

I

## The economics of the war with Nazi Germany

ADAM TOOZE AND JAMES R. MARTIN

The entanglement between war and economics revealed by the First World War was to become one of the defining features of the first half of the twentieth century. Never before had war been so resource-intensive, never before were economies so self-consciously reorganized around the needs of war. The war economies of the First World War were novel and unanticipated improvisations, experiments in organization. In 1914 the sense of a break was dramatic and shocking, but it had the virtue of clarity. There had been peace and then there was war. After the First World War the victorious powers struggled to restore the clarity of this boundary between war and peace. The new self-conscious ideology of peacefulness that was such a characteristic feature of international relations in the 1920s had its counterpart in the effort to restore the international economy.<sup>1</sup> The relationship between economic restoration and pacification was reciprocal. Curbing arms expenditure and restoring the 'knave proof' discipline of the international gold standard were conjoined aims. Perhaps this nexus was best exemplified by the British 'ten year rule' adopted in 1919. To create the conditions necessary for fiscal consolidation and a return to the gold standard, this mandated that military budgeting should proceed on the assumption that no major war should be expected within ten years. In 1928 Churchill had it made self-perpetuating.

Generalized across the international system in the 1920s, the manipulation of these relationships between finance and strategy was one of the most potent weapons in the arsenal of the liberal powers. But acknowledging this connection also implied a new and terrifying vulnerability. A breakdown in the security system would involve a rupture in the balance of the

<sup>1</sup> A. Iriye, ed., *The Cambridge History of American Foreign Relations*, vol. III: *The Globalizing of America, 1913–1945* (Cambridge University Press, 1993).

ADAM TOOZE AND JAMES R. MARTIN

international economy. Conversely, a rupture in the international economy would most likely have security implications. The hypothetical of total war changed the nature of peacetime economic government and the meaning of the response to the crisis. The restoration of the 1920s was always incomplete and fragile and the shocking collapse of the Great Depression was just such a destabilizing crisis. Not only was it the worst on record, but it immediately reopened the floodgates to the models of national economic mobilization that had emerged from the First World War. National economic recovery programmes all too easily shaded over into rhetorical and then real rearmament. Given the implosion of the world economy, consolidated national economies anchoring regional blocs emerged after 1929 as the de facto norm. It was all too easy to imagine these trading blocs as antagonist strategic platforms. As a result, by 1939, quite unlike in 1914, all the major powers had been living for the best part of a decade under the shadow of war. Not that 'business as usual' was immediately abandoned. But the very fact that that term had such attractive resonance, pointed to the shadow of its alternative, total war. This essay will explore how the major powers of Europe and the USA confronted this challenge, how they mobilized their economies when war came in 1939, and how at the end of the Second World War they once again wrestled with the problem of how to restore economic peace. Viewed in terms of strictly economic metrics it is conventional to draw a sharp line in 1945 separating the troubled interwar era from the 'post-war' era of triumphant growth. In terms of economic success the difference is undeniable. But the moniker of 'post-war' is seriously misleading when applied to the 1950s, a period of intense military confrontation in the early Cold War and violent decolonization struggles. Alongside the famous welfare state initiatives of the 1940s, the warfare states that had first taken shape in the First World War were more entrenched than ever.<sup>2</sup> Recognizing this casts new light on the nature of the 'post-war' international economic order.

### The breakdown of order

The last hurrah of the effort to institutionalize peace after the First World War came at the Naval Arms Control Conference in London in 1930. Under the sign of the new ideology of peace enshrined in the Kellogg-Briand pact and its renunciation of war, the USA, Britain and Japan, with France making a

<sup>2</sup> D. Edgerton, *Warfare State: Britain, 1920–1970* (Cambridge University Press, 2005).

*The economics of the war with Nazi Germany*

reluctant fourth, reaffirmed their commitment to arms limitation. They did so within months of having ratified the latest of the post-war debt deals capped by the Young Plan for German reparations. At the same time, loyally following the dictates of the gold standard they reacted to the hiking of US interest rates and the implosion of Wall Street by setting in motion a worldwide deflation. Arms control was part of a piece with fiscal austerity and monetary deflation. In an unprecedented global radio broadcast to celebrate the conclusion of the London naval agreement, President Hoover and Prime Ministers MacDonald and Hamaguchi took turns to hail a new era of internationalism, financial stability and military retrenchment. What they did not appreciate was the damage which the financial and economic crisis unleashed by coordinated global deflation would do to their vision of global pacification.

The unhinging of the world order set in motion by the Depression became manifest on the weekend of 19–20 September 1931 when rogue nationalists in Japan's army unleashed the annexation of Manchuria with the Mukden incident, and the government of Great Britain declared its departure from the gold standard. It was followed by the rest of the Empire and all of its smaller trading partners, as well as Japan. At first this was viewed as a temporary expedient. The USA, France and Italy remained on gold. In the summer of 1931 Germany had been forced to adopt exchange controls to contain the crisis in its banking sector and the wasting of its foreign reserves, whilst retaining the official parity of the Reichsmark. A major global conference was scheduled for London in the summer of 1933 to discuss the restoration of the world economy. But over the winter of 1932–33 another wave of bank failures swept across the USA and Franklin D. Roosevelt (FDR) in his first hundred days chose to prioritize national recovery. Adopting a beggar-thy-neighbour approach he allowed an unchecked 30 per cent devaluation of the dollar, the first step in a comprehensive retreat from international engagement that marked the early years of the New Deal. The British and French protested, but with little real credibility. After all it had been Britain that pulled the plug on the gold standard. And in 1932 it was Britain that in a spectacular historical reversal led the Empire in the creation of a tariff bloc.

With the dollar plunging and the London Economic Conference offering an embarrassing display of the weakness of liberalism, fascist Italy, Hitler's new government in Germany and the ultra-imperialists in Japan all openly proclaimed their nationalist contempt for the international order. The status quo powers seemed to have no answer. Not only was the world economy in

ADAM TOOZE AND JAMES R. MARTIN

tatters, but the nationalist alternative seemed to be working. By 1935, world trade had not yet returned to 1929 levels, but recovery was well under way notably in those states that had abandoned the gold standard. Devaluing states gained export competitiveness and diverted domestic demand away from more expensive imports. Most importantly, liberation from the gold standard's disciplinary rules allowed them to employ a suite of new expansionary monetary and fiscal techniques.<sup>3</sup> By contrast, the few countries that clung to the gold standard after 1933 – the so-called 'gold bloc' consisting of Belgium, the Netherlands, Poland, Czechoslovakia, Switzerland and France – continued to suffer from weakening balance of payments, anaemic industrial production, high unemployment and worsening fiscal deficits. France, the richest member of the 'gold bloc' led the way, doggedly maintaining a deflationary stance, even as the country sank deeper into recession and political turmoil.<sup>4</sup>

France's financial impasse was not separable from its increasingly alarming security situation. In East Asia the confrontation of Russian and Japanese interests in Manchurian and northern China had raised tensions since the late 1920s, culminating in the occupation of Manchuria in 1931. In October 1935 Mussolini launched his attack on Abyssinia. France and Britain might have been able to isolate East Asia and the Mediterranean as regional threats, but for the simultaneous upheaval in Germany. It was Hitler's increasingly overt challenge to the security order in Western and Eastern Europe that forced Britain and France to respond, creating a truly continental crisis.

In its early months Hitler's government had conformed assiduously to the ideology of peace that was such a marked feature of international relations in the 1920s. Civilian work-creation and national rehabilitation were to the fore. The Third Reich would not openly announce its remilitarization until March 1935. But behind the scenes plans for a massive military buildup had been in place since the earliest days of the regime. In June 1933, Schacht, Goering and Blomberg had agreed on an eight-year plan of rearmament to be financed by the Metallforschungsgesellschaft, an off-the-books front company underwritten by the Reichsbank. Already by 1935, however, military spending was running far ahead of target and in 1936 it would reach 11 per cent of total national income. This figure was historically unprecedented in a peacetime

<sup>3</sup> Barry Eichengreen, *Golden Fetters: The Gold Standard and the Great Depression, 1919–1939* (Oxford University Press, 1992), p. 367.

