Paying the price for war

Mark Harrison explains the economic measures Britain used to fund its fighting of the second world war and how the country battled to reduce the public debt after the conflict ended

The second world war forced Britain's economic life through a wrenching discontinuity. Between 1939 and 1943, more than 40 per cent of national resources were switched out of peacetime consumption and capital formation into the armed forces and the supply of war. By this time, one in four workers was a soldier, one other was engaged in specialised war work to equip the soldiers for combat, and the remaining two were providing the food, fuel and essential services required to keep everyone going. Most peacetime frivolities disappeared beyond the minimum authorised to maintain morale.

Paying for war in history

How did we pay for it all? Any government faced with new spending requirements must cover them by levying taxes, borrowing from the public or printing money. In the second half of the seventeenth century, Britain went through a fiscal revolution that gave the government more taxing and borrowing capacity than ever before (O'Brien, 2005). Britain thereby gained an advantage over its foreign rivals. The taxes paid for a standing army and a large navy with global reach. The borrowing paid for wars. In the eighteenth century, Britain waged many wars, most of them successfully. Meanwhile, war loans made it possible to charge the bulk of war costs to bondholders, promising them future taxes in compensation. These taxes would be paid long after the wars by labour and capital.

The many conflicts of the eighteenth century culminated in the Napoleonic Wars. The chart below shows that by 1815 Britain's national debt stood at an impressive 2.6 times the national income. This debt now had to be serviced and eventually repaid out of taxes. The burden was manageable because claims on the budget other than debt interest and defence were few, wealthy lenders had few risk-free alternatives and London's credit remained strong. Over the relatively peaceful nineteenth century, the economy expanded and the relative size of the debt melted away.

Britain's net public debt, 1692 to 2012

Source: Christopher Chantrill at www.ukpublicspending.co.uk (accessed 30 September, 2014).

A learning experience

When a new war broke out in 1914, the first reflex of the British government was to maintain "business as usual". In war finance, this meant borrowing, as in the eighteenth century. The traditional emphasis on borrowing was modified under the McKenna rule (named for Reginald McKenna, chancellor of the exchequer in 1915-16, and evaluated by Nason and Vahey, 2007). Under this rule, the greater part of war spending continued to be financed by borrowing, but tax rates were also pushed up. Taxation was supposed to cover peacetime spending, the interest costs of the national debt (which rose rapidly), and also provision for debt retirement so as to limit the tax burden on future generations. The McKenna rule did not prescribe which taxes should rise. In fact, the main emphasis fell on taxes on sales of luxury goods, war profits and higher incomes, the intention being to prevent capital from profiting at home by war contracts when workers' lives were at risk on the front line on the continent.

While the McKenna rule aimed to limit the traditional reliance on borrowing, the demands of the first world war were so great that a vast deficit emerged anyway, reaching almost half of national income in the second half of the war (Broadberry and Howlett, 2005). As a result (see chart), Britain emerged from the war with a debt/income ratio in 1919 of 135 per cent. In the postwar conditions of deflation and depression, this figure rose even further and remained stubbornly high, with little progress made towards debt reduction by the outbreak of the next war in 1939.

Interwar critics, armed with hindsight, identified weaknesses of policy to be avoided in the next Great War. It was not that Britain did particularly badly in the first world war. On the contrary, the British mobilisation had successfully exploited several initial advantages over the continental powers: high productivity, a fully commercialised agriculture, well-developed modern services and impressive borrowing capacity (Broadberry and Harrison, 2005). But could better policy have made a difference?

Civil servants spent the late 1930s quietly trawling through the records of Whitehall from 1914 to 1918 to see what could be done better next time. One thing they identified was Britain's initial reliance on voluntarism, which allowed an exodus of skilled workers from factories and coal mines to the front line. Another was the delayed resort to direct controls over production, investment and foreign exchange.

Despite the German submarine blockade, food rationing came only in the last winter of the war. Under the McKenna rule, taxes were raised but could have been raised more aggressively; the burden of war finance fell on borrowing, but bond yields were allowed to rise gradually. They lagged behind inflation, did not

encourage saving and added to the Treasury's borrowing costs (Hancock and Gowing, 1949).

Public finance in a command economy

All these issues were tackled promptly in the second world war, some before war was declared and the rest early in the war.

