War and Disintegration, 1914-1950

Jari Eloranta*

and

Mark Harrison**

This is a draft chapter for *Unifying the European Experience: An Economic History of Modern Europe*, edited by Stephen Broadberry and Kevin O'Rourke, in preparation for publication by Cambridge University Press.

* Department of History, Appalachian State University, Boone, NC 28608, USA. Email: elorantaj@appstate.edu .

** Department of Economics, University of Warwick, Coventry CV4 7AL, UK Email: mark.harrison@warwick.ac.uk.

War and Disintegration, 1914-1950

Introduction

Between 1914 and 1945 Europe's economic development and integration were interrupted and set back by two world wars, and its regional patterns were brutally distorted by combat, exterminations, migrations, and the redrawing of borders.[1] World War I (the 'Great War' of 1914-1918) set more than thirty countries into conflict with each other and led to ten million premature deaths. It was dwarfed only by World War II (1939-1945), in which more than sixty countries waged war and the war prematurely ended the lives of more than 55 million people (Broadberry and Harrison, 2005b). As for who fought whom, there were limited continuities: in both wars, Germany, Austria, and Hungary fought Britain, France, and Russia for much of the time. Other allegiances changed. For ease of reference, Table 6.1 lists the European countries that were in or out of each war and, if in, on what side.

Table 6.1

Although punctuated by an 'interwar period,' the two wars can be understood as a single historical process. The process was global but the European dimension was fundamental to it. Thus, Europe was the main theatre of a vast thirty-year conflict of empires and nationalisms. The first war was fought primarily by European powers in Europe; some non-European participants and colonial polities played a minor role while others intervened late in the process. It produced a fragmented continent that had spent vast amounts of physical and human capital, the countries at its centre ensnared in reparations and debts, and incapable of returning to political and economic stability. The second began in Asia but quickly spread across the world to Europe, and most participants understood that the conflict in Europe would be decisive for the outcome. The German historian Ernst Nolte (1965) was the first to define these three decades as a European 'civil war.' He saw it as a war launched from Russia in 1917 by communist terror and aggression, to which German National Socialism and racial genocide were a defensive response. This is not our view; if any country launched the war it was Germany, first in 1914 and again in 1939, for a variety of reasons. Undoubtedly, however, it makes sense to view the two wars and the interwar period as a continuous process –and we also find the destruction of moral limits that Thucydides first associated with civil strife.

Our period was one of economic and political instability. The average growth rates of most European states were modest compared with their

---

[1] The authors gratefully acknowledge the advice and comments of the collaborators in this volume, in particular Joerg Baten, Robert Millward, Leandro Prados de la Escosura, and Kevin O'Rourke for the willingness to share their knowledge and understanding.

performance before 1914 or after 1950 (Maddison, 1995); Angus Maddison (2001) describes these years as ‘a complex and dismal period, marked deeply by the shock of the two world wars and an intervening depression.’ Eric Hobsbawm (1996) viewed the extreme political and military outcomes of this period as characteristic of the decadence and economic failures of the twentieth century. But this is not the whole story. Bradford DeLong (2000) and Alex Field (2003; 2006) have stressed that the massive increases in living standards in the second half of the twentieth century was enabled by technological advances that continued in an unbroken stream through the most dismal episodes of the first half. In Europe as elsewhere, the rate of technological improvement remained high throughout our period and exceeded nineteenth century benchmarks in spite of military, economic, and demographic disaster (Ferguson, 2006). In short, whatever it was that came to an end in 1914, it was not the forces underlying economic growth.

Globalization, Empire, and War

In the nineteenth century globalization and empires were inextricably linked. None other than the Russian revolutionary leader Lenin, writing in 1916 (reprint, 1963), noted the association between the rise of global markets, global enterprises, and global colonial empires.

In the early twentieth century the great powers all regarded colonial empire as an entirely legitimate national pursuit. For illustration, Table 6.2 shows the world's colonial dependencies. In 1913, Europeans were the greatest imperialists in the history of the world, with 30 percent of the world's population living in European colonies outside Europe that spread across more than two fifths of the world's land surface. In the same year Britain alone, which accounted by itself for one fortieth of the world's population and one five hundredth of its land surface, claimed sovereignty over 400 million people and 33 million square kilometres of Africa, Asia, America, and Australasia. Its Empire, including both self-governing dominions such as Canada and Australia, and colonial dependencies such as India and Nigeria, embraced almost one quarter of the world's population and a quarter of its land surface. Other European powers, chiefly France and the Netherlands, and after them Belgium, Germany, Italy, Portugal, and Turkey lagged far behind. Outside Europe, the United States administered some neighbouring islands, as did Japan, in addition to its Korean colony (see also Huntington, 1996).

Table 6.2

In 1938, a quarter century later, almost nothing had changed. Germany and Turkey had lost their little empires as a result of the peace treaties that followed World War I. Italy and Japan were in the first stages of their expansion across the Mediterranean and the Pacific respectively. But these are barely apparent in the figures. Indeed, looking at the world from Berlin, Rome, and Tokyo, the lack of change in the balance of the world's colonial possessions was the problem: the old colonial powers had failed to give way to the aspirations of the new imperialists.

In fact, the pursuit of colonies by the rising powers, combined with the defence of their colonies by the established ones, contributed to repeated crises in the global equilibrium among the powers and was perceived to a large extent to be responsible for the two world wars. In the process the very idea of empire lost its legitimacy. The legitimacy of empire had never been strong among the colonial populations, and its decline became marked within the United States, the foreign policy of which became decidedly anti-colonialist. By 1950 wholesale decolonization, by consent or by force, was already under way within the British, French, and Dutch empires, the only ones of any significance that remained. This is another sense in which the two world wars formed a single historical process that began in 1914 and ended in 1945 (Modelski and Thompson, 1996).

Since Lenin it has been fashionable to link world trade and world empires with the causes of the two world wars. The truth is more complex, however. Neither globalization nor imperialism directly caused the war to break out in 1914. Norman Angell had argued in his 1909 bestseller *The Great Illusion* (reprint, 1972) that the increased economic interdependence of the great powers would make any major international conflict an impossibility, or at least bring it to a quick conclusion. Globalization had increased the interdependency of regional and global players, thereby increasing the costs of the war. Specifically, increased openness had made the European states more vulnerable to the interdiction of imported supplies of food and materials. By raising wages, economic growth had made the maintenance of standing armies more expensive. Businessmen across Europe were not pushing for war and its outbreak came as a shock (Ferguson, 1999). But there were also countervailing factors. One was the industrialization of warfare, which increased the destructive efficiency of military equipment and gave industrialized states a bigger bang for their bucks (Ferguson, 2001; McNeill, 1982). Finally, the very fact of increased vulnerability to economic disruption probably heightened the propensity of the likely participants to gamble on a rapid offensive, once war became probable (Rowe, 2005).

John Hobson (1993) has shown that both the United Kingdom and Germany spent less on their armed forces than most great powers. John Keegan (1999) describes a Europe thrust into war by communication failures and irreversible war plans based on tit-for-tat responses that were designed for the ‘age-old quest for security in military superiority.’ World War I was no accident, however. Historians have tended to hold Germany particularly accountable for the pre-1914 arms race and the subsequent diplomatic breakdown (e.g. Berghahn, 1973). Niall Ferguson (1999, 2001) has noted that, having started the arms race, Germany was unable to compete against its rivals, and was led therefore to gamble on a pre-emptive strike in 1914. Thus, the prewar arms race, stimulated by the competition for colonies, was a principal cause, whereas the industrialization of armaments production contributed mainly to the length and destructiveness of the war.