<sup>4</sup> See Kenneth Mouré, *Managing the Franc Poincaré: Economic Understanding and Political Constraint in French Monetary Policy, 1928–1936* (Cambridge University Press, 1991).

*The economics of the war with Nazi Germany*

capitalist state.<sup>5</sup> On the eve of the First World War in 1914, by contrast, the military spending of all the major European powers had hovered between 3 and 4 per cent of GDP.<sup>6</sup> Nor was Nazi Germany alone. The Soviet Red Army was undergoing dramatic modernization. Italy's attack on Abyssinia pushed its military burden over 12 per cent. When Japan attacked China in 1937 and it began a phase of semi-mobilization for war, military spending would surge to over 20 per cent of GDP.

How was such a drastic reallocation of resources possible? In Stalin's Soviet Union the answer was consistent and radical. The entire economy was restructured around collectivized agriculture and a rapidly expanding, state-controlled industrial complex. Civilian consumption was squeezed to the point of provoking a dreadful famine in the countryside. Meanwhile, the share of armaments in industrial production rose from 2.6 per cent in 1930, to 5.7 in 1932, 10 per cent in 1937 and 20 per cent by 1940. Though there was a lull in 1937 as the Communist Party was convulsed by the purges, after 1938 35–40 per cent of all steel produced in the Soviet Union was directed to the armaments sector. Production of aircraft and artillery surged. The regime advertised itself as bringing tractors to the countryside. But no less remarkable was its achievement in creating a world-beating capacity for the design and production of armoured vehicles, that already in 1936, whilst the Soviet Union was at peace, was turning out 5,000 tanks per year. From its inception in the 'war scare' of 1926, Stalin's regime lived under the shadow of war.

Though bent on remilitarization and international confrontation, Nazi Germany was not a socially revolutionary regime. Seizures and state ownership were limited on an ad hoc basis to particular troublesome or strategic industries, notably aircraft (Junkers) and steel (Reichswerke Hermann Goering). The key was to use state expenditure to mobilize and redirect the huge capacity left idle by the Great Depression. Already in December 1933 all new allocations of money for the work-creation schemes of the Reich were frozen. Thereafter, the civilian economy was consistently put in second place. Apart from the allocation of spending, the other main means of redirecting the German economy were the currency controls put in place during the crisis of 1931. These gave the Reichsbank full control over all imports. In 1934 they were consolidated by Hjalmar Schacht, Hitler's central

5 Adam Tooze, 'The Economic History of the Nazi Regime', in Jane Caplan, ed., *Nazi Germany* (Oxford University Press, 2008), pp. 180–1.

6 Richard Overly and Andrew Wheatcroft, *The Road to War: The Origins of World War II* (Harmondsworth: Penguin, 1999), p. 58.

ADAM TOOZE AND JAMES R. MARTIN

banker, into the New Plan. Contrary to the idea that Hitler instigated a Keynesian recovery, everything possible was done to prevent surging government spending and industrial employment spilling over into increased consumption. Sectors such as textiles and food production were throttled back, whilst chemicals and engineering boomed. Meanwhile, Hitler declared a general price stop in 1936. And the destruction of the labour movement held down wage growth. But how was Germany to pay for the imported raw materials its booming heavy industry consumed? Much was made at the time of Schacht's efforts to redirect German trade toward its 'informal Empire' in Southeastern Europe. But Yugoslavia, Romania and Bulgaria were a poor substitute for the global trading network Germany had built up since the nineteenth century. In global markets the failure to devalue the Reichsmark left German exports grossly uncompetitive. So from 1935 Schacht resorted to an elaborate export subsidy scheme to boost hard currency earnings, paid for by a compulsory levy on those profiting from the domestic boom.

Market liberals would of course object that such systems were grossly inefficient. The modern neoliberalism of Friedrich Hayek originated in a critique of the planned economies of the 1930s. But the instruments of state control employed by regimes such as Hitler's were themselves the product of the crisis of the market economy. Furthermore, even if there were inevitable inefficiencies, the recovery taking place from the early 1930s onwards was undeniable, as was the fact that the managers of the planned economies developed their own particular skill set. Soviet factory managers and construction engineers became expert at the 'storming' investment surges that drove Stalin's Five-Year Plans. Meanwhile, in the Third Reich officials perfected the delicate balancing of limited stocks of hard currency. But above all, for all their inefficiencies, systems of central planning enabled states to make periodic strategic decisions. Stalin set his economy on a forced march toward industrialization. Hitler's first move in 1933 was to suspend payment on Germany's international debts and to prioritize rearmament, using the foreign exchange controls to prevent any currency panic. The question over the winter of 1935–36 was whether the Nazi economy? On the answer to this question would hang Europe's economic and political future. With full employment rapidly approaching and the remobilization of the German armed forces now publicly declared there were those around Hjalmar Schacht arguing for a strategy of moderation. Meanwhile, the army and Hermann Goering and the Luftwaffe were pushing for a further acceleration of armaments. For Germany's neighbours this debate had ominous implications. How would they respond?

## *The economics of the war with Nazi Germany*

### Arms race

Facing not only Germany but the naval threats posed by Mussolini and Imperial Japan, it was clear by 1936 that Britain would have to accelerate rearmament. London's successful management of the dirty float of sterling since 1931 had enabled substantial recovery driven by the expanding consumption of a burgeoning middle class and increasingly affluent workers. For both financial and strategic reasons, the British preferred to pursue a strategy of highly concentrated rearmament that built very substantial military-industrial capacity above all in aircraft, whilst permitting 'business as usual' to continue as far as possible. The two most important elements of this strategy were the large investment in the radar defensive chain and the construction of a substantial shadow production capacity for key aircraft. This expansion in industrial capacity had begun as early as 1935, with the construction of new ordnance and armament facilities and specialized factories – managed by automobile companies, although owned by the state – producing aircraft and aero-engines.<sup>7</sup> By 1940, Britain was making more aircraft than any other state.<sup>8</sup> Chamberlain's policy of Appeasement was thus a strategy that balanced the priorities of home defence, imperial security and domestic political economy. Pivotal to this was a diplomatic effort to contain Hitler while simultaneously pursuing targeted, though still ambitious, programmes of rearmament at home.

France's options were less attractive. In the aftermath of the First World War the weakness of the French franc had been seared into the nation's consciousness as a symbol of national enfeeblement. After 1924 it had seemed as though the Republic, despite having defeated Germany, might slide, like Italy, toward financial chaos and political extremism. Poincaré's stabilization campaign in 1926 had rallied the Republican forces and given the Bank of France the biggest gold reserves in Europe. And France had clung to that position through the Depression. But the deflation that this necessitated hobbled any effort at rearmament and helped to paralyze France in strategic terms. When Mussolini invaded Abyssinia and Hitler remilitarized the Rhineland in the spring of 1936, France was in no position to react. Whilst Britain began investing in its air defences, France and its continental allies were in a more exposed position. In 1936 both Czechoslovakia and Romania

<sup>7</sup> David Edgerton, *Britain's War Machine: Weapons, Resources, and Experts in the Second World War* (London: Allen Lane, 2011), p. 200.

<sup>8</sup> Edgerton, *Warfare State*, p. 74.

ADAM TOOZE AND JAMES R. MARTIN

dramatically accelerated military spending. In April 1936 Poland, the last member of the gold bloc in Eastern Europe, initiated large-scale rearmament. To ensure that this did not provoke a currency crisis Warsaw imposed exchange controls, further exposing France's isolation.

