conglomerate that held majority stakes in the largest companies in the country. Quick and effective action conducted in secret by the state and monetary authorities prevented the banking crisis from having the same paralyzing outcomes as Austria and Germany. Through the creation of IRI, a pivotal institutional innovation of the Italian

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[46] G. Toniolo, L'Italia e l'economica mondiale dall'Unità ad oggi, in Id. (ed.), L'Italia e l'economica mondiale dall'Unità ad oggi, ~~a cura di G. Toniolo~~, Venezia, Marsilio, 2013, p. 28.
[47] ~~Gli ambienti industriali e bancari avrebbero preferito, in sintonia con quelli internazionali, una rivalutazione meno alta ma la quotazione venne di fatto decisa dal mercato sul quale la lira si stava rivalutando per effetto di una notevole speculazione al rialzo fomentata dalle importazioni di capitali, vedi~~ M.L. Cavalcanti, *La politica monetaria italiana fra le due guerre (1918-1943)*, Franco Angeli, Milano, 2011p. 213.
[48] In the previous two-year period 1926-27, US overseas investments were so significant as to be responsible for 55% of money creation in the Italian economy that had to be sterilized by B~~ank of~~ I~~taly~~ to avoid inflation.
[49] A. Cova, Dalla crisi alla fine del secondo conflitto mondiale, p 158.

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economy, the state replaced the three major mixed banks (Banca Commerciale Italiana, Credito Italiano, Banco di Roma) in the control of most large companies, operating in the heavy industry. The institution would later prove an important tool for supporting post-war reconstruction and growth.

The policy of autarky had several economic consequences. On the one hand firms avoided contracting foreign loans, but as a result they triggered a vicious circle that linked the increase in costs and prices to heavier public deficits. The lack of competitiveness of Italian products in turn produced a trade balance deficit while the devaluation of the lira weighed down the balance of payments as imports became more expensive.

Despite the growing deficits, the government kept monetary expansion under control, at least until 1938, by trying to contain the deficit through increased taxes and increasingly resorting to public debt issues that were incentivised to be more attractive than any other form of investment. But the expense involved in expanding the Empire had dramatic effects on gold reserves and in 1936 the lira devalued to align with the new value of the pound after its devaluation of 1931. For a transition period, a regime of flexible exchange rates, differentiated by markets and sectors, was imposed. But in the final build up to war, the Italian economy effectively became closed.

### 1.3. Second World War

The outbreak of WWII unequivocally ended the Great Depression in the US.~~, initially through a rapid increase in demand for supplies shipped across the Atlantic and then economic mobilisation from outright war when US declared war on Japan and joined the Allies in December 1941.~~ Initially, this was driven by a surge in demand for American goods shipped to support Allied forces across the Atlantic. The economic recovery accelerated further after December 1941, when the U.S. declared war on Japan and fully mobilized its economy for the war effort.

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The Nazi Party introduced strong price controls to keep inflation under control. Finally, in July 1939 the Reichsbank's independence and all monetary policy restrictions were removed so that banknotes could be backed with government issued Treasury notes without any need for gold or foreign currency reserves. Immediately after declaring war, the Reich raised taxes, in stark contrast to WWI. The Nazi strategy for war finance was to make the war quick and make the conquered pay. In preparation, within Germany they raised taxes and forced short-term loans from banks, industry and insurance companies sufficient to avoid the need for war bond issues. Germany financed 48% of the costs of WWII from taxation compared to 13% in WWI[50]. It transferred the gold reserves of conquered nations to the Reichsbank in Berlin. As the war progressed longer than planned, Germany financed soaring domestic deficits with debt issued by the Reichsbank that increased twelve-fold by 1945, accompanied by a similar increase in the money supply.

In the immediate post war chaos, Europe was «swimming in currency». Liberated countries adopted different approaches to monetary reform. In Italy and France, reform was limited such that the nominal currency devalued massively against the dollar and «the social effects of inflation on various holders of wealth and recipients of income were generally allowed to work themselves out»[51]. Due to deteriorating relations between the

[50] C. Kindleberger, *A Financial History of Western Europe*, ~~Kindleberger, A financial history of Western Europe~~, p. 405.

[51] Ivi, p. 410

occupying powers, monetary reform in Germany did not take place until June 1948. In its occupied zone, Russia managed the monetary reform independently as a move in the strategic game to separate East from West Germany at the start of the Cold War. In what became West Germany, the Deutschmark replaced the Reichsmark at a conversion of 1:10 for all money and debts following the Colm-Dodge-Goldsmith plan drawn up in 1946. The transition went surprisingly smoothly, described as «one of the great feats of social engineering of all time»[52].

After two years of preparatory talks between Keynes for Britain and Dexter White for the USA, in July 1944 the Bretton Woods conference opened. After Russia withdrew, the remaining 44 nations were committed to avoiding the disaster imposed on the European economies by the post WWI agreements on debts and reparations. A new economic and financial structure was agreed around: pegged exchange rates (slightly adjustable in specific conditions); the dollar as the reserve currency for the countries adhering the system (being the only currency convertible into gold at the ratio of $ 35 per ounce); the International Monetary Fund (IMF) to bail out countries with balance of payments difficulties, with subscribed capital from each country; the International Bank for Reconstruction and Development (IBRD), later renamed the World Bank, which would lend long term to finance investments needed to rebuild shattered infrastructure and industry. Both IMF and IBRD started to operate by 1946, backed by funding from the US and based in Washington DC, but only ramped up their activities slowly whilst Marshall Plan aid dominated the immediate post war recovery[53].

The ERP (European Recovery Programme) or Marshall Plan approved by Congress in 1948 provided dollar aid supplied as goods in kind (above all technology) plus a minor combination of loans and grants to European economies as part of a coordinated and cooperative plan for recovery, overseen by what later became the Organisation for Economic Cooperation and Development (OECD). The aim was to get Europe back on its economic feet in four years.

A critical feature of the Marshall Plan was that the request for support had to come from a joint plan prepared by all the participating European nations. Led by the UK and France, all western European countries participated in preparing a four-year recovery plan for four broad sectors: transport, energy, food and agriculture, iron and steel. Russia and all its satellite nations declined to join the plan. ~~The key feature of the Marshall Plan was that it had to be agreed jointly in a coordinated request from all European nations, with France and UK chairing many of the planning meetings.~~ Each nation came up with its own reconstruction plan and then these were coordinated to ensure intra-European trade and avoid duplication and waste of production capacity. The coordinating body, the OEEC (Organisation for European Economic Cooperation), later became the OECD. The US hope, endorsed by Churchill, was to start a movement towards European market integration. The first integration ~~This~~ was realised with signature of the European Coal and Steel Treaty in 1951, and t~~.~~ ~~T~~he joint planning and cooperation laid the foundations for what later became the European Union, serving as a school in European cooperation for key politicians like Jean Monnet.

A strong motivation for the US was to build a western alliance to contain Soviet expansionism and to transfer to European allies its model of technology-based economic growth. The amounts allocated per country were based on analysis of what was needed to finance dollar balance of payments deficits with the US, but also conditionally linked to trade liberalisation (for US goods and equipment) and the introduction of market

[52] C. Kindleberger, *A Financial History of Western Europe*, ~~Kindleberger, A financial history of Western Europe~~, p. 418.
[53] L. Neal, A Concise History of International Finance, pp. 253 ff.

forces[54]. The total amount of aid channelled through the Marshall Plan was around $12.5 billion (2% of Europe's GDP at the time) of loans, conditional aid and grants. As a stopgap before loans started flowing from IBRD it was an important boost to kick-start the reintroduction of more market driven economic activity and build the institutional foundations for cooperation and more intra-European trade[55].

By 1958, convertibility of all European currencies meant that as members of the IMF they could trade at fixed exchange rates, whilst national central banks retained monetary independence to respond to domestic inflation and unemployment, through nationally enforced capital controls.

In the 1950s and 60s, the western European economies devastated by WWII rebuilt their industry and infrastructure. Under the 'embedded liberalism' that mixed market dominance with generous welfare programs, the western world unleashed a sustained period of strong economic growth and rising real household incomes[56]. Italy and West Germany were heralded as economic miracles. By the late 60s, most European economies had caught up and overtaken the UK in GDP per capita terms. The post-WWII economic boom ended with the 1973-5 recession caused by the progressive increase in labor costs, the pression on public spending, the collapse of the Bretton Woods exchange rate system and the first oil shocks[57]~~OPEC oil price rises and the collapse of the Bretton Woods exchange rate system.~~

*Britain*

Britain's strategy was to divert the entire productive power of the economy to the war effort by restricting domestic consumption (rationing), price controls, mobilising full employment and a form of 'forced savings' disguised as a system of deferred pay replaced by post-war credits. This plan closely followed Keynes work, *How to Pay for the War*[58]. During WWII, Keynes became Churchill's unofficial Chancellor of the Exchequer; they both realized that the war would require imports of arms, food, raw materials and manufactured goods, but that Britain had scant gold and foreign currency reserves to pay for imports and would have no overseas earnings whilst the economy was dedicated to total war. Initially, arms exports from the US had to be paid for in cash, which rapidly drained all remaining gold and foreign reserves and forced Britain to sell assets in the US.

The solution agreed between Keynes, Churchill, Roosevelt and his US advisors was Lend-Lease, whereby American taxpayers funded the production of arms and whatever other supplies Britain needed, in return for a pledge to pay in kind after the war was won. Roosevelt immediately saw the benefits of supplying the UK war effort as US growth and falling unemployment wiped out the last traces of the Great Depression. The Lend-Lease bill approved in March 1941 made an initial allocation of $7 billion (5 % of US GDP). By the end of the war, in total Lend-Lease financed some $50 billion of supplies from USA to its Allies, led by UK (63%) and USSR~~Russia~~ (23%).

~~[54] Policies which slowly evolved into the Washington Consensus.~~

[55] B. Eichengreen, *Lessons From The Marshall Plan*, Background Case Note, World Development Report 2011, April 2010, p. 5.

[56] J. C. Ruggie, International Regimes, Transactions, and Change: Embedded Liberalism in the Postwar Economic Order, in «International organization», 36 (1982), pp. 379-415.

[57] N. Crafts, G. Toniolo, *Aggregate growth, 1950–2005*, in S.N. Broadberry, K. H. O'Rourke (eds), *The Cambridge economic history of modern Europe*, Cambridge, Cambridge University Press, 2010, pp. 296 ss.

[58] J.M. Keynes, How to pay for the war. A radical plan for the chancellor of the Exchequer, London, 1940.

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When accounts were settled at the end of the war, the US cancelled around $20 billion of Lend-Lease and, after various adjustments, the balance due by the UK was transformed into a 50 year loan at 2% interest.  In December 1945, Britain signed a further $3.75 billion 'Anglo-American' loan from the USA, also at 2% for 50 years, to fund forecast balance of payments deficits in the post-war years. The loan conditions required Britain to make the pound fully convertible by end 1947 and to stop any discrimination against US exports by 1956. The currency convertibility was attempted, but quickly abandoned due to unrealistic timing given the state of world trade and that the dollar had become the *de facto* international trade currency.

Britain increased taxes further to cover about 35% of the war costs. The remaining budget deficits during the war years were financed 65% by long term domestic debt and 30% by short-term floating debt[59]. The money supply increased by 260% compared to 1938, but inflation did not take off in the same way due to price controls and rationing as part of Keynes' plan to control the economy for maximum war production. The Bank of England balance sheet hardly increased at all by the end of the war, from 13 to 15% of GDP. But public sector debt expanded from 154% GDP up to a high point of 259% GDP in 1946 as the Loan-Lease and Anglo-American Loan came onto the books. However, in the boom decades following the war, public finances were strong such that National debt was repaid and fell back below 100% of GDP by 1963.

In July 1945, the Labour Party won a landslide election victory on policies of full employment and social reform. Despite the respect felt for Churchill's war leadership, the people wanted change. The new government launched what would become known as the 'Post-war Consensus' that lasted into the 70s, built around Keynesian economic policies, nationalisation of several key industries like coal and railways, and the setting up of a National Healthcare Service as the centrepiece of a generous welfare state. Throughout the 50s and 60s, unemployment remained below 3%, whilst real GDP grew above 3%. It was even better in other European economies.

*Italy*

The Italian Fascist government enacted a number of changes to the financial system in the build up to war. In 1936, a banking reform decree gave the government greater control of the economy through interest rate setting, making it easier to place government bonds, and access to credit for different sectors of the economy, determining which sectors could invest in increased capacity to prepare for war[60]. Another critical part of the legislation allowed the government to obtain advances from the Bank of Italy without limit, thus opening the door to money printing as a form of war finance.