The arms race that led towards war in 1914 is not remarkable for its economic dimension. The industrial revolution, combined with the fiscal reforms of the nineteenth century, enabled Western states to increase military spending without excessively burdening their economies. We provide two standardized measures of defense spending: the ‘military burden’ on national resources (per cent of GDP) and the ‘defense share’ of budgetary means (per cent of central government expenditure). In the period before 1914 most countries carried heavier military burdens than in the early nineteenth century. Within Europe, as Table 6.3 suggests, the great powers carried somewhat heavier burdens than others; the average military burden on the GDPs of the six great powers was 3.2 percent, compared with 2.7 percent for the others in the sample. Notably the United States, the emerging economic leader, devoted less than one per cent of GDP to its armed forces (Eloranta, 2003).

Table 6.3

The arms race was fuelled by both rivalry and restraint. While some countries pushed up military spending to keep abreast of their rivals' efforts, others did the same to exploit the relative restraint of the British and American economic giants. The origins of the Great War are often seen in the consolidation of two confrontational alliances; however, when the statistical evidence is inspected for evidence of strategic interaction we find that the alliances themselves were ultimately inefficient and almost irrelevant in the spending decisions (Eloranta, 2007).

A different picture emerges when we turn to the causes of World War II. In the interwar period, military burdens were on average higher than before 1914 but, as Table 6.3 suggests, military spending was overtaken everywhere (except Italy) by other spending categories. As a result budgetary defense shares were almost uniformly lower, often much lower. Not reflected in the table are national variations in the timing of rearmament; the Soviet Union and Japan began to rearm at the end of the 1920s and Germany at the beginning of the 1930s. For most others intense rearmament was delayed to the mid-1930s. Hitler raised Germany's military burden from below two per cent in 1933 to nearly 20 per cent in 1938. The Japanese rearmament drive was still more impressive, with a 23 per cent military burden and more than 50 per cent defense share in 1938. Mussolini was less successful in rearmament as well as in his efforts to realize the new Roman Empire, with Italy's military burden reaching no more than five per cent in 1938. Achieving high rates of military output before that time, as in the Soviet Union, was of doubtful military value, since the rapid pace of technological change made many of the armaments produced earlier obsolete within two or three years.

Some states oscillated between policies of disarmament and rearmament. Many smaller states did not begin active rearmament until after 1935, but some had high military burdens already in the 1920s (e.g. Portugal and Finland). Sweden started the period with a high defense share, which declined noticeably by the end of the 1930s. A member of the League of Nations from the beginning, Sweden exemplifies an active pursuit of disarmament. According to Ulf Olsson (1973), the Swedish rearmament was slow to react to the worsening international security climate, and its military burden remained below two per cent until 1939. It thus resembles the slow reaction of the United States to the new arms race in the late 1930s (Eloranta, 2002b).

Relatively high military spending was not a guarantee of military success or the security of borders. Military spending determined only the increment to one of four dimensions that, according to Samuel Huntington (1996), produce military power. This was the quantitative dimension (men, arms, and resources). The other three are technological (effectiveness of the equipment); organizational (deployment and morale of the troops); and societal (ability and willingness to apply military force in various situations). Military activity itself takes place at four different levels – political, strategic, operational, and tactical – of which the political sphere contains the funding decision (Millett et al., 1988). Germany, for example, put forth the quantitative resources, invested heavily in various civilian and military technologies, had the required organizational structures and training, and whipped the society into a condition ready for war in the 1930s. French policy-makers, although convinced in the 1920s that French security required high military spending, were unable to maintain military spending at a competitive level in the 1930s and this may have contributed to the technological weaknesses of the French forces in World War II. In addition, their military strategies were ill-attuned to the war of manoeuvre that was about to be unleashed.

The ascendancy of the authoritarian nations and their military spending began in the mid-1920s, and accelerated after 1933, with Germany quickly tipping the balance. It appears that the international system was destabilized by the dispersion of military power in the 1920s. The United States, failed to exercise credible military leadership commensurate with its economic power. In European democracies, domestic military spending decisions were driven more by producer lobbies than external security concerns (Eloranta, 2002b).

The outcome of the renewed rearmament competition was World War II. Where did the drive to war come from? There were both new and old elements in the mixture. Something in continuity with the period before 1914 was rivalry for colonies. The British, French, and Dutch defended their empires. The Soviet Union defended the frontiers of the former Russian Empire. The Japanese looked to create a new empire, first to the north in Manchuria and Siberia; then, when the Soviet Union proved too difficult an adversary, they turned south to the British, French, and Dutch colonies. The Italians looked to build an empire around the Mediterranean, from North Africa to the Balkans and Greece. And Germany looked towards Eastern Europe and Russia for complementary resources and markets and an ethnically restructured living space. To realise these plans the Japanese moved first (into China), then Italy moved (into North Africa), and finally Germany (into Eastern Europe). If Lenin had been alive, he would have recognized the picture. The imperial powers were redividing the world by force. Driving the imperial rivalry, however, was something new.

War, Development, and Dictatorship

Before 1913 the richest countries in Europe were becoming more democratic, while aristocratic and monarchical institutions were weakening in poorer countries such as Greece, Serbia, Spain, Portugal, and Turkey. In so far as democracies rarely fight each other the prospects for peace in Europe should therefore have been improving. We measure the political regime using the Polity 2 index (based on the Polity IV data), which subtracts autocracy scores from democracy scores to create a composite index of the political regime with values ranging from +10 (strongly democratic) to -10 (strongly autocratic). Table 6.4 compares the degree of democracy with the level of economic development achieved. It shows that in 1913 seven of the 10 countries with GDP per head above the European median had achieved a positive Polity index – and so had half of the 10 poorer countries. World War I was launched, however, by the mobilizations of the least democratic powers in Europe: the monarchies of Germany, Austria-Hungary, and Russia.

Losing the Great War destroyed the legitimacy of the regimes that launched it. In Germany, Austria, Hungary, and Russia, the monarchies fell;

Germany and Austria became markedly democratic, Hungary mildly so, and Soviet Russia not at all. Where democracy developed, however, it was fragile. The circumstances of the 1920s and early 1930s could hardly have been less favourable, and by the late 1930s the new democratic constitutions had been overridden by a new kind of dictator in Germany, Austria, Italy, Spain, Portugal, and most of Eastern Europe, while Russia had gone over from monarchical to communist absolutism with hardly a pause for breath. Table 6.4 shows the stark division of Europe that had developed by 1938: most rich countries continued to uphold democracy, but most poor countries had succumbed to authoritarianism. Finally, the post-World War II settlement left the continent just as polarized between rich democracies and poor dictatorships as before, with communists taking the place of fascists across eastern and south Eastern Europe.