In 1936 the turn toward a broad-based Popular Front strategy initiated by the Comintern in Moscow changed the political complexion of Europe. In Sweden and Spain the possibility came into view of progressive coalitions with communist support taking power. In France, in May 1936 Léon Blum's alliance of left parties won office, campaigning on an economic programme of work-creation and social insurance policies modelled on the American New Deal.<sup>9</sup> From the summer of 1936 amidst a dramatic wave of strikes, the Blum government would begin implementing a thoroughgoing programme of domestic reform, including most notably paid vacations and the eight-hour week. This expansive economic policy would put huge pressure on France's precarious gold peg. As the socialists took office, French conservatives feared that Blum might try to accommodate the need for both defence and social policy spending by adopting his own version of Schachtianism, a planned economy based on exchange controls. It was this threat that finally broke the deadlock in French policy and opened the door to the obvious alternative, which was a devaluation of the franc. To devalue the franc in an aggressive beggar-thy-neighbour fashion as FDR had done the dollar in 1933 might maximize France's competitive advantage but it risked a speculative crisis and by alienating Britain and the USA it would only worsen France's security situation. Instead, with the Spanish Civil War raging in the background, Blum initiated a coordinated devaluation in cooperation with Britain and the USA in an informal arrangement known as the Tripartite Agreement.<sup>10</sup> This agreement was more a set of declarations of support for currency stability and of democratic solidarity than any kind of formal partnership, but it represented a milestone in international economic cooperation. It was the first international economic agreement negotiated by Treasury officials and not private central bankers, prefiguring post-war financial diplomacy.<sup>11</sup>

The impact of the French devaluation was to further increase competitive pressure on the rest of the European economies. Italy's waning reserves had

<sup>9</sup> Philip Nord, *France's New Deal: From the Thirties to the Postwar Era* (Princeton University Press, 2012).

<sup>10</sup> Charles Kindleberger, *The World in Depression, 1929–1939* (Berkeley: University of California Press, 1986), pp. 255–61.

<sup>11</sup> Patricia Clavin, *The Failure of Economic Diplomacy: Britain, Germany, France and the United States, 1931–36* (Basingstoke: Macmillan, 1996), p. 189.

*The economics of the war with Nazi Germany*

forced Mussolini to introduce exchange controls in 1934. And with the Italian economy stretched hard by the expenses of his African campaigns he decided to relieve pressure on the lira by nationalizing the Italian central bank and carrying out a de facto 40 per cent devaluation in October 1936. Increasingly, the regime resorted to both differentiated exchange rates and artificially controlled prices to contain the pressures within its domestic economy and manage the balance of payments. Tourists were offered super-attractive exchange rates. Exporters were incentivized through premia paid in lira. Italian consumers of food and raw materials, for their part, found themselves paying one-third more than world market prices. Meanwhile, new investment was channelled into autarchy and armaments-related projects by IRI and IMI, the two agencies formed at the height of the crisis in 1931 to bail out the ailing Italian banking system.

The crucial question in 1936 was which path Germany would choose at this turning point in the world recovery. As the strategic debate within the regime intensified, Reichsbank President Schacht led a cluster of interests calling for Germany's re-entry into a multilateral system of trade. This path had significant support among the German business elite, who chafed at the onerous controls on currency and exchange. At the Reichsbank there was perpetual anxiety about the low level of German currency reserves that were rarely enough to cover more than a few months of essential imports. In August 1936, Schacht travelled to Paris in what appears to have been an attempt to negotiate the devaluation of the Reichsmark in coordination with the emerging Tripartite Agreement.<sup>12</sup> Perhaps Germany's worsening financial situation would offer an opportunity for a European settlement, in which financial and colonial concessions could be bartered against a freeze in German armaments.<sup>13</sup> But this was to misjudge Hitler's intentions. Faced with a choice between Schacht's rebalancing proposal and the calls from Goering and the army to accelerate spending, Hitler decided definitively in favour of the latter. In his 'Four-Year Plan' memorandum, Hitler declared that Germany must be ready for war within four years. Goering was placed in charge of a central office charged with ensuring self-sufficiency by means of investment in the synthetic production of rubber, iron ore, petrol, textiles and industrial fats.<sup>14</sup>

<sup>12</sup> Adam Tooze, *The Wages of Destruction: The Making and Breaking of the Nazi Economy* (London: Allen Lane, 2006), p. 223.

<sup>13</sup> Zara Steiner, *The Triumph of the Dark: European International History, 1933-1939* (Oxford University Press, 2011), pp. 258-9.

<sup>14</sup> Tooze, *Wages of Destruction*, pp. 203-24.

ADAM TOOZE AND JAMES R. MARTIN

In September 1936, France responded in kind. The Blum government approved a 14 billion franc programme of rearmament – the largest in France’s history. Even with the devaluation taking effect, this strained France’s financial situation.<sup>15</sup> In February 1937, Blum announced a ‘pause’ of the Popular Front’s social insurance and work-creation policies.<sup>16</sup> But even these cutbacks in non-military spending were insufficient to convince the fiscally orthodox Ministry of Finance to devote enough resources to put French rearmament on pace with the German.<sup>17</sup> In the course of 1937 the instability of the franc and continued domestic struggles put paid to the Popular Front experiment.

But even in Germany political will alone was not enough to underwrite rearmament. Having opted against devaluation in 1937 the Third Reich found itself having to introduce comprehensive rationing of iron, steel and non-ferrous metals to cope with the shortfall in foreign exchange and to redirect production toward exports. Around Schacht and his cohorts, the hope that the Third Reich might be directed back toward a path of fiscal conservatism revived. In early 1938 the off-the-books financing mechanisms were wound up. An attempt was made to shift to a more conventional mode of financing using bonds. After a series of smaller trial runs, 5.5 billion Reichsmarks were issued in 1938, far more debt than the Reich had ever previously sold in peacetime. But once more this consolidation was undone by the aggression of Hitler’s foreign policy which now reached out for Germany’s neighbours to the east: first Austria and then the Sudetenland. The resulting war scare had the effect of precipitating a further shocking acceleration of both immediate spending and medium-term armaments planning. In Nazi Germany by 1938, even though it was nominally at peace, military spending was surging to 17 per cent of national income and beyond.<sup>18</sup>

At this level of spending, with Germany at full employment the problem that British economists would later dub the ‘inflationary gap’ became acute. The question of state finance was no longer a technical matter for the Treasury but was manifestly intertwined with every other area of social and economic life. The government’s borrowing requirement was so large

15 Steiner, *Triumph of the Dark*, p. 275.

16 Robert Frankenstein, *Le Prix du Réarmement Français, 1935–1939* (Paris: Publications de la Sorbonne, 1982), p. 82.

17 L. D. Schwarz, ‘Searching for Recovery: Unbalanced Budgets, Deflation and Rearmament in France during the 1930s’, in W. R. Garside, ed., *Capitalism in Crisis: International Responses to the Great Depression* (New York: St. Martin’s Press, 1993), pp. 96–113.

18 Mark Harrison, ‘Resource Mobilization for World War II: The USA, UK, USSR and Germany, 1938–1945’, *Economic History Review* 41:2 (1988), 171–92 (p. 184).

*The economics of the war with Nazi Germany*

that it was on a par with the total flow of private business investment. Both government spending and investment had to be financed from the same common pool of 'social saving' – the portion of national income that remained after consumption by households and regular government spending. Whatever the channel through which these funds were tapped, whether it was through savings accounts, retained corporate profits, taxation, the stock market, the bond market or over-the-counter investments by insurance or pension funds, the trade-off could not be escaped – private investment and military spending came out of the same pool. The basic problem of economic government was how to balance these competing claims on national resource. From 1936 onwards Germany's advanced government statistical service and economic advisory staffs had been compiling more and more sophisticated estimates of this all-important balance.<sup>19</sup> But unlike in Britain and the USA there was no space for open controversy about national economic policy in the Third Reich and their inside influence on government was limited. At the highest level, on the part of Hitler and his intimate circle it was far from obvious that there was any interest in achieving a balance. When in January 1939 Hjalmar Schacht tried to rally the Reichsbank directorate against the excessive demands on the economy, they were forcibly retired. Decision-making processes in the Third Reich were famously incoherent. But there was no mistaking the direction of Hitler's restless, dynamic drive to international confrontation. It was the struggle to square that aggression with the available resources that resulted in incoherence, not the other way around. In 1938 to make room for further arms spending private share issues and mortgage lending were drastically curtailed, but that was not enough to save the last bond issue of the year that was an embarrassing flop. As Germany's foreign exchange reserves depleted, in early 1939 there was no option but to shift steel rations away from military orders toward exports. To take pressure off the capital markets, a novel financing scheme was introduced under which government suppliers were paid not in cash but in tax credits, but the resulting cash flow squeeze drove contractors to borrow on overdraft from their banks. The force of the macroeconomic constraint could not be escaped through better organization. The root cause of the imbalance was strategic not technical and Hitler showed no desire to de-escalate the international situation; first he gave top priority to German naval expansion, then he occupied Prague and set course for confrontation over Poland.

