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*The Second World War as an Economic Disaster*

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### I

On April 20, 1949, the *New York Times* carried three items about Japan. The most arresting headline was: ‘Japan’s War Cost Is Put at \$31 Billion; 2,252,000 Buildings Razed, 1,850,000 Dead.’ Similar figures were produced in the post-war period for nearly all the combatant countries. In four countries – China, Germany, Poland and the Soviet Union – the death toll was even higher, or five if the mortality of the 1943 Bengal famine is attributed to the war. Altogether, the best available estimates suggest, somewhere in the region of 60 million people lost their lives as a result of the Second World War. In some countries the mortality rate was higher than one in ten. In Poland it approached one in five.<sup>1</sup> No other previous war had been so catastrophic in relative, much less in absolute, terms. Nor was Japan unique in the scale of destruction its capital stock had suffered. Although the bombing of Hiroshima and Nagasaki represented the logical culmination of Anglo-American strategy – two entire cities laid waste by just two atomic bombs – comparable devastation had already been wreaked in other cities by conventional weaponry. In the aggregate, according to the U.S. Strategic Bombing Survey, 40 percent of the built-up areas of 66 Japanese cities had been destroyed; nearly a third of urban population had lost their homes. In Germany a similar proportion of the housing in 49 cities had been destroyed or seriously damaged. Of course, although they lacked the Allies’ bombing capability, the Germans and Japanese had meted out their share of destruction before suffering this explosive ‘payback’. Around 30 per cent of Polish buildings had been destroyed, and comparable proportions of the country’s agricultural property, mines and industry. More than a fifth of Yugoslavian housing had been wrecked. The story was much the same in Ukraine and Byelorussia, which had borne

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\* This paper draws heavily on my forthcoming book, *The War of the World: History’s Age of Hatred*, to be published by Penguin in 2006. Full acknowledgements for assistance will be provided in the book.

<sup>1</sup> The total death toll is based on the figures in Overy, *Times Atlas of the Twentieth Century*, pp. 102–5; Harrison, ‘Overview’, pp. 3f., 7f.. On the Soviet figures, see Harrison, ‘Soviet Union’, p. 291; Overy, *Russia’s War*, pp. xvi, 287; Erickson, ‘Red Army Battlefield Performance’, pp. 235f. For German mortality, see Overmans, *Deutsche militärische Verluste*. For China, see Ho, *Studies on the Population of China*, pp. 250–3.

brunt of the Nazi occupation. Eastern China was in a state of unquantifiable chaos thanks in large measure to the depredations of Japanese rule. Nor had Western Europe escaped unscathed. In Great Britain about 30 per cent of the homes were destroyed or damaged; in France, Belgium, and The Netherlands about 20 per cent. The exactions of German occupation had reduced gross domestic product in France and the Netherlands to below 60 per cent of the 1938 level; Italy had fared little better. According to the *Encyclopedia Britannica*, the cost of the war ‘to governments’ – meaning, presumably, its aggregate fiscal costs – amounted to \$1 trillion. Given the unquantifiable human suffering that lies behind all such statistics, it seems almost bathetic to call the Second World War an *economic* disaster. It was, quite simply, the greatest man-made disaster of any kind in modern history.

Yet the two other items about Japan in that same day’s paper told a contrasting story: one of rapid economic recovery. Not only were Japanese farmers achieving a record post-war harvest. More significantly, the *Times* published a remarkable photograph under the headline: ‘Japanese Items Ready for Export’. The caption below the picture read: ‘Samples of paper umbrellas, table tennis balls, textiles and fish nets which will be flown to the United States to encourage American firms to place orders with Japanese manufacturers.’<sup>2</sup> This was just the beginning of an explosive growth of Japanese exports, the composition of which would soon change from such low-value products to sophisticated industrial manufactures. Herein lay one of the great ironies of the Second World War. Out of the ashes it left in its wake grew, phoenix-like, the economies of the defeated powers.

Any interpretation of the Second World War as an economic disaster has to take account of both sides of this strange coin. On one side, the quintessence of disaster: six years of systematic destruction of people and capital. On the obverse, the prelude to economic miracles unprecedented in human history.

Economic historians have done less than might have been expected to resolve this seeming paradox. For example, the two pre-eminent English-language journals of economic history have published surprisingly little on the subject of the Second World War since 1949. There have been seventeen articles about the war in the *Journal of*

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<sup>2</sup> *New York Times*, April 20, 1949.

*Economic History* and just four articles in the *Economic History Review*. By comparison, the *JECH* published no fewer than thirty articles about the Great Depression in the same period. Yet the Depression, though it left millions idle, killed few people. Though it certainly emptied many buildings and left them to decay, it destroyed no cities. It is not as if the war had nothing to do with economics. Those who began it, both in Europe and in Asia, explicitly averred their economic motivations. Behind the rhetoric about ‘living space’ and ‘Asian co-prosperity’ were cold calculations about Germany’s and Japan’s need to acquire by force strategic raw materials which they could not acquire by trade. At the same time, economics played a central role in the debates about how far to ‘appease’ rather than confront the dictators. And, needless to say, once the war began it was economics as much as grand strategy that decided its outcome. The economic spin-offs of the war are also well known, not least in accelerating technological innovations that lay the foundations of post-war growth.

There are, it is true, distinguished exceptions to the rule of relative neglect. Building on their earlier researches on the Nazi economy, Alan Milward<sup>3</sup> and Richard Overy<sup>4</sup> have both addressed the central economic questions about the war’s origins and course. Mark Harrison, too, has done much to illuminate the economic foundations of the Soviet war effort.<sup>5</sup> Thanks to Hugh Rockoff and others, we now know much more than we did about the workings of American war economy.<sup>6</sup> J. R. Vernon demonstrated more than a decade ago that ‘half or more’ of the U.S. recovery from the Depression occurred in 1941 and 1942, and that most of the increase in real GNP in those years was attributable to the war-induced fiscal stimulus.<sup>7</sup> More recently, Robert Higgs has cast doubt on the enduring economic value, in terms of capital formation, of wartime government investment.<sup>8</sup> There is also an important literature on the institutional consequences of the war, which allowed ‘fresh starts’ for Germany and Japan, but reinforced institutional deficiencies in Britain.<sup>9</sup> Yet it was striking that, when a group of historians recently co-authored a new economic history of the war, their contributions

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<sup>3</sup> Milward, *War, Economy and Society*.

<sup>4</sup> Overy, *Why the Allies Won*.

<sup>5</sup> See e.g. Harrison, ‘Soviet Union’.

<sup>6</sup> See for an overview Rockoff, ‘United States’.

<sup>7</sup> Vernon, ‘World War II Fiscal Policies’.

<sup>8</sup> Higgs, ‘Wartime Socialization’.

<sup>9</sup> Olson, *Rise and Decline*; Barnett, *Audit of War*.

were quite different in terms of approach and methodology, making any kind of comparative reading distinctly difficult.<sup>10</sup> The most alluring avenue of inquiry at present is to use financial market data to draw inferences about contemporary investors' views of the war. Here, more or less standard methods of identifying structural breaks in bond price series are used to illuminate the attitudes of investors in various markets, notably Zurich, Stockholm, Paris and London.<sup>11</sup> It is nevertheless symptomatic that these papers essentially concern themselves with the reactions of financial markets to war, treating military and political events, once again, as exogenous shocks which investors could anticipate and discount, or be (pleasantly or unpleasantly) surprised by.

In this paper I will argue that the economics of the Second World War can be understood under four headings: the economic motivations of its instigators; the economic arguments that prevented their being deterred from going to war; the economic reasons for their ultimate but very costly and hard-fought defeat; and the economic consequences of the Allied victory. I hope to show that the war was an economic disaster in more than one sense; not only in terms of the death and destruction that it caused, but also because from an economic point of view it was unnecessary. Conquest was not the solution to the economic problems of Germany, Japan and Italy that the leaders of those countries claimed it would be. Equally spurious were the economic arguments that led the Western powers to appease rather than deter Germany and Japan. Because both sides erred, a war ended up being fought that the Axis powers stood no realistic chance of winning, but which the Allied powers nevertheless found extremely expensive to win. Post-war economic growth, which saw the vanquished transformed into victors, in large measure vindicated Winston Churchill's famous assertion that the Second World War ought to be known as 'the unnecessary war'.

## II

The Depression caused radical changes in economic policy in most countries, but radical changes in political and legal arrangements in only some countries and the adoption of expansionist foreign policies in fewer still. Most countries in fact responded to the crisis

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<sup>10</sup> Harrison (ed.), *Economics of World War II*.

<sup>11</sup> Frey and Kucher, 'History as Reflected in Capital Markets' and 'Wars and Markets'; Brown and Burdekin, 'German Debt'; Oosterlinck, 'Bond Market'; Waldenström and Frey, 'Government Bond Prices'.

as Britain and the United States did; by seeking as far as possible to avoid external conflicts. This was as much out of parsimony as altruism; the assumption was that the cost of fighting unemployment at home ruled out further expenditures on small wars abroad. Even the majority of authoritarian regimes were quite content to persecute internal enemies and bicker with their neighbors over borders. Only three countries aspired to territorial expansion and war as a means to achieve it. They were Japan, Italy and Germany. Their dreams of empire were the proximate cause of the multiple conflicts we know as the Second World War.

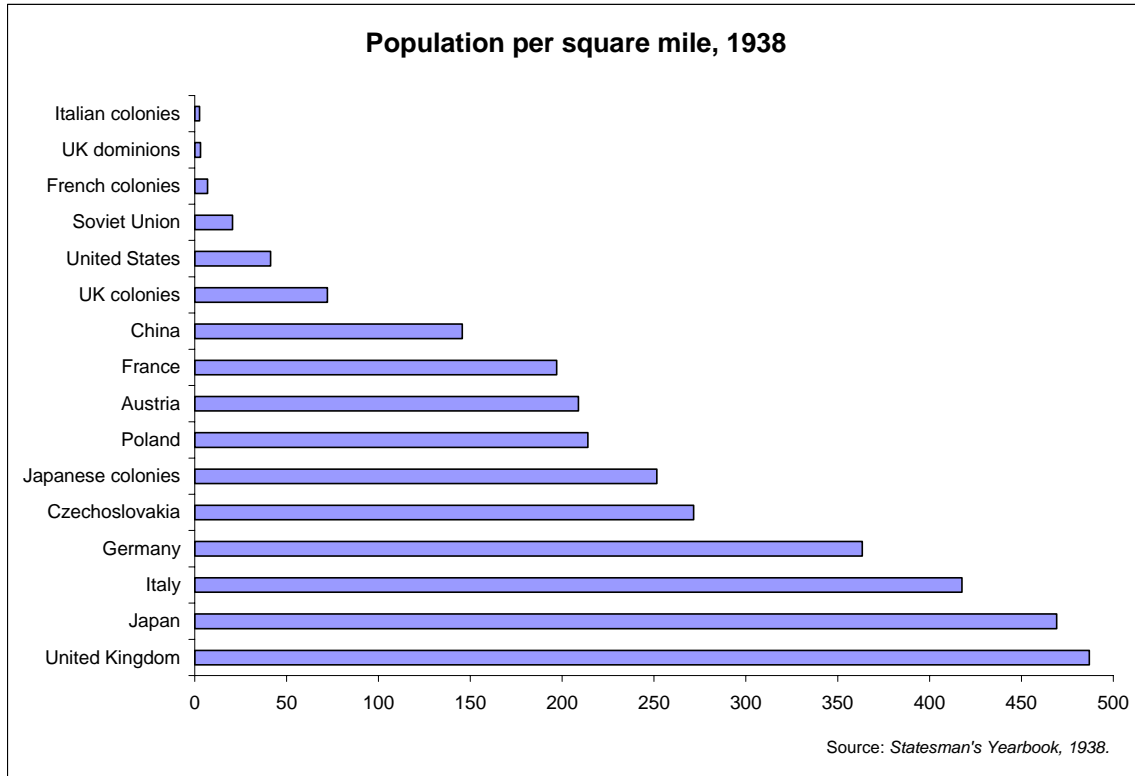
Why did only these three authoritarian regimes adopt and act upon aggressive foreign policies aimed at the acquisition of empires? A conventional answer might be that they were in thrall to anachronistic notions of imperial glory. Yet there was nothing anachronistic about the idea of empire in the 1930s. In a world without free trade, empires offered all kinds of advantages to those who had them. It was undoubtedly beneficial to the United Kingdom to be at the centre of a vast sterling bloc with a common currency and common tariff. And what would Stalin's Soviet Union have been if it had been confined within the historic frontiers of Muscovy, without the vast territories and resources of the Caucasus, Siberia and Central Asia? The importance of empire became especially obvious to the self-styled 'have not' powers when they adopted rearmament as a tool of economic recovery. For rearmament in the 1930s – if one wished to possess the most up-to-date weaponry – demanded copious supplies of a variety of crucial raw materials. Neither Italy, Germany nor Japan had these commodities within their own borders other than in trivial quantities. By contrast, the lion's share of the world's accessible supplies lay within the borders of one of four rival powers: the British Empire, the French Empire, the Soviet Union and the United States. Thus, no country could aspire to military parity with these powers without substantial imports of commodities whose supply they all but monopolized. For three reasons, it was not possible for the 'have nots' to rely on free trade to acquire them. First, free trade had been significantly reduced by the mid-1930s, thanks to the imposition of protectionist tariffs. Second, Italy, Germany and Japan lacked adequate international reserves to pay for the imports they required. Third, even if their central banks' reserves had been overflowing with gold, there was a risk that imports might be interdicted by rival powers before

rearmament was complete. There was therefore an attractive logic to territorial expansion.

The concept of *Lebensraum* had been originated in the late 1890s by Friedrich Ratzel, Professor of Geography at Leipzig, and developed by the Orientalist and geopolitical theorist Karl Haushofer, whose pupil Rudolf Hess may have introduced the term to Hitler in the early 1920s. We can now see that the argument was based on an excessively pessimistic view of economic development. Since 1945 gains in both agricultural and industrial productivity have allowed ‘haves’ and ‘have nots’ alike to sustain even larger populations than they had in 1939. By the end of the twentieth century, Italy’s population density was 17 per cent higher than sixty years before, Britain’s 28 per cent higher, France’s 42 per cent higher, Germany’s 64 per cent higher and Japan’s 84 per cent higher. As a result of decolonization, all these countries had been ‘have nots’ (in the interwar sense) for most of the intervening years, yet their economies had grown significantly faster than in the periods when some or all of them had been ‘haves’. Clearly, ‘living space’ was not as indispensable for prosperity as Haushofer and his disciples believed. Yet in the inter-war context the argument had a powerful appeal – and particularly in Germany, Italy and Japan. In the late 1930s, as figure 1 shows, Germany had the fourth-highest population density of the world’s major economies (363 inhabitants per square mile), after the United Kingdom (487), Japan (469) and Italy (418). Under the Treaty of Versailles, however, Germany had been deprived of her relatively few colonies, whereas Britain had added to her already vast imperium, as had France. If, as Hitler had learned from Haushofer, ‘living space’ was essential for a densely populated country with limited domestic sources of food and raw materials, then Germany, Japan and Italy all needed it. Another way of looking at the problem was to relate available arable land to the population employed in agriculture. By this measure, Canada was ten times better endowed than Germany and the United States six times better. Even Germany’s European neighbors had more ‘farming space’: the average Danish farmer had 229 per cent more land than the average German; the average British farmer 182 per cent more and the average French farmer 34 per cent more. To be sure, farmers in

Poland, Italy, Romania and Bulgaria were worse off; but further east, in the Soviet Union, there was 50 per cent more arable land per agricultural worker.<sup>12</sup>

Figure 1



Living space had a secondary meaning, however, which was less frequently articulated but in practice much more important. This was the need that any serious military power had for access to strategic raw materials. Here changes in military technology had radically altered the global balance of power – arguably even more so than post-1918 border changes. Military power was no longer a matter of ‘blood and iron’, or even coal and iron, as it had been in Bismarck’s day. Just as important were oil and rubber. The production of these commodities was dominated by the United States, the British Empire and the Soviet Union or countries under their direct or indirect influence. American oilfields alone accounted for just under 70 per cent of global crude petroleum production; the world’s next largest producer was Venezuela (12 per cent).