Table 6.4

The new ingredient in interwar imperial rivalry was totalitarianism, a term that the political theorist Hannah Arendt applied to the most oppressive regimes of the twentieth century – national socialist Germany and communist Russia. According to Juan Linz, a *totalitarian state* has: (1) centralized political power; (2) an exclusive, ideology that the leader uses as an instrument both for purposes of political identification and as a guide to action; and (3) mobilization of the citizenry for collective purposes, channelled through a single party using brutal violence against real or perceived opponents (Boesche, 1996; Linz, 2000). It remains debatable where the structures of National Socialism and communism were so similar that one concept could cover them both. The consequences were similar but not identical. In the Soviet Union, Stalin created a state-owned command economy under a ruthless political dictatorship. His victims were chiefly his own subjects, whether killed by neglect in the famine that followed the forced collectivization of the countryside or killed during the Great Terror. Using state controls, he built up heavy industry and invested in new military technologies; in the mid-1930s the Soviet Union was possibly the biggest defense producer in the world. At the same time the secret record of Stalin's foreign policy has been shown to be more 'passive-aggressive' rather than expansionist (Barber and Harrison, 2005).

Hitler's regime also exemplified the notion of totalitarian control. He added the explosive elements of anti-Semitism and racial purification to the traditional ideals of German nationalism and imperialism. His ascendancy to power in 1933, beginning with an election victory and him quickly assuming the role of a dictator, was preceded by the economic collapse of the Great Depression. German unemployment reached staggering proportions in 1932, with one third of the labour force out of work. Hitler's appeal was based on promises to restore Germany to prosperity and imperial domination, hatred of the Jews, and fear of the communists at home and in the Soviet Union. Hitler consolidated his power by silencing his enemies and building an efficient police state. His policies reduced unemployment and aimed to make the economy self-sufficient for war. He did not aspire to total control over economic life, but was ready to squeeze living standards and real wages for the sake of rearmament (Tooze, 2007). He withdrew Germany from the League of Nations, and his decisions to remilitarise the Rhineland in March

1936 and annexe Austria, were among the death blows to the League's credibility. His main target was colonial expansion (Abelshauser, 2000; Kennedy, 1989). Compared with Stalin, his policies killed more people by intention and fewer by accident, yet more of his victims were in other countries. But he still killed millions of his own citizens.

Compared with the totalitarianism of Hitler and Stalin, the regimes of the Italian and Iberian fascists, although bloody and repressive, do not really measure up. In Italy Mussolini was appointed prime minister in October 1922, after the Fascists' march on Rome. He took several years to overcome parliamentarism and the other political parties and he never achieved centralized control of his polity as did Hitler and Stalin. Nor did he secure a rearmament advantage for Italy in the 1930s as he had hoped. Similarly, in Portugal, where authoritarianism was on the rise from 1926, António de Oliveira Salazar only gradually acquired dictatorial authority after becoming prime minister in 1932. In Spain Primo de Rivera's dictatorship of 1923-1930 marked the first authoritarian experiment; after a short-lived republic and a brutal civil war, Francisco Franco returned Spain to dictatorship in 1939. In Eastern Europe, the Baltic, and the Balkans, the 1930s brought the general rise of authoritarian governments, often led by prominent generals and populist leaders. (Lee, 1987; Saz, 1999)

The evidence shows, however, that regime shifts were not associated with structural changes in these countries' military spending behaviour. Although authoritarian, they did not accumulate the centralized powers necessary for massive rearmament. Compared to Germany and Japan, for example, the Italian military burden in the late 1930s remained meagre (Eloranta, 2002b). Other authoritarian states failed to resolve the tension between a revisionist ideology and the requirements of survival in the international arena. Their domestic popularity rested heavily on the promise of more security and protectionist trade policies, but in the 1930s they adopted only weak foreign and commercial policy positions. In World War II, however, especially in Eastern Europe, they tended to side with the Axis.

Waging War

The two world wars placed the economies of Europe under immense strain. What did this mean? The war demanded huge resources. In both wars, tens of millions of men and guns flung millions of tons of explosives at each other using huge machines to do so – battleships, aircraft, and tanks. The demands that this occasioned could be met chiefly by producing more, by importing more, and by consuming and investing less.

The scope for producing more in wartime was limited, and in practice most countries produced less in wartime, not more, despite determined attempts to mobilise their economies. Table 6.5 compares the European belligerents with three 'control' groups: the neutral countries of Europe, the former British colonies of North America and Australasia that joined the war actively from a distance, and the former Iberian colonies of South America that remained neutral or, if they joined in, did so in name only. In both wars European output fell absolutely, while the more distant regions held their ground or gained. Within Europe the countries that were occupied or defeated suffered most. In almost all regions the loss of output associated with World War II was less than that during World War I, an exception being the disastrous condition of the Soviet economy in 1944. In these terms the success of the two wars of the United States and Canadian economies which more than doubled their GDPs from 1938 to 1944 was exceptional.[2]

Table 6.5

Since total output was inelastic to the needs of the war, military needs imposed a tremendous squeeze on capital spending and household consumption. Table 6.6 shows figures for a restricted sample of belligerent countries. Setting to one side the huge methodological problems of valuing the consumer cost of the war effort statistically, it is clear that by the twentieth century the main belligerent countries had found ways of diverting between one third and two thirds of total output to warfare. To remove the necessary purchasing power from civilian markets they used a wide variety of instruments: higher taxes were important, and so were war bonds that promised repayment after victory. Also of importance were direct controls on consumption and corporate activity that rationed civilian access to everything from food and textiles to machinery, fuels, and strategic materials.

Table 6.6

The unit of mobilization was for the most part the national economy. Part of the story is also the way in which international trade was diverted to meet the national purposes of warfare. In wartime the great powers mobilized their young men for military service and their industries for war production. As a result they ceased to supply commercial exports to the world market; to the extent that they could, they sucked in food, fuel, and war goods from external sources including their respective colonial empires and their neutral trading partners. These had to accumulate credits that, they hoped, would continue to be good in the postwar period. Only one great power was comparatively rich enough to wage war and keep up an external surplus at the same time: the United States, which supplied its Allies in two world wars by doing so.

The existence of alliances created the scope for mobilization at a supranational level. Twice in this period a victorious coalition stretched around the northern hemisphere from the western seaboard of the United States through Great Britain to Russia, whose territory completed the circle across northern Europe and Asia to within a few miles of Alaska. Britain and the United States supplied financial and material aid to their allies on a large scale, particularly to France and Italy in World War I and to the Soviet Union in World War II. By combining the abundant capital of the richer economies with the abundant military manpower of the poorer ones, they maximized total fighting power from the given resource endowments of their coalition. In fact, on both occasions the winners integrated and coordinated their economic and military resources with much greater effect than the losing countries, which mobilized and fought to a considerable extent in isolation from each other. But it is also true that the winners started with endowments that were superior in both quantity and quality.

In some poorer countries the relevant scale of mobilization became sub-national. The strain of mobilization was such that efforts to integrate and

[2] The Italian data report a miraculous increase in GDP in World War I; surely a statistical anomaly that is discussed by Broadberry (2005).

coordinate a nationwide war effort failed. Instead, national economies pulled themselves apart. This tended to happen where agriculture was only partially commercialized and remained largely in the hands of small scale subsistence farmers. Under the pressure of wartime mobilization this section of the economy displayed a tendency to ‘secede from the nation.’ The immediate symptom was usually the emergence of urban famine. When working families in wartime Hamburg or Petrograd could no longer buy food, the main reason was not the lack of the food in the economy as a whole, but the growing reluctance of farmers to sell at any price, given the lack of industrial commodities to buy in exchange. As a result, the true scale on which mobilization could be carried out in practice was not the national economy but just the local urban economies that came under the direct control of the central government. Legally the government could claim jurisdiction over the countryside, but its economic sovereignty was de facto much more limited; it could no more command the resources of the farming households a few miles from the city limits than it could control the business decisions of manufacturers and traders in neutral countries the other side of the world (Broadberry and Harrison, 2005b; Harrison, 1998b).