As Italy went to war in 1940, a new decree imposed controls and taxes on all forms of speculative finance with the aim of directing all investment into government war bonds, the so-called 'circuito dei capitali diretto'. This was enacted through incentives such as punitive taxes on capital transactions other than for Treasury Bonds and obligatory registration of all trading in stocks and shares. A similar technique was employed in Vichy

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[59] S. Broadberry, Lessons learned? British economic management and performance during the World Wars, ~~. I~~in S. Broadberry, M. Harrison (eds), The Economics of the Second World War: Seventy-Five Years On, ~~ed. by S. Broadberry, M. Harrison~~, CEPR Press, London, 2020~~VovEU.org Book, 2020,~~ pp. 30-39.

[60] ~~See~~ M. Fratianni, F. Spinelli, A. J. Schwartz, *A Monetary History of Italy*, Cambridge, Cambridge University Press, 2005; ~~edited by~~ F. Cotula, M. De Cecco, G. Toniolo (a cura di), La Banca d'Italia. Sintesi della ricerca storica, ~~*The Bank of Italy. Summary of the Historical Research 1893-1960*, edited by F. Cotula, M. De Cecco, G. Toniolo~~, Laterza, Bari-Roma, ~~Rome,~~ 2003.

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France to oblige all savers and investors to buy government bonds. The Government also raided the post office savings through the ~~postal savings bank,~~ Cassa Depositi e Prestiti (CDP), that centralized deposits collected nationwide.~~.~~
Between 1940 and 1942 – as total public debt increased – CDP lost relevance in favor of the banks and the central bank. This shift led to the simultaneous growth of floating debt (Treasury bills and advances from the BoI), funded debt (nine-year Treasury bonds), and ‘institutionalized’ debt (Treasury bills and nine-year bonds held by the banks, as well as the monetary base issued by the BoI). In 1943, as the long-term debt reached its capacity limit, the growth of public debt relied primarily on advances from the BoI and the issuance of State notes[61].

Italy financed the war through a combination of domestic bond issues and printing money. Taxes at the start of the war contributed about 17% of GDP, but fell to 14% by 1943 when the Allies landed and the Fascist government collapsed[62]. Taxation can therefore be considered as having made no contribution to the cost of the war. Public debt more than tripled from 177 billion lire in 1940 to above 575 billion in 1945, but by the end of the war inflation shrank the real value of debt as a proportion of GDP. In June 1939 sovereign debt was equal to 86% of GDP, it then rose through the first years of the war to above 100%, before falling dramatically after the collapse of the Fascist regime as inflation rapidly destroyed the value of savings in lire. By the end of the financial year 1945-46 the debt/GDP ratio fell to 33% and then further reduced during the following year down to 21%[63].

The total cost of WWII to Italy is estimated to be about two thirds higher than for WWI, whilst GDP had only grown by one third. Compared to several other combatant nations, the costs and the level of destruction after WWII were less severe. At the end of the war, the damages caused to the Italian productive system were estimated at 8% of the capital value in 1938[64].

Once the Allies started fighting their way up the Italian peninsular in 1943 and the Germans occupied northern Italy as Mussolini’s Government fell~~collapsed~~, there were two ~~versions of the~~ Banks of Italy: one serving the Allies in the south from Naples and another under the Nazi’s in the north, each issuing their own version of the lira. The lira survived the war, but its value had been decimated by inflation, which by end 1946 was accelerating. By the end of WWII, the lira had fallen to about a thirtieth of its pre-war value, compared to having fallen to a fifth during WWI. The stabilisation of the lira, and indeed the whole economy, took place under Luigi Einaudi~~[65]~~, first acting as post war Governor of the B~~ank~~ o~~f~~ I~~taly~~ and then as Minister of Finance. With inflation threatening to turn into hyperinflation, Einaudi enacted a number of technical policies aimed at restoring monetary control and giving confidence. These included re-establishing reserve requirements, limiting the overdraft of the Treasury at the B~~ank~~ o~~f~~ I~~taly~~, returning autonomy to it and giving it supervisory powers over banks, and guaranteeing savings

[61] G. Della Torre, *La finanza di guerra e il "circuito dei capitali" in Italia, 1935-1943: una valutazione quantitativa*, in "Rivista di storia economica, Italian Review of Economic History" 2/2001, pp. 173-200.

[62] Compared to the period 1915-1918 when the GDP had risen at 1.9% on average per year, during 1940-1945 it dropped of 10%. In 1945 GDP returned to the level of 1906, and in 1949 it was over 10% of 1939, G. Toniolo, *L’Italia e l’economica mondiale dall’Unità ad oggi*, p. 29.

[63] *Relazione del Direttore Generale alla Commissione Parlamentare di vigilanza. Il Debito Pubblico in Italia 1861-1987*, Roma, Istituto Poligrafico e Zecca dello Stato,1988 pp. 38-42.

[64] According to the annual report of the Bank of Italy, 1946.

~~[65] Luigi Einaudi was Governor of the Bank of Italy (1945-48); Minister of Finances, Treasury and Budget, as well as Vice-Premier, in 1947–48.~~

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under the new constitution[66]. The discount rate was raised from 4 to 5.5% and the lira was devalued and rapidly stabilized[67]. The official exchange rate of lira against the dollar increased from 225 to 589, and then the following year 1948 fixed at 625 lire. Under the Bretton Woods system, which Italy formally joined in March 1947 following its admission in October 1946[68], this rate remained stable until 1971.~~Under Bretton Woods, which Italy joined in October 1946, this rate remained stable until 1971.~~

Currency stabilization at a slightly under-valued rate achieved one of the main policy objective of the Alcide De Gasperi government as it focused on expanding exports[69]. A similar stabilization of inflation and the currency took place in post war France under the guidance of Jean Monnet. There are many theories about why and how different policy actions worked to stabilize inflation and the currency, but the historical fact is that they did. Kindleberger argues that Einaudi diagnosed that public expenditure had to be restrained despite the high unemployment, almost 2 million in 1947, for structural reasons (too many workers, too little capital equipment) against the advice of Keynesian economists by then the new orthodoxy[70]. Marshall Plan Aid and World Bank loans would be needed to increase the capital stock over the following years. Unemployment remained relatively high throughout the early 'miracolo' years.

The first Prime Minister of the newly established Italian Republic, Alcide De Gasperi prioritised getting imports from American aid, through UNRRA~~[71]~~, and then developed the national reconstruction plan coordinated with other European countries that was a pre-requisite for access to Marshall Plan Aid[72]. The plan focused on investments in engineering, energy, communication and transport. They introduced the Cassa per il Mezzogiorno, a fund for investment in southern Italy, and a popular program for council housing[73]. Much of the financing (650 billions lire) came from the Marshall Plan and was destined to support productive investments in infrastructure[74], capital goods,~~;~~ and achieving cost efficiencies by building on US manufacturing know-how[75]. The overall

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66 «It was decided to maintain the whole financial system under the state control, which was strongly led by the Bank of Italy and strictly regulated», G. Toniolo, *L'Italia e l'economica mondiale dall'Unità ad oggi*, p. 30.

67 P. Battilani, F. Fauri, *L' economia italiana dal 1945 a oggi*, Il Mulino, Bologna, 2014, p. 79.

68 G. Di Taranto, Italy and the International Monetary Fund. From Multiple Exchange-Rate System to Convertibility, in "The Journal of European Economic History", 35 (2006), 2, pp. 263-312.

69 «The stability of the external value of lira was the main aim and was perfectly achieved by monetary authorities of that period», P. Battilani, F. Fauri, *L'economia italiana*, p. 80. The successful stabilization started with substantial real devaluation. Stabilization caused unemployment, followed by credit squeeze.

70 C. Kindleberger, A Financial History of Western Europe, ~~Kindleberger, A financial history of Western Europe~~, pp. 444-5.

~~71 V. ZAMAGNI, *Dalla periferia al centro*. La seconda rinascita economica dell'Italia (1861-1990), Bologna, pp. 409-487. On de Gasperi see also G. DE LUCA, ***Sulla 'sensibilità' economica di De Gasperi***, in D. IVONE (a cura di), ***Alcide De Gasperi nella storia dell'Italia Repubblicana a cinquant'anni dalla morte***, Napoli, 2006, pp. 511-525;~~

72 A. Giovagnoli, *Le premesse della ricostruzione. Tradizione e modernità nella classe dirigente cattolica del dopoguerra*, Milano, Nuovo Istituto Editoriale Italiano, 1982; G. De Luca, *Sulla 'sensibilità' economica di De Gasperi*, in D. Ivone (a cura di), *Alcide De Gasperi nella storia dell'Italia Repubblicana a cinquant'anni dalla morte*, Napoli, Editoriale Scientifica, 2006, pp. 511-525; L. Tedoldi, *Storia dello Stato italiano. Dall'Unità al XXI secolo*, Bari, Laterza, 2018, pp. 172 ss.

73 According to Battilani and Fauri from 1945 to 1951: 27.3% of public expenditure for post war reconstruction was destined to roads and motorways and 18.8% was devoted to building low price houses for the poor, P. Battilani, F. Fauri, *L'~~'~~economia italiana dal 1945 a oggi*.

74 7,182 km of motorways, 24,000 km roads, 5,644 bridges were built.

75 ~~«Though the financial resources coming from the Marshall Plan equaled only 2% of GDP in the period 1948-1952 , it was crucial for the restart of the Italian economy, since it facilitated the supply of means of payments of imported raw materials and American technology. In addition it reduced the redistributive impact of the monetary stabilization». «By defining a watershed with the past, the Marshal Plan~~

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goal was to increase exports in order to restore the balance of payments. Per capita consumptions increased as a consequence of more imports and higher production of non-food goods. With the measures introduced by Einaudi, the period of emergency ended and a new chapter in Italy's economic transformation began. Italy's growth in the '50s outpaced ~~exceeded~~ most of its European neighbours, averating ~~at~~ around 6% per year until 1963, twice the rate of ~~double~~ the UK.

### 1.4. The Great Recession

By 2007, the economic globalisation of product and financial markets had reached a new high of scale and integration after WWII, with China the new industrial superpower producing cheap goods for the whole world. The post war Golden Age ~~(1950-1973)~~ of above trend economic growth in the US and Western Europe continued up to 1973. That year saw the first oil price shock following on the heels of the collapse of the Bretton Woods gold-exchange system in 1971, when America devalued the dollar to fund the Vietnam War through increased money supply (i.e. printing money) rather than have to increase taxes[76]. This led to a system of floating exchange rates, with some currencies floating freely, others fully managed by interventionist governments, and other country groupings allowing fluctuation against each other within bands.

Improvements in international coordination through the IMF, G7 and an expanding European Union resulted in a period of moderate growth from 1973-2007, labelled the Great Moderation by economic historians. Smaller scale systemic shocks continued, notably the two OPEC oil price shocks and the so-called Volcker shock, when the USA decided to reduce the supply of dollars on foreign exchange markets[77]. The period was punctuated by national and regional financial crises, such as the 1997-8 Asian financial crisis, that were contained by IMF bailouts and interventions. The impact of shocks on each country varied according to national policies, primarily around market liberalisation, wages and inflation, but none went global until the GFC~~Global Financial Crisis~~.~~.~~

The Great Recession 2008-9 was the worst globally synchronised recession since the aftermath of WWII and was immediately compared to the Great Depression as it appeared to have similar causes in banks over-expanding credit and financial speculation. The Eurozone sovereign debt crisis followed in the wake of the GFC~~Global Financial Crisis~~, such that for an individual country like Spain the global financial crisis plus domestic banking crisis lasted until 2013. In this paper we will refer to the Great Recession/Eurozone crisis as lasting from 2008-13. Although the GFC~~Global Financial Crisis~~ is usually associated to the collapse of Lehman Brothers investment bank in September 2008 triggering a stock market crash, events in 2007 building up to the GFC~~Global Financial Crisis~~ revealed the underlying causes, if not the scale, of the problem. Bank rescues in Germany (IKB), UK (Northern Rock, RBS) France (BNP

~~contributed to the integration process of Italian trade/exchanges with European and international markets. Through the liberalization of the market, the autarchic system was gradually dismantled, shifting from bilateral to multilateral payments», ~~G. Toniolo, *L'Italia e l'economica mondiale dall'Unità ad oggi*, p. 29.