<sup>12</sup> Tooze, *Wages of Destruction*, table 4.



The Middle Eastern oilfields did not yet occupy the dominant position they enjoy today: between them, Iran, Iraq, Saudi Arabia and the smaller gulf states accounted for less than 7 per cent of total world production in 1940. The critical point was that oil production in all these countries was in the hands of British or American firms, principally Anglo-Persian, Royal Dutch/Shell and the successors to Standard Oil.<sup>13</sup> Nor was modern warfare solely a matter of internal combustion engines and the rubber tires. Modern planes, tanks and ships – to say nothing of guns, shells, bullets and the machinery needed to make all these things – required a host of sophisticated forms of steel, which could be manufactured only with the admixture of more or less rare metals like antimony, chromium, cobalt, manganese, mercury, molybdenum, nickel, titanium, tungsten and vanadium. Here too the situation of the Western powers and the Soviet Union was dominant, if not monopolistic. Taken together, the British Empire, the French Empire, the United States and the Soviet Union accounted for virtually all the world's output of cobalt, manganese, molybdenum, nickel and vanadium, around three-quarters of all chromium and titanium, and half of all tungsten. The former German colony of South-West Africa, now securely in British hands, was practically the only source of vanadium. The Soviet Union, followed distantly by India, accounted for nearly all manganese production. Nickel was virtually a Canadian monopoly; molybdenum an American one.<sup>14</sup>

The case that Germany, Italy and Japan lacked 'living space' was therefore far from weak. Germany had abundant domestic supplies of coal and the biggest iron and steel industry in Europe, but before the 1930s needed to import all its rubber and oil.<sup>15</sup> Rearmament necessarily increased Germany's appetite for both these commodities; at the same time, however, diverting resources into armaments reduced the amount that Germany could export – and, in the absence of ample hard currency reserves and foreign credit lines, it was only through exporting that Germany could earn the money to pay for imports. There was thus a clear and recurrent conflict between Hitler's military ambitions and the economic resources at his disposal. There had already been one foreign exchange crisis in 1934, which had forced a sharp reduction in imports. Hitler's Four Year Plan memorandum of August–September 1936 was intended to overcome this constraint on

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<sup>13</sup> See Yergin, *The Prize*.

<sup>14</sup> *Economist*, October 1, 1938, pp. 25ff.

<sup>15</sup> Tooze, *Wages of Destruction*, appendix 2.

his military ambitions. As Hitler made clear, his priority remained the confrontation and defeat of 'Bolshevism', meaning Soviet Communism. The paramount objective of the German government must therefore be 'developing the German Army, within the shortest period, to be the first army in the world in respect to training, mobilization of units [and] equipment'. Yet Hitler proceeded to enumerate the difficulties of achieving this within Germany's existing borders. First, an 'overpopulated' Germany could not feed itself because 'the yield of our agricultural production can no longer be substantially increased'. Secondly, it was 'impossible for us to produce artificially certain raw materials which we do not have in Germany, or to find other substitutes for them'. Hence, Hitler reasoned, 'the final solution' could be found only 'in an extension of our living space, and/or the sources of the raw materials and food supplies of our nation.' Yet Germany was not yet in a military position to win 'living space' through conquest. Rearmament would therefore only be possible through a combination of increased production of domestically available materials (e.g. low-grade German iron ore), further restriction of non-essential imports (e.g. coffee and tea) and substitution of essential imports with synthetic alternatives (e.g. *ersatz* fuel, rubber and fats). The core of the Four Year Plan was therefore a huge investment in new technologies capable of producing synthetic raw materials using domestically available commodities such as coal, as well as the creation at Salzgitter of a vast new state-owned factory designed to manufacture steel from low-quality German iron ore.

Hitler's memorandum should be understood primarily as a repudiation of the earlier 'New Plan' favored by the Reichsbank President and Economics Minister Hjalmar Schacht, which had aimed at replenishing Germany's depleted hard currency reserves through a complex system of export subsidies, import restrictions and bilateral trade agreements. Hitler dismissed brusquely Schacht's arguments for a slower pace of rearmament and a strategy of stockpiling raw materials and hard currency. The memorandum was also an explicit threat to German industry that state control would be stepped up if the private sector failed to meet the targets set by the government. However, the most important point in the entire report was the timetable for war that it established. Hitler's two conclusions could not have been more explicit:

- I. The German armed forces must be ready for combat within four years.

## II. The German economy must be fit for war within four years.<sup>16</sup>

By decisively sanctioning an acceleration in the pace of rearmament and overriding Schacht's warnings of another balance of payments crisis, Hitler's Four Year Plan memorandum significantly increased the likelihood that Germany would be at war by 1940. In the words of Major General Friedrich Fromm of the Army's Central Administrative Office: 'Shortly after completion of the rearmament phase, the Wehrmacht must be employed, otherwise there must be a reduction in demands or in the level of war readiness'.<sup>17</sup> Indeed, the Four Year Plan made it quite likely that war would come even sooner than that. By the time Hitler addressed his senior military leaders on November 5, 1937 – a meeting famously summarized by Colonel Friedrich Hossbach – it had become apparent that the enormously expensive mobilization of internal resources envisaged in the Four Year Plan could not possibly deliver the level of rearmament the service chiefs regarded as necessary until, at the earliest, 1943. It was for this reason that Hitler turned his attention to the possibility that 'living space' – and the resources that came with it – might be acquired sooner rather than later, beginning with Austria and Czechoslovakia. From early 1938 onwards Hitler embarked on a policy of territorial expansion and accelerated rearmament which made war in Europe increasingly probable. Such was the circular quality of the ideology of *Lebensraum*: a country needed a large and well-equipped military in order to acquire additional space; but such a military could be acquired only by conquering additional space.

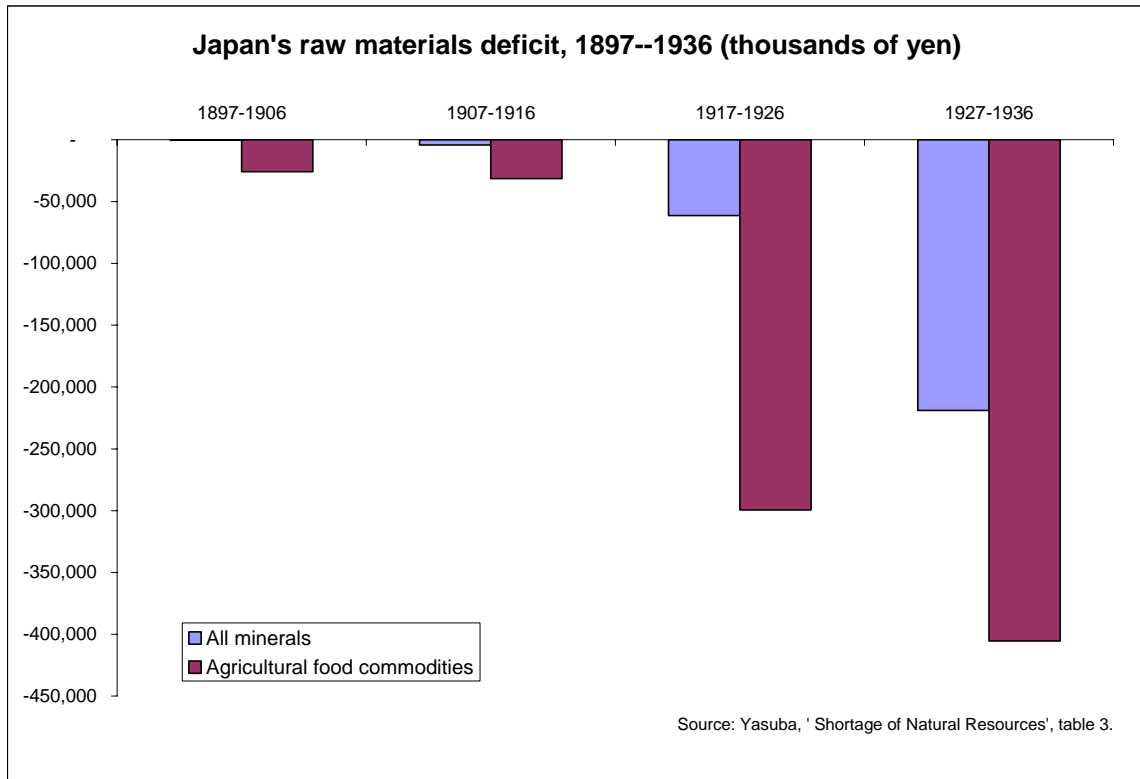
The Japanese need for 'living space' seemed even more acute. The collapse of global trade after 1928 had dealt Japan's economy a severe blow – a blow only made more painful by the ill-timed decision to return to the gold standard in 1929 (the very moment it would have made sense to float the yen) and Finance Minister Inoue Junnosuke's tight budgets. The terms of trade turned dramatically against Japan as export prices collapsed relative to import prices. In volume terms, exports fell by 6 per cent between 1929 and 1931. At the same time, Japan's deficits in raw materials soared to record heights (see figure 2). Unemployment rose to around one million. Agricultural incomes slumped.

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<sup>16</sup> Treue, 'Hitlers Denkschrift'.

<sup>17</sup> Tooze, *Wages of Destruction*, ch. 7.

Figure 2



There were, it is true, alternatives to territorial expansion as a response to this crisis. As Finance Minister from December 1931, Takahashi Korekiyo cut Japan's economy loose from the deadweight of orthodox economics, floating the yen, boosting government spending and monetizing debt by selling bonds to the Bank of Japan. These proto-Keynesian policies worked as well as any tried elsewhere during the Depression. Between 1929 and 1940 gross national product rose at a real rate of 4.7 per cent per annum, significantly faster than the Western economies in the same period. Export volumes doubled. In theory, Japan might have carried on in this vein, reining in the budget deficit as the recovery gathered pace, exploiting her comparative advantage as a textile manufacturer at the heart of an Asian trading bloc. As a percentage of total world

trade, intra-Asian trade doubled between 1913 and 1938.<sup>18</sup> By 1936 Japan accounted for 16 per cent of total Chinese imports, a share second only to that of the United States.<sup>19</sup>

Yet the proponents of military expansion forcefully argued against the option of peaceful commercial recovery. Japan's principal export markets were neighbouring Asian countries; could those markets be relied upon to remain open in an increasingly protectionist world? There was, in any case, good reason to suspect the Western powers of preparing to abandon the so-called 'unequal treaties' with China in response to Chinese nationalist pressure. In 1929 the British had restored tariff autonomy to China and ended their embargo on arms shipments. The following year, they restored the North China naval base of Weihaiwei to Chinese control. This boded ill for Japan, which saw the subjugation of China as indispensable to her trade policy. At the same time, Japan was heavily reliant on imports of Western machinery and raw materials.<sup>20</sup> In 1935 she depended on the British Empire for half her imports of jute, lead, tin, zinc, and manganese, nearly half her imports of rubber, aluminium, iron ore and cotton, and one-third of her imports of pig iron.<sup>21</sup> Around a third of Japan's imports came from the United States, including copious quantities of cotton, scrap iron and oil.<sup>22</sup> Around 80 per cent of Japanese oil was imported from the United States in the 1930s and 10 per cent from the Dutch East Indies; the nearest other source was on the Soviet-controlled island of Sakhalin.<sup>23</sup> Her dependence on American heavy machinery and machine tools was greater still. Japan also needed the English-speaking economies as markets for her exports, around a fifth of which went to British imperial markets. In the words of Freda Utey, the left-wing English journalist and author of *Japan's Feet of Clay* (1936), a liberal Japan seemed doomed to 'oscillate between the Scylla of dependence on the USA and the Charybdis of dependence on British empire markets'.<sup>24</sup>

Territorial expansion was the alternative to such insecurity. In the short term, the militarists reasoned, the increased military expenditure caused by a shift to formal imperialism would stimulate Japan's domestic economy, filling the order books of

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<sup>18</sup> Sugihara, 'Economic Motivations', p. 260.

<sup>19</sup> Endicott, *Diplomacy and Enterprise*, p. 186.

<sup>20</sup> Boyd, 'Japanese Military Effectiveness', p. 143.

<sup>21</sup> Neidpath, *Singapore Naval Base*, p. 136.

<sup>22</sup> Jansen, *Japan and China*, p. 397.

<sup>23</sup> Coox, 'Effectiveness of the Japanese Military Establishment', p. 19.

<sup>24</sup> Sugihara, 'Economic Motivations', p. 267. See also *ibid.*, tables 2, 3.

companies like Mitsubishi, Kawasaki and Nissan, while in the long term, it was argued, the appropriation of resource-rich territory would ease the country's balance of payments problems – for what use is an empire if it does not guarantee cut-price raw materials? At the same time, Japan would acquire desperately needed 'living space' to which her surplus population could emigrate. In the words of Lieutenant General Ishiwara Kanji, one of the most influential proponents – and practitioners – of a policy of territorial expansion:

Our nation seems to be at a deadlock, and there appears to be no solution for the important problems of population and food. The only way out ... is in the development of Manchuria and Mongolia. ... [The] natural resources will be sufficient to save [Japan] from the imminent crisis and pave the way for a big jump.<sup>25</sup>

In one respect this argument was not wholly spurious. That Japan faced a Malthusian crisis seemed all too clear when famine struck some rural areas in 1934. Imperialism addressed this problem. Between 1935 and 1940 around 310,000 Japanese emigrated, mostly to the growing Japanese empire in Asia; this certainly eased the downward pressure on domestic wages and consumption.<sup>26</sup> In another respect, however, the case for expansion was deeply suspect. Quite simply, expansion exacerbated precisely the structural problems it was supposed to solve, by requiring increased imports of petroleum, copper, coal, machinery and iron ore to feed the nascent Japanese military-industrial complex.<sup>27</sup> As the Japanese Marxist Nawa Toichi put it, 'the more Japan attempted to expand the productive capacity of her heavy and military-related industries as a preparation for her expansion policy ... the greater her dependence on the world market and the imports of raw materials' became.<sup>28</sup> These arguments applied with equal force to Italy, which manifestly lacked the domestic economic resources to conduct more than small-scale wars against technologically inferior foes.<sup>29</sup>

### III

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<sup>25</sup> Yasuba, 'Shortage of Natural Resources', p. 553n. Cf. Hata, 'Continental Expansion', p. 292.

<sup>26</sup> Yasuba, 'Shortage of Natural Resources', p. 555 and table 5.

<sup>27</sup> *Ibid.*, p. 555.

<sup>28</sup> Sugihara, 'Economic Motivations', p. 275.

<sup>29</sup> Zamagni, 'Italy'.

The Second World War was an economic disaster partly because it was, from a strictly economic point of view, avoidable. The ambitions of what became the Axis powers to rearm and acquire living space by conquest could have been resisted far more effectively than they were had the Western powers, Britain, France and the United States, adopted strategies aimed at deterring rather than appeasing the 'have nots'. This is not the place to discuss the military, diplomatic and domestic political arguments for and against appeasement. But it is germane to consider the economic arguments since these played an arguably decisive role, particularly in the British case.

The main argument advanced against more rapid rearmament in 1930s Britain was economic. All that accelerated arms spending would achieve, it was objected by the mandarins of the Treasury, would be to undermine Britain's precarious economic recovery. Better to proceed at a moderate pace and to play for time. The key question is whether this argument was correct.