Tax rates were quickly pushed up. The basic rate of income tax rose incrementally from 28 per cent before the war to 35 per cent, 42.5 per cent and then, in 1941, 50 per cent. A sales tax on retail goods was introduced at between one sixth and one third, rising eventually (in 1943) to between one third and 100 per cent. "Excess" profits were taxed at 60 per cent, rising to 100 per cent in July 1940. Total central government tax receipts more than doubled between 1939 and 1944 (for these and other figures below, see Hancock and Gowing, 1949; Sayers, 1956; and Broadberry and Howlett, 1998). But a large hole remained.

While war spending rose to more than half of GDP, the fiscal deficit was more than 40 per cent of national income in 1941 and still one third of national income in 1943 and 1944. Of the deficit, most was covered by borrowing; monetary finance accounted for little more than 5 per cent of the deficit. Another remarkable contrast to the first world war is that this was done without any increase in long-term yields, so that the war was financed at 3 per cent. The money supply doubled, but no more. There was some inflation, limited by price controls.

How did the government manage to place such a large quantity of bonds in the domestic market without any increase in yields? The problem identified by Keynes (1940) began with the relationship between purchasing power and supply. War spending not covered by taxation would pump purchasing power into the economy. In normal times, companies and households would seek to use the surplus purchasing power to buy goods for consumption and investment that the war economy could not supply – or at least, that was Keynes's fear when he predicted an "inflationary gap". The excess purchasing power had to be removed, either permanently (by taxes) or temporarily (by borrowing) if the government was to have the first call on the economy's resources for the war.

The answer was found in a mix of real and financial controls that authorised only spending on the war and basic needs, left the private sector with little alternative but to put surplus cash to one side, and made war bonds and national saving the only sensible receptacles for that surplus. The story began with food and clothing rations, which limited ordinary people's spending on the basic goods that were considered most essential, while also guaranteeing "fair shares for all". In the same spirit, businesses could not buy materials or equipment or use shipping space without a government licence, and licences were issued only to those engaged in munitions or basic industries. Access to borrowing was also restricted. Companies were granted access to bank credit only if they were engaged in war work. The same applied to companies wishing to raise funds on the stock market. Strict exchange controls limited private access to foreign currency. The result was a command economy for most aspects of production and exchange.

The US became the key external supplier of Britain's war effort

As for saving, the government multiplied the variety of government bonds and bills and national saving certificates, so that personal and business savers with large and small sums to put aside would all find some suitable vehicle for their funds, and that vehicle would leave their funds in the hands of the government.

Like other prices, the rate of interest was controlled. There was no need to vary it to regulate domestic demand or the exchange rate, because all these things were now controlled directly. The government could act as a monopoly buyer of unused liquidity to keep interest rates at a low level and control the cost of deficit finance.

Financing the deficit in this way also kept the increase in the money supply to a minimum. To the extent that they continued to hold liquid assets, companies and households were persuaded to leave as much as possible in bank deposits, while the commercial banks were prevented from using these deposits to create more credit except as the government authorised.

Any picture of Britain's war finance would be incomplete without mention of Britain's empire and allies. Of the empire, Angus Calder (1969) once wrote, "when Britain 'stood alone' in 1940, she stood on the shoulders of several hundred million Asians". Morally this is a fair point, but economically Britain's allies are more relevant.

Under the Lend-Lease Act of 1941, the US became the key external supplier of Britain's war effort and war finance. This allowed Britain to run a trade deficit equal to at least 5 per cent of national income in every subsequent year of the war. US aid came free of charge, so Britain did not accumulate any postwar financial obligations as a result. There were certainly political obligations, but that is another story.

When we ask how the war was paid for, it should be noted that not all payments appeared in the government accounts. When the government held down interest rates, it reduced its own costs at the expense of bondholders, but nobody counted their losses. These were not all from the wealthy minority; many national saving schemes relied on the contributions of factory workers and other people on low incomes.

Another off-budget donation to the war effort came from those conscripted into war service on the front line or in coal mines in a labour market where wages no longer responded to supply and demand. The American economic historian Hugh Rockoff (2012) points out that compulsory service is like a tax, but one that does not appear in any transparent accounts, so the true cost of war is hidden from view.

