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Stephen Broadberry and Mark Harrison, eds. *The Economics of World War I.* Cambridge: Cambridge University Press, 2005. xvi + 345 pp. Tables, figures, bibliographical references index. $80.00 (cloth), ISBN 0-521-85212-9.

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The Economics of Modern War

As an economic activity, modern industrialized war is almost unfathomable in its tremendous scale and the effects it has on the countries involved. This collection attempts to address these two effects with regard to the First World War. The editors set out to answer two questions that arise from them: first, "what did economic factors contribute to victory and defeat in World War I?"; and second, "how did the war affect postwar economic institutions and performance in the economies that took part or were most affected by the war?" (p. 4). With regard to the first theme, the authors argue that poorer countries did not do as well as richer states, which meant that the distribution of economic power was the primary determinant of the outcome of the war. With regard to the second theme, the authors find that the effects of the war were essentially deleterious, and that the war was, above all else, a "negative-sum activity" (p. 1).

The project arose out of an earlier study of the economics of the Second World War, and it pursues a strategy and organization similar to the earlier work.[1] The chapters are written by eleven economists and economic historians--most from English and European universities--each of whom analyzes the economic aspects of the war in a different national context. The chapters consider the standard six European great powers (Germany, Austria-Hungary, Italy, France, Britain and Russia); additional chapters on the Netherlands, the Ottoman Empire and the United States round out the analysis. The book has the characteristics of a historical analysis of the war conducted with the methods and tools of an economist. It thus has many of the shortcomings one would associate with a historical work written in the main by non-historians (such as an emphasis on theory over facts), but the faults are balanced by the level of understanding the authors demonstrate of economic concepts and models often beyond the professional training of the average historian of the First World War.

The most useful section of the work is the introductory chapter, which synthesizes the findings of each of the individual national case studies. It is broadly comparative and provides a number of tables weighing each major power's ability to fight a modern industrialized war according to three factors: population, territorial size and annual GDP. The authors find that the cards were stacked dramatically against the Central Powers. A total population of 156.1 million for the Central Powers, for instance, compared to 259 million for Britain, France and Russia alone in 1914; the measurement of territory (including colonial holdings) put the Central Powers at 6 million square kilometers to the Allies' 72.5 million square kilometers in that same year; and with regard to GDP (again counting colonial holdings), the numbers were just as staggering, standing at 622.8 billion dollars for the Allies as compared to 376.6 billion dollars for the Central Powers at the beginning of the war (pp. 7-8, 10). Furthermore, discrepancies between the two blocs remained relatively the same when the United States stepped in to replace Russia after 1917--a step that caused the gap to grow even wider in areas like output and GDP. The success of the different powers in utilizing economic resources such as those mentioned above was related directly to three independent variables: "their level of economic development, their proximity to the front line, and the duration of their engagement" (p. 14). In general, however, richer countries were more successful in mobilizing their resources than poor ones.

Beyond these general attempts to analyze the outcome of the war in terms of the powers' relative economic strengths and weaknesses, the introductory chapter also tries to account for the costs of the war as a way of measuring its negative economic effects. Beginning the analysis with a summary of the direct and indirect costs of the war first given in E.L. Bogart's study for the Carnegie Series on the Economic and Social History of the War,[2] the authors employ what they call a "national balance sheet" approach to measure the war's costs. They undertake this measurement in terms of "human capital" losses (defined somewhat awkwardly as "the cost of rearing and training a worker") and "physical capital" losses (destroyed assets and property, along with the reparations bill charged to Germany after the war) (p. 24). The upshot of all these losses--for example, research and development gains that could be counted positively in the account books--"were difficult to discern at all in the British case," and of even less likely significance for the other countries involved in the war (p. 29). Thus, the negative effects tallied in the authors' national balance sheet approach in human and physical capital losses greatly outweighed any positive gains; and the general situation was only further exacerbated by the onset of nationalist economic policies after the war, which also helped to slow the growth of GDP in Europe from 1913 to 1950.

A brief survey of the chapters on the major powers demonstrates the authors' attempts to elaborate on these trends in each of the national contexts mentioned above. Albrecht Ritschl, for instance, sketches Germany's wartime economic experience in broad outlines, treating many of the more salient themes in the historiography: wartime finance, inflation, redistribution of wealth toward capital and big industry and how the war encouraged the *Drang nach Osten*. He shows, to begin with, that by all accounts national income was generally on the wane, while simultaneously war expenditure as a percentage of GNP rose from about 3 percent in 1913 to over 50 percent by 1917. Nevertheless, claims about redistribution of income toward capital posited by earlier research need revision. In Ritschl's view, "a redistribution of incomes took place, not so much between labour and capital but rather between capital across different industries" (p. 72). He likewise questions the relationship between wartime finance and inflation, arguing that there is little connection between public borrowing and inflation.[3] Instead, the war gained its importance by encouraging German imperialism in eastern Europe. The British blockade pushed Germany's military leadership to look for *Lebensraum* in the east; the peace relied on economic rather than military pressure and thus allowed enough breathing space so that Hitler was eventually able to make his bid for territory through another war.