[76] P. Garber, *The Collapse of the Bretton Woods Fixed Exchange Rate System*, in M. Bordo, B. Eichengreen (eds), *A Retrospective on the Bretton Woods System. Lessons for International Monetary Reform*~~, edited by M. Bordo, B. Eichengreen~~, ~~1993,~~ Chicago, University of Chicago Press, -1993, pp. 461-494.~~.~~

[77] L. Neal, A C~~c~~oncise H~~h~~istory of I~~i~~nternational F~~f~~inance, pp. 278-279~~.~~



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Paribas), Netherlands/Belgium (Fortis, Dexia) and US (Bear Stearns) exposed complex, cross-border, derivative-based financial products –~~-~~ often linked~~derived~~ to~~from~~ residential mortgages ~~-~~– that turned out to be far riskier than assumed. As the crisis deepened, central banks increased access to liquidity for banks. When that was insufficient, governments stepped in with taxpayer bailouts. Central banks coordinated between themselves to provide currency swap facilities as interlinked, cross-border financial liabilities unwound on a massive scale.

The Federal Reserve went further than most by removing so-called ‘toxic assets’ off the balance sheets of the largest banks and insurance companies under the Troubled Asset Relief Program (TARP)[78]. As the banking crisis spread into the real economy, there was negative feedback as house prices fell, consumer confidence and spending reduced, investments were postponed and businesses started to go bust. From 2007 to 2009, world unemployment rose by almost 20% to 212 million in 2009[79]. The impact was even more pronounced in OECD countries, where unemployment rose by 54% from 2007 to 2010.

There was a coordinated fiscal and monetary policy response by governments and central banks to limit the extent and duration of the recession. Central banks, notably The Fed, ECB, and B~~ank~~ ~~o~~f~~ ~~E~~ngland~~, pushed down interest rates through asset purchases in the sovereign and commercial bond markets, a policy now known as QE. To plug budget deficits caused by falling tax revenues simultaneously with costs of bank bailouts, rising welfare payments and counter-cyclical investment in infrastructure, public sector borrowing increased significantly across most countries.

The European sovereign debt crisis followed as a new phase of the GFC~~Global Financial Crisis~~ starting in 2010. This had multiple causes, starting with sovereign debt concerns following the collapse of the Icelandic banking system in 2008.

In 2009, the newly elected Greek government revealed that past governments had been misreporting government deficits and debt positions dating back to 2000 when Greece joined the Euro. Fears quickly spread that fiscal positions of governments and national banking systems may be unsustainable not just in Greece, but also in Cyprus, Ireland, Portugal, Spain, and Italy. Following creation of the Euro in 2000, the risk pricing of Eurozone countries had started to converge – meaning that Greece or Italy could raise money on the international capital markets at a similar cost to Germany. With the GFC~~Global Financial Crisis~~, this convergence of risk pricing started to unravel as capital markets realised the scale of public debt to GDP in several peripheral Eurozone countries was becoming unsustainable as a result of ballooning deficits caused by the recession.

In 2010, first the EU and IMF offered Greece a lifeline with a €110 billion loan linked to strict austerity measures, then Eurozone countries established the European Financial Stability Facility (EFSF) a €750 billion bailout fund. EFSF, now replaced by the European Stability Mechanism (ESM), has supported debt restructuring in Ireland and Portugal and bank bailouts in Spain and Cyprus.

~~A~~ critical factor in resolving the Eurozone sovereign debt crisis was the ECB’s Quantitative Easing (QE) monetary policy pursued in close coordination with other central banks. In 2012, the E~~uropean~~ C~~entral~~ B~~ank~~ President Mario Draghi’s commitment to do ‘whatever it takes’ to support the Euro held off a number of speculative attacks on the currency, eventually in 2014 pushing interest rates on Euro debt into theoretically impossible negative territory. Since 2007, the E~~uropean~~ C~~entral~~ B~~ank~~ balance sheet has

[78] The Troubled Asset Relief Program ~~(TARP)~~ was passed by US Congress in 2008 to purchase toxic assets and equity from a broad range of financial institutions, L. Neal, *A Concise History of International Finance*, pp. 302 ff~~.~~

[79] ILO data: https://www.ilo.org/global/about-the-ilo/newsroom/news/WCMS_120465/lang--en/index.htm

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swelled by around €3.5 trillion to 40% of Eurozone countries' GDP[80]. Although large by historic standards, it is less than that of either the Swiss or Japanese Central Banks which also needed to defend speculative attacks on their currencies.

*Britain*

The first fiscal hit of the GFC~~Global Financial Crisis~~ on Britain economy was the cost to government of bailing out banks starting in 2007. By February 2009, the costs of bank bailouts were equivalent to around 20% of GDP. In the US the equivalent bailouts were only 6% of GDP, reflecting the higher dependency of the UK economy on financial services. By the end of 2009, the cost of bank bailouts and various confidence restoring support measures was £955 billion[81]. The recession then saw the largest annual fall in UK real GDP since the Great Depression. The Labour Government in power gave a large fiscal stimulus to counteract the 2008-9 recession, including a VAT cut and extra spending, equivalent to another almost 20% of GDP. The resulting budget deficit was financed by increasing public sector borrowing, which doubled from 41% of GDP in 2006 to 87% of GDP by 2015. It was still above 80% in 2019, although still far below the 259% after WWII.

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The net effect of B~~ank~~ ~~o~~f~~ ~~E~~ngland~~ monetary interventions to support the economy since the GFC~~Global Financial Crisis~~ has been dramatic on its balance sheet, with total Bank of England assets rising seven-fold from around 4% of GDP in 2006 to 30% by 2019[82]. Despite representing the highest proportion of GDP in its history, this remains well below the ~~European Central Bank (~~ECB~~)~~ (40%) or Bank of Japan (100%). As well as on-going QE activity designed to maintain low interest rates, the BoE provided immediate funds needed for the bailout of banks and interventions in the interbank repo-market[83]. Since 2007, the B~~ank~~ ~~o~~f~~ ~~E~~ngland~~ changed the way it presents its balance sheet so that comparisons with previous categories of assets are difficult. Nonetheless, the majority of the increase represents holdings of long-term government debt (gilts), purchased using «unconventional monetary expansion», i.e. QE.

In Britain it wasn't until 2013 that real GDP regained the level of 2007. With its own currency and central bank, Britain was relatively unaffected by the Eurozone crisis. In 2010, the incoming Conservative/Liberal Coalition Government decided to accelerate fiscal consolidation to pay down the debt faster through austerity cuts to public spending. Over the coming decade, inflation remained low and unemployment fell from its peak of almost 9% in 2012 to less than 4% by 2019, although a large number of the new jobs are in the gig economy and/or on zero-hours contracts, which are considered relatively precarious. Real wages declined steadily until 2014, after which they began to recover, reaching once again by 2019 the level recorded in 2007~~Real wages declined through to 2014 and then started to rise again, such that by 2019 real wages were just back to the level of 2007.~~

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*Italy*

[80] B. Eichengreen, Hall of Mirrors. The Great Depression, the Great Recession, and the Uses–and Misuses–of History, Oxford, Oxford University Pressi, 2015, pp. 281-292, pp. 365 ff.

[81] According to the National Audit Office Report *Maintaining the financial stability of UK banks: Update on the support schemes*. https://www.nao.org.uk/wp-content/uploads/2010/12/1011676es.pdf

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[82] A. Hauser, *Waiting for the exit: QT and the Bank of England's long-term balance sheet*, Speech given at the European Bank for Reconstruction and Development, London, 17 July 2019.

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[83] Lending to banks against securities on a buy-back basis.

The Italian credit market appeared to be much more solid compared to those countries where the GFC~~Global Financial Crisis~~ had started, due to the low level of indebtedness of families and the absence of over-valuation in the real estate market, but in the longer run Italy was one of the countries that suffered most. Italian GDP stagnated at the end of 2007, and then started to contract in the second trimester of 2008. The biggest impact was on Italian exports and industrial production which shrank and then collapsed at the end of 2008. Risk premiums on interbank rates rose further. The market capitalization of major Italian and world banks collapsed in a few weeks, and credit conditions worsened. In 2009 the economy contracted by 5%[84].

In response to the GFC, central banks undertook a coordinated reduction of policy rates, driving them to unprecedented lows. The ECB cut the rate on its main refinancing operations to 1 percent – the lowest level recorded since the euro's introduction~~The response of central banks to the Global Financial Crisis was a coordinated cut in policy rates, reaching a very low level, reaching 1% for refinancing operations of ECB, which was the minimum interest rate since the introduction of Euro.~~ Then the ECB started to use unorthodox monetary policy, supplying unlimited liquidity. These measures were followed by the extension of eligible collateral for credit operations in the Eurosystem and a reinforcement of longer-term refinancing operations. In agreement with other European countries and the European Commission, the Italian government established support and recovery measures for economic actors hardest hit by the recession, notably by extending social safety nets for the unemployed and support tools for recapitalizing banks.

In the second trimester 2009 risk premiums on Italian sovereign debt continued to reduce, favored by a higher financial market stability. GDP began to grow, though at lower level if compared with the other major European economies. However, the labor market worsened and unemployment rose. But then in 2010, the Eurozone crisis hit.

Several factors characterized the recession in Italy that made it deeper then many other Eurozone countries. First and foremost, this was seen for Italy as an imported crisis. The collapse of world trade had heavy repercussions on export demand, prices in international markets and on exchange rates. Second, internal financial factors had a negative effect on the availability and the cost of credit. In Italy, tensions in money markets and the worsening activities of banks led to a rapid increase of risk premiums for banks, that was followed by a slowdown of credit financing. Third, the stock market crash[85] dramatically impacted the assets held by Italian families, therefore on households' wealth. Fourthly, a crisis of confidence by firms and families resulted in greater caution in decisions regarding investments and consumption. The net impact of this crisis of confidence on GDP was calculated at 1.5%, and on employment 0.5%[86].

In response, expansionary policies were introduced including the repeal of a planned VAT hike, lowering the early retirement age (for a three year period), the adoption of a new and more generous guaranteed minimum income scheme (*il Reddito di Cittadinanza*~~the Citizen's Income~~), and a reduction in the tax burden for the self-employed and micro-enterprises through the extension of the simplified tax regime (i.e. flat tax). However,

[84] M. Caivano, L. Rodano, S. Siviero, La trasmissione della crisi finanziaria globale all'economia italiana. Un'indagine controfattuale, 2008-2010, in «Questioni di Economia e Finanza», ~~n.~~ 64 (~~, April~~ 2010).

[85] The Italian MIB stock market index started falling in May 2007 and reached a low point in Feb 2009, by which point it had lost 65%.

[86] Italy's GDP per capita remained at the same level in the span 2000-2018. On the other hand, debt to GDP ratio increased from 116.9 (1995) to 132.6 (2016). GFC worsened it when the ratio increased by 32.8 points. Four elements particularly affected the ratio: interest expenditures, primary balance of the economic account, stock-flow adjustment; nominal GDP variations.



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these policies were only partly offset by some spending cuts and higher business income taxes mainly through revenue-raising measures on banks and insurance companies, the abolition of the allowance for corporate equity and of the new entrepreneurial income tax and investment super-amortisation scheme.

As the Eurozone crisis unfolded ~~developed~~ in 2011, along with other periphery EU economies like Greece, Ireland and Spain, Italy experienced a double-~~-~~dip recession with a chasm opening on the interest rate spread for 10 year bonds between Germany and Italy which widened to 550 basis points.

In November 2011, the Silvio Berlusconi government resigned and a new technical government headed by the former EU Commissioner Mario Monti took over and immediately implemented severe austerity measures, cutting public expenditures to restore EU and international credibility. However, the measures also heralded another deep recession in 2012. The drama ended in July 2012 Mario Draghi's commitment that the ECB would do 'whatever it takes' to save the Euro. Thereafter, massive interventions by the ECB halted speculative attacks on the euro and kept Italian spreads for raising new debt tolerable. Throughout this episode, Italy never requested support from the new EU financial support mechanism, ESM, unlike Greece, Spain, Ireland, Portugal and Cyprus. Italy officially exited recession in the last quarter of 2013, making the 2008-13 recession the worst since the 1930s. Italian government debt rose from 120% to 133% GDP between 2011 and 2013. The cost of the crisis was borne disproportionately by Italian youth as compared to other EU and OECD countries, with the exception of Spain and Greece. By the last quarter 2019, youth unemployment in Italy was still 28.6% compared with 15.6% for the Eurozone as a whole. In the UK it was 11% and in the US 8%. By 2019, Italy's government debt-to-GDP ratio was the third highest in the OECD, after Japan and Greece. Government borrowing costs rose sharply in 2018 following policy announcements concerning the planned large increase in the budget deficit – significantly deviating from EU fiscal rules – and policy choices partially reversing previous reforms, especially on pensions and the labo~~u~~r market. The 10-year sovereign debt yields doubled to over 3% in 2018, far above peers.