Fighting the First World War had, to be sure, increased the British National Debt by a factor of twelve. By 1927 it was equivalent to a crushing 172 per cent of gross domestic product. The interest on the debt accounted for more than two fifths of public expenditure in the late 1920s.<sup>30</sup> Budget surpluses and an overvalued exchange rate – following Churchill's decision, as Chancellor of the Exchequer, to return to the gold standard in 1925 – were attained at the expense of jobs in manufacturing. The staple British industries of the late Victorian era – coal, iron, ship-building and textiles – had now been replicated all over the world; export markets for such British products inexorably shrank. 'Invisible' earnings from Britain's still immense overseas investments, financial services and shipping were also under pressure.<sup>31</sup> Less obvious but in some ways more profound was the damage that the war had done to the labour force. Under the system of volunteering that had been used to recruit the new divisions needed in the first half of the war, a great many skilled workers had been drawn into the armed forces, of which a substantial proportion were either killed or incapacitated.<sup>32</sup> The official solution to post-war problems was essentially Victorian in conception: budgets should be

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<sup>30</sup> Figures for the national debt kindly supplied by Professor Charles Goodhart. Figures for gross domestic product are taken from Feinstein, *National Income*, Statistical Tables, table 3. Debt service is from Flora *et al.*, *State, Economy and Society*, pp. 4448f.

<sup>31</sup> Kennedy, *Realities behind Diplomacy*, pp. 226–30.

<sup>32</sup> Greasley and Oxley, 'Discontinuities in Competitiveness'.

balanced, the pound should return to gold and free trade should be restored. In the name of 'retrenchment', defense expenditure was reined in, so that as a share of total public spending it fell from nearly 30 per cent in 1913 to just over 10 per cent twenty years later.<sup>33</sup> The Ten-Year Rule amounted to a spending freeze for the armed services. Even when it was dropped in 1932, the Treasury insisted that 'financial and economic risks' militated against significant increases in the defense budget.<sup>34</sup>

As Chancellor of the Exchequer, Neville Chamberlain was one of the driving forces behind the creation of the Defence Requirements Committee (DRC), in the belief that a clear ordering of military priorities would make his life easier at the Treasury. He welcomed the identification of Germany as the biggest potential danger.<sup>35</sup> Yet it was also Chamberlain who ruled out as 'impossible' the additional £97 million that would be needed to create and maintain an adequate expeditionary force for use on the continent. His preference for a deterrent strategy based on bombers was motivated in large measure by the fact that it looked cheaper than the alternative.<sup>36</sup> When the DRC proposed in November 1935 that its 'Ideal Scheme' of rearmament be financed by a Defence Loan, there was consternation in the Treasury; again Chamberlain insisted on cutting the spending bids for the navy and the army.<sup>37</sup> Soon the Royal Air Force, too, started to look too expensive. As one Treasury official put it after Munich, 'We think that we shall probably not be able to afford it [the Air Ministry's latest proposals] without bringing down the general economy of this country and thus presenting Hitler with precisely that kind of peaceful victory which would be most gratifying to him.'<sup>38</sup> The Treasury gave even shorter shrift to the requests of the Army and Navy for additional funds.<sup>39</sup> As for Churchill's demands for much larger defense expenditures, which he first advanced in 1936, Chamberlain dismissed these out of hand. Only in 1937 was new borrowing undertaken to finance rearmament, to the tune of £400 million, and even then

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<sup>33</sup> Kennedy, *Realities behind Diplomacy*, pp. 239f.

<sup>34</sup> Howard, *Continental Commitment*, p. 98.

<sup>35</sup> Dilks, "'Unnecessary War'", pp. 109–12.

<sup>36</sup> Howard, *Continental Commitment*, pp. 108f.

<sup>37</sup> Newton, *Profits of Peace*, pp. 67f.

<sup>38</sup> Kennedy, 'Tradition of British Appeasement', p. 233. See in general Peden, *British Rearmament and the Treasury*.

<sup>39</sup> Shay, *British Rearmament*, pp. 282f.



Chamberlain had initially tried to cover the increased costs by raising taxes.<sup>40</sup> His successor at the Treasury, Sir John Simon, insisted that total defense spending from April 1937 to April 1942 should be capped at £1,500 million.<sup>41</sup>

In any case, it was hoped that a policy of economic engagement with Germany might serve to divert the Nazi regime from aggression. On the one hand, officials at the Bank of England and the Treasury, supported by influential firms in the City of London, wanted to preserve trade with Germany and avoid a total German default on money owed to Britain. On the other, they deprecated the kind of economic controls that would undoubtedly be required if large-scale rearmament was to be undertaken without domestic inflation and a widening current account deficit.<sup>42</sup> Traditional financial strength was supposed to be the ‘fourth arm’ of British defense, in Inskip’s phrase; hence the Treasury’s perennial preoccupation with the balance of payments and the exchange rate. The great fear was that in the event of a prolonged war Britain’s credit abroad would prove far weaker than between 1914 and 1918, for the current account deficits of the later 1930s were eating away at Britain’s net creditor position, her gold reserves and the strength of sterling.<sup>43</sup> For all these reasons it was not until 1938 that defense expenditure exceeded 4 per cent of gross domestic product and not until 1939 that the same could be said of the government’s deficit (see figure 3).

Figure 3

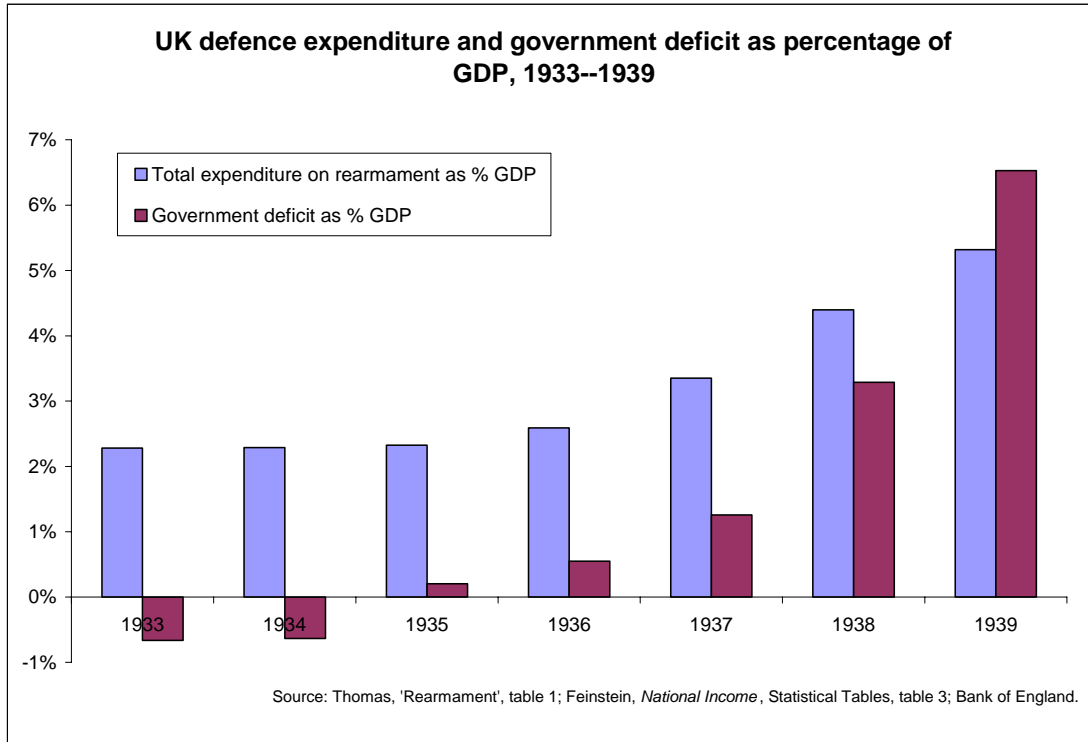
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<sup>40</sup> Coghlan, ‘Armaments, Economic Policy and Appeasement’, p. 213; Newton “‘Anglo-German’ Connection”, p. 304; Thomas, ‘Rearmament’, p. 560. See also Dilks, “‘Unnecessary War’”, p. 117.

<sup>41</sup> Parker, ‘Treasury, Trade Unions and Skilled Labour’, p. 312.

<sup>42</sup> See in general Newton, *Profits of Peace* and Wendt, *Economic Appeasement*; Shay, *British Rearmament*.

<sup>43</sup> Peden, ‘Question of Timing’. Cf. Parker, ‘Economics, Rearmament, and Foreign Policy’, pp. 637ff.



The economic arguments for appeasement reflected British economic strength as much as weakness. Compared with what had happened in Germany and the United States, the Depression in the United Kingdom had been mild. Once Britain had gone off gold in September 1931 and interest rates had been cut to 2 per cent by the Bank of England, recovery came quite swiftly – not, certainly, to the old industrial regions of the North, but to the Midlands and the South-East, where new industries and services were springing up. Cheap money also fuelled a construction boom in England south of the Trent. But for precisely these reasons, it was argued, significantly higher expenditure on rearmament would have created problems of over-heating in the British economy, in the absence of matching tax increases or cuts in other government programs.<sup>44</sup> Keynes himself was to argue in *How to Pay for the War* that, in the event of large-scale defence expenditures, inflation and balance of payments problems could be avoided only if the economy were much more strictly controlled than it had been in the First World War, with severe taxation of consumption.<sup>45</sup> Such an illiberal regime was inconceivable in

<sup>44</sup> Coghlan, 'Armaments, Economic Policy and Appeasement', pp. 205–9.

<sup>45</sup> Keynes, *How to Pay for the War*.

peacetime. In April 1939 Keynes spelt out the constraints on pre-war rearmament: ‘The first is the shortage of labour; the second is the shortage of foreign resources.’<sup>46</sup> For once he was articulating the conventional wisdom.

Yet these concerns were surely exaggerated. With the annual rate of growth in consumer prices peaking at just under 7 per cent in September 1937 and then rapidly declining (see figure 4), and with long-term interest rates below 4 per cent until the outbreak of war itself, the Treasury had far more room for manoeuvre than it admitted. With so much slack in the system – with good reason, contemporaries feared a recession in 1937 – higher levels of borrowing would not have ‘crowded out’ of private sector investment. On the contrary, they would probably have stimulated growth.<sup>47</sup> As for skilled labour, that was only an issue because, for originally economic reasons, Chamberlain had committed Britain to a sophisticated airborne deterrent that turned out not to worry Hitler; and because the government was almost superstitiously nervous of antagonizing the bloody-minded leadership of the Amalgamated Engineering Union by ‘diluting’ the skilled labour force.<sup>48</sup> In practice, the rearmament program stimulated staple industries as well as the infant aeronautical engineering sector; even on limited budgets the navy needed ships and the army needed guns, tanks and uniforms, so the iron, coal and textile sectors all benefited from rearmament. Wages for skilled labourers did not jump upwards, as the Treasury pessimists had feared; on the contrary, wage differentials narrowed.<sup>49</sup> A more rational policy, both economically and strategically, would have been to build more ships and more tanks and to conscript the unemployed – who still accounted for 14 per cent of insured workers as late as January 1939 – and prepare a British Expeditionary Force the Germans could not have ignored. Chamberlain was simply wrong to fear that Britain lacked the manpower ‘to man the enlarged Navy, the new Air Force, and a million-man Army’.<sup>50</sup>

Figure 4

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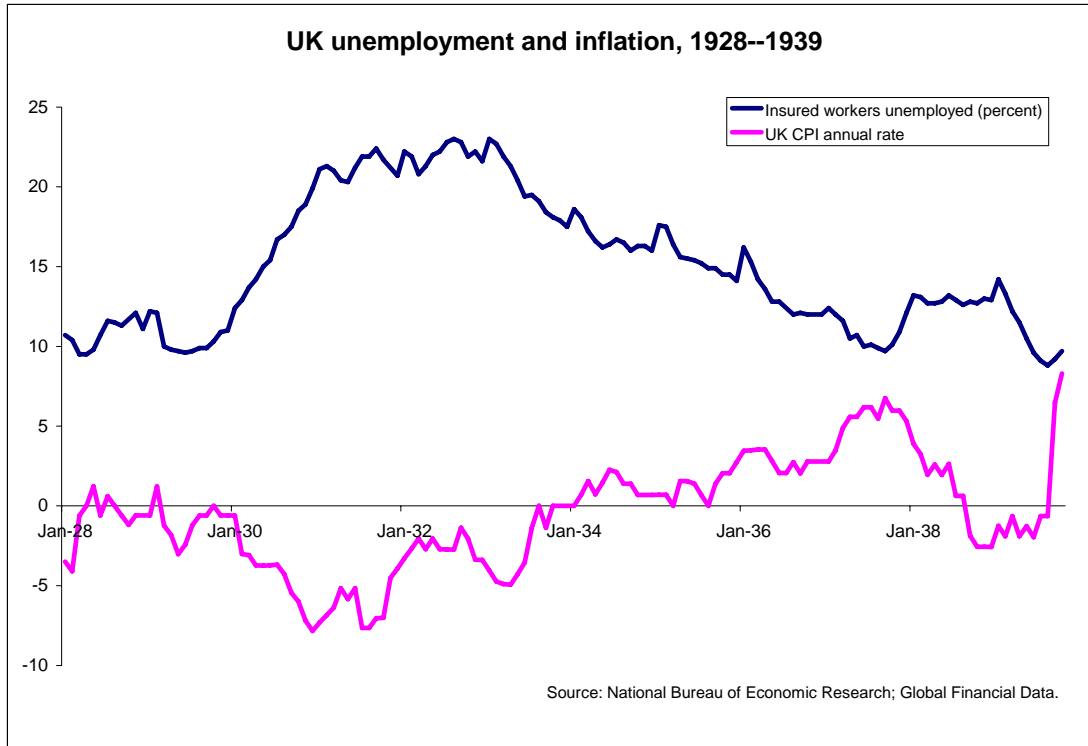
<sup>46</sup> Parker, ‘Treasury, Trade Unions and Skilled Labour’, p. 317.

<sup>47</sup> Thomas, ‘Rearmament’, p. 571.

<sup>48</sup> Parker, ‘Treasury, Trade Unions and Skilled Labour’, pp. 328–43.

<sup>49</sup> Thomas, ‘Rearmament’, pp. 564f., 567, 570.

<sup>50</sup> Howard, *Continental Commitment*, p. 135; Dunbabin, ‘British Rearmament’, p. 598.



Finally, fretting about Britain’s financial ‘fourth arm’ of defence presupposed that foreign powers would lend to Britain in a war only if it were financially attractive to do so, whereas both the United States and the Dominions would have powerful strategic and economic incentives to lend to Britain if the alternative was a victory for the dictators and an interruption to Atlantic export shipments. In any case, the current account deficits of the later 1930s were trivial – equivalent to around 1 per cent of GDP a year, compared with net overseas earnings of at least 3.5 per cent on a total stock of overseas assets worth £3.7 billion (\$17 billion).<sup>51</sup> Britain was not broke in 1938. The crucial point was that by 1939 she might well be if her hard currency reserves continued to diminish. The fatal error was the assumption – first enunciated by the Permanent Under-Secretary at the Foreign Office, Sir Robert Vansittart – that Britain gained by waiting.<sup>52</sup> As he observed in December 1936, ‘Time is the very material commodity which the Foreign Office is expected to provide in the same way as other departments provide *other* war material. ... To the Foreign Office falls therefore the task of holding the situation until at least

<sup>51</sup> Calculated from Mitchell, *Abstract of British Historical Statistics*, pp. 333f.

<sup>52</sup> Parker, *Chamberlain and Appeasement*, p. 68; Schmidt, ‘Domestic Background’, pp. 103–8.

1939.’<sup>53</sup> In reality, the ‘policy of cunction’ gave Hitler just as much time to build up his military forces and was positively disadvantageous to Britain from an economic point of view, since with each passing month of political uncertainty British hard currency reserves were further depleted.