<sup>19</sup> Adam J. Tooze, *Statistics and the German State, 1900–1945: The Making of Modern Economic Knowledge* (Cambridge University Press, 2001).

ADAM TOOZE AND JAMES R. MARTIN

In Britain and France economic observers followed what they could make out of the drama in Nazi Germany with bated breath. Was an economic crisis driving Hitler to war? Might economic concessions open the door to negotiations? Was the regime fully in control? What was clear was that Germany's hugely increased armaments effort in 1938 demanded an escalation of their own efforts. After the Anschluss, the British Cabinet approved a dramatic acceleration of air rearmament, calling for the production of up to 12,000 new aircraft over the following two years.<sup>20</sup> Worries about the interference of rearmament with 'business as usual' were put aside, although care was still taken not to stray too far from economic orthodoxy: the Treasury repeatedly rejected plans for economic planning mechanisms to coordinate the expanded military production, and the Bank of England's calls for exchange controls to protect sterling from the financial pressures of rearmament also fell on deaf ears. But Hitler was forcing the pace. The Prague coup of March 1939 led to a doubling of the size of the territorial army, the introduction of conscription, and the establishment of a peacetime supply ministry to plan and coordinate rearmament and cooperation between labour and industry on industrial production. By the eve of the war in 1939, Chamberlain's conservative government had been forced to countenance an unprecedented array of interventionist measures.<sup>21</sup>

The French were more unwavering in their commitment to the orthodoxies of economic liberalism. In 1938, the Senate roundly rejected Blum's suggestion that exchange controls accompany his new proposal for rearmament, a defeat that led to the fall of what was left of the Popular Front government. Blum's successor, the right-wing Édouard Deladier, called for the doubling of France's defence spending in April, but his Minister of Finance, Paul Reynaud, rejected any means of financing it that were not in line with the strict principles of fiscal moderation and *laissez-faire*. In the face of a general strike that broke out in November 1938, Reynaud insisted that rearmament be accompanied by cutbacks in all non-military and social spending, shifting the burden onto the backs of labour. Reynaud hoped that rearmament could be financed through the revenue of savings bonds. As long as confidence in the French economy could be maintained, the willingness of French savers to support the state would allow rearmament without

20 G. C. Peden, *British Rearmament and the Treasury, 1932–1939* (Edinburgh University Press, 1979), p. 156.

21 Talbot Imlay, *Facing the Second World War: Strategy, Politics, and Economics in Britain and France, 1938–1940* (Oxford University Press, 2003), pp. 299–354.

### *The economics of the war with Nazi Germany*

inflation. But, as in Germany, even if the domestic balance could be preserved, the foreign account posed a constant challenge. How was France with its national economy devoted increasingly to armaments to pay for imports, above all of American aircraft? By the summer of 1939, with armaments spending surging ahead of revenue, the French state was without a coherent strategy: it had neither the money to pay for, nor the institutional mechanisms to coordinate, the industrial production needed to fight and win the coming European war.<sup>22</sup>

By 1939 as war approached the macroeconomic balance of the major combatants was quite unlike that in 1914. The conventions of the regular international economy had long ago been abandoned. Germany, Japan, Italy, France, Britain and the Soviet Union were unbalanced by government spending to a degree never seen before in peacetime. The one exception was the USA, where military spending was less than 2 per cent of GDP and the economy was still struggling to recover from the double-dip recession that struck in 1937. When war finally began in September 1939 there was on all sides a wave of recrimination about inadequate preparation. Even in Nazi Germany there were those who believed that more could have been done. And they were, of course, right. But rather than appropriating these contemporary arguments as our own, if we view the 1930s in longer-term perspective what we should not underestimate is the novelty and drama of the situation created by the collapse of the first effort at comprehensive political and economic stabilization in the wake of total war. Not only did the governments of the world face the immediate problem of recovery from the Great Depression, but they had to square that demand with the hypothetical of a total war, the scale of which was only gradually becoming clear even to those who were bent on unleashing it. That the result was a series of makeshift and more or less unbalanced improvisations can hardly be surprising. The financial effort involved and the industrial, technological and strategic uncertainties that had to be balanced posed new problems of modern government.

### War mobilization

The outbreak of the war over Poland in September 1939 at least had the effect of clarifying strategic positions. Britain and France were preparing for an attritional, economic war. Unlike in 1914 they did not count on the offensive.

<sup>22</sup> Imlay, *Facing the Second World War*, pp. 255–98.

ADAM TOOZE AND JAMES R. MARTIN

They instituted a blockade, moderately accelerated their military spending and made plans for large-scale procurement from the USA enabled by the cash-and-carry provisions that passed Congress in November 1939. Stalin and Mussolini were playing a waiting game. Stalin used the time he believed that he had bought through the Molotov–Ribbentrop pact to accelerate arms spending. Mussolini did not. In 1940 Italian military spending at 12 per cent of GDP was barely higher than it had been in 1937 during the Ethiopian war.

There were those in the Nazi regime who wanted to play a long game. Economics Minister Funk and the chief military-economic planner of the Wehrmacht General Thomas were in this camp. But Hitler dismissed their view as quixotic. It might be comforting to prepare plans that would stretch Germany's raw materials out over a three-year war. But Germany could not profit from such a conflict. It would play into the hands of its enemies who had far greater access to world markets. The Wehrmacht needed to achieve a major breakthrough to change the terms of the war as soon as possible. Awed by Germany's spectacular successes in the early war years, post-war analysts jumped to the conclusion that Hitler's reasoning was part of a well worked-out Blitzkrieg strategy in which everything from weapons procurement, to the economics of armaments planning and diplomacy was geared toward facilitating Hitler's salami-slicing aggression. In fact, there is no evidence that any such grand strategy existed. Even at the end of 1939 no one anticipated Germany's lightning battlefield victories in 1940 and 1941. Hitler's insistence on immediate action in 1939 was not the result of a brilliant grand strategy or a peculiar gift for military prophecy. It was rather the necessary and rather desperate conclusion to draw from the situation created by Hitler's aggression and the decision by Britain and France to stand and fight.

In a long-term race for further economic mobilization Germany had little to gain. Its economy unlike that of virtually all the other combatants' was already at overfull employment in 1939 so it had least scope to mobilize additional labour. Civilian consumption and investment had never been the main priority in Hitler's economic miracle, so there was less cushion there too. When war broke out Minister of Economic Affairs Funk proposed large tax increases. But since the German population was already very heavily taxed by international standards, Hitler deemed this politically inopportune. Instead, rationing and the redirection of production were used to curtail consumption. It was from the bulging accounts of the savings banks that the government helped itself to the funds it needed. Certainly, there was no lack of mobilization. Already in the first months of the war the German military

*The economics of the war with Nazi Germany*

burden surged toward 40 per cent of GDP, putting all the other powers to shame. But to talk of a long-term German economic strategy in 1939 would be to miss the point. In the first year of the war Hitler was going for broke and to the amazement of the world, the gamble paid off.