In April 2019, the OECD survey of Italy noted that after a modest recovery, the economy was weakening again. Real GDP per capita was about the same as twenty years earlier, the worst performance of OECD countries. Levels of poverty rose during the crisis, especially amongst the young. The OECD called for comprehensive economic and social reforms, many of which reflect long-standing problems in the labo~~u~~r market and weaknesses in regional and local public administrations. The need to pay down the large public debt was seen as a constraint on future growth[87].

[87] https://www.oecd.org/economy/surveys/Italy-2019-OECD-economic-survey-overview.pdf

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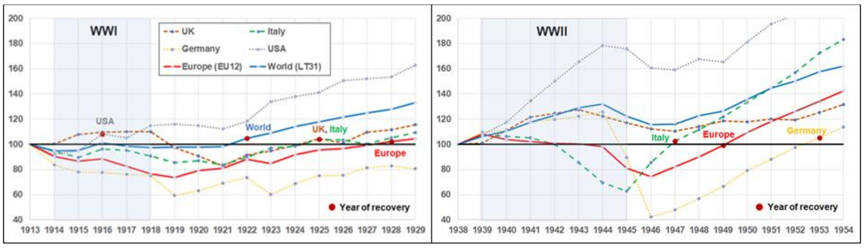
## 2. The two pairs of BFGS and how lessons drawn from the first ~~did not~~ affected decisions in the second.

### *2.1. Two World Wars*

~~2.1.~~

During both world wars, 'normal' constraints on public finance in combatant nations were ignored. Budgets did not balance; public debts soared and money was printed. The objective was to maximize output for the war effort, with government taking over many economic activities, such that GDP actually rose above pre-war levels in several nations. Unorthodox public finance techniques adopted on both sides included taxation on excess wartime profits, creation of new parallel currencies, lend-lease agreements for imports from allies, and secret interventions by the central bank. Large negative economic shocks occurred at the end of each war, most pronounced in defeated nations. Recovery was far stronger and faster after WWII compared to WWI; the need to avoid excessive reparation demands, to write down debts, to provide grants and loans for reconstruction, and, perhaps above all, to build institutions for international financial cooperation emerged with more urgency.

Fig. 1~~2~~. Shocks and recovery from the two World Wars




~~Source:~~ Source: Authors elaboration based on data from: 1910-1960 Maddison Project Database, version 2018. J. Bolt~~OLT~~, R. INklaar~~INKLAAR~~, H. De~~E~~ Jong~~ONG~~ and J.L.Van~~AN~~ Zanden~~ANDEN~~, *Rebasing 'Maddison': new income comparisons and the shape of long-run economic development*, Maddison Project Working Paper, no. 10, 2018 available for download at https://www.rug.nl/ggdc/historicaldevelopment/maddison/ (downloaded 28/5/2020). The "World" series is based on 31 countries for which complete data is available for the period of record. The "Europe" series is based on 12 EU countries for which complete data is available. Real GDP Index derived from Real GDP per capita series (rgdpnapc) and population (pop). ~~Our elaboration data: Maddison…~~

The scale and shape of the shock and recovery from the two world wars as measured by GDP were~~as~~ quite different. As the location of a major theatre of war, Europe suffered more than the world as a whole in both conflicts and defeated nations suffered more than the victors.

During WWII, in proportion to the size of their economies at the start of the conflict, Britain and Germany achieved similar levels of increased output in their efforts towards 'Total War' and higher than they had reached in WWI[88]. In WWII, Italy was more productive in boosting war output compared to WWI, but less than its allies. The US was able to grow rapidly to meet export demands from its allies as soon as WWII started, as

[88] The UK's additional output was around +20%, which corresponded to Keynes estimate of what was possible «On balance an increase in output of 15 to 20 per cent should be practicable when our organisation is working properly», ~~in~~ J.M. Keynes, *How to Pay for the War*, ~~London, 1940,~~ p.15.

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it still had excess capacity and unemployed manpower from the tail end of the Great Depression.

For all European nations, victors or losers, the biggest economic shock came in the immediate post war years. The cumulative economic shock to European output as a whole was similar in both wars at -20% pre-war output, although the shocks to Germany and Italy were worse after WWII. The shock was more immediate and deeper after WWII compared to WWI, whilst the recovery was steeper and hence faster. Recovery kept on going through the 'Wirtschaftswunder' economic miracle decades. Italy's post WWII recovery was even faster and even more of a miracle.

After WWII, the regional scale of devastation and destruction of infrastructure and industrial capital throughout Europe was greater, yet the recovery was faster and stronger. The only country that didn't fully catch the post-war boom wind in its sails was Britain with real output growing steadily (average 1948-57: 3.3%) through the post-war austerity years but well below the rest of Europe (4.81%). Food rationing did not end in the UK until 1954, some five years after Germany.

Both w~~W~~orld w~~W~~ars were financed by a combination of higher taxation, voluntary and forced savings, selling foreign assets, lend-lease agreements, borrowing domestically, borrowing abroad, monetary expansion and directly printing money. From the government perspective of raising cash, this can be simplified down to higher taxation, borrowing at home and abroad, and monetary expansion.

During WWI, each nation applied its own theory and practices of war finance and suffered different consequences. Both France and Germany assumed that the war would be over quickly and that in any case the vanquished enemy would pay. In 1939, Keynes quipped that in wartime, the British financed wars by raising taxes, the French issued domestic government debt (*rentes*) to its citizens, and the German's printed money. In reality, all nations involved in hostilities raised finance through a combination of taxation, borrowing and monetary expansion, just in different proportions and with differing degrees of subterfuge vis-à-vis their populations.

Britain, as well as the US, maintained an outward stance of sound public finances which required never printing money, always paying debts and balancing budgets as soon as conditions allowed. So the war had to be paid for in part through increased taxation – as far as that was politically feasible – but the heavy burden fell on borrowing. That meant largely the savings of its own population plus foreign loans or gold reserves to pay for imports. All warring nations underscored the importance of increasing saving and reducing personal consumption as a patriotic duty.

The cost of the war to Britain represented over twice its GDP in 1913. At the height of WWI, the UK budget deficit represented over 40% of nominal GDP, but less than 30% during WWII. As a proportion of pre-war GDP, the cost of WWII was slightly higher, with a similar pattern of spending, being highest in the final years of conflict[89]. For Italy, the total cost of WWII is estimated to be about two thirds higher than for WWI, whilst GDP had only grown by one third. As a proportion of pre-war GDP, the financial cost of waging WWII was greater than the cost of WWI for all main combatants.

The English financed the cost of WWI roughly one quarter via taxation[90] and the rest through a combination of long term patriotic War Loans and rolling short term debt, most of which it converted into perpetual bonds at the end of the war. Money printing was important in the early years, but overall contributed less than 3%. Inter-allied war loans

[89] Using BoE data for cumulative budget deficits during each conflict, the cost of WWI was 284% of 1913 GDP and for WWII it was 296% of 1939 GDP. These figures exclude the contribution of taxation, which was higher in WWII.

[90] Estimates vary between 20% and 26%.

in both world wars were critical to pay for exports from the US, although in WWII these were restructured as Lend-Lease. In WWI, the UK borrowed from the US and lent to its Allies to fund their imports from US leading to a web of loans and borrowings in gold dollars by 1919. Only US and UK were net creditors. But the UK position was weakened by the loans to Russia, unlikely to be repaid after the revolution of 1917. The entry of the US into the war in April 1917 finally allowed Britain to share some of the burden of financing its Allies.

The cost of WWI for Italians represented about three times 1913 GDP. Italy financed its WWI war effort almost three quarters by war loans and the rest by monetary expansion. The domestic debt was raised through five patriotic war bond issues, incentivised with favourable tax treatment. Italy raised foreign loans from its allies, primarily UK and US and to a minor extent from France. It increased taxes during the war, but they were poorly designed and implemented, especially in the face of rising inflation, such that they made virtually no contribution. WWII was financed through a combination of domestic bond issues, loans from Bank of Italy and printing money. Taxation again made no meaningful contribution. There were strong disincentives for the public, companies or banks to invest in any securities other than government bonds. Public debt more than tripled, but then fell steeply as a proportion of GDP due to rapid inflation at the end of the war. Having peaked at 110% of GDP in 1942, by 1947 public debt had fallen to 21% of GDP.

The British funded WWII through higher taxation and short and long term borrowing. Tax revenues more than doubled through the course of the war, with the largest contribution coming from income tax via increased rates and lower thresholds. A tax on 'excess profits' was aimed at those who were profiteering from the war. Different forms of tax exemption on War bonds to increase their attractiveness were also experimented.

During both wars, whereas the UK managed to almost double tax revenues as a proportion of national income, Italy was ineffective in raising additional taxes, which contributed almost nothing to the war effort. Britain, like the US, was effective in increasing government revenues through changes to income tax (lower thresholds, higher rates), whereas Italy, like France and Germany, was more reliant on tariffs and other forms of taxation and hence struggled to increase the overall contribution from tax revenues[91]. For WWII, in the UK, Keynes proposed a range of measures to suppress domestic consumption and boost savings, including the idea of forced savings –~~-~~ referred to as deferred pay –~~-~~ held in savings accounts. In both wars, the UK also introduced special taxes on excess war profits.

A combination of short and long term loans were used to raise funds. Immediate cash flow requirements were covered through advances from the central bank, short-term rolling loans – such as Treasury or Exchequer bonds – subscribed by commercial banks or the central bank, and, on a larger scale, through public issues of long-term War Bonds, promoted with patriotic messaging and various incentives~~Immediate cash flow needs were met either from advances from the central bank, short term rolling loans (e.g. Treasury or Exchequer bonds) subscribed to by commercial banks or the Central Bank or through much larger public issues of long term War Bonds sold with patriotic advertising and incentives~~. War Bond issues came with incentives that ranged from instalment payments, cheap loans to buy the bonds, to straightforward tax free status. Each approach had pros and cons[92]. At the end of each war, UK public sector debt as a proportion of GDP was amongst the highest in history, reaching a pinnacle of 259% in 1946.

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[91] Some faced strong political opposition to tax reforms and so took the expedient route of printing money.

[92] C.J. Bullock ~~*War*~~ *Financing the Ware*, in "The Quarterly Journal of Economics", vol. 31 (3), pages 357-379. ~~Proceedings of the Annual Conference on Taxation under the Auspices of the National Tax~~

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For the Allies, a critical question was how to pay for imports of food, raw materials and armaments, mainly from America, when countries had nothing to export in return whilst all their production was directed to the war effort. In WWI this was solved with inter-allied loans, with US and UK ending up net creditors and all other nations net debtors. In WWII the problem of paying for imports was solved through Lend-Lease arrangements whereby the US government raised domestic debt to pay for goods and equipment that would be exported to its Allies with a commitment to pay after the war. Lend-lease arrangements in WWII can be considered a special form of borrowing with deferred payment for goods, the short-term payment for which is financed by a loan in the exporting country.

After both wars, finance continued to be essential to pay for imports from the US to avoid starvation, to replace destroyed or damaged capital equipment and to build new manufacturing capacity. Both at the end of WWI and WWII, the UK required large new loans from the US to pay for imports. The UK defaulted on its WWI debt to US in 1934 (as did most European nations) and the US wrote-off 50% of UK's Lend-Lease obligations at the end of WWII.

The ways and means of monetary financing are usually subtler than simply a government printing money to pay its bills. Central banks are constrained by rules about how they lend to governments. In practice, the rules can be and were changed to facilitate monetary expansion during the extreme circumstances of war, by reducing reserve requirements and the terms by which central banks extended cash to the government. Italy simply lifted all overdraft limits with B~~ank~~ ~~of~~ I~~taly~~ at the start of WWII and Germany effectively made the Reichsbank an arm of government.

One direct form of monetary financing is the central bank giving advances to government as a form of 'overdraft'. Such central bank government overdraft facilities are standard for all nations, but with different names[93], modalities and limitations. During both wars, the UK used this facility with moderation, preferring to issue short term debt as Treasury Bills or Exchequer bonds, thus immediately showing as debt. At the start of WWII, Italy passed a decree that gave the Italian Treasury an unlimited overdraft at the B~~ank~~ ~~of~~ I~~taly~~.

A commonly held narrative is that unlike its continental counterparts, Britain did not resort to the printing presses in the wars. That narrative is somewhat economical with the truth, especially with the issue of Bradburys in the early years of WWI.