The economic disintegration of the Austro-Hungarian Empire during World War I illustrates this theme. The two kingdoms of Austria and Hungary were ruled by a single emperor in Vienna but had separate governments, legal systems, and currencies. More important than outward differences was an economic asymmetry: Austria was richer and more industrialized than Hungary. To mobilise its industries for war, Austria needed the surplus food products of Hungarian farmers, but was unable to supply Hungary with manufactured civilian goods on the same scale as in peacetime. As a result, trade between the two kingdoms tended to shrink; the food stayed in the Hungarian countryside while the Austrian cities were unable to scale up industrial production because of the lack of food and raw materials. At the same time two things happened. Coordination between the kingdoms of the empire deteriorated, and at the same time, within each kingdom, the farmers went their own way (Schulze, 2005). If Austria-Hungary could not coordinate itself, what chance did it have of achieving coordination with the other Central Powers?

Germany's experience of conquest in World War II provides another case. Germany's intention was to seize a colonial empire in Eastern Europe and convert the Ukraine and European Russia into a food surplus region, chiefly by killing or starving a large proportion of the inhabitants and forcing many of the survivors to flee beyond the Urals (Kay, 2006). The failure to achieve a quick victory over the Soviet Union prevented this master plan from being fully implemented; even so, the German occupation authorities made the most determined efforts to exploit the agricultural resources that fell under their control. But these resources proved exceptionally difficult to mobilise, even at gunpoint (Liberman, 1996). Almost by accident, at the same time most of Western Europe fell into German hands. During the period of occupation, Germany’s import of food from rich industrialized France ran at several times the level of its food seizures in Russia (Milward, 1965). This illustrates again the difficulty of mobilizing resources when they remained in the hands of low-productivity subsistence farmers.

In the two world wars, the only low-income country to defend its economic integrity under serious attack was the Soviet Union in World War II. More than a decade earlier, Stalin and his associates had drawn the appropriate lesson from Russia's defeat in World War I: small scale peasant farming was Russia's Achilles heel in wartime (Simonov, 1996). Stalin had launched a drive to secure state control over the peasant farmers and their food surpluses by collectivizing the farms. The campaign was carried through at huge cost in lives, and the farming system that resulted was hated and inefficient (Davies and Wheatcroft, 2004). But it achieved its goal in the sense that, when war broke out again, the peasant farmers no longer had the freedom to withdraw from the market. When food was critically short, when there was absolutely not enough food in the country to keep everyone alive, and millions starved, the soldiers and war workers had enough to eat (Barber and Harrison, 1991; Harrison, 1996). Stalin had converted the peasants into the residual claimants on their own produce. As a result, when the fate of the country was on a knife edge in 1942, the economic system did not break down and the Soviet war effort sustained itself at the most critical moment of the war.

The mobilization advantage of the richer economies is equally evident in food consumption. During both world wars, for example, despite submarine blockade, the British fed themselves quite healthily and sufficiently, if monotonously, partly from their own capital-intensive commercialized agriculture, which responded speedily and flexibly to mobilization requirements, and partly from the other side of the world (Olson, 1963). In the United States in World War II, as Hugh Rockoff (1998) has observed, consumers did not have more butter, but they did have more ice cream.

The world wars took economic warfare, traditionally limited to siege and blockade, to a new level. Blockade continued to be practised, but economists from Olson (1963) to Davis and Engerman (2006) have argued that its force was easily vitiated by direct counter-measures as well as economic mobilization and substitution. Germany overcame the British blockade of its ports in World War I in part by exploiting overland trade with neutral neighbours, including Britain's trading partners. The Allies successfully used naval convoys in both wars to protect merchant vessels against Germany's submarine warfare, and so maintained the integration of the Allied war effort. Conversely, for Germany the submarine construction programme in both wars was enormously expensive, and a direct cost of the gamble to resort to unrestricted submarine warfare to in 1917 was that the United States entered the war on the side of the Allies.

In World War II heavy long-range aircraft provided the capacity to bombard the enemy's rear. Between 1940 and 1945, the Allied air forces dropped two million tons of bombs on Germany; 40 per cent of these were aimed at German industrial and transport facilities and another 30 per cent at urban areas (Zilbert, 1981). The strategic bombing of Germany was meant to dislocate the war economy and destroy the will to fight. Firebombing cities ran into diminishing returns as the war progressed; it did not break the will of the people and sometimes even had the opposite effect (Brauer and Tuyll, 2008). It also had little effect on war production since it primarily destroyed civilian resources and increased the readiness of the workers to make sacrifices. The daylight bombing of industry and transport became possible late in the war and proved more effective. Even so, German industrial facilities continued to expand because new investment more than kept pace with the war damage (Abelshauser, 2000). Strategic bombing did increase German production costs, and it forced a huge diversion of German resources from ground attack in the East to air defence in the West. The air campaign was also extremely expensive for the Allies to maintain, however, resulting in frequent disputes about its priority compared with direct support for the Normandy landings. In general, economic warfare did not determine the outcome of any conflict but may have shortened the duration (Førland, 1993).

Aftermath

The consequences of war arrived in two instalments, postmarked 1918 and 1945 respectively. There were some common features, primarily their heavy costs. Both wars resulted in large losses of life and of human and physical capital. The effects of the two wars on economic institutions and postwar performance were quite different, however. World War I cast a long shadow over interwar economic development that international institutions failed to disperse. Unresolved tensions eroded the possibilities of returning to a normal world, and Europe became fatally polarized between wealthy and poor, democracies and dictatorships. Domestic and international reforms that accompanied the ending of World War II, in contrast, helped to alleviate the economic and political problems that plagued Europe after 1918. The aftermath of World War II was quite different. The international economy recovered quickly. The Cold War began, but in spite of it Europe entered a postwar Golden Age; consumers prospered, at least for a while, on both sides of the Iron Curtain.

The human losses of World War I were terrible enough: nearly ten million soldiers died in battle and from other causes. Of 5.4 million Allied military deaths more than half were Russian and French. Of the four million on the side of the Central Powers, Germany and Austria-Hungary contributed three quarters (Broadberry and Harrison, 2005b). These losses cannot be valued in all their human dimensions. To the extent that they represent human capital that had a replacement cost, however, they can be valued financially and compared with other material losses. This is shown in Table 6.7. Germany, and Turkey and Bulgaria together each lost more than six per cent of their prewar human capital. The table also shows that there was a tendency for human losses to be exceeded, proportionately, by losses of physical capital. The exception was Germany, the territory of which was spared fighting. The heaviest destruction of physical capital took place in France which, being already rich and industrialized, had most to lose.