British decision-makers failed to appreciate how much weaker Germany’s position was than their own in the decisive summer of 1938, when Hitler might very well have been confronted and humiliated if not actually defeated over Czechoslovakia. It was not just in military, diplomatic and political terms that Germany was vulnerable in 1938.<sup>54</sup> Of equal importance was her acute economic vulnerability. The Four Year Plan could not possibly have improved the German position much by September 1938, barely two years since Hitler’s memorandum had been drafted. Domestic iron ore production had certainly been boosted, but the increment since 1936 was just over a million tons, little more than a tenth of imports in 1938. No more than 11,000 tons of synthetic rubber had been produced, around 12 per cent of imports.<sup>55</sup> The rationale of annexing Austria and Czechoslovakia was precisely to address the shortages of raw materials that were continuing to hamper German rearmament.<sup>56</sup> Had war come in 1938, the journalist Ian Colvin had it on good authority that Germany had only sufficient stocks of gasoline for three months.<sup>57</sup> In addition, the German economy was by now suffering from acute labor shortages, not least as a result of the upsurge in arms spending that had been set in train by the Four Year Plan.<sup>58</sup> As Colvin’s testimony suggests, Germany’s economic problems were no secret. Indeed, their financial symptoms were highly visible. Schacht’s resignation as Economics Minister – which he submitted in August 1937, though it was not accepted until November – was widely seen as a blow to the regime’s fiscal credibility, although he stayed on as Reichsbank President.<sup>59</sup> Aside from his objections to the Four Year Plan, Schacht had two concerns: the mounting inflationary pressure as more and more of the costs of rearmament were met by printing money, and the looming exhaustion of Germany’s hard currency reserves. These problems did not go away.

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<sup>53</sup> Dunbabin, ‘British Rearmament’, p. 597.

<sup>54</sup> For the non-economic aspects of the problem, see Ferguson, *War of the World*, chs. 9 and 10.

<sup>55</sup> Tooze, *Wages of Destruction*, table 6.

<sup>56</sup> Overy, ‘Germany and the Munich Crisis’, pp. 194–200.

<sup>57</sup> Colvin, *Vansittart in Office*, p. 273.

<sup>58</sup> Tooze, *Wages of Destruction*, ch. 8.

<sup>59</sup> Smelser, ‘Nazi Dynamics’, pp. 38f. Cf. Brown and Burdekin, ‘German Debt’, p. 665.

German exports were a fifth lower in 1938 than the year before. In July Germany had to give in when Britain insisted on a revision of the Anglo-German Payments Agreement and continued payment of interest due on the Dawes and Young bonds (issued to help finance reparations).<sup>60</sup> The anti-appeasing commercial attaché in the British embassy in Berlin had a point when he argued for canceling the Anglo-German Payments Agreement. By further reducing Germany's access to hard currency, that would have struck at the German economy's Achilles heel.<sup>61</sup> Small wonder the German stock market slumped by 13 per cent between April and August 1938; the German Finance Minister Count Schwerin von Krosigk warned that Germany was on the brink of an inflationary crisis. In a devastating Reichsbank memorandum, dated October 3, 1938, Schacht said the same. When Schacht and his colleagues repeated their warnings of inflation Hitler fired them.<sup>62</sup>

As we have seen, British officials worried a great deal about Britain's shortages of labour and hard currency. But in both respects the German position was far worse in 1938, just as it was worse militarily, diplomatically and domestically. Had Chamberlain resisted the temptation to fly off to Germany in pursuit of 'peace in our time', but had instead held firm to the maintenance of Czechoslovakia's territorial integrity, the pressure on Germany would have far exceeded that on Britain. Even after Hitler's bad faith became apparent, he and key officials in the Treasury and the Foreign Office clung to the notion that time was on Britain's side and that it was better to fight later than sooner. But this was wrong. Time – not to mention the free gift of Czechoslovakia – enabled Hitler to improve Germany's strategic position, particularly by concluding the Nazi-Soviet Pact. In terms of military and economic preparedness, it was the Germans not the British who gained the most from the last twelve months of peace. In economic terms Munich was a disaster, for the simple reason that a relatively small war over Czechoslovakia would have been so much less costly than the war that began with the partition of Poland in 1939.

#### IV

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<sup>60</sup> MacDonald, 'Economic Appeasement and the German "Moderates"', pp. 115ff.

<sup>61</sup> *Ibid.*, p. 121.

<sup>62</sup> Tooze, *Wages of Destruction*, ch. 9.

Appeasement meant that Germany was undeterred by subsequent British commitments to other Central and East European countries. 'Our enemies are little worms,' he remarked, two days before the Nazi-Soviet Pact was signed; 'I saw them at Munich.'<sup>63</sup> Slow rearmament also meant that Germany was undeterred by the diminutive forces Britain had at her disposal to send to Europe even as late as 1940.

The Japanese case was different. Here, it is true, the British offered even less reason for concern than they did in Europe. It was not difficult for Japanese decision-makers to work out that the British Empire in Asia was as enfeebled by 1941 as the Dutch and French. Even had the Europeans adopted more confrontational policies, they would have lacked credibility given the magnitude of the setbacks they had suffered in Europe in 1940. The sole obstacle to Japanese hegemony in South-East Asia was therefore America.<sup>64</sup> On the one hand, it was clear that the United States had scant appetite for war, in Asia or anywhere else. On the other, Americans had little desire to see Japan as sole master of China, let alone the whole of East Asia. But those who ran U.S. policy in the Pacific believed they did not need to take up arms to prevent this because of Japan's dependence on trade with the United States and hence its vulnerability to economic pressure.<sup>65</sup> Even if the Americans did not intervene militarily, they had the option to choke the Japanese war machine to death, especially if they cut off oil exports to Japan.<sup>66</sup> This was precisely what made it so hard for American diplomats and politicians to foresee the Japanese attack on Pearl Harbor. As normally risk-averse people, they could not imagine the Japanese being so rash as to gamble on a very swift victory when the economic odds were stacked so heavily against them.<sup>67</sup> They assumed that the partial sanctions imposed after the Japanese invasion of Indo-China would send a clear enough signal to deter the Japanese. Their effect was precisely the opposite.

The origins of the war in the Pacific were in large measure economic. The Japanese-American Commercial Treaty of 1911 was abrogated in July 1939. By the end of the year Japan (along with other combatants) was affected by the Roosevelt's 'moral embargo' on the export of 'materials essential to airplane manufacture', which meant in

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<sup>63</sup> Overy, 'Germany and the Munich Crisis', p.191

<sup>64</sup> See Kinhide, 'Structure of Japanese-American Relations'.

<sup>65</sup> Barnhart, *Japan Prepares for Total War*, pp178f.

<sup>66</sup> Scalapino, 'Southern Advance', p. 117.

<sup>67</sup> Graebner, 'Introduction', pp. xvi-xvii.

practice aluminum, molybdenum, nickel, tungsten and vanadium.<sup>68</sup> At the same time, the State Department applied pressure on American firms to stop exporting technology to Japan that would facilitate the production of aviation fuel.<sup>69</sup> With the National Defense Act of July 1940 the President was empowered to impose real prohibitions on the exports of strategic commodities and manufactures. By the end of the month, after a protracted wrangle between the State Department and the Treasury, it was agreed to ban the export of high-grade scrap iron and steel, aviation fuel, lubricating oil and the fuel blending agent tetraethyl lead. On September 26 the ban was extended to all scrap; two months later the export of iron and steel themselves became subject to license.<sup>70</sup> No one knew for sure what the effect of these restrictions would be. Some, like the State Department's 'Advisor on Far Eastern Affairs' Stanley Hornbeck, said they would hobble the Japanese military; others, like the U.S. Ambassador in Tokyo, Joseph Grew, that they would provoke it. Neither view was correct. The sanctions had in fact been imposed too late to deter Japan from contemplating war, since the Japanese had been importing and stockpiling American raw materials since the outbreak of war in China.<sup>71</sup> Only one economic sanction was regarded in Tokyo as a *casus belli* and that was an embargo on oil. That came in July 1941, along with a freeze on all Japanese assets in the United States – a response to the Japanese occupation of southern Indo-China.<sup>72</sup> From this point, war in the Pacific was inevitable.

For a long time the Japanese Foreign Ministry had found it hard to imagine the United States taking up arms against a victorious combination of Germany, Italy and Japan – especially if the Soviet Union were on friendly terms with that combination.<sup>73</sup> A guiding assumption was that the American public was staunchly isolationist, and that the victories of Japan and her allies would reinforce rather than reverse that sentiment.<sup>74</sup> The army was also reluctant to confront the United States, hoping that the conquest of European possessions in Asia could somehow be achieved without precipitating

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<sup>68</sup> Barnhart, *Japan Prepares for Total War*, pp. 179f.

<sup>69</sup> *Ibid.*, pp. 180f. Cf. Lu, *From the Marco Polo Bridge*, p. 150.

<sup>70</sup> Barnhart, *Japan Prepares for Total War*, pp. 182–97. Cf. Lu, *From the Marco Polo Bridge*, p. 144; Coox, 'Pacific War', p. 326.

<sup>71</sup> Lu, *From the Marco Polo Bridge*, pp. 244f.

<sup>72</sup> Barnhart, *Japan Prepares for Total War*, pp. 263ff.

<sup>73</sup> Lu, *From the Marco Polo Bridge*, pp. 109–13.

<sup>74</sup> Barnhart, 'Japanese Intelligence', pp. 440, 446f.



American intervention.<sup>75</sup> Until September 1941 Japan's naval strategists were the only ones prepared to contemplate a war with America. However, they ultimately could see no other way of winning it than to deal a knockout blow to the U.S. Navy at the outset.<sup>76</sup> By April 1941 Admiral Yamamoto Isoroku had convinced himself that the ships stationed at Pearl Harbor could be sunk in one fell swoop. On November 1 Lieutenant-General Suzuki Teiichi assured the participants at a ministerial-military Liaison Conference that supplies from the territories to be occupied would be sufficient to meet Japan's material needs. 'In 1943,' he declared, 'the material situation will be much better if we go to war.'<sup>77</sup>

This was not in fact the same as saying that Japan's material situation was equal to the challenge of war against the British Empire, the Dutch East Indies and the United States.<sup>78</sup> All Suzuki meant was that Japan's material situation was bound to deteriorate the longer war was postponed. The navy alone was consuming 400 tons of oil an hour, just idly waiting; after eighteen months it would all be gone.<sup>79</sup> It therefore followed that it was better to strike now rather than to wait. This rationale was sufficient to commit Japan to such a war if no diplomatic breakthrough had been achieved by midnight on November 30, 1941.

It is sometimes suggested that the decision-makers in Tokyo were succumbing to some kind irrational Oriental fatalism – an impression heightened by Tōjō Hideki's assertion on October 14 that 'a man sometimes must dare to leap boldly from the towering stage of Kiyomizu Temple'.<sup>80</sup> Links have been drawn between the decision for war against the United States and the samurai code, or a specifically Japanese 'siege mentality', if not collective hysteria. Yet in many ways this way of thinking was more Western than Eastern in its provenance. Unknowingly, Tōjō was echoing Bethmann Hollweg's arguments for a German war against Russia in 1914 and Hitler's arguments for a German war against the Western powers in 1939. Even the timeframe was similar:

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<sup>75</sup> Coox, 'Pacific War', p. 325; Fujiwara, 'Role of the Japanese Army', p. 191.

<sup>76</sup> Kiyoshi, 'Japanese Strategy', pp. 129ff.

<sup>77</sup> *Ibid.*, p. 132; Barnhart, 'Japanese Intelligence', p. 449.

<sup>78</sup> For more realistic assessments of Japan's economic position, see Coox, 'Pacific War', pp. 333ff.

<sup>79</sup> Jansen, *Japan and China*, pp. 404f.

<sup>80</sup> Coox, 'Effectiveness of the Japanese Military Establishment', p. 14.

Two years from now [1943] we will have no petroleum for military use; ships will stop moving. When I think about the strengthening of American defences in the south-western Pacific, the expansion of the U.S. fleet, the unfinished China Incident, and so on, I see no end of difficulties. We can talk long about suffering and austerity but can our people endure such a life for long? ... I fear that we would become a third class nation after two or three years if we merely sat tight.<sup>81</sup>

Thus, when Tōjō spoke of ‘shutting one’s eyes and taking the plunge’ he was making a very German argument: to gamble on immediate war rather than submit to relative decline in the near future; to put to use military assets that would certainly bankrupt the country if they continued to sit idle.<sup>82</sup> In the words of a High Command policy paper presented to the Imperial Conference of September 6, 1941, the American aim was ‘to dominate the world’; to this end the United States aimed ‘to prevent our empire from rising and developing in East Asia’. Japan was in ‘a desperate situation, where it must resort to the ultimate step – war – to defend itself and ensure its preservation’. The alternative was to ‘lie prostrate at the feet of the United States’.<sup>83</sup>

The Japanese were not fantasists. For Matsuoka Yōsuke, Pearl Harbor was the disastrous culmination of a strategic miscalculation. He had assumed that the combination of the Tripartite Pact with Germany and Italy and the Neutrality Treaty with the Soviet Union would deter the United States from resisting Japanese expansion in Asia.<sup>84</sup> Nomura Kichisaburō, the last pre-war ambassador to Washington, had favored a more moderate policy, seeking a return to the Open Door regime in China, rather than risk war with the United States.<sup>85</sup> Nor were all Japan’s senior naval officers persuaded by Yamamoto’s plan. Nagano Osami, chief of the Navy Staff, argued that Japan was ‘bound for self-destruction and ... destined for national extinction’ – though he regarded this, somewhat paradoxically, as true to ‘the spirit of defending the nation in a war’.<sup>86</sup> In the summer of 1941 the Economic Mobilization Bureau produced a report which concluded that after two years of hostilities, Japan’s economic resources would probably not suffice

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<sup>81</sup> Coox, ‘Pacific War’, p. 336.

<sup>82</sup> Buruma, *Inventing Japan*, p. 96. See also Jansen, *Japan and China*, pp. 405–8.

<sup>83</sup> Coox, ‘Pacific War’, p. 329.

<sup>84</sup> Lu, *From the Marco Polo Bridge*, p. 119.

<sup>85</sup> Graebner, ‘Introduction’, p. xii.

<sup>86</sup> Kimitada, ‘Japanese Images’, p. 119.

to sustain air and naval operations. Nagano expected that ‘the situation [would] become increasingly worse’ as early as the second half of 1942.<sup>87</sup> Tōjō himself admitted that he did not know what Japan would do if war continued after 1943.<sup>88</sup> It was not hubris that led to Pearl Harbor, but a conviction that it was preferable to take the chance of defeat in war than ‘to be ground down without doing anything’.<sup>89</sup>

Perhaps the real fantasists were the Americans, who adopted a remarkably confrontational stance in the final pre-war months, given the vulnerability of their own military installations in the Pacific, particularly the Philippines. The British were markedly more conciliatory, even temporarily closing the Burma Road between July and October 1940 in response to Japanese pressure.<sup>90</sup> For reasons that are not easy to fathom, Roosevelt consistently exaggerated the future economic and strategic importance of China and underestimated the perils of war with Japan.<sup>91</sup> He declined an invitation from Prince Konoe to attend a summit conference in the summer of 1941. Secretary of State Cordell Hull wanted complete withdrawal of Japanese troops from China and Indo-China; he would not hear of any suspension of U.S. aid to Chiang, which the Japanese demanded. In his fateful note of November 26, Hull even proposed a mutual surrender of extraterritorial rights in China – an end, in effect, to the old system of unequal treaties – and recognition of the Kuomintang government.<sup>92</sup> With some justification, the policy of the United States towards Japan in this period has been likened to her policy towards the Soviet Union during the Cold War, with the difference that the United States failed to appreciate the very grave danger of a Japanese first strike.<sup>93</sup>

## V

Could the Axis powers have won the Second World War? By the summer of 1942, Hitler’s soldiers had reached the banks of the River Don, the gateway to the Caucasus, and were pressing on towards the Volga. The Soviet oilfields at Maykop were captured;

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<sup>87</sup> Coox, ‘Effectiveness of the Japanese Military Establishment’, p. 13.

<sup>88</sup> Coox, ‘Pacific War’, pp. 333ff.

<sup>89</sup> Coox, ‘Effectiveness of the Japanese Military Establishment’, p. 14.

<sup>90</sup> Lowe, *Great Britain and the Origins of the Pacific War*, pp. 284–7. Cf. Lowe, ‘Great Britain and the Coming of the Pacific War’, pp. 44ff.

<sup>91</sup> Clayton, ‘American and Japanese Strategies’, pp. 709f.

<sup>92</sup> Coox, ‘Pacific War’, p. 337.