After WWII, monetary reform was essential in many liberated countries, in part due to the liberal approach of occupying forces to print money to fund the war and to finance recreation for their troops. Issuing a new currency involved not just printing and distributing new notes and coins, but also revaluing all debts, assets and various financial instruments. This usually involved a capital levy, effectively a tax on holders of capital[94].

The biggest economic shock from WWI and WWII came immediately afterwards, not during the wars. It was building the p~~P~~eace that was the next challenge as nations faced the task of reintegrating demobilised soldiers and converting wartime industries back to market-based production, all within a radically altered landscape of international trade~~as~~

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~~Association (Vol. 11, pp. 146-157).~~ National Tax Association, November (1917), explains the approach to war finance from the US perspective as it entered WWI in 1917 with an enormous first year bill and no clear view of when the conflict would end. «This government should finance this war so far as practicable by taxation, and should use loans to supplement taxation as much as may be necessary» (Proceedings of the Annual Conference on Taxation under the Auspices of the National Tax Association, ~~(~~Vol. 11, 1917, pp. 146-157, p. 157). ~~.~~Nowhere does he mention monetary expansion.

93 In the UK this is called the *Ways and Means* account.

94 This ranged from 5% in Belgium to 50% in Germany, C. Kindleberger, *A Financial History of Western Europe*, ~~see Kindleberger, *A financial history of Western Europe*~~, pp. 409-419.

~~soldiers demobbed and industry switched back to market based production in a changed landscape for international trade~~.

After the war, comes the need for reconstruction and a plan for economic recovery. At the end of WWI, there was no recovery plan. The post WWI Treaty of Versailles was about reparations from defeated nations, adjustments to national borders and the break-up of Empires. This thinking represented a war orthodoxy of making the defeated pay that went back millennia. Both Italy and France went ahead with largescale rapid reconstruction programmes on the assumption that German reparations would pay for them. The conditions demanded at Versailles set in motion events that would eventually lead to WWII[95].

After WWII, reparations were demanded from all the defeated nations, but they were largely taken in kind as machinery and manufacturing plants, and through forced labour by prisoners of war. USSR~~Russia~~ exacted high payments from what became its satellite states. The immediate financing needs for dealing with refugees and food relief were met by UN and American Aid, and then from Marshall Plan loans/grants and then loans from IBRD for rebuilding industry and purchasing equipment, most of which came from the US.

The Marshall Plan blended grants and loans (roughly 90:10) in a four year coordinated reconstruction programme 1948-51 for European trade and industry that has «no peer in the history of enlightened self-interest»[96]. A large part of the $12.9 billion in aid was in US equipment that recipient governments could sell commercially, generating additional 'counterpart funds'. ~~The key feature of the Marshall Plan was that it had to be agreed jointly in a coordinated request from all European nations, with France and UK chairing many of the planning meetings. Each nation came up with its own reconstruction plan and then these were coordinated to ensure intra-European trade and avoid duplication and waste of production capacity. The coordinating body, the OEEC (Organisation for European Economic Cooperation), later became the OECD. The US hope, endorsed by Churchill, was to start a movement towards European market integration. This was realised with signature of the European Coal and Steel Treaty in 1951.~~

During and after WWI, inflation was a problem for many countries that monetised war debts and had to continue running deficits. Still, inflation only got completely out of control in a few defeated nations. Between 1921-24, inflation developed into hyperinflation[97] in Austria, Hungary, Poland and Germany. These episodes were mainly caused by continued large budget deficits, but also, for example, the German response to the French and Belgian occupation of the Ruhr. All four episodes were rapidly brought under control by establishing independent central banks to issue new currency, imposing fiscal discipline on governments to balance budgets and new loans to aid recovery[98].

The problem after 1920 became deflation as prices fell globally leading up to and during the Great Depression. In the UK, prices doubled over the course of WWI and continued to rise. But after 1920 prices started to fall as the UK treasury pursued an active

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[95] Keynes attacked the logic of the Versailles Treaty as demanding that the defeated must pay, even when they had no economic capacity to do so, and conjectured that it would have terrible consequences: «The policy of reducing Germany to servitude for a generation, of degrading the lives of millions of human beings, and of depriving a whole nation of happiness should be abhorrent and detestable … even if it enriched ourselves, even if it did not sow the decay of the whole civilized life of Europe», J. M. Keynes, *The economic consequences of the Peace*, p. 209.~~.~~

[96] N. Davies *Europe. A History*, Oxford, Oxford University Press, ~~Oxford~~ 1997, p. 1064.

[97] Hyperinflation is formally defined as average price increases above 50% per month. The highest monthly inflation ever recorded was the Hungarian Pengo in 1946 at 4.2 x $10^{16}$ % (depends on sources).

[98] ~~See~~ T.J. Sargent, *The ends of four big inflations*, in R.E. Hall (ed.), *Inflation*.~~:~~ *Causes and Effects*, ~~ed. by R.E. Hall~~, Chicago, University of Chicago Press, 1982.

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deflationary policy as part of its strategy to return the pound sterling to the gold standard. The US followed a similar pattern although with less of a fall in prices.

~~I~~n Italy, prices rose only slightly more than in the UK during the war, but then continued to rise step-wise to over five times pre-war prices. Price rises ended in 1927 when Mussolini's government re-established a gold peg for the lira, considered over-valued at the so-called *quota novanta*[99]. This exchange rate was set partly as a deliberate political decision to announce the strength of the Fascist regime through the strength of its currency, but also to choke back imports and exports and make the country more economically self-reliant as part of a state corporatist strategy in a move towards economic self-sufficiency[100].

At the end of the Second World War, several countries faced severe inflationary pressures, and Italy was among the most affected. Following the 1943 invasion, various lira banknotes were issued in territories controlled by different occupying forces. Between 1943 and 1947, prices in Italy increased more than twentyfold. In response, the newly appointed Treasury Minister, Luigi Einaudi, implemented a series of technical measures aimed at curbing credit expansion and restricting the government's ability to finance deficits through overdrafts with the Bank of~~At the end of WWII several countries struggled with inflation at the end of the war, one of which was Italy. After it was invaded in 1943, different lira notes were issued in areas controlled by different armies. Between 1943 and 1947 prices rose over twenty fold. The new Treasury Minister, Luigi Einaudi, introduced a number of technical measures to curb credit expansion and limit the government's capacity to raise overdrafts with the Bank of Italy~~. ~~The Marshall Plan was also announced in 1947, which offered the prospect of new loans and grants. The policy changes managed to stabilize the lira from 1948 onwards and inflation fell rapidly and stayed low throughout the 1950s. Italy joined the Bretton Woods System in November 1947 with the lira pegged to the dollar, but then devalued following the devaluation of the pound in 1949 to maintain competitiveness. Thereafter the lira was stable.~~In parallel, the announcement of the Marshall Plan in 1947 offered the prospect of fresh loans and grants, bolstering economic recovery. These combined policy shifts succeeded in stabilizing the lira from 1948 onward, leading to a sharp and sustained decline in inflation throughout the 1950s..

The common economic wisdom expressed after WWII by the FAO was that inflation:

~~«~~seems to follow wars because of the strong demand arising~~-~~ from high earnings coupled with the shortage of consumer goods. During the War price controls, rationing, and the general acceptance of common sacrifice made it possible to keep inflation within bounds. After the war, however, the accumulated backlog of demand and the end of the emergency threatened to release time suppressed inflationary pressures. Most countries, especially those directly affected by destruction, therefore, maintained wartime controls for some years after the end of hostilities~~»~~[101]~~.~~.

~~C~~Changes in prices during and after the world wars do not admit of easy explanation even if one ignores the political dimensions of price controls, exchange rate management and monetary, although over the long run very large and rapid monetary expansion appears highly correlated with inflation.

During the world wars, unemployment fell as soldiers were conscripted and the labour

[99] The origins of *quota novanta* date to 1926, when Mussolini announced that the lira exchange rate would reset at 90 to the pound, following speculative attacks on the currency.

[100] ~~See~~ J. Cohen, *The 1927 Revaluation of the Lira: A Study in Political Economy*, in ~~«~~"The Economic History Review"~~»~~, 25~~(4)~~ (1972), n. 4, pp. 642-654. ~~doi:10.2307/2593953.~~

[101] FAO, *The State of Food and Agriculture 1955: Review of a decade and outlook*. Food and Agriculture Organisation, September, Rome, 1955, p. 21.

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force rose as women entered the workforce. Data for UK and Germany indicate unemployment fell to below 2%. There is no comparable data for US until 1919 and none for Italy. After WWI, unemployment became a big political issue in short post war recessions in 1921, rising above 10% in Britain. Unemployment in Italy under fascism stayed relatively low due to low wages and the higher weight of agriculture in the economy. After the Fascist coup, unemployment fell from over 400,000 in 1922 to 110,000 by 1925. It then started to rise after the lira was overvalued at *quota novanta*[102].
After WWII, post war reconstruction and 'miracle' economic growth led to falling unemployment. The relatively high rates for Italy into the early 1950s, reflect the problems in the Mezzogiorno – too many workers and too little capital –~~–~~ unemployment remained stubbornly high in the south leading to large-scale internal migration to find work in the booming north. An important difference after WWII was the Marshall Plan for coordinated recovery that avoided beggar-thy-neighbour policies of competition leading to industrial over-capacity and competitive devaluations. The planning dangled the carrot of grants and loans to pump prime recovery based on balanced mutual trade and the IBRD and IMF ready as new institutions to lend for reconstruction and help manage any trade imbalance induced balance of payments problems. Countries could not export unemployment, whilst still developing strong export markets within Europe.
Keynes ideas about how to finance the war, including Lend-lease to avoid the need for inter-Allied loans, and his ideas about how to maximise war output by restricting household consumption, derived from what he had seen first-hand in the Treasury during and after WWI and applied the principles set out in the *General Theory* to the economics of scarcity.
The Bretton Woods conference in 1944 aimed to lay the new foundations for world trade, stable currencies, international credit markets, and to deal with issues of war debts. Keynes was the key negotiator for Bretton Woods on the British side.

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### 2.2. Two Financial Crisis

The depth and duration of the two recessions, the Great Depression of the Thirties and the GFC~~Global Financial Crisis~~ of 2008, were very different, both across nations and between the two events. In the Great Depression, governments took a long time to change deflationary policies away from balanced budgets, austerity and sticking to a gold-exchange standard that was not working. Those countries that left the gold standard earliest and adopted expansionist Keynesian policies recovered fastest, although some were preparing for war.

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Unorthodox monetary and fiscal policies were adopted in both episodes, including off-balance sheet public sector finance, parallel currencies, a vast range of New Deal measures in the US, QE and negative interest rates, and in Europe a jointly guaranteed financial stability fund.
The impact of and then recovery from the GFC ~~Global Financial Crisis~~ was more limited than the Great Depression at a global scale, but very severe in periphery Eurozone countries after developing into a sovereign debt crisis. Although some lessons were learned, notably the need for coordinated international action by governments and central banks to do 'whatever it takes', the level of fiscal stimulus was constrained by a return to public sector austerity policies.
The shock to the global economic system from the 1930s Great Depression was deeper and lasted far longer than the recent ~~Global Financial Crisis (~~GFC~~)~~ and Eurozone crisis,

[102] W.G. Welk, *1938. Fascist economic policy: An analysis of Italy's economic experiment*, Cambridge (Mass.), Harvard University Press~~Mass,~~,~~.~~ 1938, pp. 231-233.

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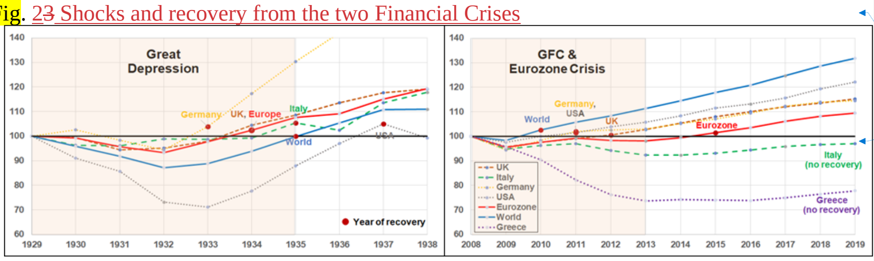
primarily due to the scale of impact in the US and its heavy weight on the global economy. There was a globally coordinated monetary and fiscal policy response to the GFC that limited the depth of the resulting recession. The double dip recession as the Eurozone crisis developed in 2010 caused a number of highly indebted EU countries, notably Greece, to suffer as deep a recession as occurred in the US in the 1930s.