Germany's sudden victories in Western Europe in the spring of 1940 suddenly shifted the balance and inverted the time horizons of the combatants. France became the object of German pillage and occupation. Its economy was thrown from a mobilization footing into disorder and stagnation. By 1943, even before fighting resumed on French soil, output had plunged to less than 70 per cent of its pre-war level. To take advantage of France's defeat, Italy opportunistically joined the war and doubled its military spending as a share of GDP by 1941 to a modest 23 per cent. Germany's posture shifted from gambling on a quick victory in France to hoping that that victory would force Britain to surrender. It did not. Germany's victories forced the British Empire to reconfigure its long-range war strategy to reflect the changed circumstances. Britain was far more vulnerable to attack both by air and by sea than ever before. But contrary to Churchillian rhetoric, Britain was never alone. The loss of its military and economic allies in Europe led it to draw more than ever on the Empire and the USA. The basic direction of British armaments strategy directed toward aerial and naval warfare remained in place, but the stresses to which Britain was subject revealed themselves in the macroeconomic balances. The budget deficit exploded from £108 million to £2.9 billion in 1942. Taxes were hiked sharply. By 1941 British military spending as a share of GDP had surged ahead of even that of Germany. During this early phase of the war, the UK was the most mobilized war economy in the world.

Early in the war Britain benefited from the fact that in 1939 the UK workforce was still underemployed. Women, most notably, were far easier to mobilize in Britain than in Germany because the rate of employment among women had been so much lower in 1939. By the end of 1941 the British output was 21 per cent greater than in 1938. But as government spending surged it was clear that draconian measures could not be avoided. In its desperate experiment in macroeconomic imbalance, Britain mobilized the best available economic expertise. In the crisis summer of 1940 John Maynard Keynes was drafted into the Treasury, where he and his team diagnosed the same problem their German counterparts had faced two years earlier, what Keynes had dubbed an 'inflationary gap'. As the war effort hit high gear, the government's demands exceeded the total pool of social savings. In early 1941 relative to total government spending of £3.7 billion

they found £500 million that could not be covered. Unlike in Germany in the late 1930s the British experts had an attentive audience. The stringent budget presented to Parliament in the spring of 1941 was explicitly based on Keynesian macroeconomic methods and the modern national income statistics. The inflationary pressure that had been building up sharply between 1939 and 1941 began to be curtailed.<sup>23</sup> For many, the 1941 budget seemed to herald a new dawn for the rational management of the national economy. 'It is on the assumption of this wider responsibility,' wrote the economist Nicholas Kaldor in summer 1941, 'that our best hope lies for the post-war world'.<sup>24</sup>

And Britain's war effort was emphatically global. In 1940 the trade deficit gaped to 9.5 per cent of GDP. Over the war as a whole Britain benefited from a net inflow on current account of £10 billion. Of this £1.1 billion came from the sale of British investments abroad; £3.5 billion was made up of new borrowing, of which £2.7 billion was contributed by the Empire's Sterling Area, the majority from India, Burma and the Middle East. But the imperial share was dwarfed by funds provided by the USA, which ran to £5.4 billion pounds.

Churchill described the Lend-Lease Law that FDR signed into effect on 11 March 1941 as the 'least sordid act in history'. In Berlin it was taken as tantamount to an American declaration of war. In fact, the peculiar structure of Lend Lease was the direct result of earlier unhappy experience in Anglo-American war finance. In the First World War Britain and France had relied first on private loans and then on Liberty Loans to fuel their struggle against the Central Powers. By 1933, after the failure of inter-allied debt diplomacy they were officially declared in default. Congress could not therefore approve new loans, but resorted instead to the fiction of Lend-Lease. America's aid appeared denominated as dollars in the accounts of the US federal government, but the arms, raw materials and food were provided to its Allies in kind and did not therefore appear in their regular national accounts as obligations to the USA. Nevertheless, the relief provided was enormous. By early 1941 the sum total of Britain's foreign currency reserves not already committed to overseas orders amounted to less than \$2 billion, sufficient to cover no more than a few months of procurement. By the end of the war, according to US accounts, Lend-Lease would funnel over \$50 billion into the

23 John Philip Jones, *Keynes's Vision: Why the Great Depression Did Not Return* (Abingdon: Routledge, 2008), p. 177. Tooze, *Statistics and the German State*, pp. 4–17.

24 Nicholas Kaldor, 'The White Paper on National Income and Expenditure', *Economic Journal* 51:202/3 (1941), p. 181.

*The economics of the war with Nazi Germany*

Allied war effort, of which \$31 billion were directed to Britain. Britain's allocation of American largesse was greater than Germany's total domestic war effort in 1942. Supplies to its Allies would make up no less than 17 per cent of the US war effort.

Where did this vast flow of resources come from? In 1939 the US economy was still at a low ebb. When FDR launched his momentous plans for the peacetime draft, a two-ocean navy and a world-conquering 65,000 plane air-fleet in May 1940, the American economy was still operating at less than 80 per cent of capacity.<sup>25</sup> From 1939 onwards the US economy began to surge under the impact of British and French military orders, the domestic industrial investment these unleashed and increased federal government spending. In 1941 real US GNP rose 16 per cent. More remarkably, in 1942 and 1943, when unemployment among American men had fallen to zero, growth continued at 13 per cent. Between 1938 and 1944 US GDP increased by 87 per cent. Efficiency gains due to mass production of war equipment contributed about a quarter of this output growth. In this respect the USA was similar to the other combatants. The truly distinctive feature of the US war economy was labour mobilization, which accounted for three-quarters of the production surge. Between 1940 and 1943 11.25 million men and women joined or rejoined the American labour force, more than the total industrial workforce of Germany. An even bigger contribution was made by the lengthening of working hours which rose from an exceptionally low level of 35.6 per week in US manufacturing in 1938 to 45.2 in 1944. Despite the images of American industrial might dramatized by Ford's famous B-17 production line, new investment played a surprisingly small role in the US war effort. The US federal government spent lavishly on war factories. Net government investment between 1942 and 1945 ran to a massive \$99.4 billion. Gigantic synthetic rubber, aluminium and aircraft industries were built from scratch. But over the same period private investment was so drastically curtailed that it fell below depreciation, reducing the private capital stock by \$6.2 billion. Combined with the dramatic growth in output, this concerted reallocation of resources enabled the USA both to mount a gigantic war effort and to increase the private standard of consumption relative to 1939, whilst providing a huge flow of resources to its Allies.

There was anxiety, of course, about over-taxing even America's abundant resources. In the First World War the USA had seen its prices rise by 120 per

<sup>25</sup> Byrd L. Jones, 'The Role of Keynesians in Wartime Policy and Postwar Planning, 1940-1946', *American Economic Review* 62:2 (1972), 125-33 (p. 127).

ADAM TOOZE AND JAMES R. MARTIN

cent between 1913 and 1920, less than the European combatants but enough to unleash an unprecedented wave of labour unrest.<sup>26</sup> But, the role of Keynesians in the USA in the early phase of the Second World War was not to argue for compulsory saving, as their master was doing in the UK, but to warn against higher taxation, which might retard the long-awaited recovery.<sup>27</sup> Provided the USA reorganized its tax system, as the Harvard Keynesian Alvin Hansen wrote in 1941, the war boom promised to generate 'enormous revenues'.<sup>28</sup> No change brought by the war to American society was more profound than that in its tax system. The First World War had laid the foundations of America's modern fiscal apparatus. The number of Americans filing income tax returns leapt from 350,000 in 1914 to 5 million by 1918. But it was in the Second World War that filing federal income tax became a truly national experience. Between 1939 and 1943 the numbers filing with the Internal Revenue Service (IRS) increased from 7.5 million to 45 million. In total between 1942 and 1945, 47 per cent of US spending was covered by taxes, 27 per cent from borrowing and the rest through money creation. Though this meant that the money supply doubled, highly effective price regulations were enough to hold inflation in check for the duration of the war at least.

### Economics of occupied Europe

For Hitler and the SS the announcement of Lend-Lease in the spring of 1941 was confirmation that London and Washington were firmly in the grips of the world Jewish conspiracy. As in the First World War, whether war was declared or not, Germany's real antagonist was the economic might of the USA. When Hitler's victory over France had the effect not of forcing Britain to surrender, but of bonding London and Washington more closely together, this drove the Third Reich toward a two-pronged response. In military-industrial terms, it responded by ploughing further investment into raw material autarchy and preparations for a large-scale air war. The synthetic chemicals complex at Auschwitz, the largest single industrial investment project of the Third Reich designed to produce rubber and air fuel, was a pillar of this new strategy. At the same time, the invasion of the Soviet Union,

26 Earl J. Hamilton, 'The Role of War in Modern Inflation', *Journal of Economic History* 37:1 (1977), 13–19 (p. 170).

27 Donald Winch, *Economics and Policy: A Historical Survey* (New York: Walker and Co, 1969), pp. 263–4, 274–7.

28 Alvin Hansen, 'Deficit Financing and Inflation Potentialities', *Review of Economics and Statistics* 23:1 (1941), 1–7.