Table 6.7

Turning to the losses associated with World War II we can give a more complete account that includes civilian as well as military deaths. Even taking this into account, the losses of World War II dwarfed those of World War I. This is most certainly the case for civilian mortality, since relatively few civilians suffered premature death during World War I. In contrast, in World War II at least 55 million people died prematurely, more than half of them civilians. More than 40 millions were citizens of Europe. Germany and Yugoslavia lost one in ten, the Soviet Union one in seven, and Poland one in five of its prewar population. As a proportion of the European total, three fifths were citizens of a single country, the Soviet Union, which lost 25 millions (for figures see Urlanis (1971): 294-5, except for the Soviet Union itself on which see Harrison (2003)). This was not accidental; part of Germany's plan was to bring about a large reduction in the population of the Soviet Union, in order to free up food supplies for Germany.

The financial dimension of human loss may be compared with what we know about other material and financial losses in Table 6.8. These figures show that the rate of human losses was highly variable and in the Soviet case astonishingly heavy. Despite this, it was exceeded everywhere by the rate of physical destruction, made possible by new destructive technologies such as strategic bombardment from the air, used alongside traditional means.

Table 6.8

Ethnic displacement and racial killing were features of both World Wars. The main episode of note in World War I was the deportation of Armenians eastward from Anatolia in 1915/16. The stated policy of the Young Turk government was to seize their property and walk them to the Syrian desert in the south. There is uncertainty over the number of deaths that resulted (from 300,000 to 1.5 million), and the precise combination of deaths arising from hunger, lack of shelter, and disease with killings in the massacres that accompanied the deportations (Simpson, 1939; Zurcher, 2000). In World War II there is no doubt about the German intention to kill Europe's Jews, some in Germany and western Europe but most in Poland and the USSR, from 1942 onwards (but the timing, as well as the internal and external triggers of the decision are still debated). Adolf Eichmann, its chief organiser, put the number of deaths resulting at six million. In addition, the Nazis murdered hundreds of thousands of other 'undesirables' as well, including homosexuals, Gypsies, socialists, and mentally or physically disabled persons.

Still more complex and variable was the impact of the two wars on institutions and policies. World War I ended the liberal order of the nineteenth century and began a phase of de-globalization. Production and consumption for total war relied on securing vital strategic materials, raw materials, and food, and this led countries to restrict exports and expand imports when possible. The belligerents also used the denial of trade as a weapon of war, seeking to bring the enemy to its knees through blockade and starvation. International commodity markets disintegrated and the volume of world trade declined (Maddison, 1995).

More generally, in the first half of the century, mercantilist motivations and instruments became more prominent in Europe than at any time for a hundred years. The scramble for resources provoked by World War I was replaced in peacetime by a scramble for liquidity. The longer-term impact of World War I on international trade was disastrous. Globally, the share of trade in GDP fell from 22 per cent in 1913 to 15 per cent in 1929 and only 9 percent in 1938 (Estevadeordal et al., 2003: 595). As for Europe, exports declined relatively and stagnated absolutely after the war; despite the initial recovery of world trade, European exports in 1929 remained below the level of 1913 (Maddison, 1989). Protectionism of both agriculture and industry gained popular support. By the mid-1920s tariffs were substantially higher than they had been in 1913 in Bulgaria, Czechoslovakia, Germany, Hungary, Italy, Romania, Spain, Switzerland, and Yugoslavia. Once the Great Depression took hold, beggar-thy-neighbor policies in the hands of increasingly nationalistic governments, and the consolidation of autarkic regional trading blocs completed the process of trade disintegration. The new restrictions in the 1930s on trade usually came in the form of quotas rather than tariffs. Trade treaties and relations became subjugated to the economic and military interests of the rearming European nations (Findlay and O'Rourke, 2007; Kennedy, 1989; Kindleberger, 1973). Europe's share of world manufacturing continued to decline, and European trade recovered only modestly by the end of the 1930s. By 1950, in contrast, all regions of the world economy, Europe included, began to share the benefits of restored trade and renewed commitments to liberalization (Maddison, 1995).

A notable exception to interwar protectionism is found in the arms trade. Military exports collapsed as World War I drew to a close, but rebounded in the early 1920s and grew substantially until the Great Depression. After the depression military exports recovered faster than world trade as a whole despite falling prices, which resulted partly from the worldwide deflation and partly from increased competition as smaller nations entered the market. Czechoslovakia and Sweden, followed by Belgium and Norway, were the rising military exporters of the 1930s; by 1935 Czechoslovakia led the way with a quarter of the market for small and medium armaments, smaller shares going to Sweden and Belgium (Eloranta, 2002a). The UK maintained its traditional domination of the trade in heavier equipment such as warships. Attempts to regulate the arms trade usually fell far short of professed goals, partly because of opposition from domestic producer lobbies (Krause, 1992; Krause and MacDonald, 1993).

Interwar economic and political instability and the rise of authoritarian regimes can be seen as extensions of World War I and the Great Depression (Feinstein et al., 1997). Many institutional failures were rooted in the Versailles Peace Treaty of 1919, which created many new democracies and the appearance of a 'new Europe.' The core of the treaty, however, inflicted collective punishment on the former Central Powers and set up a cause for German nationalist resistance in the 1930s, while failing to meet the demands of many participants.

The interwar European economy was additionally stressed by war debts. The United States had provided war loans worth millions of dollars to Britain and France. In turn, the British and French had extended their own credits to Italy and Russia. As a result, the poorer countries in the coalition were able to continue fighting long after they would have run out of their own resources. Interwar economic and political relationships were bedevilled by this network of debts, most of them eliminated sooner or later by default. During World War II a similar pattern emerged in that the United States eventually made available billions of dollars of economic assistance to Britain and the Soviet Union, and Britain had its own much smaller Soviet aid programme. The difference is that, after an early pause for consideration, all the wartime assistance among the Allies was rendered free of charge, so that no substantial postwar indebtedness arose.

Institutional failures of the interwar period can perhaps best be observed in the performance of the League of Nations, established in 1920. The eighteen founder members held sway over 74 per cent of the world's population and, 63 per cent its land area, but did not include the United States, which had turned to isolationism. The record of the League was one of failure to act against various acts of aggression, Japanese, Italian, and German, over the next two decades. There were several factors to this failure, including differing disarmament and security goals of the key members, the absence of some key great powers (for example, the United States), and the failure to provide credible security guarantees for the member nations.

The fear of repeating this failure hung over the United Nations, established in 1945 by the victorious Allied coalition. The rapid emergence of the Cold War made repetition seem more than likely. For example, the first proposals for disarmament were not initiated until the 1950s, with little chance of actual success (Jolly et al., 2005). There were two major differences, however. One difference is that whereas the United States had stood aloof from the interwar League, in the postwar UN the United States was the new and economically powerful hegemonic leader. Another was the additional dimensions of new institutions for multilateral coordination after 1945. The UN was complemented by other bodies that emerged in the immediate post-war period: the Bretton Woods system of exchange rate coordination under the International Monetary Fund, the International Bank for Reconstruction and Development (later the World Bank), and the Marshall Plan, which provided economic aid for rebuilding postwar Europe. Bretton Woods became the anchor of post-war stability and economic expansion until the early 1970s. (Maddison, 1995; Maddison, 2001)

Between 1948 and 1951 the United States poured $13 billion (about $100 billion at 2003 prices) into the economies of Western Europe. This massive aid package was named after its designer, US Secretary of State George C. Marshall. Its purpose was to help Europe recover from the devastation of the war period and at the same time promote the alternative to socialism. Most Eastern European nations had been converted into Soviet satellites or did not want to irritate the Soviet Union by accepting this aid. In Western Europe, in contrast, the Marshall plan boosted economic cooperation in the region and helped to embed the recovering economies into policies of trade liberalization and market integration (Ritschl, 2004).