Fig. 2~~3~~ Shocks and recovery from the two Financial Crises




Source: Authors elaboration based on Great Depression data from Maddison Project Database, version 2018. J. Bolt, R. INklaar, H. De Jong and J.L.Van Zanden~~J. BOLT, R. INKLAAR, H. DE JONG and J.L.VAN ZANDEN~~, *Rebasing 'Maddison': new income comparisons and the shape of long-run economic development*, Maddison Project Working Paper, no. 10, 2018 available for download at https://www.rug.nl/ggdc/historicaldevelopment/maddison/ (downloaded 28/5/2020). The "World" series is based on 31 countries for which complete data is available for the period of record. The "Europe" series is based on 12 EU countries for which complete data is available. Real GDP Index derived from Real GDP per capita series (rgdpnapc) and population (pop). GFC & Eurozone Crisis from World Bank World Development Indicators downloaded from https://data.worldbank.org/indicator/NY.GDP.MKTP.KD. Aggregates are based on constant 2010 U.S. dollars. "World" series country code WLD. "Europe" series country code EUU. Real GDP Index calculated setting 2008 = 100. ~~Source: Our elaboration data Maddison….~~

For both events, stock market crashes in the US and then Europe (in 1929 and 2008) are often associated with the 'start' of the crisis, but both were symptoms of and then contributory causes to larger scale financial crises. The Wall Street crash started in October 1929, when the stock market fell 25% in two days and continued to fall until mid-1932. In Europe, stock markets followed Wall Street downwards, but with smaller losses. The October 2008 stock market crash was similar in scale, with the Dow Jones losing 18% in a week.

From 1929 to 1933, the Great Depression saw the largest internationally synchronised fall in output and rise in unemployment in peace-time history. In 1930, the US crisis spread to a run on banks following a fraud at the private Bank of United States. Cross border investment from the US dried-up as capital was withdrawn from Europe to meet liquidity demands at home. The first domino in a European banking collapse came in 1931, when Kreditanstalt failed in Austria, with contagion rapidly spreading to Germany.

Each country started to pull itself the crisis in its own way. There was a lack of global leadership as Britain was no longer able to anchor the global monetary system and the US was not ready to take over that role. After international conferences organised by the League of Nations failed to reach agreement, all countries abandoned the gold-exchange standard thus letting their currency devalue and restart inflation after years of price deflation. There was a global drift towards economic self-sufficiency.

Political parties who gained power by proposing radical solutions to unemployment adopted different fiscal and monetary expansionist policies, such as the New Deal in the US and forms of Military Keynesianism in Germany and Italy. The earlier countries left the gold-exchange standard and the greater the deficit spending of governments, the faster their economies recovered. The UK left the gold-exchange standard and devalued sterling in September 1931. The UK's experience of the Great Depression was less severe than the USA and many other leading nations, with a shorter and less deep recession.

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Most European nations defaulted on WWI debt and reparation payments in the 1930s. After 1930, UK inward investment from and exports to the US collapsed, whilst all debt service payments to and imports from US had to be paid for from diminishing gold reserves. After the banking crises in Europe, other countries stopped debt repayments to the UK. In 1934, England defaulted on $4.2 billion outstanding of its WWI war loan from the US. Italy had already restructured its American and English war debts in 1926. Italy came off the gold standard at the same time as France in 1936.

The 2008-13 recession was the worst in peace time since the 1930s in both UK and Italy. The UK took a significant hit to GDP, partly due to the large exposure of its economy to the financial sector. Italy had one of the weakest recoveries of all OECD countries.

With hindsight, the critical policy shift to help economies escape the Great Depression was leaving the gold-exchange standard and ending austerity policies and a shift towards Keynesian deficit spending to boost domestic demand.

Whilst both recessions had ostensibly similar causes – excessive credit expansion and financial speculation resulting in bank failures, with negative feedback through complex international linkages – in the ~~Global Financial Crisis~~ GFC central banks and governments quickly recognised the risks and provided a massive coordinated monetary stimulus combined with countercyclical fiscal measures. The effect was to maintain liquidity, avoid further bank collapses and restore confidence.

As the ~~Global Financial Crisis~~ GFC evolved into the Eurozone crisis, the ECB's QE support to banks and large corporates was extended to the sovereign debt market until Eurozone countries finally agreed a jointly guaranteed bail-out fund (now called the European Stability Mechanism). This device was used by Greece, Ireland, Portugal, Spain and Cyprus, but Italy never had to make use of it.

The scale of unconventional monetary policy response (i.e. QE) after the ~~Global Financial Crisis~~ GFC and Eurozone crisis has been unprecedented, with central bank balance sheets swelling to beyond levels seen at the end of WWII. Unlike the 1930s, there was a coordinated global response between the G7 economies and central banks. Central banks coordinated between themselves to provide currency swap facilities as interlinked, cross-border financial liabilities unwound on a massive scale, and to flood financial markets with liquidity.

Nations had very different experiences of both events. During the Great Depression, in Italy quick and effective action conducted in secret by the state and central bank averted a banking crisis from having the same paralyzing outcomes as in Austria and Germany. In 1933, as above mentioned, the government created a publicly owned financial holding company, IRI to rescue and refinance banks and large companies, into what became a state-owned industrial conglomerate. Italy entered the crisis with already very high levels of public debt. By 2019, Italy's government debt-to-GDP ratio was the third highest in the OECD, after Japan and Greece.

Global price deflation was a feature leading up to the Great Depression and continued until countries left the gold-exchange standard, whereupon prices increased along with recovery and falling unemployment. Persistent low inflation, despite massive QE monetary expansion, was a characteristic of the ~~Global Financial Crisis~~ GFC and after.

Between 1920 and 1935, price deflation became a global problem. In the UK, prices started falling in 1920 and continued to fall until 1933 by a total of 38%. From 1926 to 1933, prices fell 27% in the US and 31% in Italy~~[103]~~. Many contributory causes are claimed including UK Treasury's deliberately deflationary policies to keep wages low in order get the pound back on the gold standard at the pre-WWI exchange rate. In both UK and Italy,

~~[103] In Sweden, prices fell 44% between 1920 and 1933.~~

policies included austerity cuts to public spending, such as payment to the unemployed, and limiting public works expenditure in order to balance the budget, defend over-valued exchange rates when countries returned to the gold standard. Globally, demand contracted as unemployment rose and incomes fell, resulting in over-production of internationally traded agricultural commodities and industrial goods as producers tried to maintain incomes in the face of falling international prices. Policy mistakes and global negative feedback mechanisms figure prominently in proposed explanations.

As countries went off the gold standard and turned to autarky, price controls and even rationing due to imports being in short supply, started to become a feature of economies increasingly controlled by government. After the ~~Global Financial Crisis~~ GFC, inflation averaged well below central bank targets. From 2009-19, average inflation was 1.6% in the US, 2.1% in the UK, 1.1% in Italy and 1.4% in the EU27. By the start of 2020, concerns were more with deflation than inflation[104].

Unemployment rose during both the Great Depression and ~~Global Financial Crisis~~ GFC and then fell as different monetary and fiscal policy responses started to have an effect. In the 30s, UK unemployment increased to a little over 15%. In Italy, the corporatist pact between business and government kept unemployment low, especially as the government provided a stimulus.

As a result of the ~~Global Financial Crisis~~ GFC, global unemployment rose by almost 212 million by end 2009. The impact was most pronounced in OECD countries, where unemployment rose by 54% from 2007 to 2010. Italian unemployment peaked in 2014 just above 12%, but the cost of the crisis was borne disproportionately by Italian youth as compared to other countries, with the exception of Spain and Greece, where unemployment pushed above 25%. By the last quarter 2019, youth unemployment in Italy was still 29% compared with 16% for the Eurozone as a whole. In the UK it was 11% and in the US 8%. Unemployment in the UK and US was not as severe and fell faster than in Eurozone countries.

The relatively limited impact the 2008-9 ~~Global Financial Crisis~~ GFC compared to the 1929-33 Great Depression is most likely due to the awareness of central banks of the need to use proactive monetary policy to avert a sustained depression. Both Ben Bernanke, head of the Fed during the ~~Global Financial Crisis~~ GFC and Mario Draghi, head of the ECB during the Eurozone crisis studied the economic history of the Great Depression during their previous academic careers. As the nature of the unfolding financial crisis became apparent in 2008 – multiple bank failures across different countries, stock market crashes, the emergence of complex cross-border inter-dependencies, risky highly leveraged financial structures – the parallels with 1929 were clear.~~As the nature of the unfolding financial crisis became apparent in 2008 – multiple bank failures across different countries, stock market crashes, the emergence of complex cross-border inter-dependencies, risky highly leveraged financial structures – the parallels with 1929 were clear.~~ There was then a massive and coordinated monetary and fiscal response to avoid the recession deepening into a repeat of the Great Depression. Countercyclical fiscal stimulus policies were adopted in all countries, including cuts to planned tax rises and quick-start infrastructure investment programmes.

In 2009, the US Senate heard evidence from Economic Historians about what lessons should be drawn from the Great Depression. But one important lesson about the need for continued Keynesian stimulus was ignored. Soon after a global recovery started, governments switched from fiscal stimulus to austerity based on a literal interpretation of

[104] Financial Times, ~~May 29 2020.~~ *Deflation fears as Eurozone price growth falls to four-year low*, May 29 2020; The Washington Post, ~~April 6th, 2020.~~ *Here comes the great deflation threat*, April 6, 2020.

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dubious economic analysis suggesting that public sector debt to GDP above 90% restricts economic growth.

As the Eurozone sovereign debt crisis started in 2010, a second round of QE by the ECB accompanied by a commitment to do ‘whatever it takes’ fought off speculative attacks on the Euro until a new jointly guaranteed action by Eurozone countries provided a financial backstop for periphery countries facing banking and sovereign debt crises. Whatever it takes, certainly echoes through the history of BFGS.

## 3.14. Beyond theory: four metanarratives from history

Having developed narratives for each BFGS episode and compared both pairs of events in terms of the standard macroeconomic pathologies of growth, inflation and unemployment, how can we go about extracting knowledge that might be relevant~~useful~~ to the post~~for~~- COVID ~~today's~~crisis and to future crise~~i~~s? On the one hand, this is an ontological and epistemological question about the nature of economic truths and methodologies for seeking them[105]. On the other hand, it is a pragmatic question about what evidence do we have about past policy actions and the historical events surrounding them that might inform presente-day decision making~~be useful in the present crisis~~[106]. ~~In the plurality of economic paradigms that have emerged in the past 20 years, we place ourselves in the heterodox camp of critical realists~~~~[107]~~ ~~with a strong conviction that the past offers insights relevant to the present.~~Amid the plurality of economic paradigms that have emerged over the past two decades, we align ourselves with the heterodox tradition of critical realism[108], grounded in the conviction that historical analysis provides insights that are not only relevant but essential for understanding and addressing present-day challenges To answer the question whether the BFGS events may help to inform decision makers in ongoing tough time, we have used a metanarrative approach[109], meaning stories distilled from other stories, derived from detailed factual narratives and quantitative comparisons of the fiscal and monetary policies, central bank actions, and the resulting trajectory of growth, inflation and unemployment during and after each shock. The importance of narratives and historical narrative methods in economics and finance is undergoing a revival, notably following the work of Robert Shiller[110], who has emphasized the role of analogical reasoning and storytelling in shaping and informing economic decisions. Similarly, the contribution of Charles W. Calomiris and Stephen

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[105] P. Lewis, M. Graça Moura, J. Runde, *Ontology and the history of economic thought: an introduction*, in ~~«~~"Cambridge Journal of Economics"~~»~~, 44~~(5)~~ (2020), n. 5. pp. 981-~~–~~990, endorse Schumpeter's view that the study of economic history allows contemporary policy makers to derive inspiration from the past and avoid flawed ideas from the past becoming a new dominant orthodoxy. See also D.M. Hausman, *Philosophy of Economics*, in ~~In~~ E.N. Zalta, U. Nodelman (eds), *The Stanford Encyclopedia of Philosophy* ~~Ed. by E.N. Zalta~~, Fall Edition 2018, for a review of different ontological positions in economics. <https://plato.stanford.edu/archives/fall2024/entries/economics/>.

[106] J. Pontusson, D. Raess, *How (and why) is this time different? The politics of economic crisis in Western Europe and the United* States, in~~. «~~"Annual Review of Political Science"~~»~~, 15 (2012), pp.13-33 argue that the menu of economic policy choices considered by politicians change over time with the shifting influence of financial, sectoral and class interests.