<sup>93</sup> Iriye, *Power and Culture*, p. 1.

the swastika flew on the peak of Mount Elbruz. Poland, the Baltic states, the Ukraine and Byelorussia: all were in German hands. By this stage in the war, Germany and her allies controlled virtually all of Western and Central Europe too, with the exception of a handful of neutral countries (Eire, Portugal, Sweden, Switzerland and Spain). As one Russian commentator put it, 'Paris, Vienna, Prague and Brussels had become provincial German cities.'<sup>94</sup> The Balkans had yielded to German arms, as had Crete. In North Africa it was very nearly the same story. On June 17, 1942, Rommel's Afrika Korps captured the British stronghold of Tobruk and thrust into Egypt to within fifty miles of Alexandria. Intoxicated by victory, Hitler contemplated the future German conquest of Brazil, of Central Africa, of New Guinea. The United States, too, would ultimately be 'incorporated ... into the German World Empire'.<sup>95</sup> Japan, meanwhile, had achieved no less astonishing victories in Asia and the Pacific. Already by 1941 the greater part of Eastern China was in Japanese hands. The six-month onslaught that began with Pearl Harbor created a vast 'Greater East Asia Co-Prosperity Zone', embracing modern-day Malaysia, Myanmar, Indonesia, Thailand and Vietnam, to say nothing of a huge arc of Pacific islands. By the summer of 1942, then, as Richard Overy has observed, only an incurable optimist could be certain that the Allies would win the war.<sup>96</sup> 'We have already lost a large proportion of the British Empire,' lamented Alan Brooke, Chief of the Imperial General Staff, in [date]†, 'and are on the high road to lose a great deal more of it.' Britain seemed to be 'a ship ... heading inevitably for the rocks.'<sup>97</sup> 'Would we able to save India and Australia? ... Egypt was threatened. ... Russia could never hold, [the] Caucasus was bound to be penetrated'. The Germans might even reach the Gulf oilfields ('our Achilles heel').<sup>98</sup>

Military historians have long debated the strategic options open to Germany and Japan, in search of alternative decisions that might have tipped the war Hitler's and Hirohito's way. The difficulty with all the counterfactuals that have been proposed is that virtually none of them suggests a way in which the Axis powers could have overcome the overwhelming economic odds against them once they had taken on simultaneously the

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<sup>94</sup> Grossman, *Life and Fate*, p. 195.

<sup>95</sup> Burleigh, 'Nazi Europe', pp. 341f.

<sup>96</sup> Overy, *Why the Allies Won*, p. to come.†

<sup>97</sup> Brooke, *War Diaries*, pp. 243f.

<sup>98</sup> *Ibid.*, p. 249, 280–3, 355

British Empire, the United States and the Soviet Union. To be sure, the Blitzkrieg campaigns of 1939–1942 narrowed the economic gap between the Axis powers and their foes. The Germans very successfully sucked resources out of occupied Western Europe; at their peak in 1943 unrequited transfers from France amounted to 8 per cent of German gross national product – equivalent to a third of pre-war French national income.<sup>99</sup> Germany all but monopolized the exports of the West European countries she occupied. The former Czechoslovakia, too, was a substantial net contributor to the German war effort.<sup>100</sup> So deep did Operation Barbarossa and subsequent German offensives penetrate that they captured a huge proportion – more than half – of Soviet industrial capacity.<sup>101</sup> Moreover, the Germans were able to treat their empire as a bottomless reservoir of cheap manpower. Foreign workers accounted for a fifth of the active civilian labor force by 1943.<sup>102</sup> After being put in charge of German armaments production, Albert Speer galvanized the Third Reich’s economy, almost trebling German weapons production between 1941 and 1944 by imposing standardization on the manufacturers and achieving startling improvements in productivity.<sup>103</sup> The Japanese also performed feats of economic mobilization, increasing aircraft production by a factor of five and a half between 1941 and 1944.<sup>104</sup>

Yet it was nowhere near enough. The Big Three Allies had vastly superior material resources. In 1940, when Germany and Italy had faced Britain and France, the latter combination’s total economic output had been roughly two thirds that of the other side’s. The defeat of France and Poland lengthened the odds against Britain, but the German invasion of the Soviet Union restored the economic balance. With the entry of the United States into the war, the scales tipped the other way; indeed, they all but toppled over. Combined Allied GDP was twice that of the principal Axis powers and

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<sup>99</sup> Milward, *War, Economy and Society*, p. 140, tables 21, 22.

<sup>100</sup> Trade figures for Central and Eastern Europe in Kaser and Radice (eds.), *Economic History of Eastern Europe*, pp. 523–9.

<sup>101</sup> To be precise, 71 per cent of the Soviet Union’s iron ore mines, two thirds of its aluminium, manganese and copper, 63 per cent of its coal mines, 57 per cent of its rolled steel production, 40 per cent of its electricity generating capacity and a third of its rail network: Overy, *Why the Allies Won*, p. 82; Burleigh, *Third Reich*, p. 498.

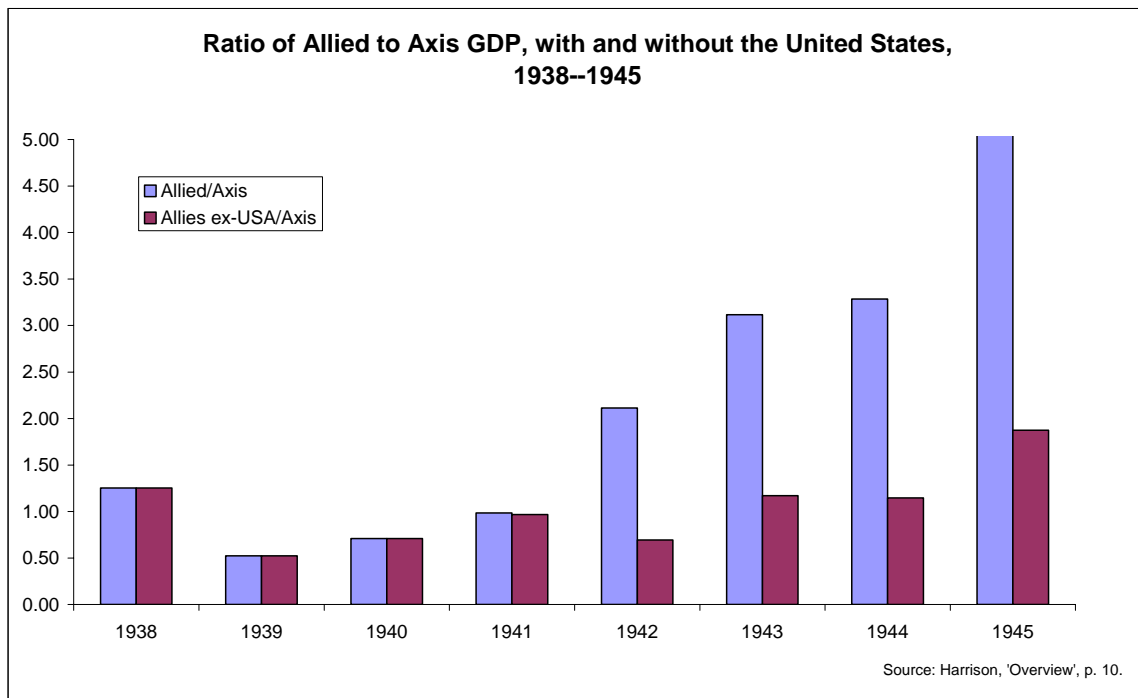
<sup>102</sup> Noakes and Pridham (eds.), *Nazism*, vol. III, pp. 908ff.

<sup>103</sup> Overy, *Why the Allies Won*, pp. 198f., 201–4, 242ff. Though see Budrass, Scherner and Streb, ‘Demystifying the German “Armament Miracle”’, which seeks to diminish Speer’s contribution.

<sup>104</sup> Coox, to come.†

their dependencies in 1942. It was roughly three times as large in 1943, and the ratio continued to rise as the war went on, largely as a result of the rapid growth of the U.S. economy (see figure 5). Between 1942 and 1944 American military spending was nearly twice that of Germany and Japan combined.<sup>105</sup> It is difficult to see how different strategic decisions could have prevented this disastrous lengthening of the economic odds on an Axis victory. So much of the increment in Allied production simply lay beyond the reach of Axis arms, in the United States and beyond the Urals. Moreover, the additional oilfields that might have come within Hitler's reach had he fought the war differently were still far too modest in their output significantly to have narrowed the petroleum gap between the two sides.

Figure 5



Note: This chart calculates the ratio of Allied to Axis combined gross domestic product. The bars to the right not only remove U.S. GDP from the calculation, but also the value of American aid to the United Kingdom and the Soviet Union.

<sup>105</sup> Goldsmith, 'Power of Victory'.

Moreover, the Axis powers were fighting not only against the British, Russians and Americans; they were fighting against the combined forces of the British, Russian and American empires as well. The total numbers of men fielded by the various parts of the British Empire were immense. All told, the United Kingdom itself mobilized just under 6 million men and women. But an additional 5 million came from India, Canada, Australia, New Zealand and South Africa.<sup>106</sup> Victories like El Alamein and even more so Imphal were victories for imperial forces as much as for British forces; the colonial commitment to the Empire proved every bit as strong as in the First World War.<sup>107</sup> Especially remarkable was the fact that more than two and a half million Indians volunteered to serve in the British Indian Army during the war – more than sixty times the number who fought for the Japanese. The rapid expansion of the Indian officer corps provided a crucial source of loyalty – albeit loyalty that was conditional on post-war independence.<sup>108</sup> The Red Army was also much more than just a Russian army. In January 1944 Russians accounted for 58 per cent of the 200 infantry divisions for which records are available, but Ukrainians accounted for 22 per cent, an order of magnitude more than fought on the German side, and a larger proportion than their share of the pre-war Soviet population.<sup>109</sup> Half the soldiers of the Soviet 62<sup>nd</sup> Army at Stalingrad were not Russians.<sup>110</sup> The American army, too, was ethnically diverse. Although they were generally kept in segregated units, African Americans accounted for around 11 per cent of total U.S. forces mobilized and fought in all the major campaigns from Operation Torch onwards.<sup>111</sup> Norman Mailer's reconnaissance platoon in *The Naked and the Dead* includes two Jews, a Pole, and Irishman, a Mexican and an Italian. Three of the six servicemen who raised the Stars and Stripes on Iwo Jima were born outside the United States.<sup>112</sup> More than 20,000 Japanese-Americans served in the U.S. Army during the

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<sup>106</sup> Statistics in Ellis, *World War II Data Handbook*, pp. 227f.

<sup>107</sup> See e.g. McKernan, *All In!*, pp. 37–48. 70 per cent of Slim's 14<sup>th</sup> Army were Gurkha, African or Burmese.

<sup>108</sup> Details in Prasad and Char, *Expansion of the Armed Forces*, appendix 13–16. See also Chenevix-Trench, *Indian Army*; Barkawi, 'Combat Motivation in the Colonies'.

<sup>109</sup> Alexiev and Wimbush, 'Non-Russians in the Red Army', pp. 432f., 441. Cf. Rakowska-Harmstone, 'Brotherhood in Arms'; Gorter-Gronvik and Suprun, 'Ethnic Minorities'. Central Asians and Caucasians were, however, under-represented. Indeed, more of them fought for the Germans.

<sup>110</sup> Beevor, *Stalingrad*, p. 170.

<sup>111</sup> Buckley, *American Patriots*, pp. 262–318; Hargrove, *Buffalo Soldiers*, pp. 3–5.

<sup>112</sup> Davie, *Refugees*, p. 195. The total number of aliens in the Army and Navy was 125,880.

war.<sup>113</sup> The Germans, it is true, had made some efforts to mobilize other peoples in occupied Europe, as had the Japanese, but these were dwarfed by what the Allies achieved. Indeed, the abject failure of the Axis empires to win the loyalty of their new subjects ensured that Allied forces were reinforced by a plethora of exile forces, partisan bands and resistance organizations. Even excluding these auxiliaries, the combined armed forces of the principal Allies were already just under 30 per cent larger than those of the Axis in 1942. A year later the difference was more than 50 per cent. By the end of the war, including also Free French and Polish forces, Yugoslav partisans and Rumanians fighting on the Russian side, the Allies had more than twice as many men under arms.<sup>114</sup>

The best measure of the Allied advantage was in terms of military hardware, however, since it was with capital rather than labor – with machinery rather than manpower – that the Germans and the Japanese were ultimately to be defeated. In every single category of weapon, the Axis powers fell steadily further behind with each passing month. Between 1942 and 1944, the Allies out-produced the Axis in terms of machine pistols by a factor of 16 to 1, in naval vessels, tanks and mortars by roughly 5 to 1, and in rifles, machine guns, artillery and combat aircraft by roughly 3 to 1.<sup>115</sup> Blitzkrieg had been possible when the odds were just the other way round. Once both sides were motorized – one of the defining characteristics of total war – the key to victory became logistics, not heroics. The fourfold numerical superiority of British armor was one of the keys to victory at El Alamein.<sup>116</sup> The average ratio of Soviet to German armor at the beginning of the offensives of 1944 and 1945 was just under 8.<sup>117</sup> The ratio in terms of combat aircraft on the Eastern Front rose from 3 in July 1943 to 10 by January 1945.<sup>118</sup> Likewise, Allied dominance of the skies ensured the success of D-Day and the guaranteed the ultimate defeat of the Germans in Western Europe. In the Pacific, meanwhile, the United States simply swamped Japan with a tidal wave of mass-produced armaments. American submarines reduced the Japanese merchant marine by three

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<sup>113</sup> Myer, *Uprooted Americans*, pp. 146–53.

<sup>114</sup> Based on the various figures in Harrison (ed.), *Economics of World War II*. For the end of the war, see Ellis, *World War II Data Handbook*, pp. 227f.

<sup>115</sup> Harrison, 'Overview', p. 17.

<sup>116</sup> Ellis, *World War II Data Handbook*, pp. 228, 230.

<sup>117</sup> *Ibid.*, pp. 14, 230.

<sup>118</sup> *Ibid.*, p. 233.



quarters, cutting off the supply of indispensable imports. American anti-aircraft guns shot down Japanese planes faster than Japanese factories could build them. American shipyards built and repaired battleships while Japan's sat idle for want of materials.<sup>119</sup> By 1944 the United States was producing 26 times as much high explosives as Japan.<sup>120</sup> In terms of tanks and trucks the Japanese were in the same second-class league as the Italians. In terms of medical provision – an area where the Allies made major advances during the war – they were in the nineteenth century.<sup>121</sup> Again, it is impossible to imagine any alternative Japanese strategy after Pearl Harbor that could have compensated for this immense economic imbalance.<sup>122</sup> In putting their faith in increasingly suicidal tactics, Japanese commanders revealed themselves as (in Alvin Coox's apt phrase) 'medieval samurai warriors masquerading as practitioners of modern military science'.<sup>123</sup> The Americans, by contrast, were the masters of overkill, whose first principle was: 'always have on hand more of everything than you can ever conceivably need'.<sup>124</sup>

The share scale of American economic capabilities had been underestimated by both the Japanese and the Germans. The Axis leaders deluded themselves into believing that, with the Great Depression, the American economic model had disintegrated. Yet American corporations led the world in the techniques of mass production and modern management. Despite the sluggish growth of aggregate demand in the mid to late 1930s, firms like General Motors had been taking major strides forward in efficiency, exploiting those economies of scale that were unique to the huge American market. Exports to Britain and the Soviet Union had given GM and its peers a foretaste of what was to come. With the American entry into the war, they were inundated with government orders for military hardware. In the First World War, the result had been a mess: production bottlenecks, chronic waste and inflationary pressure. In 1942 the opposite happened. 'The real news,' as Charles E. Wilson of General Motors put it, 'is that our American methods of production, our know-how about the business, could be applied to mass production of all these war things ... and that is the one factor that I think our Axis enemies

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<sup>119</sup> Nalty, 'Sources of Victory'; Willmott, *Barrier and the Javelin*, pp. 521f.; Coox, 'Pacific War', pp. 377f.

<sup>120</sup> Coox, 'Effectiveness of the Japanese Military Establishment', p. 21.

<sup>121</sup> Clayton, 'American and Japanese Strategies', p. 717. See in general Harrison, *Medicine and Victory*.