*The economics of the war with Nazi Germany*

expected to take no more than one campaigning season, was conceived as a way of securing for Germany the oil, grain, alloy metals and slave labour that it would need to pursue an intercontinental war. It was in the autumn of 1941, therefore, as the resistance of the Red Army broke the onrush of the Babarossa offensive that the strategic dilemma of German war planning became fully apparent. If it could not win quickly in the east, the Third Reich faced a two-front war of epic proportions. In the west the Germans faced the British and American economies whose combined output in 1942 was four times larger than that of the Reich. In the east they faced the Soviet Union with a population at least twice that of Germany's and an economy of similar scale, commanded by the most radical mobilization regime the world had ever seen.

The performance of the Soviet war economy was one of the true surprises of the Second World War. In the First World War poverty and underdevelopment had undermined the tsarist war effort and brought Russia to collapse by 1917. In October 1941 Stalin's regime was shaken by the onslaught of the Wehrmacht and came close to breaking point. But Moscow rallied and, sustained by the capital investment, organization and coercive capacity stamped out of the ground since 1928, it performed the most remarkable mobilization of any of the combatants. Despite suffering a fall in output of at least 35 per cent as a result of the German invasion, defence production in 1942 was 3.7 times that of 1940. There were huge gains in productivity in the Soviet armaments factories, which achieved the most remarkable performance of any of the combatants, under extremely adverse circumstances. Since the onset of forced industrialization in 1928 Soviet engineers and factory managers had become inured to the stresses of 'storming growth' and imperative production targets. After 1941 the triumph of the Soviet war economy lay in its success in surviving one crisis after another. Among the major European combatants no other population suffered such hardship. In 1942 the year in which the Red Army stopped the onslaught of the Wehrmacht, civilian consumption was reduced to less than 40 per cent of Soviet GDP. Inessential spending of all kinds was slashed to the bone. To contain inflationary pressures, taxes were increased dramatically. But the prices of what little food and clothing could be bought through regular retail channels tripled. The urban population that did not enjoy high priority in ration allocations was reduced to the level of starvation. In the cities mortality sky-rocketed. In a desperate bid to hold Stalin in the war against Germany, Lend-Lease was extended to the Soviets in October 1941 and by the end of the war the Soviet Union would receive US\$11.3 billion in funds. But the pipeline of foreign aid took time to build up. In 1942, the year of Stalingrad, Soviet net

ADAM TOOZE AND JAMES R. MARTIN

imports amounted to only 5 per cent of GDP. Where Lend-Lease played a crucial role was not in the early defensive battles, but in helping to sustain the monumental series of counter-offensives that took the Red Army to Berlin. For the last two years of the war 10 per cent of Soviet GDP was being provided through foreign aid, amounting to as much as one-fifth of the total Soviet war effort.

On the German side, as the Blitzkrieg invasion of the Soviet Union unravelled, Fritz Todt, who had headed Hitler's Ministry of Munitions since early 1940, argued that Hitler must escape the vice of a two-front war by opening peace talks with Stalin. But when Todt was killed in a mysterious plane crash in February 1942, this call for diplomacy lost its most powerful exponent. He was replaced by a coalition of loyalists wholly committed to the Nazi war effort. The front man for this new team was Albert Speer, Todt's charismatic replacement as Munitions Minister. The SS man Herbert Backe, State Secretary in the Agricultural Ministry, took charge of mobilizing the food economy of Europe. Gauleiter Fritz Sauckel organized the press gangs that would bring foreign labour to Germany. Heinrich Himmler's SS would act as enforcers. And Goering provided the necessary figure-head. Goebbels set up a special section in the Propaganda Ministry to publicize the triumphs of the armaments miracle, which duly followed as labour and raw materials were pumped into the armaments factories built since the mid-1930s and Germany benefited like the other combatants from the efficiencies of mass production. Against the odds, this coalition would force the mobilization of the German war economy down to the winter of 1944–45. The Wehrmacht would run out of room before it ran out of material. There would be no repeat of the collapse of November 1918. They could in no way alter the outcome. But the inferno in which Hitler choreographed his regime's downfall would not burn out for lack of fuel.

Like the British and Soviet war efforts, the German war effort was a multinational affair. In Italy, after a long lull between 1936 and 1940 armaments expenditure surged, largely at the expense of private investment. But Italy like the rest of occupied Europe was hobbled by chronic shortages of oil, food and essential raw materials. From 1942, real mobilization gave way to inflation and disorganization. In the summer of 1943, in the weeks before the collapse of Mussolini's regime, the black-market price of bread in Rome was eight times the price of the official ration. Rice fetched ten times the official price. And by 1943 the disintegration of the fascist regime was symptomatic of dislocation making itself felt across the entire economy of occupied Europe.

*The economics of the war with Nazi Germany*

In 1940 in the flush of its Blitzkrieg victories, German Economics Minister Funk had talked in bold terms about a new European currency system. When asked to comment, Keynes remarked that it was best that he did not reply because he objected to nothing in Funk's proposal, other than that Germany stood at its centre. As it turned out, the fact that it was Nazi Germany that stood at the centre did indeed make all the difference. From 1940 onwards the clearing accounts of the Reichsbank became the basis for a massive system of exploitation. This did not burden all of Europe equally. Allies such as Romania and Italy, Finland, Croatia and Bulgaria all benefited from net imports from Germany even after the turning point on the Eastern Front. So too did favoured occupied territories such as Norway. Even the rump of Poland, the General Government, which was a major staging area for the Wehrmacht's war with Russia, imported, according to the official statistics, more from Germany than it delivered. By contrast, Denmark, Holland, France, Belgium and even Serbia and Greece found themselves on the end of highly one-sided trading relationships, making deliveries for Germany and paying for the Wehrmacht occupation in exchange for Reichsbank credits that were never redeemed.

Overall, France made the largest contribution to the German war effort. In 1943–44 French payments to Germany may have risen to as much as 55 per cent of French GDP. In material terms the impact on the French population was dramatic. In the cities of France the meat and fat rations in 1943 were half what they had been in the first year of the war and less than 20 per cent of pre-war consumption. Even bread consumption was cut by 30 per cent. In Belgium the miners digging coal for Germany went hungry. With the official ration providing at most 1,500 calories per day, for city dwellers there was no alternative but recourse to the dangerous and exorbitant black market which by 1943 perhaps accounted for 20 per cent of French GDP. France and Belgium were rich societies with deep reserves of wealth. In a poor and import-dependent society the combined impact of the Allied blockade and the Axis invasion was disastrous. The worst-case scenario was Greece, where output collapsed by 70 per cent in 1941 and 1942, the Axis armies took what they needed from the land and prices sky-rocketed. As a result, as many as 360,000 people starved to death in Athens–Piraeus and across the Greek islands. Perhaps as many as one in twenty of the Greek population perished in the famine.