~~[107] See P. Törnberg, *Complex realist economics: toward an ontology for an interested pluralism*, «Review of Social Economy», 76 (4) (2018), pp. 509-534.~~

[108] P. Törnberg, *Complex realist economics: toward an ontology for an interested pluralism*, in "Review of Social Economy", 76 (2018), n. 4, pp. 509-534.

[109] The modern use of metanarrative approaches in qualitative and quantitative research addressing complex policy issues can be traced back to T. Greenhalgh et al, *Storylines of research in diffusion of innovation: a meta-narrative approach to systematic review*, in "Social science & medicine", 61, (2005), n. 2, pp. 417-30.

[110] Acceptance of narratives as a driver of economic events is now mainstream, R.J. Schiller, *Narrative economics: How Stories Go Viral and Drive Major Economic Events*, Princeton, Princeton University Press, 2019. Since the GFC there is a recognition of the merits of narrative over quantitative methods in economic history as a way to explore policy lessons from unique events, P. Antipa, V. Bignon, *Whither economic history? Between narratives and quantification*, in "Revue de l'OFCE", 3, (2018), pp.17-36. An application of meta-narrative to re-interpret post-war British history is J. Tomlison, *De-industrialization not decline: a new meta-narrative for post-war British history*, in "Twentieth Century British History", March 1, 27, (2016), n.1, pp. 76-99.

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Haber[111] stands out for their use of structural narratives – an approach that combines the logic of economics with a careful examination of specific historical events – to analyse banking crises over the very long run.

But history is contested, and lessons about the causes of crises and how to avoid them have often been less effective precisely because the corresponding historical understanding was underdeveloped or poorly distilled – an argument Barry Eichengreen makes in relation to the interpretation of the 1929 crash[112]. In line with Harold James's approach, we employ historical analysis not to prescribe a supposedly optimal policy path, but to illuminate a range of possible choices. At every stage, we remain attentive to the uniqueness of national contexts and to the complex, consequential historical processes unfolding within them.

Theories are rhetorical or mathematical expressions of the economic orthodoxy of the day. Over the century span of the BFGS, orthodoxies have changed. The nineteenth century classical orthodoxy of laissez-faire private investment with gold-backed international currencies leading to full employment in economies run by sound money governments balancing their budgets gave way to a Keynesian orthodoxy of deficit financed government intervention to boost aggregate demand and hence reduce unemployment. In the 70s and 80s, Keynesian orthodoxy was in turn overthrown by a monetarist orthodoxy of small government, deregulated free markets and predictable monetary rules. Monetarists considered that deficit spending funded by sustained money growth in excess of the growth of output produced inflation. Today, despite the new orthodoxy of supply-side economics focussed on innovation and competition, the spirit of Keynes lives on. As was seen in the ~~Global Financial Crisis~~ GFC, governments were ready to deficit finance 'counter-cyclical' investment in infrastructure, and central bankers ready to do 'whatever it takes', meaning QE unorthodox monetary policy to save the banking sector and large corporates. In the US, the Economic Stimulus Act of 2008, tried a form of 'helicopter money' tax rebates direct to households as a cheque in the post. The unorthodoxy did not extend to debt forgiveness, although the possibility of permanent monetisation of government debt was seriously discussed[113]. In this article, we eschew testing any theories of a predictive nature. What happens next is always complex and contingent.

The BFGS are, by their nature, times of extremes. These were not normal times of perfect markets and the invisible hand. Standard textbook assumptions do not apply. These were very abnormal days when governments diverted the entire economy to total war or took over significant parts of it to overcome systemic market failures. In war, the reality that economics is a social construct not a deterministic system of natural laws is laid bare. Money is revealed as the socially constructed token it is, with no value beyond the consensus of trust between members of a society that a gold sovereign, a Bradbury note, mille lire, a Mefo-bill[114], a Reichsmark or a digital record in an online bank account are really worth the labour, land, goods and services in the real economy that we wish to

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[111] See the methodological discussion on the use of long run structural narratives in C.W Calomiris., S.H. Haber, *Fragile by design*, Princeton, Princeton University Press, 2014, p. 452.

[112] B. Eichengreen, Hall of Mirrors. The Great Depression, the Great Recession, and the Uses–and Misuses–of History, pp. 378-387.

[113] "Debt, Money and Mephistopheles: How do we get out of this mess?", ~~s~~Speech at ~~to~~ the Cass Business School by Adair Turner, Head of the UK Financial Conduct Authority, 6th February 2013 https://www.fca.org.uk/news/speeches/debt-money-and-mephistopheles-how-do-we-get-out-mess

[114] Mefo-wechsel were bills of exchange which never officially went into circulation, but were guaranteed by the Reichsbank through an off-balance sheet limited liability company. The term Mefo comes from the name of the shell company 'Metallurgische Forschungsgesellschaft mbH' set up by the Reichsbank to facilitate off-balance sheet financing between the Ministry of War and the armaments manufacturers.

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exchange them for. In the UK that trust was maintained and the pound survived. In Italy, the lira survived but was exchanged for euro with 2002.

Describing public health efforts to control Covid-19 as a 'war against the virus' cuts through scientific facts and complex, risk-based policy decisions to an emotional understanding that this really is a global war. There are many meta-narratives about economic policy that could be told about the BFGS. Researchers are not neutral in the questions they choose to research, the methodologies they apply and the way they choose to frame their conclusions. ~~-~~Based on the similarities and the differences between the BFGS events, we choose to extract four meta-narratives that we consider may be meaningful to the current economic predicament: policy makers in the past did successfully learn at least some lessons from history; 'whatever it takes' to get through global shocks always involved breaking with some aspect of the economic orthodoxy of the day; inflation is not the enemy, but remarkable hyper-inflation, deflation and unemployment are; debt write downs are sometimes the right thing to do; international policy cooperation and multilateralism underpinned successful global recoveries after WWII and the ~~Global Financial Crisis~~ GFC.

We start optimistically by noting that those rebuilding the world after WWII and those responding the ~~Global Financial Crisis~~ GFC were very aware of the weight of history upon their shoulders and did everything they could do better second time round. The planning for the aftermath of WWII and the response to the crisis explicitly sought to learn from the policy errors made after WWI and the Great Depression. As above mentioned, they were broadly successful.

Churchill, Keynes, Roosevelt and Marshall all lived through WWI and its aftermath and were determined to avoid the mistakes of Versailles. Keynes was at the heart of the negotiations to build a new post-war global financial architecture based on international collaboration and multilateralism. Governments even became more efficient at raising taxes for the war effort in WWII compared to WWI with the help of economists like Keynes and Milton Friedman. Large historic debt burdens were written down, typically halved. The Marshall Plan provided immediate loan and grant finance in dollars to feed Europe with US food imports and encourage economic cooperation to re-establish mutually beneficial trade between European nations. New currencies and new Central Banks were set-up where needed. As the severity of 2008 crisis became apparent, economic historians were called to give evidence to the US Congress about lessons from the Great Depression. Central Bankers in US, UK and Europe made sure that monetary policy did everything it could, including falling into 'impossible' negative rates. Depression economics and globally coordinated fiscal and monetary stimulus became the norm. In the words of the European Commission~~.~~:

> «While it may be appropriate to consider the Great Depression as the best benchmark in terms of its financial triggers, it has also served as a great lesson. At present, governments and central banks are well aware of the need to avoid the policy mistakes that were common at the time, both in the EU and elsewhere. Large-scale bank runs have been avoided, monetary policy has been eased aggressively, and governments have released substantial fiscal stimulus. Unlike the experience during the Great Depression, countries in Europe or elsewhere have not resorted to protectionism at the scale of the 1930s~~»~~[115].

As seen above, each BFGS has examples of new and creative ways in which governments

[115] European Commission, *Economic Crisis in Europe: Lessons from the Great Depression*, Brussels, Directorate-General for Economic and Financial Affairs, 2009, 15, https://ec.europa.eu/economy_finance/publications/publication15887_en.pdf.~~European Commission (2009).~~



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raised funds or intervened in the economy in unorthodox ways. At the start of both World Wars and the ~~Global Financial Crisis~~ GFC, governments and central banks committed all the resources at their disposal to winning the war or combatting the crisis. All normal rules of public finance were ignored, budgets didn't have to balance, new taxes could be raised, the Gold Standard was abandoned and public sector debt limits became irrelevant. Loans were raised from the domestic population, sometimes coerced as a patriotic duty, sometimes forced, from financial markets. The Central Bank secretly purchased war loan and expanded credit so that the population could buy event more debt. New forms of money were created (Bradburys, Mefo-wechsel). The Lend-lease arrangements were invented for war equipment finance. As a last resort, the money printing machines were pressed into supporting the war effort. In WWII, both UK and Germany enforced strong price controls as a way of containing inflation. After WWII, debts were written down. The Marshall Plan provided grants and loans to jump start the European economy, but only on the basis of coordinated investment programmes between countries. To escape the Great Depression, large scale government interventions took place in all areas of the US and German economies to stimulate investment and create jobs. Since 2008, QE and unorthodox monetary policy took interest rates into 'impossible' negative territory. War is existential. It is about survival. Theories about the role of prices and market forces are, simply, irrelevant.

The obsession with using monetary policy to target low inflation is a relatively recent orthodoxy. Inflation was a feature of both world wars and the recovery after the Great Depression. Even when it risked getting out of control, such as in Italy and France after WWII, decisive policy measures got it under control. The exceptions were the defeated nations that suffered hyperinflations between 1921-23 and immediately after WWII, where the short term impacts almost caused the collapse of the society.

The hyperinflations after WWI and WWII were devastating for the populations affected. The period of deflation between the wars was a symptom of the economic malaise. Unemployment reached socially destabilising levels after WWI and in the Great Depression. In the wake of the GFC and Eurozone crisis, youth unemployment across the EU rose to over 24%, with far higher rates in Greece, Italy and Spain. Austerity measures were partly to blame in both cases.

In his writings, Keynes explains the logic of writing down debt after the WWI, both amongst the Allies and for the losing Central Powers, and the risks of not doing so. War debt was not like debt incurred to pay for investment in the real economy like transportation systems and sewage plants. War debt produced means of destruction not future wealth creation. Forgiving the debts «I believe to be absolutely essential to the future prosperity of the world»[116]. For domestic debts, Keynes advocated a capital levy to at least partly pay them down. After WWII, the 50% write down of Germany's foreign debts and favourable terms for repayment forgiveness by the US.

After a period of debt restructuring and write-downs, by the early 50s all European countries had national debt to GDP of between 15 to 35%. The exception was the UK still with national debt at 170% GDP. Due to post-war economic growth, UK public sector debt was down to below 50% GDP by 1975.

## ~~5.~~ 3.2 After Covid-19

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~~With an unprecedented degree of international collaboration and urgency, scientists around the world did real-time research to sequence genomes, test alternative treatments~~

[116] J.M. Keynes, *The Economic consequences of the peace*, p. 270.

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~~and develop vaccines that are defeating the virus. Meanwhile, the economics profession is trying to offer coherent advice about what to do next. In Europe, from the inception of the pandemic calls for Eurobonds, Helicopter Money or Peoples QE compete with Op Eds about the fears of inflation, deflation and the moral hazard risks of mutualised debt or debt forgiveness. Whilst there appears to be a consensus that for Covid-19 Governments need to do 'whatever it takes', and that there should not be a return to austerity, there is little consensus about how to pay for it.~~

With the outbreak of the pandemic, an unprecedented degree of international collaboration and urgency led scientists around the world to conduct real-time research to sequence genomes, test alternative treatments, and develop vaccines that would ultimately defeat the virus. Meanwhile, the economics profession sought to offer coherent guidance on the next steps. In Europe, from the very start of the pandemic, proposals such as Eurobonds, Helicopter Money, and People's QE competed with op-eds warning of inflation, deflation, and the moral hazard associated with mutualised debt or debt forgiveness. While there appeared to be broad agreement that governments needed to do 'whatever it takes' in response to COVID-19, and that a return to austerity should be avoided, there was little consensus on how to finance the necessary interventions. Government indebtedness has been ~~is~~ increasing at one of the fastest rates in history as tax revenues collapsed whilst massive cash support was~~is~~ needed to households and firms unable to work during global lock downs. Some industries, like airlines, tourism, entertainment and hospitality have been virtually shut down. Global supply chains have been ~~are~~ under huge pressure with many borders closed. The UK Government ~~is~~ guaranteed~~ing~~ bank lending to small businesses to help them with their cash flow to weather the crisis, but if firms went ~~go~~ bust, the guarantees would have been ~~ill be~~ payable. Central banks have stepped up with more of the policies used to fight the ~~Global Financial Crisis~~ GFC and Eurozone crisis through new monetary expansion to purchase government and corporate debt. The ECB lent more than €1 trillion to banks at negative interest rates provided they maintain lending to households and businesses. Unlike the end of WWII when the USA economy was relatively intact and could pay for Europe's recovery under the Marshall Plan, all economies around the world are in the same boat. There is no need for reconstruction as nothing has been destroyed. In that sense, the current crisis was~~is~~ more akin to the end of a very short, sharp recession than a war. Already politicians were~~are~~ shifting attention to how to reboot the global economy without a long phase of high unemployment. The UK Governments launched a plan for a green recovery and large infrastructure investment to level up the country, the Next Generation EU~~u~~, or The Recovery and Resilience Facility (RRF). The extraordinary financial effort ~~will~~ provided resources worth € 750 billion, of which € 380 billion consisted of grants. Italy ~~will~~ received € 68.9 billion ~~(at current 2019 values)~~ and the total amount of RRF resources will reach the figure of € 196.5 billion[117]. The aim of the plan was~~is~~ «to mitigate the economic and social impact of the coronavirus pandemic and make European economies and societies more sustainable, resilient and better prepared for the challenges and opportunities of the green and digital transitions»[118].