For Germany's allies--Austria-Hungary and the Ottoman Empire--the economics of the war show more clearly the correlation between economic power and military performance asserted by the introduction. In Austria-Hungary's case, the divergence of economic power between the Allies and the Central Powers seems very clear. Max-Stephen Schulze, the author of this chapter, portrays the Habsburg Empire as facing a crisis of falling output, which meant that wartime expenditure as a percentage of GDP fell consistently from about 30 percent in the first year of the war to about 17 percent by war's end (p. 97). The Allied blockade, the dualistic political system and the relative weakness of the domestic capital market, moreover, only encouraged these developments. All told, "widespread food scarcity and [the] resultant physical exhaustion of both the civilian population and the armed forces was a key factor in bringing about the collapse of the Habsburg Empire" (p. 107).

The chapter on the Ottoman Empire supports even more dramatically the authors' claim that military performance was linked to economic development and power. The author of this chpater, Sevket Pamuk, asserts that the essentially agrarian economy and the comparatively low real GDP "hold the key to understanding the capacity and performance of the Ottoman military during World War I" (p. 112). In 1914 the Ottomans were still trying to recover from the Balkan Wars and had to deal with a legacy of late-nineteenth-century public debt that funded military expenditure before 1914. This inherent weakness, along with the agrarian mode of the economy, caused great disruption to trade and output during the war, as, for example, wheat production fell to about 62 percent of the total production just on its eve (p. 120). Moreover, expenditure rapidly outpaced revenue over the course of the war, causing the annual deficit to grow from 5.9 liras in 1913/14 to 88.5 liras in 1918/19 (p. 127). Besides affecting Ottoman performance in the war, the major legacy of these dislocations was a turn toward economic nationalism and protectionism after the war in the successor state of Turkey.

Russia is the one major Allied power that fails to conform to the general pattern laid out in the introduction. From the beginning of his chapter, Peter Gatrell emphasizes the relative economic strength of Russia on paper, as a state that commanded a large amount of territory, manpower and food supplies. The irony is that the war showed "that size mattered only if resources could be mobilised effectively" (p. 236). Part of Russia's economic ineffectiveness developed directly out of wartime losses of territory in Poland, Galicia and the Ukraine. This problem was exacerbated by a general decline in national income that may have set in as early as 1914 but certainly escalated after 1916, heavily related to the slowing of Russia's export industry and the onset of a trade deficit. Russian agriculture especially hampered the economy, not so much because production declined below subsistence levels, but rather because peasants withheld grain from the market for their own consumption, which brought about urban food shortages. Because of a subsequent decline in revenue, in order to finance the war, the government had to operate on a budget deficit--but one that was "roughly comparable" to British and German deficits (p. 246). The collapse of the Russian war effort over the course of 1917 and 1918 can therefore be seen as a general "mishandling" of the war economy, as well as a result of the problem that the "population was collectively disengaged from the war effort" (p. 262).

In contrast to the Russian case, chapters on the other Allied powers show their relative success economically by way of comparison to Germany's allies and Russia. Pierre-Cyrille Hautcoeur's examination of the French war economy shows convincingly the great economic shock caused by the outbreak of the war. Suddenly France had to deal with the loss of income and production from the occupied regions of the northeast, labor shortages from mobilization, government financial demands on the capital market and dislocation to trade caused by the closing of enemy markets and the increase in trade with the United States and Britain. The government survived these shocks because of public confidence and the inherent strength of the capital market. As for the larger question of productivity, the "effects of the various disruptions mentioned may have compensated each other, but the most likely explanation is that a flexible economy was able to adapt rapidly to these shocks, with little impact on overall labour productivity" (p. 197). In spite of significant government intervention in the economy, market mechanisms continued to operate efficiently enough that France was able to absorb the considerable shocks associated with the onset of war.

In the chapter on Britain, Broadberry and Peter Howlett likewise focus on aspects of the British economy that allowed the Allies a greater economic advantage vis-á-vis the Central Powers. They show that the spending of the government as a percentage of GDP rose from 8.1 percent in 1913 to its peak of 38.7 percent in 1917 during the war (pp. 210-211). Increased government spending led to massive effort to preserve agricultural and armament production financed mainly by borrowing and increasing the monetary supply. In spite of this, the authors assert, "state intervention in and management of the economy was relatively ad hoc in approach until 1917 and tended to be reactive rather than proactive" (p. 222). The strength, maturity and adaptable nature of the market economy helped compensate for this slow response on the government's part. Nonetheless, the war weighed heavily on Britain's international economic position in the long term, which can be seen from Broadberry and Howlett's national balance sheet analysis of the costs of the war for Britain.