The overall contribution of the occupied territories to the German war effort was not comparable in quality to what the USA could supply to Britain. Oil, steel and non-ferrous metals remained desperately short. But in quantitative

ADAM TOOZE AND JAMES R. MARTIN

terms the contribution of the occupied territories was very large. As in the case of Lend-Lease, the sheer scale and multi-facetedness of wartime economic integration defied regular national accounting. There is a bitter historic irony in the fact that our modern techniques of national income accounting reached a new pitch of refinement, at the moment that slave labour returned to some of the most advanced economies of the world. But, according to the latest calculations, France alone may have contributed one-sixth of the Reich's war expenditure between 1940 and 1944. In 1943 as the German military effort surged to 60 per cent of domestic income, a quarter of the Reich's military budget was covered by the occupied territories, by means of a current account deficit amounting to 16 per cent of German GDP. However, even at the height of the Nazi exploitation of Europe, the majority of the Third Reich's war effort was covered out of Germany's own resources. A large part came in through taxes, the revenues of which doubled between 1938 and 1943, as wartime earnings and profits surged. On top of that, out of the Reich's expenditure in 1943 of 153 billion Reichsmarks, 87 billion were funded through borrowing, equivalent to almost all the Reich's spending on the Wehrmacht. The vast majority of this debt was placed directly with Germany's financial institutions. These then took in deposits from savers which were recycled to the state. Much has been made of the fact that this system of 'silent financing' did not involve the popular war bond drives familiar from the First World War. It has been alleged that Hitler's regime shrank from a financial referendum. But, in fact, all of the combatants relied in varying degrees on such indirect fund-raising mechanisms. In Britain the large wartime surpluses of the health and unemployment insurance funds were credited to the account of the National Debt Commissioner. In the USA, the banking system, savings banks and insurance funds provided more than enough funds to cover the cost of Lend-Lease. Though its mechanism of financing may have done without fanfare, Hitler's regime made no secret of the crucial role that savings played in the mobilization of the war economy. At every turn, the Volksgenossen were loudly called upon to save for victory. Thanks to rationing and the effective suppression of the black market their options were, in any case, limited. Rather than thinking of institutional funding as a flight from 'democratic' bond financing, it seems more appropriate to think of 'silent financing' as an organizational expression of the new macroeconomic approach to public finance that Keynes and others had been calling for since 1939. So long as the circuit of wages, savings, borrowing and government expenditure was maintained, the flow of funds provided the indispensable frame for Germany's hybrid war economy half way between a terroristic Stalinist dictatorship and a profit-driven

### *The economics of the war with Nazi Germany*

market economy. It was after the summer of 1944, when the prospect of imminent defeat became too obvious to ignore, that in Germany too the financial foundation of the war economy began to disintegrate. As the money supply bloated and price incentives lost their meaning, outright coercion became increasingly essential to maintain production.

Across Europe, Hitler's war bequeathed a monetary and financial disaster. In the chaotic two-year period following Mussolini's overthrow, Italy's price level soared by a factor of fifteen. As France was consumed by something akin to civil war, in 1944 its price level doubled. Plans to cement liberation with an austere anti-inflationary policy were abandoned in favour of monetizing government spending. This had the effect between 1944 and 1950 of reducing France's public debt as a share of GDP from 181 to 51 per cent. To undo the financial effects of German occupation as quickly as possible Belgium, Denmark and Norway, as well as Poland, Czechoslovakia and Yugoslavia, carried out wholesale currency reforms, backed up by draconian taxes on wartime profiteers. Austria introduced a new national currency in November 1945. Meanwhile, in post-war Germany, the Reichsmark remained in circulation and Hitler's price stop decree of 1936 continued to be effectively enforced. This worked remarkably well in holding back a vast monetary overhang, which by 1947 was estimated at ten times the volume of money in circulation in 1936. Perhaps half of this surplus purchasing power spilled over into a restricted, but spectacularly expensive black market, where items such as butter, sugar and stockings went for 100 times official prices. Transactions between German civilians and the soldiers of the occupying forces were commonly denominated in cigarettes. Meanwhile, the bulk of economic life was reduced to a rudimentary level of rationing and barter. The Nazi occupation of Europe had at least maintained a division of labour from which many farmers and businessmen in occupied Europe had benefited handsomely. The question that inescapably posed itself with the end of the war was how Germany and Europe could be reconstructed and reinserted into a wider international economic order.

#### A new order?

In August 1941 in the Atlantic Charter, Churchill and Roosevelt had committed themselves to a return to a system of multilateral trade combined with guarantees for social security and labour protections at the national level.<sup>29</sup>

<sup>29</sup> Elizabeth Borgwardt, *A New Deal for the World: America's Vision for Human Rights* (Cambridge, Mass.: The Belknap Press of Harvard University Press, 2005), pp. 42–5.

ADAM TOOZE AND JAMES R. MARTIN

Such liberal sentiments were easy to agree on. The difficult work of post-war economic planning had begun in a much more conflictual way over the demands of Article VII of the 1940 Lend-Lease Agreement, which specified that Britain's receipt of American aid was contingent upon its commitment to non-discrimination in post-war trade – in other words, to the removal of the system of imperial preference it had erected at the 1932 Ottawa Conference. Under influence of the free trade Secretary of State Cordell Hull, the USA targeted the economic blocs created by the British as well as the Germans and Japanese in the 1930s as one of the primary causes of the outbreak of the war and the first set of obstacles to be removed in reshaping post-war international order according to American globalist designs.<sup>30</sup> For the British, on the other hand, the commonwealth system of trade restrictions and currency controls, even if it was tarred with the brush of Schachtianism, seemed to offer the surest means of coping with what promised to be its catastrophic post-war balance of payments deficits, particularly if the US economy went into downturn after the war, as many feared, and transmitted the deflationary effects of its recession abroad. British imperialists and conservatives feared that abolishing imperial preference would threaten the political survival of the Empire, while the left worried it would make the pursuit of full employment and post-war social insurance schemes impossible.<sup>31</sup> In December 1942 the publication of William Beveridge's scheme for comprehensive post-war social security had attracted attention across Europe and spurred on a flurry of economic and social planning.<sup>32</sup> With the publication of the White Paper on Employment Policy in 1944, Britain's wartime coalition had officially committed itself to guaranteeing post-war employment.<sup>33</sup> How were such far-reaching promises of domestic activism to be reconciled with the constraints of a liberal international order?

In August 1941, in an effort to seize the initiative, Keynes had begun working on a plan to guarantee that the British re-entry into a multilateral

30 G. John Ikenberry, 'Creating Yesterday's New World Order: Keynesian "New Thinking" and the Anglo-American Postwar Settlement', in Judith Goldstein and Robert O. Keohane, eds., *Ideas and Foreign Policy: Beliefs, Institutions, and Political Change* (Ithaca: Cornell University Press, 1993), pp. 57–86 (pp. 63–6).

31 Richard N. Gardner, 'Sterling–Dollar Diplomacy in Current Perspective', *International Affairs* 62:1 (1985), 21–33 (p. 23). Alfred E. Eckes, *A Search for Solvency: Bretton Woods and the International Monetary System, 1941–1971* (Austin: University of Texas Press, 1975), p. 51.

32 Paul Addison, *The Road to 1945: British Politics and the Second World War* (London: Quartet, 1977), p. 171.

33 Jim Tomlinson, 'Why Was There Never a "Keynesian Revolution" in Economic Policy?', *Economy and Society* 10:1 (1981), 72–87.

*The economics of the war with Nazi Germany*

system would be as little damaging to its post-war position as possible. His original designs called for the creation of an International Clearing Union that would settle payments by means of a new international currency called *bancor*. Rather than facing the merciless discipline of the financial markets, member states would have access to overdraft facilities in a new international bank, which they could use to cushion any necessary adjustment in their balance of payments. This system would accommodate Britain's status as international debtor, as it would force creditor countries, like the USA, to make their surplus available to countries in deficit. Keynes envisioned a system of quasi-automatic rules requiring adjustment by surplus as well as deficit economies, thus replicating by organizational means the self-equilibrating powers once attributed to a certain idealized vision of the gold standard.

In late 1941 officials in the USA began work on their own schemes for an international monetary system, one better reflecting the dominant position of the USA as the world's dominant creditor. Responsibility for post-war economic planning had moved from the State Department into the hands of a group of Keynesian-minded economists around Harry Dexter White in Henry Morgenthau's Treasury. Perhaps not surprisingly, the Americans showed little interest in a synthetic global currency. Instead, in April 1942, White's team proposed the creation of an International Stabilization Fund, which would provide financial assistance to member states experiencing temporary balance of payments difficulties, and a Reconstruction Bank, for post-war relief and redevelopment. Membership in the Fund would require states to remove exchange controls, lower tariffs, and relinquish sovereignty over adjusting their exchange rates without supranational approval.<sup>34</sup> With funds of \$5 billion subscribed by its members, White's Stabilization Fund would have broad discretionary powers to determine which deficit countries were eligible for its financial assistance. Crucially, this would give the USA, as the largest contributor to the Fund, the right to exercise oversight over all its members and to have the final say in who received assistance.<sup>35</sup> Unlike in Keynes's project, no requirements were placed on the surplus members of the system to address the inadequate level of domestic demand that was the necessary concomitant of their export surplus.