One thing is sure, under the current policy trajectory, both governments, firms and

[117] Governo Italiano, *Piano Nazionale di Ripresa e Resilienza. NextGenerationItalia*, approvato dal Consiglio dei Ministri il 12 gennaio 2021, p. 28, https://www.governo.it/sites/governo.it/files/PNRR_2021.pdf.~~*Recovery and Resilience Plan. Nextgenerationitalia*. Approved by the Council of Ministers on 12 January 2021, p. 28.~~

[118] European Commission, *Recovery and Resilience Facility: Regulation (EU) 2021/241*, "Guidance on Recovery and Resilience Plans, ~~https://ec.europa.eu/info/business-economy-euro/recovery-coronavirus/recovery-and-resilience-facility. Or PNRR, Piano Nazionale di Ripresa e Resilienza,~~ https://www.governo.it/sites/governo.it/files/PNRR. (website visited 15~~13~~.04.~~1~~25~~1.21~~)

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households ~~will~~ exited the lock down phase with levels of debt similar to the Great Recession. They ~~will~~ emerged into a new world of rising unemployment, changed consumer behaviours, new public health rules for business and an ever-~~-~~present risk of new lock downs until the vaccine completes its effects or even longer if new pandemics of zoonotic origin appear. Some economists ~~are~~ claimed~~ing~~ that the pandemic would have ~~ill~~ caused a seismic disruption to global production and consumption, which Denis Snower calls *The Great Economic Mismatch*[119] in which sectors that depend on existing production and distribution processes will shed workers, while others will be unable to hire enough. ~~Business will continue to boom for online businesses like Amazon and Netflix, but will continue to slump for travel, entertainment and tourism industries.~~

In April 2020, "The Economist" assessed the state of the ~~current~~ policy debate under the headline: *What would Keynes do?* The article refers to Keynes' book *How to Pay for the War*, but not *The Economic Consequences of the Peace.* ~~-~~According to the article, the options for Governments dealing with the inevitably high debt burden after Covid-19 were~~are~~: a) pay back the borrowing using future taxation; b) decide not to pay, or agree with creditors to pay less than they owe; c) wait it out, rolling over debts while hoping that they shrink relative to the economy over time through a combination of growth and inflation. They ~~article~~ co~~a~~me down the side of c) as the lesser of three evils, since a) was seen as politically unpalatable and possibly stifling of future growth, whilst b) might upset international capital markets. Option c) would certainly be the British approach based on past form. With the end of the pandemic ~~in sight~~, public debt was~~is~~ likely to be less than half that at the end of WWII, and the cost of borrowing was~~is~~ at an all-time low, so there are good reasons to ~~think~~reconsider.

In Europe, and particularly for Italy, the situation was~~is~~ more challenging. The political danger was ~~is~~ that the countries that bore the brunt of Europe's war against Covid-19 – ~~—~~ Italy, Spain, France and Belgium ~~—~~ – were also the countries with the highest debt levels going into the crisis, and will come out the other end in an even worse state of indebtedness. In the case of Spain and Italy, their economies rely heavily on tourism, as one of the few ways they can achieve anything approaching a balance of payments with Europe's big exporter, Germany. Europe doesn't have the gold-exchange standard but it does have the euro.

~~Some national media are already asking:~~ What did Europe do for european people ~~us~~ during the crisis? The ECB spent 3.5 trillion euro saving the banks and big corporates with QE, was~~is~~ it ~~now~~ prepared to bail out ordinary businesses and families? Populist parties at future elections did ~~will do~~ all they can to maximize feelings of betrayal in an hour of need. An Italexit, Spexit or Frexit would have been ~~be~~ catastrophic for the European Union. In a very existential sense, post Covid-19 economic policy at the EU level matters. Is it time to change the narrative?

Keynes already told us what to do in such a situation back in 1919 and 1944. First, cancel the debt, then launch a massive investment program to reconstruct the economy ready for a new world. History warns against being trapped by orthodoxy.

In the UK, the levels of government debt by the time the pandemic was~~is~~ over were~~are~~ likely to be similar to those at the worst moment of the ~~Global Financial Crisis~~ GFC. ~~However, with interest rates at historic lows and with a recognition that more austerity is politically untenable, it is likely that the level of debt will be sustained rather than paid down.~~ Britain has several hundred years of history in maintaining a record of always paying its debts (with the exception of the US loan repudiated in 1932). In terms of unorthodox monetary options for Europe, Saravelos, Brehon & Winkler identified~~y~~ four

[119] D. Snower, *The Socio-Economics of Pandemics Policy*, CEPR Discussion Paper No. DP14872, June 2020, ~~.~~ https://ssrn.com/abstract=3628193.

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broad options for the ECB[120]: QE combined with fiscal policy expansion; cash transfers to Governments, for instance by purchasing zero coupon perpetuities; cash transfers to households, also known as Helicopter Money; unilaterally restructuring and/or forgiving government debt holdings.

All these unconventional measures would have faced both legal and technical obstacles; however, the fact that the ECB's mandate includes the objective of «supporting the general economic policies in the Union», leaves room for unorthodox actions—provided that such is the will of its shareholders.~~All these unconventional actions would face legal as well as technical barriers, but the fact that ECB's objective is to «support the general economic policies in the Union» leaves scope for the unorthodox if that is the will of its shareholders.~~

The IMF has benn actively engaged with the debate about such unconventional options for Europe, recognising that without further fiscal integration, Europe may face repeated crises[121]. The first option was and is now the least unconventional one. Effectively, it has become *the* orthodox policy response since the ~~Global Financial Crisis~~GFC. Money creation by central banks supports the banking sector, large corporates and sovereign debt through a range of policy instruments whilst keeping the bank base rate very low (or negative in the case of the ECB). The problem is that it does nothing to restructure Government balance sheets. In practice, since 2010, European Governments combined QE with a ~~-~~fiscal austerity to pay down the debt, hurting the poorest in society. The second possibility was ~~recently~~ proposed by Giavazzi and Tabellini (2020). In effect, this means the ECB printing money and giving it to countries to spend with a theoretical obligation to repay at an undefined future date. That avoided~~s~~ the need for post-covid austerity, but would probably be inflationary. The money was~~will be~~ in circulation through Government spending, mainly as direct support to households and firms, and appeared as a further swelling of the ECB balance sheet. Some argued that a managed dose of inflation was~~is~~ what Europe needed~~s right now~~, notably to get wages up relative to unaffordable house prices. Than inflation came to bite because of the Russia-Ukraine conflict. The third option ~~has~~ received a lot of coverage since ECB President Mario Draghi commented in 2016 that Helicopter Money in all its diverse potential forms was~~is~~ ~~'~~«a very interesting concept»~~'~~. Whilst Helicopter Money could have been very powerful for an EU solidarity narrative, the idea of the ECB transferring money direct to European citizens was~~is~~ unlikely to be acceptable to national politicians. However, the same effect could have been ~~be~~ achieved in other ways. Finally, a possible solution was~~is~~ the closest to what Keynes proposed at the end of WWI as a way of ending the «artificial, misleading, and vexatious» situation of every one owing every~~-~~one else enormous amounts of money. Governments owe money to bond holders (mainly pension funds); citizens owe money to Governments as future taxes to pay back the debt; pension funds owe money to citizens as future pensions. Keynes had another insight. War debt is not like debt incurred to pay for investment in the real economy like transportation systems and factories. War debt funds destruction not future wealth creation. During Covid-19, Governments paid people not to produce and consume. Why incur debt to pay for that? Why not write-off the debt, just as the US and UK were with Germany in 1953? In practice, ECB would have needed to purchase a certain proportion of outstanding European Government debt and then write it off to lighten their balance sheets. We could call this 'monetize then vaporize' or perhaps The Great Reset. That would have

[120] G. Saravelos, D. Brehon, R. Winkler, *Helicopters 101: your guide to monetary financing*, Special Report, Deutsche Bank Research, Deutsche Bank AG, London, 15 April 2016.

[121] S. Bützer, *(Monetary) policy options for the euro area: a compendium to the crisis*, in F. Heinemann, U. Kluh, S. Watzka (eds)~~In~~, *Monetary Policy, Financial Crises, and the Macroeconomy*, ~~ed. by F. Heinemann et al~~, Festschrift for Gerhard Illing, Springer Verlag, Cham (~~,~~Switzerland)~~: Springer Verlag~~, 2017 pp. 125–162.

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put cash back into the coffers of global investors who would in turn have to seek new investment opportunities to balance their portfolios.~~ The QE experiences after the Global Financial Crisis suggest that is not inflationary~~. All of the above options – alone or in combination – could be on the policy menu of options for a Europe committed to doing whatever it takes. The barrier is not economic, it is political.

## ~~6.~~ 3.3.Conclusion: breaking out of the orthodoxy box

Many mainstream economists venture into the past seeking data to test theories of how a hypothesised economic system responds to a new tweak to a machine hidden in a black box. Economic historians seek narratives to explain complex, path dependent events. The BFGS defy simplistic interpretations centred on inflation fears or debt repudiation taboos~~do not admit of simple narratives such as the perils of causing inflation and cancelling debts~~. Lessons were learned after WWII from the mistakes after WWI and after the Global ~~reat~~ F~~inancial~~ C~~risis~~ to avoid the policy failures during the Great Depression. For nations at war, huge budget deficits are inevitable. Not finding necessary funds through the inactions of their central banks was not an option. Unlike WWI, planning for recovery after WWII involved further aid and debt write-downs and new institutions founded on international cooperation and multilateralism (IMF, World Bank, WTO). The European Central Bank (ECB), although created decades later, has likewise played a central role in supporting Eurozone member states in times of crisis, especially during the sovereign debt crisis and the COVID-19 pandemic.

The differences in outcomes were dramatic. Breaking with economic orthodoxy was a feature of all BFGS. Losing a war or remaining stuck in a deep recession are existential threats for governments and citizens alike. In the past, defying orthodoxy has included creating new forms of money; secretly having the central bank purchase war bonds; finding off balance sheet solutions to fund massive public deficit led investments; leaving an international monetary system that was not working; abandoning adherence to balanced budgets to break a deflationary cycle; creating a publicly owned industrial and banking conglomerate to avoid mass bankruptcies; large scale government interventions in all areas of the economy to stimulate investment and create jobs; printing money and accepting inflation or suppressing it through price controls and rationing; taxing excess war profits; forced savings/deferred pay to raise more war debt; coordinated investment planning for recovery amongst countries incentivised by external grants; rapidly expanding central bank balance sheets to support the government, banks and/or corporate sector; setting central bank interest to theoretically impossible negative rates. Orthodoxies are made to be broken. Consequences vary depending on many factors, none the least being whether you win or lose the war and on that great unpredictability ~~–~~ subsequent events.

Historical examples offer up a range of possible policy actions faced with global crises that are wider than economists in thrall to today's orthodoxies may care to acknowledge. The pandemic and the public health policy responses to it have~~have~~ nothing to do with market forces. Governments have shut down economies to save lives and face large deficits and rising public indebtedness as a result. War metaphors for the financing challenge may be useful beyond mere narrative device. So are Keynes' warnings about the economic consequences of the peace. What happens next is a matter of public policy choice not economic determinism. Should the young, who ~~have sacrificed so much to save the elderly~~have borne the brunt of pandemic-related restrictions to protect the elderly, really be expected to pay future tax bills to pay off the debt?

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