In this context it is not surprising to find that postwar economic recovery after 1918 was strained and slow, whereas after 1945 it was generally rapid. Table 6.9 shows that Europe’s neutrals and victors generally took more than three years after 1918 to return to the 1913 benchmark of GDP per head, while the losers took nearly a decade to do so. In comparison, economic recovery after 1945 took place at almost lightning speed. This was one early sign that the world after 1945 would be truly different.

Table 6.9

Conclusions

In the first half of the twentieth century European globalization came to an abrupt halt. It was replaced by protectionism, nationalism, war, and killing and destruction on an immense scale. In mid-century, globalization was resumed, and the European economies began to converge on much higher and more uniform income levels.

After two world wars, three things had changed. First, European economic growth, integration, and prosperity had lost its association with empire. No doubt to the surprise of Europe's nineteenth century leaders, had they lived to see it, it proved possible to acquire wealth and wield influence without claiming imperial sway over vast stretches of faraway peoples and their lands and oceans.

Second, Europe's leaders had a new sense of the importance of cooperation. They now cooperated with the United States in economic recovery, exchange rate coordination, and tariff reduction, with each other in laying new foundations for European integration, and with developing countries in decolonization and development assistance.

Third, Europe's leaders had learned to use the power of the state to regulate economic life. In wartime, governments had wielded immense authority over their people, production, and consumption. There is at least some reason to see the effectiveness of this power as directly linked with the level of development of the economy: as the economy became richer, the potential scope of government authority became wider and more effective. It did not follow that government ought to use this authority in peacetime as in wartime just because it could, although some thought so. One particular reason that they thought so was the unexpected success of the Soviet command economy in mobilizing to defeat Nazi Germany. Learning the appropriate limits of government control over the market economy in turn became a major challenge of the postwar period.

Table 6.1. Taking Sides: Belligerents and Neutrals in Two World Wars

	World War I	World War II
Albania	Neutral	Anti-Comintern Axis
Austria (AH)	Central Powers	Annexed to Germany
Belgium	Occupied by Germany	Occupied by Germany
Bulgaria	Province of Austro-Hungarian Empire	Anti-Comintern Axis
Czechoslovakia	Province of Austro-Hungarian Empire	Occupied by Germany
Denmark	Neutral	Occupied by Germany
Estonia	Province of Russian Empire	Occupied by USSR
Finland	Province of Russian Empire	Anti-Comintern Axis
France	Entente	Occupied by Germany
Germany	Central Powers	Anti-Comintern Axis
Greece	Entente	Occupied by Italy
Hungary (AH)	Central Powers	Anti-Comintern Axis
Ireland	Province of United Kingdom	Neutral
Italy	Entente	Anti-Comintern Axis
Latvia	Province of Russian Empire	Occupied by USSR
Lithuania	Province of Russian Empire	Occupied by USSR
Netherlands	Neutral	United Nations
Norway	Neutral	Occupied by Germany
Poland	Province of Russian Empire	Occupied by Germany and USSR
Portugal	Neutral	Neutral
Romania	Province of Austro-Hungarian Empire	Anti-Comintern Axis
Russia (R)/USSR	Entente	United Nations
Serbia/Yugoslavia	Province of Austro-Hungarian Empire	Occupied by Germany
Spain	Neutral	Neutral
Sweden	Neutral	Neutral
Switzerland	Neutral	Neutral
Ottoman Empire/Turkey	Central Powers	Neutral
United Kingdom (UK)	Entente	United Nations

Table 6.2. Colonial Dependencies in 1913 and 1938: Populations and Land Surfaces

	1913		1938	
	Population, millions	Land Surface, million km^2	Population, millions	Land Surface, million km^2
British Dominions	19.9	19.5	30.0	19.2
British Colonies	380.1	13.5	453.8	15.0
French Colonies	48.4	10.7	70.9	12.1
Dutch Colonies	44.1	2.1	68.1	1.9
Other European Colonies	54.1	11.5	33.0	8.3
European Powers' Colonies and Dominions, total	546.5	57.2	655.9	56.5
Non-European Powers' Colonies	28.8	0.6	75.7	1.9
The World	1810.3	134.4	2168.0	134.4

Sources: Harrison (1998a) and Broadberry and Harrison (2005a).

Table 6.3. Military Spending of the Great Powers in Peacetime, 1870-1913 and 1920-1938

Country	Military spending, % of GDP 1870-1913	Military spending, % of GDP 1920-1938	Military spending, % of central or federal government expenditures 1870-1913	Military spending, % of central or federal government expenditures 1920-1938
Austria(-Hungary)	3.5	0.9	12.0	5.8
France	3.7	4.3	25.9	22.4
Germany	2.6	3.3	54.1	23.8
Italy	2.8	4.4	21.7	25.4
Russia (USSR)	3.9	7.1	27.9	11.9
UK	2.6	3.0	37.5	16.3
6-country mean	3.2	3.8	29.9	17.6
Japan	5.0	5.7	32.2	20.1
USA	0.7	1.2	29.4	22.4
16/17-country mean	2.7	2.8	33.3	18.0

Notes: The 16-country mean for 1870-1913 includes Austria(-Hungary), Belgium, Denmark, France, Germany, Italy, Japan, Netherlands, Norway, Portugal, Russia, Spain, Sweden, Switzerland, UK, and USA; the 17-country mean for 1920-1938 adds Finland.

Sources: See Eloranta (2002b), p. 110 for details.

Table 6.4. Political Regime and Economic Development in Europe Across Two World Wars: Numbers of countries

:	With GDP per head: Above median	Median or below
Polity 2 index, 1913		
Above zero	7	5
Zero or below	3	5
Polity 2 index, 1923:		
Above zero	9	5
Zero or below	0	5
Polity 2 index, 1938:		
Above zero	9	2
Zero or below	2	9
Polity 2 index, 1950:		
Above zero	11	3
Zero or below	1	10

Notes: Countries are Albania (1950 only), Austria (not 1938), Belgium, Bulgaria (not 1923), Czechoslovakia (not 1913 or 1938), Denmark, Finland (not 1913), France, Germany, Greece, Hungary (not 1923), Ireland (not 1913), Italy, Netherlands, Norway, Poland (not 1913), Portugal, Romania (not 1923), Russia/USSR (not 1923), Serbia/Yugoslavia, Spain, Sweden, Switzerland, Turkey, and UK. The Polity 2 index subtracts autocracy scores from democracy scores, and also fixes standardized scores, to create a composite index of the political regime suitable for time series analysis, with values ranging from +10 (strongly democratic) to -10 (strongly autocratic).
Sources: Polity IV Dataset from http://www.systemicpeace.org/polity/polity4.htm; GDP per head in 1990 international dollars from Maddison (2001).