The public debt after the war

Because taxes did not cover war outlays, the public debt increased tremendously. In the 1930s, Britain's debt burden was already heavy by modern standards; this reflected the fiscal costs of both the first world war and the interwar depression. The chart on the previous page shows that, by 1946, Britain's public debt had risen to 2.3 times income. In the five years of the war, in other words, the British government had issued bonds worth an entire year's national income. The debt ratio now reached its highest level in 130 years.

How did postwar Britain manage the resulting burden? Wartime controls ensured that the yield on the debt was low. This kept the annual transfer of interest payments from taxpayers to bondholders after the war at no more than 6 per cent of national income. This was manageable, although there was always strain considering that this was no longer the budget of a Victorian state. The first postwar governments had to manage debt repayments while holding on to the empire, creating a nuclear deterrent force, rebuilding Britain's economy and cities, nationalising coal, steel and the railways, and

funding a national health service and welfare state.

The debt would remain manageable on the condition that low interest rates persisted in the market for British bonds, so that the debt could be rolled over without a rising budgetary cost. This was ensured by continuing wartime controls on capital issues, credit and foreign exchange through the 1950s (Ross, 1992). Full liberalisation of the capital account of the balance of payments did not occur until 1979.

The debt was managed, but at a price. There is plenty of evidence that high levels of public debt tend to depress economic growth. As Egert (2013) discusses, this is distinct from the disputed question of whether the damage debt does to growth increases once some tipping point is reached. The reason is that, other things being equal, high levels of debt require high taxes on companies and working households to pay off bondholders, and high tax rates create incentives for investors and employees that are bad for growth. To this it is sometimes objected that the national debt should not matter because it is "money that we owe ourselves" (eg Krugman, 2012). If this were true, "we" could surely agree to cancel at least the part of the national debt that is domestically owned (by "us") and cut taxes in proportion. If anyone thinks this is a reasonable thing to do, I recommend proposing it in a public forum to see what happens.

In fact, Britain's economic growth in the postwar years was good by national standards, but it was still disappointing when measured against the benchmark of our closest European neighbours. At the same time, the ratio of public debt to GDP fell smartly and continued to fall from its high point, 2.3 times national income in 1946, to just 34 per cent of national income 45 years later, in 1991.

How was this achieved? Not by means of budget surpluses, for governments continued to run deficits and to borrow to cover them. The nominal value of the debt rose over the 45 years at 5 per cent a year. (This and other postwar growth rates are calculated from the Key Time Series Data of the Office of National Statistics, comparing 1991 and 1946). And real growth made only a small contribution: the volume of output grew at only 2.4 per cent over the same period, half the rate of growth of the debt.

The most important factor in the shrinking burden of the debt was 7 per cent annual inflation. This worked on the debt/income ratio by puffing up the income part of the fraction, or alternatively by eroding the debt in real terms. As is widely recognised, inflation acts as a hidden tax: with one hand, the government was returning interest to the bondholders who had helped pay for the war, but with the other hand it was taking still more away from them through inflation.

For much of this long period, in fact, real interest rates were negative. As a result, the bondholders, who originally paid for the second world war and expected to be compensated afterwards, ended up with an unexpectedly large share of the final bill.

The public debt today and tomorrow

Since 2008, Britain's debt has ballooned once again. In the five years to 2013, the government issued bonds worth around 40 per cent of national income. While we were fighting a global recession, not a global war, this was still a rate of increase in the debt ratio that has normally occurred in British history only in times of extensive conflict. The debt ratio continues to rise today, but more slowly. Moreover, the setting has changed since the 1950s. In a world of open capital markets, the British government cannot control yields or monopolise the world's savings. Lenders are nervous and fear of contagion is widespread. Therefore, while the present level of Britain's debt is modest by the standards of the distant past, it is not clear that those standards are a relevant guide for policy today.

Looking forward, Britain's debt ratio has an uncertain future. On the income side, there is widespread pessimism about "secular stagnation"; "no one is sure how fast the economy can grow in the long term" (Teulings and Baldwin 2014). The record of the interwar period confirms that it is hard to reduce debt in times of deflation and depression. As for the deficit, economists are troubled by immediate concerns over disappointing tax yields and by longer-term worries about unfunded commitments to the NHS and pensions.

The world has moved on since 1946 but the accounting constraints remain the same. If debt is not cancelled, it must be either repaid or inflated away. This painful issue will stay with us for many years.

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