<sup>122</sup> For a survey of the literature see Peattie, 'Japanese Strategy'.

<sup>123</sup> Coox, 'Effectiveness of the Japanese Military Establishment', p. 39.

<sup>124</sup> Cozzens, *Guard of Honor*, p. 12. See also *ibid.*, p. 161.

overlooked.’<sup>125</sup> Here, too, a compromise was involved. With astonishing speed the big corporations converted themselves from the champions of a consumer society to the servants of a command economy. As John Hancock and Bernard Baruch observed: ‘With the coming of war a sort of totalitarianism is asserted. The government tells each business what it is to contribute to the war program ...’<sup>126</sup>

In macroeconomic terms the results were startling enough. By 1942 U.S. gross national product was more than 60 per cent higher than it had been in 1938. By 1944 it was more than double its pre-war level. Between 1940 and 1943, 5 million new jobs were created.<sup>127</sup> This was the result of an immense fiscal stimulus, which saw federal deficits rise above 20 per cent of GNP, and an attendant surge in both private investment and personal consumption.<sup>128</sup> Though some raw materials did have to be rationed, the United States was, as Wilson of GM put it, the first country to work out how to have both guns and butter in wartime.<sup>129</sup> Much of the credit for this success must go to the corporate executives – the so-called ‘dollar-a-year men’ like Philip Reed of General Electric – who gave their services effectively gratis to the government during the war, and facilitated the remarkably smooth cooperation between the War Department and the big manufacturers, hitherto staunch opponents of Roosevelt.<sup>130</sup> Never before or since has the federal government intervened on such a scale in American economic life, building and sometimes also owning a vast number of new industrial facilities.<sup>131</sup> Agencies like the National Defense Advisory Commission, the Office of Production Management, the War Production Board and the Office of War Mobilization transformed the regulatory landscape.<sup>132</sup> It was at the microeconomic level, however, that the output war was really won. For the biggest wartime advances in mass production and management were made in vast factories like Ford’s mile-long bomber assembly line at Willow Run, Boeing’s B-

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<sup>125</sup> ‘Looking Ahead’, Testimony of C. E. Wilson, President of General Motors Corporation, before the Special Committee of the United States Senate to Investigate the National Defense Program (Truman Committee), November 24, 1943, pp. 28f.

<sup>126</sup> Nelson, *Arsenal of Democracy*, p. 393.

<sup>127</sup> Vetter, *U.S. Economy*, p. 16.

<sup>128</sup> Vernon, ‘World War II Fiscal Policies’. See also Rockoff, ‘United States’.

<sup>129</sup> General Motors Corporation, *Press conference by C. E. Wilson, President of General Motors, October 19, 1945* (New York, 1945), p. 3.

<sup>130</sup> See in general Nelson, *Arsenal of Democracy*. Cf. McQuaid, *Uneasy Partners*, pp. 13f. On business opposition to the New Deal see Stromberg, ‘American Business and the Approach of War’.

<sup>131</sup> Smith, *Army and Economic Mobilization*, pp. 477ff.

<sup>132</sup> Koistinen, *Arsenal of World War II*.

29 plant at Seattle or General Motors' aero-engine factory at Allison. At peak Boeing Seattle was churning out 16 B-17s a day and employing 40,000 men and women on round-the-clock shifts.<sup>133</sup> Never had ships been built so rapidly as the Liberty Ships, 2,700 of which slid down the slipways during the war years. It was at wartime General Motors that Peter Drucker saw the birth of the modern 'concept of the corporation', with its decentralized system of management.<sup>134</sup> And it was during the war that the American military-industrial complex was born; over half of all prime government contracts went to just 33 corporations.<sup>135</sup> Boeing's net wartime profits for the years 1941 to 1945 amounted \$27.6 million; in the preceding five years the company had lost nearly \$3 million.<sup>136</sup> General Motors Corporation employed half a million people and supplied one-tenth of all American war production. Ford alone produced more military equipment during the war than Italy.<sup>137</sup> Small wonder some more cerebral soldiers felt they were risking their necks not in a 'real war ... but ... in a regulated business venture'.<sup>138</sup> It was strange indeed that the recovery of the American economy from the Depression should owe so much to the business of flattening other peoples' cities. Tokyo's economic disaster was Seattle's economic boom.

Though much more reliant than the Western Allies on pitting men directly against enemy fire, the Soviet Union also out-produced Germany in military hardware. From March 1943 onwards, the Russians had consistently been able to field between twice and three times as many tanks and self-propelled guns as the Germans. This was remarkable, given the relative backwardness of the Russian economy and the enormous challenge of relocating production eastwards after the German invasion.<sup>139</sup> Magnitogorsk, Sverdlovsk and Chelyabinsk became the heartland of a new military-industrial complex, the defining characteristic of which was increased productivity through standardization and

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<sup>133</sup> Rodgers, *Story of Boeing*, p. 65. Cf. Redding and Yenne, *Boeing*.

<sup>134</sup> On General Motors see Drucker, *Concept of the Corporation*, pp. 31–81. It should nevertheless be noted that total factor productivity growth slackened during the war, an inevitable consequence of the conversion from peacetime to wartime products: see Field, 'Impact of World War II'.

<sup>135</sup> Vetter, *U.S. Economy*, p. 60.

<sup>136</sup> Calculated from figures in Boeing Airplane Co. and Subsidiary Companies, *Reports to Stockholders* (Washington, 1936--1950). Note, however, that the war less profitable for the chemical conglomerate DuPont, which had fared better in the Thirties, because of the costs of switching production to explosives and steep wartime taxation: see Carpenter, *DuPont Company's Part in the National Security Program*.

<sup>137</sup> Overy, *Why the Allies Won*, pp. 193–7

<sup>138</sup> Jones, *Thin Red Line*, p. 35; Heller, *Catch-22*, pp. 292, 298.

<sup>139</sup> Harrison, 'Resource Mobilization', pp. 182–91; Overy, *Why the Allies Won*, p. 181.

economies of scale.<sup>140</sup> The T-34 battle tank was one of the great triumphs of wartime design. Simple to build but easily maneuverable, protected with innovative sloped armor and packing a hefty punch, it was the very antithesis of the notoriously inadequate American Sherman M4.<sup>141</sup> The later IS-1 and IS-2 ‘Josef Stalin’ tanks were a match even for the German Panther V and VI and the Tiger I and II, which were also vulnerable to the giant SU-152 anti-tank gun.<sup>142</sup> The volumes produced of these and other weapons were large. Soviet production accounted for one in four Allied combat aircraft, one in three Allied machine guns, two fifths of Allied armored vehicles and two thirds of Allied mortars.<sup>143</sup>

Nevertheless, the Soviet economic achievement should not be seen in isolation from the American. It is well known that the system of ‘Lend Lease’ provided a vital multi-billion pound economic lifeline to Britain. Net grants from the United States totaled £5.4 billion between 1941 and 1945, on average around 9 per cent of UK gross national product.<sup>144</sup> Less well known are the vast quantities of materiel that the Americans made available to the Soviets. All told, Stalin received supplies worth 93 billion rubles, between 4 and nearly 8 per cent of Soviet net material product.<sup>145</sup> The volumes of hardware suggest that these official statistics understate the importance of American assistance: 380,000 field telephones, 363,000 trucks, 43,000 jeeps, 6,000 tanks and over 5,000 miles of telephone wire were shipped along the icy Arctic supply routes to Murmansk, from California to Vladivostok, or overland from Persia. Thousands of fighter planes were flown along an ‘air bridge’ from Alaska to Siberia.<sup>146</sup> Nor was it only hardware that the Americans supplied to Stalin. Around 58 per cent of Soviet aviation fuel came from the United States during the war, 53 per cent of all explosives and very nearly half of all the copper, aluminum and rubber tires, to say nothing of the tons of tinned spam – in all, somewhere between 41 and 63 per cent of all Soviet military supplies.<sup>147</sup> American engineers also continued to provide valuable technical assistance,

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<sup>140</sup> Overy, *Why the Allies Won*, pp. 182, 185f.

<sup>141</sup> Nye, ‘Killing Private Ryan’.

<sup>142</sup> Overy, *Russia’s War*, pp. 190–3.

<sup>143</sup> Barber and Harrison, ‘Patriotic War’.

<sup>144</sup> Broadberry and Howlett, ‘United Kingdom’, p. 51.

<sup>145</sup> Harrison, ‘Soviet Union’.

<sup>146</sup> Forsyth, *Peoples of Siberia*, p. 354.

<sup>147</sup> Overy, *Russia’s War*, pp. 195f. See also Burleigh, *Third Reich*, p. 734.

as they had in the early days of Magnitogorsk. The letters ‘U.S.A.’ stencilled on the Studebaker trucks were said to stand for *Ubit Sukina syna Adolf* – ‘to kill that son-of-a-bitch Adolf’.<sup>148</sup> The Soviets would have struggled to kill half so many Germans without this colossal volume of American aid. It was not an aspect of the ‘Great Patriotic War’ that Stalin was particularly eager to publicize. But without this vast contribution of American capital – as both Zhukov and Stalin’s successor Nikita Khrushchev privately conceded – the Soviet Union might conceivably have lost the war or would, at least, have taken much longer to win it.<sup>149</sup>

That total war would ultimately be decided by material rather than moral factors was not lost on all Germans. ‘The first essential condition for an army to be able to stand the strain of battle’, wrote Rommel, ‘is an adequate stock of weapons, petrol and ammunition. In fact, the battle is fought and decided by the quartermasters before the shooting begins. The bravest men can do nothing without guns, the guns nothing without plenty of ammunition; and neither guns nor ammunition are of much use in mobile warfare unless there are vehicles with sufficient petrol to haul them around.’<sup>150</sup> By the final year of the war, an active U.S. army division was consuming around 650 tons of supplies a day. Because a single army truck could carry just five tons, this posed a formidable logistical challenge. Indeed, as supply lines were stretched from 200 to 400 miles in the months after D-Day, deliveries to the advancing armies slumped from 19,000 tons a day to 7,000 tons.<sup>151</sup> The last phase of the war revealed the importance (consistently underrated by both the Germans and the Japanese) of assigning ample numbers of men to the task of supply rather than combat. The ratio of combatants to non-combatants in the German army was two-to-one; but the equivalent American ratio in the European theatre was one-to-two. In the Pacific, the Japanese ratio was one to one; the Americans had eighteen non-combatants for every man at the front.<sup>152</sup>

It is no doubt entertaining to imagine how Hitler might have used a Nazi atomic bomb to negate these disadvantages,<sup>153</sup> but the reality is that Werner Heisenberg and the

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<sup>148</sup> Overy, *Russia’s War*, p. 197.

<sup>149</sup> *Ibid.*, p. 195.

<sup>150</sup> Creveld, *Supplying War*, p. 200.

<sup>151</sup> *Ibid.* pp. 216–30 and n.23.

<sup>152</sup> Overy, *Why the Allies Won*, p. 319.

<sup>153</sup> Lindsey, ‘Hitler’s Bomb’; Gill, ‘Operation GREENBRIER’.

German scientists came nowhere near devising one. Even had the Germans achieved more rapid improvements in their air defenses – for example, developing and deploying jet-powered fighters earlier – material constraints would have limited the number of these that could have been built.<sup>154</sup> In the unmanned rockets, the V-1 and V-2, the Germans did produce remarkable new weapons that inflicted heavy casualties and dented civilian morale in London; but they were not the war-winning innovations of Hitler’s dreams.<sup>155</sup> The Japanese were even further away from a decisive technological breakthrough.<sup>156</sup> In short, while they might well have been able to defeat the British Empire had it fought unassisted – while they might even have defeated Britain and the Soviet Union, had the United States remained neutral – those were not wars Hitler and his confederates chose to fight. They staked their claim to world power against all three empires: the British, the Russian and the American. If anything was inevitable in the history of the twentieth century, it was the victory of this overwhelming combination.<sup>157</sup> Neutral investors certainly thought so, to judge by the wartime performance of German bonds traded in Switzerland, which plunged 39 per cent on the outbreak of war, rallied during 1940, then declined again in response to the aftermath of Operation Barbarossa, plunging at the time of the Yalta Conference to roughly the same low point they had first touched in September 1939.<sup>158</sup> Different outcomes in particular military engagements – for example, the battles of Coral Sea, Midway, Guadalcanal or even Leyte Gulf – would have done no more than delay the unavoidable collapse.<sup>159</sup> Even if the Germans had succeeded in repelling the Allied landings in Italy and France – which is not inconceivable, given the inherent riskiness of Operation Overlord – or in checking for longer the Allied advance through the Ardennes, they would still not have been in a position to win the war.<sup>160</sup>

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<sup>154</sup> Price, ‘Jet Fighter Menace’; Isby, ‘Luftwaffe Triumphant’.

<sup>155</sup> On increasingly desperate German hopes that new weapons could avert defeat, see Speer, *Inside the Third Reich*, p. 412.

<sup>156</sup> Coox, ‘Effectiveness of the Japanese Military Establishment’, p. 26.

<sup>157</sup> Levine, ‘Was World War II a Near-run Thing?’

<sup>158</sup> Frey and Kucher, ‘History as Reflected in Capital Markets’.

<sup>159</sup> See Arnold, ‘Coral and Purple’; Cook, ‘Midway Disaster’; Lindsey, ‘Nagumo’s Luck’; Burtt, ‘Guadalcanal’; Anderson, ‘There Are Such Things as Miracles’.

<sup>160</sup> Tsouras, *Disaster At D-Day*; Klivert-Jones, ‘Bloody Normandy’; Ambrose, ‘Secrets of Overlord’; *idem*, ‘D-Day Fails’; Ruge, ‘Invasion of Normandy’. See also Anderson, ‘Race to Bastogne’; Tsouras, ‘Ardennes Disaster’; Prados, ‘Operation *Herbstnebel*’; Campbell, ‘Holding Patton’.

Indeed, diverting German forces westwards in 1944 merely served to hasten the collapse in the East.<sup>161</sup>

## VI

One of the most vexed economic questions of the Second World War is how far the policy of bombing German and Japanese cities hastened its end. Britain had already committed herself to building bombers during the 1930s in the misguided belief that they might deter German aggression. Since German fighting forces were quite widely dispersed for much of the war, the obvious targets for aerial bombardment were economic – the factories that were supplying Hitler’s forces with weapons and the infrastructure that allowed these to be transported to the various fronts. However, most of these economic targets were, by their very nature, located in densely populated areas like the Ruhr. Moreover, British bombers were very far from accurate. In October 1940 the British ruled that, in conditions of poor visibility, their airmen could drop their bombs in the vicinity of targets, in so-called ‘free fire zones’. This made it more likely that German civilians would be hit – a necessity which Churchill sought to make into a virtue. As he put it on October 30, ‘The civilian population around the target areas must be made to feel the weight of war.’<sup>162</sup> Throughout 1941, Churchill repeatedly emphasized the need for Bomber Command to target the morale of ordinary Germans. The strategy of ‘area bombing’ – the aim of which was in fact to incinerate urban centers – was thus in place even before Air Marshal Arthur ‘Bomber’ Harris took over Bomber Command.<sup>163</sup> Nine days before Harris’s appointment, on St Valentine’s Day, 1942, Air Vice-Marshal N. H. Bottomley, Deputy of the Air Staff, wrote to Bomber Command to convey the decision ‘that the primary object of your operations should now be focused on the morale of the enemy civil population and in particular, of the industrial workers’, and that these operations should take the form of ‘concentrated incendiary attacks’. The letter was accompanied by an annex listing ‘selected area targets’, at the top of which was Essen. By attacking it first, ‘the maximum benefit should be derived from the element of surprise’. Like the other prime targets, Duisberg, Düsseldorf and Cologne, Essen was

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<sup>161</sup> Manteuffel, ‘Battle of the Ardennes’.