Table 6.5. Wartime GDP (percent of prewar)

	Percent of 1913:		Percent of 1938:	
	N	1917	*N*	1944
Europe, total	16	90	19	96
Of which, countries that:				
Stayed out	7	97	6	112
Won	*2	100	2	99
Lost	7	75	11	91
Former British Colonies	4	105	4	207
Former Iberian Colonies	8	100	14	124

Notes: European countries that stayed out are, in World War I: Denmark, Netherlands, Norway, Portugal, Spain, Sweden, and Switzerland; in World War II: Ireland, Portugal, Spain, Sweden, Switzerland, and Turkey. Countries that won are in World War I: France and UK (with regard to Italy, see the note to the table); in World War II: UK and USSR. Countries that lost, meaning that their governments surrendered or their territory was entirely occupied, are in World War I: Austria, Belgium, Germany, Hungary, and the Ottoman and Russian Empires (including Finland); in World War II: Austria, Belgium, Bulgaria, Denmark, Finland, France, Germany, Greece, Italy, Netherlands, and Norway. Former British Colonies are, in both wars: Australia, New Zealand, Canada, and United States. Former Iberian Colonies are, in World War I: Argentina, Brazil, Chile, Colombia, Mexico, Peru, Uruguay, and Venezuela; in World War II: Argentina, Brazil, Chile, Colombia, Costa Rica, Cuba, El Salvador, Guatemala, Honduras, Mexico Nicaragua, Peru, Uruguay, Venezuela.

* Excludes Italy for reasons mentioned in footnote 1. If Italy is included, then 100 becomes 107.

Sources: Maddison (2001), except that for GDP in 1917 we add estimates for Hungary from Schulze (2005: 86) and for Russia from Gatrell (2005: 241); for the Ottoman Empire we use a figure of two thirds of 1913 based on Pamuk (2005: 120), but the aggregate figure in the table is not sensitive to this assumption.

Table 6.6. The Mobilization of National Resources in Two World Wars (per cent of GDP at current prices)

	Government spending		Military spending	
	1913	1917	1939	1944
France	10	50	…	…
Germany	10	59	23	70
Italy	…	…	8	*21
Soviet Union	…	…	**17	53
United Kingdom	8	37	15	53

* 1943.

** 1940; figures are in constant 1937 prices.

Sources: Broadberry and Harrison (2005b: 15); Harrison (1998b: 21).

Table 6.7. Physical Destruction in Europe in World War I: Selected Countries (percent of prewar assets)

		Physical capital			
	Human capital	Domestic assets	Overseas assets	Reparations bill	National wealth
Austria-Hungary	4.5	6.5	…	…	…
France	7.2	24.6	49.0	…	31.0
Germany	6.3	3.1	…	51.6	54.7
Italy	3.8	15.9	…	…	…
Russia	2.3	14.3	…	…	...
Turkey and Bulgaria	6.8	…	…	…	…
United Kingdom	3.6	9.9	23.9	…	14.9

Source: Broadberry and Harrison (2005b).

Table 6.8. Physical Destruction in Europe in World War II, Selected Countries (per cent of assets)

		Physical assets	
	Human assets	National wealth	Industry fixed assets
UK	1	5	…
USSR	18-19	25	…
Germany	9	…	*17
Italy	1	…	10
Japan	6	25	34

* West Germany only.
Source: Harrison (1998b).

Table 6.9. Years to Recovery of Prewar GDP per head from the Final Year of War

	N	World War I	*N*	World War II
European Countries that:				
Stayed out	7	3.4	6	1.3
Won	4	3.4	2	1.5
Lost	10	9.7	16	4.4

Notes: Countries that stayed out are, in World War I: Denmark, Netherlands Norway, Portugal, Spain, Sweden, and Switzerland; in World War II: Ireland, Portugal, Spain, Sweden, Switzerland, and Turkey. Countries that won are, in World War I: France, Greece, Italy, and UK (including Ireland); in World War II: UK and USSR. Countries that lost, meaning that their governments surrendered or their territory was entirely occupied, are, in World War I: Austria, Belgium, Bulgaria, Czechoslovakia, Germany, Hungary, Romania, Russia, Serbia, and Turkey; in World War II: Albania, Belgium, Bulgaria, Czechoslovakia, Denmark, Finland, France, Germany, Greece, Hungary, Italy, Netherlands, Norway, Poland, Romania, and Yugoslavia.
Source: Maddison (2003).

References

Abelshauser, W. 2000. Germany: guns, butter, and economic miracles. In *The economics of World War II. Six great powers in international comparison* (Ed. Harrison, M.). Cambridge: Cambridge University Press, 122-176.

Angell, N. 1972. *The Great Illusion. A Study of the Relation of Military Power in Nations to Their Economic and Social Advantage.* New York: Garland Publishing, Inc.

Barber, J. and Harrison, M. 1991. *The Soviet home front, 1941-1945: a social and economic history of the USSR in World War II.* London: Longman.

Barber, J. and Harrison, M. 2005. Patriotic War, 1941 to 1945. In *The Cambridge History of Russia,* Vol. 3 (Ed. Suny, R. G.). Cambridge: Cambridge University Press.

Berghahn, V. R. 1973. *Germany and the approach of war in 1914.* New York: St. Martin's Press.

Boesche, R. 1996. *Theories of tyranny, from Plato to Arendt.* University Park, Pa.: Pennsylvania State University Press.

Brauer, J. and Tuyll, H. v. 2008. *Castles, Battles & Bombs. How Economics Explains Military History.* Chicago: Chicago University Press.

Broadberry, S. 2005. Italian GDP During World War I. In *The Economics of World War I* (Eds., Broadberry, S. and Harrison, M.). Cambridge: Cambridge University Press, 305-309.

Broadberry, S. and Harrison, M. (Eds.) 2005a. *The Economics of World War I.* Cambridge, UK: Cambridge University Press.

Broadberry, S. and Harrison, M. 2005b. The Economics of World War I: An Overview. In *The Economics of World War I* (Eds., Broadberry, S. and Harrison, M.). Cambridge, UK: The Cambridge University Press.

Davies, R. W. and Wheatcroft, S. G. 2004. *The Industrialisation of Soviet Russia, 5: The Years of Hunger: Soviet Agriculture, 1931-1933.* Basingstoke: Palgrave.

Davis, L. E. and Engerman, S. L. 2006. *Naval blockades in peace and war: an economic history since 1750.* Cambridge; New York: Cambridge University Press.

DeLong, J. B. 2000. *Cornucopia: the pace of economic growth in the twentieth century*. NBER Working Paper No. W7602. Cambridge, Mass.: National bureau of economic research.

Eloranta, J. 2002a. European States in the International Arms Trade, 1920-1937: The Impact of External Threats, Market Forces, and Domestic Constraints. *Scandinavian Economic History Review* 50, 44-67.

Eloranta, J. 2002b. *External Security by Domestic Choices: Military Spending as an Impure Public Good Among Eleven European States, 1920-1938*. Ph.D Thesis. Department of History and Civilisation. Florence, Italy: European University Institute.

Eloranta, J. 2003. National Defense. In *The Oxford Encyclopedia of Economic History* (Ed. Mokyr, J.). Oxford: The Oxford University Press, 30-33.

Eloranta, J. 2007. From the great illusion to the Great War: Military spending behaviour of the Great Powers, 1870-1913. *European Review of Economic History* 11, 255-283.

Estevadeordal, A., Frantz, B. and Taylor, A. M. 2003. The Rise and Fall of World Trade, 1870-1939. *Quarterly Journal of Economics* 118, 359-407.

Feinstein, C. H., Temin, P. and Toniolo, G. 1997. *The European economy between the wars.* Oxford; New York: Oxford University Press.