The experience of World War I on the other side of the Atlantic Ocean was somewhat different than the experiences of the other powers. Hugh Rockoff details the differences and the similarities in his intriguing chapter on the American economy. His treatment begins with a description of the wartime economic boom, which he compares to other similar boom periods in American history (in the Civil War, 1861-65 and in the age of the California gold rush, 1848-53), pointing out that growth was most closely associated with the period of neutrality up to 1917. When the United States finally entered the war, its activities were financed primarily through taxation (22 percent), borrowing (58 percent) and money creation (20 percent). As in many other countries, government also became more directly involved in regulating the economy and controlling the war effort, primarily through the work of the War Industries Board and other similar organizations. Taken together, these developments occasioned the major economic results of the war for the United States: a large financial cost--52.2 percent of GNP (versus 175.4 percent for World War II and 14.8 percent for the Korean War) (p. 334); the emergence of New York as the major world center of investment; and the development of a model for greater government regulation of the economy that Franklin Roosevelt later utilized during the Great Depression.

The study is thus noteworthy in that it has a larger degree of inner consistency among the various chapters than most edited books usually do, and the chapters work in a general sense to advance the two major arguments set out in the introduction. Nevertheless, the book could have been improved by a greater degree of comparison within the national case studies themselves. The introduction helps a great deal to fill in this gap, but the reader is sometimes left feeling that a clearer picture would have emerged on certain subjects (wartime inflation, for instance), if the authors would have utilized each other's findings in the writing of the individual chapters. These concerns, however, do not detract much from the overall effectiveness of the book.

When one turns back to the larger arguments made by the book, however, things become a bit more problematic. Overall, the argument about the costs of the war stands largely on solid ground (assuming one rates essentially positive gains, such as scientific and technological innovations, as relatively minor in comparison to the human and physical costs of the war). Nevertheless, this argument is by no means new. It has been around in one form or another since before the war began, when the neoclassical economic tradition (and specific thinkers like Norman Angell) asserted that modern war was an essentially destructive endeavor. And it can be seen in more recent works like Paul Kennedy's *Rise and Fall of the Great Powers* (1987), which plots the long-term effects of military expenditure on the international status of the great powers.

The other half of the book's larger argument is somewhat less easy to accept. It is, of course, quite obvious that economics substantially influence the performance of states in modern wars. But that is quite far from the claim that the authors make that "[u]ltimately, economics determined the outcome" of the war (p. 5). Such economic determinism leaves little room for non-economic factors like morale, which certainly played a major part in this, as in any, conflict. John Keegan, for example, has recently shown that the experience of the war created an upper psychological threshold beyond which military (and in some sense even civilian) morale would not support further offensive operations. According to Keegan, nearly all the major combatants reached this threshold--defined roughly as 100 percent casualties--by the end of the war: France in the midst of the army mutiny of 1917; Russia after the Kerensky offensive of 1917; Italy during the retreat from Caporetto in the fall of 1917; and Britain in March 1918 with the first of the German spring offensives.[4] One could add Germany to that list by the end of the summer of 1918 and thereby explain the war's end as a collapse of fighting morale and discipline. By the fall of 1918, only American forces were fresh enough to conduct offensives, while the German army was on the verge of total disintegration. Furthermore, if the war were primarily economically determined, what accounts for the continuation of fighting in Russia for another two years following 1918, when war communism, by most accounts, led to economic disaster? The answer relates directly back to the question of discipline and morale, as Trotsky's military policies--and especially the commissar system--allowed the communists to continue fighting despite a general economic collapse. What seems amazing, then, is how states like Germany or Russia could go on fighting for so long when the economics of the war seemed to run so counter to victory.

Nevertheless, it is as a synthesis of the major economic statistics of the various powers of the war that the study is most valuable for understanding World War I. The amount of information about the economies of the states examined, for instance, is staggering and oftentimes fascinating. In addition, the book contains nearly 150 figures and tables that relate useful data, covering a wide range of subjects: GDP; battle and non-battle deaths; labor statistics; inflation; industrial and agricultural production--and a whole host of other interesting and important economic statistics. The majority of these tables are useful to the historian both for the information they convey relating to the economic side of the war and (albeit less frequently) for European history in general over the course of the twentieth century. Such subjects are often overlooked by historians--to the detriment of our larger understanding of the First World War. In the end, it is these aspects of the book that make it worth reading, for they show exactly how modern war is as an economic endeavor.

Notes

[1]. Mark Harrison, ed., *The Economics of World War II: Six Great Powers in International Comparison* (Cambridge: Cambridge University Press, 1998).

[2]. E. L. Bogart, *Direct and Indirect Costs of the Great World War* (New York: Oxford University Press, 1920).

[3]. Unfortunately, Ritschl offers no counter-explanation for the inflation and wholly neglects to address Gerald Feldman's magisterial work on the subject, *The Great Disorder: Politics, Economics, and Society in the German Inflation 1914-1924* (New York: Oxford University Press, 1997).

[4]. John Keegan, *The First World War* (New York: Alfred A. Knopf, 1999), pp. 331, 338, 348-350 and 401.

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