<sup>34</sup> Eckes, *A Search for Solvency*, p. 48.

<sup>35</sup> Harold James, *International Monetary Cooperation since Bretton Woods* (Oxford University Press, 1996), p. 41.

ADAM TOOZE AND JAMES R. MARTIN

While the plans of Keynes and White differed on the roles to be played by their proposed international institutions, both the British and the American negotiators shared a broad understanding of what ‘the economic lessons of the 1930s’ called for. Whilst British and American experts agreed on the need to return to a system of fixed exchange rates and to remove exchange controls and clearing arrangements as quickly as possible, they also envisioned a system that gave states greater latitude to intervene in their national economies than had been possible under the gold standard. Given the speculative attacks which had undone the global financial system in the early 1930s there could be no return to the world of before 1914 when capital had moved without restrictions. Nor should maladjusted parities force damaging deflations. Better to adjust the par value of currencies in a coordinated fashion, on the lines of the Tripartite Agreement with France in 1936, thus enabling stimulative and full employment policies to be maintained even in the face of external pressure. In this way, the tools of national economic governance, which had been used to underpin aggressive rivalry in the 1930s, would be reconciled with the disciplined cooperation of a restored international economy.<sup>36</sup>

Negotiations over the Keynes and White plans began in the summer of 1942, and a compromise on monetary matters, unlike on the politically explosive issue of trade, was achieved relatively quickly. In September 1943, Keynes dropped his idea of the Clearing Union and by April 1944 the British had accepted a modified version of the original White Plan with a larger stabilization fund.<sup>37</sup> A conference to finalize the details of the Keynes–White plans was organized for July 1944, just three weeks after the D-Day invasion, at the Bretton Woods resort in New Hampshire, to which representatives from forty-four non-Axis countries were invited. Whilst a lot of time was spent in arguing over IMF quotas and the topic of trade barriers was avoided for fear of producing an immediate deadlock, the conference was decisive in another respect. During the proceedings, it became clear that as the war had taken such a disastrous toll on the stability of all the other major world economies, the US dollar alone would play the key role at the heart of the new monetary system. Fixed to gold at \$35 an ounce, the US dollar would become the world’s de facto currency of reserve, with the value of all other currencies pegged at adjustable rates.

<sup>36</sup> John Ruggie, ‘International Regimes, Transactions, and Change: Embedded Liberalism in the Postwar Economic Order’, *International Organization* 36:2 (1982), 379–415.

<sup>37</sup> Eckes, *A Search for Solvency*, p. 105.

*The economics of the war with Nazi Germany*

While the Bretton Woods Conference itself was hailed as a success, in the face of the ruined state of the European and Asian economies it did not by itself guarantee an immediate return to the multilateral world economic system that US planners had envisaged. For economies in the state of Italy or France any immediate return to full-blown international competition was unthinkable. As the war ended, a high stakes struggle began in which questions of grand strategy, financial and economic reconstruction were inextricably intertwined. Already in December 1945, the Soviets, with whom Harry Dexter White had carried on surreptitious negotiations, indicated that they would refuse to join the Bretton Woods institutions, in one of the first moves that suggested the wartime alliance would not long outlast the peace.<sup>38</sup> And even among the capitalist powers, the wartime visions of the post-war order proved bitterly divisive. Planning for the creation of an International Trade Organization (ITO) began in earnest only in December 1945, by which point the wartime enthusiasm for internationalist experimentation had already mostly faded.<sup>39</sup> The Charter for the ITO laboriously agreed upon at Havana in March 1948 was promptly voted down by the US Congress, leading to the opening of a new round of conferences, known optimistically as the General Agreement on Tariffs and Trade (GATT).<sup>40</sup> Tariffs, however, were a secondary consideration if countries lacked the currency to make imports. And after 1945 one problem dominated all others – the world-wide shortage of dollars.

In 1945 the booming US economy was responsible for a record share of 60 per cent of all manufacturing world-wide. The dollar gap thus came to stand as the main obstacle to reconstruction. The situation was particularly manifest in the British case, which emerged from the war as America's major ally and as the second largest economy in the world, but also as America's largest debtor, owing \$12 billion to the USA, in addition to 3.7 billion in sterling balances, valued at between \$12 and \$16 billion depending on the exchange rate, to the Empire and other creditors. The UK thus became the crash test dummy for the new economic order.<sup>41</sup> In 1946, the USA agreed on a loan of \$3.75 billion to Britain, on the condition that London move to the full implementation of the Bretton Woods model of fixed, but fully convertible

<sup>38</sup> James, *International Monetary Cooperation*, pp. 68–71.

<sup>39</sup> *Ibid.*, pp. 62–3.

<sup>40</sup> Richard Toye, 'Developing Multilateralism: The Havana Charter and the Fight for the International Trade Organization, 1947–1948', *International History Review* 25:2 (2003), 282–305.

<sup>41</sup> Eckes, *A Search for Solvency*, p. 280.

ADAM TOOZE AND JAMES R. MARTIN

currencies in June 1947. As the other signatories to Bretton Woods looked on and its reserves rapidly drained away, Britain suffered a currency crisis so severe that within only six weeks it had to abandon convertibility and retreat to wartime exchange controls. Clearly any implementation of the wartime designs would have to wait. This debacle gave new impetus to the joint-European investment programme announced by Secretary of State George Marshall, which promised as much as \$16 billion in investment to raise European productivity so that it could hold its own in trade with the USA. But not only was this a tall order in economic terms, it was a red flag to the Soviet Union. After Bretton Woods in 1945, the offer of Marshall aid to the countries occupied by the Red Army in 1947, followed in June 1948 by the introduction of the new currency the Deutschmark in the British and American zones would mark crucial moments in the escalation of the Cold War. Rather than unifying the world, the Anglo-American post-war architecture would come to mark the front line, in a confrontation in which armed blocs defined as much as their economic systems as their politics would divide the world between them.

After the Second World War the idea of restoring something like a true state of peace as the foundation for a reconstructed world economy slipped away even more quickly and radically than it had done after the First World War. Within only five years of the end of the war, the communist invasion of South Korea turned the Cold War into a major shooting war that required a dramatic remobilization of both the US and British economies and unleashed a tidal wave of inflation in global commodity markets. The Marshall Plan was supposed to culminate in 1952 with restoration of competitiveness such that Europe could make good on the institutional design of Bretton Woods. The Korean War and the entanglement of the French and British in wars of decolonization set that back to 1958. Nor was this merely an adjustment in time line. What NATO believed itself to be facing after 1950 was the imminent possibility of all-out Soviet assault. The hypothetical of total war, which had overshadowed the 1930s, returned with a vengeance. In the early 1950s defence spending in Britain and France exceeded 10 per cent. In the USA it peaked in 1953 at 15 per cent of GDP. These figures were high even by the standards of the 1930s arms race. They were triple the figures that had been normal among European powers before 1914 and ten times what the US federal government had been in the habit of spending on defence up to 1940. What we should be asking about the organization of the capitalist world after the Second World War is not how war was left behind, but how, unlike in the 1930s, a prolonged state of high mobilization was made sustainable. On

*The economics of the war with Nazi Germany*

the weaker members of the Western coalition, above all France and to a lesser extent Britain, this took its toll. As in the 1930s high military spending was combined after 1950 with very rapid economic growth. But this time, despite the lop-sided quality of this growth boom and despite the fact that it favoured Germany, it was contained within a set of international economic, financial and security institutions. These were unprecedented in the sophistication with which they interlinked military, diplomatic, economic, financial and social concerns. But above all, unlike in the interwar era, they were securely founded on both sides of the Atlantic.