<sup>162</sup> Linqvist, *History of Bombing*, n.p. (paragraph 181)

<sup>163</sup> Overy, *Why the Allies Won*, pp. 112f.

without question an industrial city. Yet the criteria listed for calculating the ‘estimated weight of attack for decisive damage’ were the size and population of the built-up area. Attacks on factories and submarine building yards were to be considered ‘diversionary’, and were to be undertaken preferably ‘without missing good opportunities of bombing your primary targets’.<sup>164</sup>

What this meant was that a rising proportion of first British and then American resources were diverted into the destruction of German and Japanese cities – in other words, the slaughter of civilians.<sup>165</sup> This was precisely the policy the U.S. State Department had denounced as ‘unwarranted and contrary to principles of law and humanity’ when the Japanese had first bombed Chinese cities.<sup>166</sup> It was precisely the policy that Neville Chamberlain had once dismissed as ‘mere terrorism’ – a policy to which ‘His Majesty’s government [would] never resort’.<sup>167</sup>

What made the concept of strategic bombing so appealing? Air war was not necessarily cheaper, since the planes themselves were expensive to produce and the crews expensive to train. Mortality rates were among the highest in the war; the life expectancy of a Lancaster was estimated at just 12 missions, while the average odds of survival for bomber crews were worse than 1 in 2. To civilian politicians, however, strategic bombing was preferable to relying on ground troops because of the comparatively small numbers of men involved. Air war was in large part about the substitution of capital for labor – of machinery for men. A single crew of trained fliers could hope to kill a very large number of Germans or Japanese even if they flew only twenty successful missions before being killed or captured themselves. Revealingly, Churchill spoke of ‘pay[ing] our way by bombing Germany’ when he visited Moscow in 1942; the currency he had in mind was German not British lives.<sup>168</sup> The more Stalin pressed the Western powers to open a Second Front in Western Europe, the more Churchill extolled the virtues of strategic bombing, promising attacks that would ‘shatter

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<sup>164</sup> National Archives, London, S.46368/D.C.A.S, Air Vice-Marshal Bottomley to Air Officer Commanding-in-Chief, Bomber Command, February 14, 1942.

<sup>165</sup> According to Overy, 7 per cent of Britain’s total war effort in terms of production and combat-man hours went into strategic bombing, rising to 12 per cent in the last two years of war: *Why the Allies Won*, p. 129.

<sup>166</sup> Dower, *War without Mercy*, p. 38.

<sup>167</sup> Linqvist, *History of Bombing*, n.p. (paragraph 177).

<sup>168</sup> Harriman, *Special Envoy*, p. 153.



the morale of the German people'.<sup>169</sup> He was equally sanguine about the benefits of bombing Italy, arguing that 'the demoralization and panic produced by intensive heavy air bombardment' would outweigh 'any increase in anti-British feeling'.<sup>170</sup> In such views he was greatly encouraged by his scientific adviser and head of the wartime Statistical Department, the physicist Frederick Lindemann.<sup>171</sup> As so often in war, inter-service rivalry played its part, too. In appointing Sir Charles Portal, commander-in-chief of Bomber Command, to the post of Chief of the Air Staff in October 1940, Churchill ensured that a dogmatic proponent of area bombing would have a seat at Britain's strategy-making high table. Alan Brooke was skeptical about Portal's insistence that 'success lies in accumulating the largest air force possible in England and that then, and then only, success lies assured through the bombing of Europe'. But he could not prevent the diversion of substantial resources to Portal's squadrons.<sup>172</sup>

Similar calculations persuaded Roosevelt to invest in a strategic bombing: first, wild exaggeration of what German bombers could do to America, then a somewhat smaller exaggeration of what American bombers could do to Germany.<sup>173</sup> To be sure, the American approach was in other respects different from the British. While the British favored night area bombing, the Americans prided themselves on the greater accuracy of their planes. Equipped with the Norden bomb sight, the Flying Fortress was almost certainly a better machine than its British counterpart. But it was still far less precise than had been hoped, even with the benefit (though also the cost, in terms of greater vulnerability) of attacking during the day. By the time of the Casablanca Conference of January 1943, the Americans had come round to the Churchillian notion that their aim should be 'the progressive destruction and undermining of the morale of the German people to a point where their capacity for armed resistance is fatally weakened'.<sup>174</sup> Roosevelt's confidant, Harry Hopkins, was among those who firmly believed this.

The effects of the Allied bombing campaigns against Germany and Japan were, as is well known, horrendous. What the RAF and USAAF did dwarfed what the Luftwaffe

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<sup>169</sup> Overy, *Why the Allies Won*, pp. 102f.

<sup>170</sup> Grigg, *1943*, p. 152.

<sup>171</sup> See Fort, 'Prof'.

<sup>172</sup> Alanbrooke, *War Diaries*, October 23, 1942 (p. 332); May 24, 1943 (p. 409); May 25, 1943 (p. 411).

<sup>173</sup> Overy, *Why the Allies Won*, p. 110.

<sup>174</sup> *Ibid.*, p. 116.

had been able to inflict on Britain during the Blitz. Beginning on the night of July 24–25, 1943, vast swathes of the city of Hamburg were destroyed in a raid codenamed ‘Operation Gomorrah’. Sheltered from detection by the new device known as ‘Window’ (a shower of aluminium strips that smothered German radar), 791 RAF bombers rained down high explosive and incendiary bombs, creating a devastating firestorm that raged out far beyond the control of the German emergency services. Around three-quarters of the city was laid waste in the succeeding days, as the initial bombardment was followed up by both American and British raids. At the very least, 45,000 people were killed and nearly a million rendered homeless. The flames were visible more than a hundred miles away.<sup>175</sup> The author Hans Nossack, who had left his Hamburg home for a few days in the country, returned to find flies and rats feasting on – and, incongruously, geraniums sprouting from – the charred human remains of his fellow citizens.<sup>176</sup> Inhabitants of the smart suburbs along the Elbe to the West of the city saw their gardens turn grey with ash. All this was achieved at a remarkably low cost to Bomber Command, whose losses amounted to less than 3 per cent of the planes involved. Nor did the Allies relent as the war drew to a close. Around 1.1 million tons of the total 1.6 million tons of explosives dropped by Bomber Command and the 8<sup>th</sup> U.S. Air Force – some 71 per cent – were dropped during the last year of the war.<sup>177</sup> Once the Allies had developed a long-range fighter escort (in the form of the P-51 Mustang), they were in a position to bomb Germany with something approaching impunity.<sup>178</sup> The firestorm unleashed on Dresden in February 1945 engulfed 95,000 homes. At the very least, 35,000 people died, including those who sought safety in the city’s fountains only to see them boil dry and others who were asphyxiated in the bomb shelters underneath the main railway station.

Was the strategy of area bombing in any sense justifiable? For many years it was fashionable to deny that Bomber Command made any significant contribution to the Allied victory. Much continues to be made by critics of the inaccuracy as well as the cruelty of strategic bombing.<sup>179</sup> Even some RAF personnel on occasion expressed concern that they were being asked, in effect, to ‘do in ... children’s homes and

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<sup>175</sup> *Ibid.*, pp. 118ff.

<sup>176</sup> Nossack, *The End*.

<sup>177</sup> Calculated from figures in Ellis, *World War II Data Handbook*, pp. 22f.

<sup>178</sup> Overy, *Why the Allies Won*, pp. 122ff.

<sup>179</sup> Linqvist, *History of Bombing*, n.p. (paragraph 207).

hospitals'.<sup>180</sup> It has been argued that they would have been better employed bombing the approaches to Auschwitz.<sup>181</sup> It has even been suggested that an offer to stop the bombing could have been used as a bargaining chip to save the Jews destined for the death camps.<sup>182</sup> In the case of Dresden, doubts have been expressed about the official justification for the raid, namely that the Soviets had requested the attacks after a batch of Enigma decrypts revealed German plans to move troops from Dresden to Breslau, where the Red Army was encountering fierce resistance.<sup>183</sup> In fact, the main railway links out of the city survived more or less unscathed; trains were running again within a few days.<sup>184</sup> It is difficult to avoid the conclusion that the aim of the mission was quite simply to devastate one of the few major German cities that had not yet been hit. In denouncing the bombing war, one German writer has consciously applied the language normally associated with the crimes perpetrated by the Nazis: this was *Vernichtung* perpetrated by flying *Einsatzgruppen*, who turned air raid shelters into gas chambers.<sup>185</sup>

To be sure, the effect of such attacks on German morale was far less than the pre-war strategists had predicted. Sir Hugh Trenchard's pre-war assertion that the moral effect of bombing was twenty times greater than material effect proved to be nonsense.<sup>186</sup> If anything, the indiscriminate character of the air attacks aroused more defiance than defeatism. While it undoubtedly served to undermine the credibility of the Nazi regime in the minds of some Germans, it simultaneously enhanced its credibility in the minds of others. One woman, Irma J., wrote an unsolicited letter to Goebbels, demanding 'on behalf of all German women and mothers and the families of those living here in the Reich' that '20 Jews [be] hanged for every German killed in the place where our defenseless and priceless German people have been murdered in bestial and cowardly fashion by the terror-flyers'. Georg R. wrote from Berlin in a similar vein. 'Having been burned out once and bombed out twice', he indignantly demanded:

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<sup>180</sup> Rolfe, *Looking into Hell*, p. 53.

<sup>181</sup> Breitman, *Official Secrets*; Wyman, *Abandonment of the Jews*. But see Rubenstein, *Myth of Rescue*.

<sup>182</sup> Linqvist, *History of Bombing*, n.p. (paragraphs 192, 193).

<sup>183</sup> Compare Lindqvist, *History of Bombing*, n.p. (paragraphs 214, 216, 217) with Arthur (ed.), *Forgotten Voices*, p. 403. The literature is very extensive and the controversy bitter. See e.g. McKee, *Dresden 1945*; Garrett, *Ethics and Airpower*. For a vivid evocation of the aftermath of the raid, see Vonnegut, *Slaughterhouse-five*.

<sup>184</sup> Hastings, *Armageddon*, p. 386.

<sup>185</sup> Friedrich, *Der Brand*. See the discussion in Stargardt, 'Victims of Bombing'.

<sup>186</sup> Overy, *Why the Allies Won*, p. 105.

No extermination of the German People  
and of Germany  
but rather  
the complete extermination of the Jews.<sup>187</sup>

There can be no doubt that a campaign aimed at crippling military and industrial facilities would have been preferable. As early as 1942, in his book *Victory through Air Power*, Alexander Seversky enunciated the principle that ‘Destruction of enemy morale from the air can be accomplished only by precision bombing.’ Economic assets, not populous conurbations, were ‘the heart and vitals of the enemy’.<sup>188</sup> The Allies achieved far more with their focused attack on the German V-2 base at Peenemünde on August 17, 1943, than they had achieved the previous month by laying waste to Hamburg.<sup>189</sup> Their attacks on oil refining facilities were also very successful.

On the other hand, precision attacks could go wrong precisely because the Germans could work out where to expect them – as the Americans discovered to their cost when they attacked Schweinfurt, a centre of ball-bearing production in northern Bavaria, on August 17 and October 14, 1943. In the first raid, 36 B-17s were shot down out of an initial strike force of 230; 24 bombers were lost the same day in a similar attack on Regensburg. In the October attack – the 8<sup>th</sup> Air Force’s ‘Black Thursday’ – 60 out of 291 B-17s were shot down and 138 badly damaged.<sup>190</sup> Comparable costs might have been incurred for no military benefit by bombing Auschwitz, significantly further east. The 186 missions flown (at Churchill’s insistence) to drop supplies to the Poles during the Warsaw Rising suffered losses at a rate of 16.8 per cent, three times the casualty rate over Germany.<sup>191</sup> For all its indiscriminate character, there is no denying that strategic bombing inflicted significant damage on the German war effort. It diverted air cover away from the strategically vital Eastern Front. In the spring of 1943, 70 per cent of German fighters were in the western European theatre, leaving German ground forces in the East increasingly vulnerable to Soviet air attacks. Lack of air support was one of the

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<sup>187</sup> Stargardt, ‘Victims of Bombing’, p. 67.

<sup>188</sup> Seversky, *Victory through Air Power*, p. 16.

<sup>189</sup> Rolfe, *Looking into Hell*, p. 16.

<sup>190</sup> Overy, *Why the Allies Won*, p. 122. Cf. Bendiner, *Fall of Fortresses*, pp. 172f.; Arthur (ed.), *Forgotten Voices*, p. 277.

<sup>191</sup> Rolfe, *Looking into Hell*, pp. 114, 123.

reasons the German tanks were beaten at Kursk. By April 1944 there were only 500 single-engine fighters left on Eastern Front, facing around 13,000 Soviet aircraft.<sup>192</sup> No fewer than 2 million men were tied down in air defense; valuable manpower that might have been productively employed. Moreover, as Speer later noted, ‘the nearly 20,000 anti-aircraft guns stationed in the homeland could almost have doubled the anti-tank defenses on the Eastern Front’.<sup>193</sup> The situation on the Eastern Front was, indeed, the principal rationale for the bombing of Dresden. ‘In the midst of winter,’ the RAF crews who flew the mission were told in their briefing notes, ‘with refugees pouring westwards and troops to be rested, roofs are at a premium’:

Dresden has developed into an industrial city of first-class importance ... its multiplicity of telephones and rail facilities is of major value for controlling the defence of that part of the front now threatened by [the Soviet] offensive. The intentions of the attack are to hit the enemy where he will feel it most, behind an already partially collapsed front ... and incidentally to show the Russians when they arrive what Bomber Command can do.<sup>194</sup>

That illustrates how difficult it was to distinguish military from civilian targets by this stage in the war; although the aim was partly to render German civilians homeless (and dead, though that was not made explicit) as well as to impress the Soviets, bombing Dresden was also designed to weaken German command and control capabilities. The relentless pressure exerted by the bombing raids also helped the British and American armies by eroding the Germans’ fighter strength on the Western Front. At the time of D-Day, the Germans had barely 300 serviceable planes available to repel the invaders, as against 12,000 on the British and American side.<sup>195</sup>

Furthermore, strategic bombing greatly hampered Speer’s considerable efforts to mobilize Germany’s economy for total war. In May 1944, for example, the Germans were still producing 156,000 tons of aviation fuel, but bombing of their oil installations, which began in that month, cut production to 17,000 tons in August and just 11,000 tons

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<sup>192</sup> Overy, *Why the Allies Won*, p. 124.

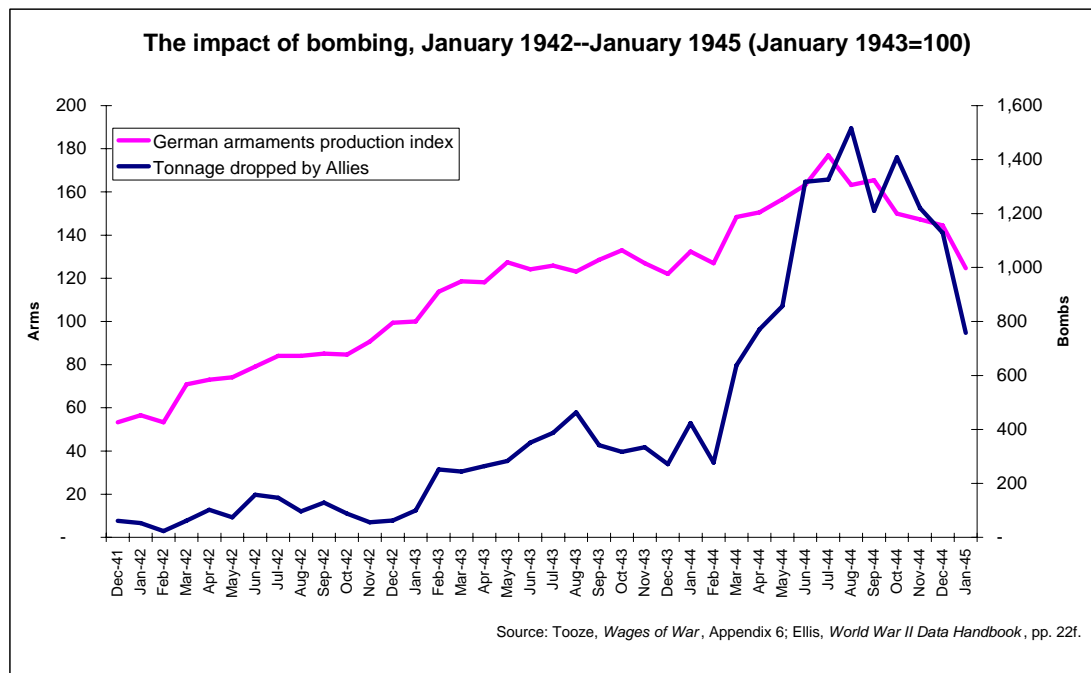
<sup>193</sup> Grigg, *1943*, p. 154.