Ferguson, N. 1999. *The Pity of War. Explaining World War I.* New York: Basic Books.

Ferguson, N. 2001. *The cash nexus: money and power in the modern world, 1700-2000.* New York: Basic Books.

Ferguson, N. 2006. *The war of the world: twentieth-century conflict and the descent of the West.* New York: Penguin Press.

Field, A. J. 2003. The Most Technologically Progressive Decade of the Century. *American Economic Review* 93, 1399-1414.

Field, A. J. 2006. Technical Change and U.S. Economic Growth: The Interwar Period and the 1990s. In *The Global Economy in the 1990s: A Long Run Perspective* (Eds., Rhode, P. and Toniolo, G.). Cambridge: Cambridge University Press, 89-117.

Findlay, R. and O'Rourke, K. H. 2007. *Power and Plenty. Trade, War, and the World Economy in the Second Millennium.* Princeton: Princeton University Press.

Førland, T. E. 1993. The History of Economic Warfare: International Law, Effectiveness, Strategies. *Journal of Peace Research* 30, 151-162.

Gatrell, P. 2005. Poor Russia, Poor Show: Mobilising a Backward Economy. In *The Economics of World War I* (Eds., Broadberry, S. N. and Harrison, M.). Cambridge: Cambridge University Press, 235-275.

Harrison, M. 1996. *Accounting for war: Soviet production, employment, and the defence burden, 1940-1945.* Cambridge: Cambridge University Press.

Harrison, M. (Ed.) 1998a. *The economics of World War II. Six great powers in international comparisons.* Cambridge, UK: Cambridge University Press.

Harrison, M. 1998b. The economics of World War II: an overview. In *The economics of World War II. Six great powers in international comparisons* (Ed. Harrison, M.). Cambridge, UK: Cambridge University Press.

Harrison, M. 2003. Counting Soviet Deaths in the Great Patriotic War: Comment. *Europe-Asia Studies* 55, 939-944.

Hobsbawm, E. J. 1996. *The age of extremes: a history of the world, 1914-1991.* New York: Vintage Books.

Hobson, J. M. 1993. The Military-Extraction Gap and the Wary Titan: The Fiscal Sociology of British Defence Policy 1870-1914. *Journal of European Economic History* 22, 466-507.

Huntington, S. P. 1996. *The clash of civilizations and the remaking of world order.* New York: Simon & Schuster.

Jolly, R., Emmerij, L. and Weiss, T. G. 2005. *The Power of UN Ideas. Lessons from the First 60 Years.* New York: United Nations Intellectual History Project.

Kay, A. J. 2006. *Exploitation, resettlement, mass murder: political and economic planning for German occupation policy in the Soviet Union, 1940-1941.* New York: Berghahn Books.

Keegan, J. 1999. *The First World War*. London: Hutchinson.
Kennedy, P. 1989. *The Rise and Fall of the Great Powers. Economic Change and Military Conflict from 1500 to 2000.* London: Fontana.
Kindleberger, C. P. 1973. *The world in depression, 1929-1939.* London: Allen Lane.
Krause, K. 1992. *Arms and the state: patterns of military production and trade.* Cambridge; New York: Cambridge University Press.
Krause, K. and MacDonald, M. K. 1993. Regulating Arms Sales Through World War II. In *Encyclopedia of Arms Control and Disarmament*, Vol. II (Ed. Burns, R. D.). New York: Charles Scribner's Sons.
Lee, S. J. 1987. *The European dictatorships, 1918-1945.* London: Methuen.
Lenin, V. I. 1963. Imperialism, the Highest Stage of Capitalism. In *Selected Works*, Vol. 1. Moscow: Progress, 667-766.
Liberman, P. 1996. *Does conquest pay? The exploitation of occupied industrial societies.* Princeton, N.J.: Princeton University Press.
Linz, J. J. 2000. *Totalitarian and authoritarian regimes.* Boulder, CO: Lynne Rienner Publishers.
Maddison, A. 1989. *The world economy in the 20th century*. Paris: OECD Publications and Information Center distributor.
Maddison, A. 1995. *Monitoring the World Economy 1820-1992.* Paris: OECD.
Maddison, A. 2001. *The World Economy: A Millennial Perspective.* Paris: OECD.
Maddison, A. 2003. *The World Economy. Historical Statistics.* Paris: OECD.
McNeill, W. H. 1982. *The Pursuit of Power. Technology, Armed Force, and Society since A.D. 1000.* Chicago: The University of Chicago Press.
Millett, A. R., Murray, W. and Watman, K. H. 1988. The Effectiveness of Military Organizations. In *Military Effectiveness. Volume 1: The First World War* (Eds., Millett, A. R. and Murray, W.). Boston: Unwin Hyman.
Milward, A. S. 1965. *The German Economy at War*. London: Athlon Press.
Modelski, G. and Thompson, W. R. 1996. *Leading Sectors and World Powers. The Coevolution of Global Politics and Economics.* Columbia, South Carolina: University of South Carolina Press.
Nolte, E. 1965. *Three faces of fascism; Action Française, Italian fascism, National Socialism.* London: Weidenfeld and Nicolson.
Olson, M. 1963. *The economics of the wartime shortage, a history of British food supplies in the Napoleonic War and in World Wars I and II.* Durham, N.C.: Duke University Press.
Olsson, U. 1973. *Upprustning och verkstadsindustri i Sverige under det andra världskriget.* Göteborg.
Pamuk, S. 2005. The Ottoman Economy in World War I. In *The Economics of World War I* (Eds., Broadberry, S. N. and Harrison, M.). Cambridge: Cambridge University Press, 112-136.
Ritschl, A. 2004. The Marshall Plan, 1948-1951. In *EH.Net Encyclopedia* (Ed. Whaples, R.). EH.Net. February 10, 2008. URL: http://eh.net/encyclopedia/article/Ritschl.Marshall.Plan.
Rockoff, H. 1998. The United States: from ploughshares to swords. In *The economics of World War II: Six great powers in international comparison* (Ed. Harrison, M.). Cambridge: Cambridge University Press.

Rowe, D. 2005. The Tragedy of Liberalism How Globalization Caused the First World War. *Security Studies* 14, 407-447.

Saz, I. 1999. Foreign policy under the dictatorship of Primo de Rivera. In *Spain and the Great Powers in the Twentieth Century* (Eds., Balfour, S. and Preston, P.). New York: Routledge.

Schulze, M. S. 2005. Austria-Hungary's Economy in World War I. In *The Economics of World War I* (Eds., Broadberry, S. N. and Harrison, M.). Cambridge: Cambridge University Press, 77-111.

Simonov, N. S. 1996. Strengthen the Defence of the Land of the Soviets: The 1927 War Alarm and Its Consequences. *Europe-Asia Studies* 48, 1355-1364.

Simpson, J. H. 1939. *The refugee problem.* London: Oxford University Press.

Tooze, A. 2007. *The wages of destruction: the making and breaking of the Nazi economy*. London: Penguin.

Urlanis, B. 1971. *Wars and Population.* Moscow: Progress.

Zilbert, E. R. 1981. *Albert Speer and the Nazi Ministry of Arms.* Rutherford, NJ: Fairleigh Dickinson University Press.

Zurcher, E. J. 2000. *Turkey: a Modern History*. London: Tauris.