<sup>194</sup> Hastings, *Armageddon*, p. 387.

<sup>195</sup> Overy, *Why the Allies Won*, pp. 118, 124. For detailed figures, see Ellis, *World War II Data Handbook*, p. 238.

in January 1945.<sup>196</sup> Not all the available statistics are, it is true, so impressive. As we have seen, the Allies dropped around 1.6 million tons of explosives and incendiaries on Germany and North West Europe, more than twenty times the amount the Germans dropped on Britain throughout the entire war, including the V-1 and V-2 rockets.<sup>197</sup> The impact on German armaments production was, at first sight, minimal. As figure 6 shows, the major raids of July 1943 merely slowed the growth of arms production, which resumed its upward trend by March 1944. It was not until after July 1944, as the Allied raids reached their devastating climax, that output from Speer's factories declined. Even then, production in January 1945 was merely reduced to the level of December 1943; it was still more than double what it had been in 1941. A breakdown of the main components of German arms output suggests that bombing hampered only some sectors of the economy (see table 1). The production of vehicles, ships, gunpowder and explosives were all substantially reduced between June 1943 and January 1945. Yet the production of rifles and pistols rose by a fifth and that of tanks by nearly two thirds. Production of aircraft and ammunition was virtually unchanged.

Figure 6



<sup>196</sup> Grigg, 1943. p. 155.

<sup>197</sup> Ellis, *World War II Data Handbook*, p. 236.

Table 1: The Impact of Allied Bombing (percentage change between June 1943 and January 1945)

<i>German armaments production index</i>	<i>Weapons</i>	<i>Tanks</i>	<i>Vehicles</i>	<i>Aircraft</i>	<i>Ship-building</i>	<i>Ammunition</i>	<i>Powder</i>	<i>Explosives</i>	<i>Tonnage dropped by Allies</i>
0	+19	+64	-63	-1	-21	-2	-19	-36	+116

Source: Tooze, *Wages of War*, Appendix 6; Ellis, *World War II Data Handbook*, pp. 22f.

Nevertheless, the best measure of the impact of strategic bombing is not actual output, but the difference between actual and potential output. In January 1945 Speer and his colleagues sought to calculate the damage done by Allied bombing in the previous year. The figures are impressive: 35 per cent fewer tanks than planned, 31 per cent fewer aircraft and 42 per cent fewer trucks.<sup>198</sup> We cannot know exactly what wonders Speer might have worked with the German economy in the absence of sustained bombardment. What we do know is that Speer himself called the air war ‘the greatest lost battle on the German side’.<sup>199</sup>

## VII

How are we to reconcile the self-evidently disastrous impact of the Second World War with the post-war ‘miracle’ of high and sustained growth over more than two decades? One possible answer is that the Second World War was not as global as its name suggests. Violence was in fact relatively localized, a great deal of it concentrated in a triangle of territory between the Baltic the Balkans and the Black Sea. In absolute terms, as is well known, many more Soviet citizens died violently between 1939 and 1945 than people of other nationalities – perhaps as many as 25 million, if not more. This suggests that more than one in ten Soviet citizens was a victim of the war, though it might be more

<sup>198</sup> Overy, *Why the Allies Won*, pp. 128–33, 204f.

<sup>199</sup> Hastings, *Bomber Command*, p. 241.

accurate to say that one in ten was a victim of totalitarianism between 1939 and 1945, given the number of lives lost to Stalin's domestic policies.<sup>200</sup> In percentage terms Poland was the country hardest hit by the war (see figure 7). The Polish mortality rate (total military and civilian fatalities as a percentage of the pre-war population) amounted to just under 19 per cent, of whom a large proportion were Polish Jews killed in the Holocaust. Among other combatants, only Germany (including Austria) and Yugoslavia suffered mortality rates close to 10 per cent.<sup>201</sup> The next highest rates were for Hungary (8 per cent) and Romania (6 per cent). In no other country for which figures have been published did mortality rise above 3 per cent of the pre-war population, including a number of Central and East European countries, Czechoslovakia (3 per cent), Finland (2 per cent) and Bulgaria (0.3 per cent). For four of the principal combatants, France, Italy, the United Kingdom and the United States, total wartime mortality was less than 1 per cent of the pre-war population. For the three West European countries, the First World War was, at least by this measure, a more disastrous conflict. It is also worth noting that Japan's mortality rate during the Second World War (2.9 per cent) was significantly lower than Germany's, as was China's (at most, 5 per cent). The total death toll of the war, though huge in absolute terms was in fact modest in relative terms, amounting to less than 3 per cent of the pre-war world population, a loss very swiftly made up by high post-war birth rates.

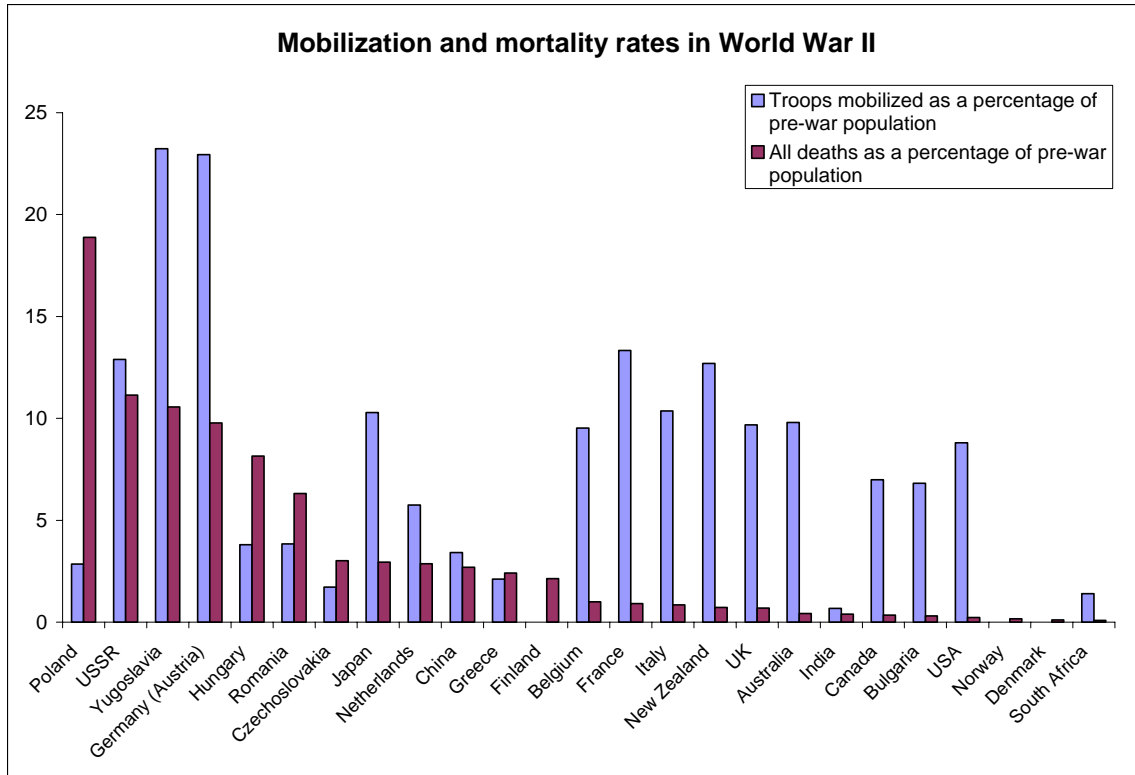
Figure 7

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<sup>200</sup> The Soviet figures are famously problematic. Total Soviet demographic losses have been put as high as 43–47 million by some recent scholars (i.e. including thwarted normal reproduction). The *Times Atlas of World History*'s total of 21.5 million includes around 7 million deaths of Soviet citizens deported to the gulag and 1 million Soviet citizens deported as members of 'suspect' nationalities. The official Soviet figure for total excess mortality was 26.6 million, but this may include 2.7 million wartime and post-war emigrants as well as normal natural mortality. On the other hand, it may underestimate the number of Soviet prisoners who died in German captivity.

<sup>201</sup> Overmans has substantially revised upwards the estimates for German military losses. Note that his total figure for losses of 5.3 million includes just under 400,000 men who did not have German citizenship in 1939 but nevertheless were recruited or conscripted into the Wehrmacht or SS.

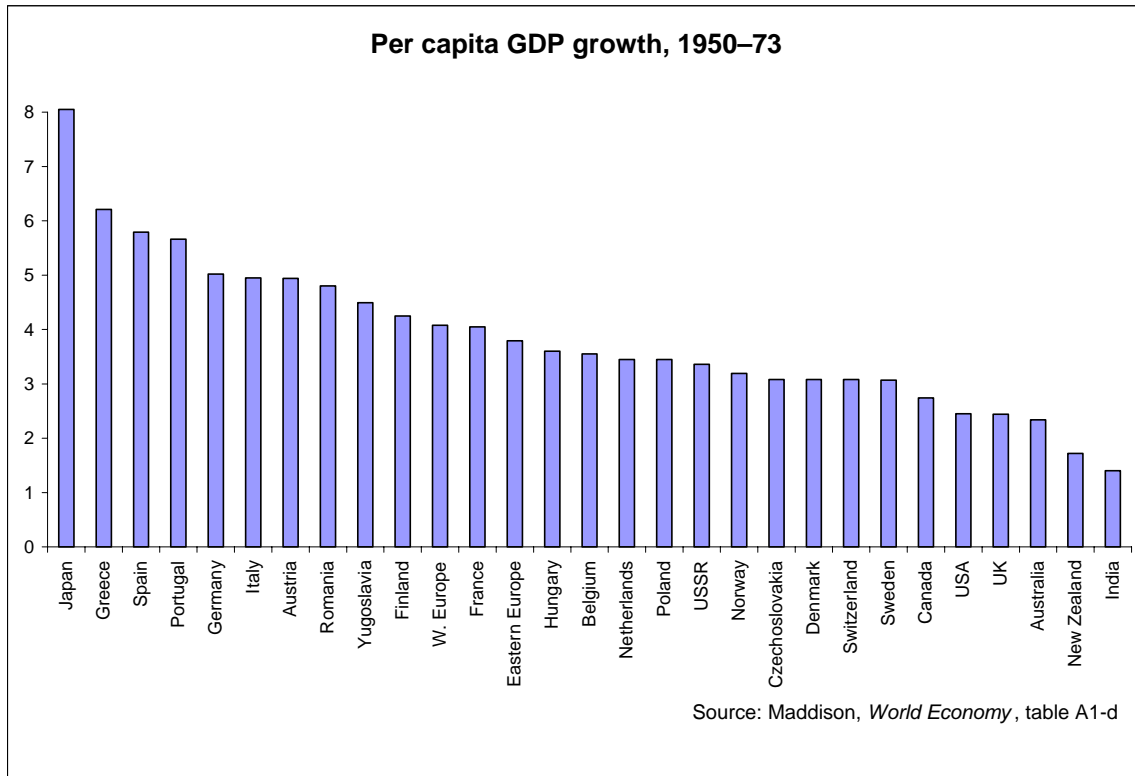




Sources: See footnote 1.

Yet this argument is not wholly persuasive. For among the most successful economies in the post-war era were precisely those countries that had been worst affected by the war. Average per capita growth rates for the period 1950–1973 were higher than those for 1913–1950 in almost every major economy except India’s. The biggest improvements were registered in Germany and Austria (just under 30 times higher); in Japan (9 times higher) and in Italy (6 times higher). Only fascist Spain’s margin of improvement was higher. The Communist economies of the Eastern Bloc also fared well; Stalinist planning proved a remarkably effective way of reconstructing economies ruined by war. Hungarian growth was 8 times higher in the 1950s and 1960s than it had been in the era of world wars and depression; Eastern Europe as a whole enjoyed per capita growth of nearly 3.8 per cent, more than four times the pre-1950 figure. The Soviet Union achieved annual growth of just under 3.4 per cent – nearly a full percentage point higher than the United States (2.4 per cent). Ironically, some of the highest growth rates were achieved in the vanquished Axis countries (see figure 8).

Figure 8



A second explanation is that high growth was simply a consequence of the low base from which so many countries began in 1945. The more destruction they had experienced, the more rapidly countries grew in the post-war era as they engaged in reconstruction. This argument was given an important refinement by the late Mancur Olson. By disrupting dysfunctional social structures, he argued, particularly the vested interests represented by pre-war labor unions, the war created a kind of political-economic *tabula rasa*, allowing new ‘encompassing interests’ to become the social basis for policy and action.<sup>202</sup> But here, too, there are difficulties. There is no question that German trade unions were weaker in 1949 than they had been in 1929 and that as their power recovered they acted differently in the context of a new ‘politics of productivity’. On the other hand, it is difficult to sustain the claim that the structures of corporate organization on the side of capital were radically altered, despite the initial ambitions of the occupying Allied powers, in either Germany or Japan. This argument looks most

<sup>202</sup> Olson, *Rise and Decline of Nations*.

persuasive in the British case, where the war tended to entrench both incompetent managements and quarrelsome trade unions.<sup>203</sup> It offers little explanation for the success of the American economy in the 1950s, which stands in such marked contrast to the 1930s despite the manifest continuities in terms of political economy.

Perhaps the best explanation for the contrast between the war and the post-war experience is that policy makers had learned from both the errors of the Depression and the successes of the war. The general acceptance of Keynes's critique of pro-cyclical fiscal and monetary policies, the partial acceptance of his design for a post-war international monetary order and the partial (to be precise, American and German) rejection of his earlier arguments for autarkic trade policies formed the basis for a new global order based on domestic demand management, pegged exchange rates, restricted cross-border capital mobility and trade liberalization. If, despite the fears of contemporaries, history did not repeat itself in the form of a post-war slump, that was in large measure a result of this policy paradigm shift. This line of argument has long appealed to economists, not least because it gives much of the credit for post-war prosperity to advances in their own discipline.

An equally important role may nevertheless have been played by changes in another field, namely that of military strategy. The Second World War had, as we have seen, come about for two reasons: because the Axis powers believed empire would enrich them and because the Western powers believed appeasement would avert war. Devastating defeat had taught the losers that 'living space' soon turned into killing space; that they lacked the wherewithal to make their empires endure, much less pay. Conversely, the high cost of victory had persuaded the Allies the folly of appeasement. In the Cold War that ensued both sides adopted the maxim *si vis pacem, para bellum*, with the result that high levels of capital-intensive defense spending were maintained. The consequences were twofold: both superpowers were deterred from resorting to open conflict (though numerous proxy wars were fought) while at the same time their economies were stimulated in precisely the way the U.S. economy had been during the preceding war. The American way of warfare – whereby productivity could soar without

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<sup>203</sup> Barnett, *Audit of War*.

the impediment of falling bombs and the disasters took place far from centers of employment – became generalized in the northern hemisphere.

Thus the Second World War was at once an economic disaster and an economic boon. False economic assumptions led the Axis powers to start the war and prevented the Western powers from effectively deterring them. Yet the economic successes of the Allied war economies – and particularly that of the United States – ensured that the new empires created by Japan, Italy and Germany did not endure for long. Moreover, the substitution of capital for labor in Allied warfare inflicted a terrible retribution on Axis cities, while at the same time bringing unprecedented prosperity to American cities. Two new models of state-led production – the American and the Soviet – were put to the test of total war and passed it with flying colors. Those new models were then exported around the northern hemisphere, generating major improvements in economic performance nearly everywhere they were adopted or imposed. Economic historians have for too long failed to appreciate that in these and other respects the ‘defining moment’ of the twentieth century was not the Great Depression, but the Great Conflagration that followed it.

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