"War and Economic History"
by Prof. Joshua S. Goldstein

In *The Oxford Encyclopedia of Economic History*, ed. Joel Mokyr (New York: Oxford University Press, 2003)

[Related link: Joshua Goldstein's new book, *The Real Price of War*]

THE OXFORD ENCYCLOPEDIA

OF

ECONOMIC HISTORY

Joel Mokyr

Editor in Chief

VOLUME 5

Spices and Spice Trade

Zoos and Other Animal Parks
Index

OXFORD
UNIVERSITY PRESS
2003

WAR AND ECONOMIC HISTORY. War has influenced economic history profoundly across time and space. Winners of wars have shaped economic institutions and trade patterns. Wars have influenced technological developments. Above all, recurring war has drained wealth, disrupted markets, and depressed economic growth.

Economic Effects of War. Wars are expensive (in money and other resources), destructive (of capital and human capital), and disruptive (of trade, resource availability, labor management). Large wars constitute severe shocks to the economies of participating countries. Notwithstanding some positive aspects of short-term stimulation and long-term destruction and rebuilding, war generally impedes economic development and undermines prosperity. Several specific economic effects of war recur across historical eras and locales.

Inflation. The most consistent short-term economic effect of war is to push up prices, and consequently to reduce living standards. This war-induced inflation was described in ancient China by the strategist Sun Tzu: "Where the army is, prices are high; when prices rise the wealth of the people is exhausted (Tzu Ssu, c. 400 BCE)." His advice was to keep wars short and have the money in hand before assembling an army.

Paying for wars is a central problem for states. This was especially true in early modem Europe (fifteenth to eighteenth centuries), when war relied heavily on mercenary forces. The king of Spain was advised that waging war required three things: money, money, and more money. Spain and Portugal imported silver and gold from America to pay for armies, but in such large quantities that the value of these metals eventually eroded.

One way governments pay for war is to raise taxes (which in turn reduces civilian spending and investment). U.S. revolutionary Thomas Paine warned in 1787 that "war ... has but one thing certain, and that is to increase taxes." Another way to pay for war is to borrow money, which increases government debt, but war-related debts can drive states into bankruptcy as they did to Spain in 1557 and 1596..A third way to fund war is to print more currency, which fuels inflation. Inflation thus often acts as an indirect tax on a national economy to finance war.

Industrial warfare, and especially the two World Wars, created inflationary pressures across large economies. Increasingly, governments mobilized entire societies for war--conscripting labor, bidding up prices in markets for natural resources and industrial goods, and diverting capital and technology from civilian to military applications. World War I caused ruinous inflation as participants broke from the gold standard and issued currency freely. Inflation also accompanied the U.S. Civil War, World War II, and the Vietnam War, among others. War-induced inflation, although strongest in war zones, extends to distant belligerents, such as the United States in the World Wars, and, in major wars, even to neutral countries, owing to trade disruption and scarcities.

Present-day wars continue to fuel inflation and drive currencies toward worthlessness. In Angola's civil war (1975-2002), for example, the government currency became so useless that an alternative "hard" currency—bottles of beer—came to replace it in many daily transactions.

Capital depletion. In addition to draining money and resources from participants' economies, most wars create zones of intense destruction of such capital as farms, factories, and cities. These effects severely depress economic output. The famine and plague that accompanied the Thirty Years' War (1618-1648) killed as much as one-third of Germany's population, as mercenaries plundered civilians and civilians became mercenaries to try to survive. World War I reduced French production by nearly half, starved hundreds of thousands of Germans to death, and led to more than a decade of lower Soviet output. One estimate put World War I's total cost at $400 billion—five times the value of everything in France and Belgium at the time.

Battle casualties, war-induced epidemics, and other demographic disruptions have far-reaching effects. World War I contributed to the *1918* influenza epidemic that killed millions. Military forces in East Africa may have sparked the outbreak of what became a global AIDS epidemic. Quincy Wright estimates that "at least 10 percent of deaths in modern civilization can be attributed directly or indirectly to war (Wright, *1942).* The U.S. "baby boom" after World War II continues decades later to shape economic policy debates ranging from school budgets to social security. Wars also temporarily shake up gender relations (among other demographic variables), as when men leave home and women take war jobs to replenish the labor force, as in the Soviet Union, Great Britain, and the United States during World War II.

Countries that can fight wars beyond their borders avoid the most costly destruction (though not the other costs of war). For example, the Dutch toward the end of the Thirty Years' War, the British during the Napoleonic Wars, the Japanese in World War I, and the Americans in both World Wars enjoyed this relative insulation from war's destruction, which meanwhile weakened their economic rivals.

Positive economic effects. War is not without economic benefits, however. These are not limited to having misfortune strike trade rivals. At certain historical times and places, war can stimulate a national economy in the short term. During slack economic times, such as the Great Depression of the 1930s, military spending and war mobilization can increase capacity utilization, reduce unemployment (through conscription), and generally induce patriotic citizens to work harder for less compensation.

War also sometimes clears away outdated infrastructure and allows economy-wide rebuilding, generating long-term benefits (albeit at short-term costs). For example, after being set back by the two World Wars, French production grew faster after 1950 than before 1914.

Technological development often follows military necessity in wartime. Governments can coordinate research and development to produce technologies for war that also sometimes find civilian uses, such as radar in World War II. The layouts of European railroad networks were strongly influenced by strategic military considerations, especially after Germany used railroads effectively to overwhelm French forces from 1870 to 1871. In the 1990s, the global positioning system (GPS) navigation system, created for U.S. military use, found wide commercial use. Although these war related innovations had positive economic effects, it is unclear whether the same money spent in civilian sectors might have produced even greater innovation.

Overall, the high costs of war outweigh the positive spinoffs. Indeed, a central dilemma for states is that waging wars--or just preparing for them—undermines prosperity, yet losing wars in worse. Winning wars, however, can sometimes pay.

Conquest, Trade, and Accumulation. Nearly all wars are fought over control of territory, and sometimes over specific economic resources, such as minerals, farmland, or cities. The patterns of 'victory and defeat in wars through history have shaped the direction of the world economy and its institutions. For example, when Portugal in the sixteenth century used ship-borne cannons to open sea routes to Asia and wrested the pepper trade away from Venice, which depended on land routes through the Middle East, it set in motion a profound shift in Europe's economic center of gravity away from the Mediterranean and toward the Atlantic.

Wars of conquest can more than pay for themselves, if successful. The nomadic horse-raiders of the Iron Age Eurasian steppes found profit in plunder. Similarly, the seventeenth-to-eighteenth-century Dahomey Kingdom (present-day Benin) made war on its neighbors to capture slaves, whom it sold to Europeans at port for guns to continue its wars. War benefited the Dahomey Kingdom at the expense of its depopulated neighbors. Likewise, present-day armies in the Democratic Republic of the Congo and Sierra Leone are fighting to control diamond production areas, which in turn fund those armies. According to one controversial school of thought, states in undertaking wars behave as rational actors maximizing their net benefits. However, wars are fought for many reasons beyond conquering valuable commodities.

Successful empires have used war to centralize control of an economic zone, often pushing that zone in directions most useful to continued military strength. Transportation and information infrastructures reflect the central authority's political control. When European states conquered overseas colonies militarily (in the sixteenth to nineteenth centuries), they developed those colonies economically to benefit the mother country. For example, most railroads in southwestern Africa were built—and still run—from mining and plantation areas to ports. Empires, however, inherently suffer the problems of centralized economies, such as inefficiency, low morale, and stagnation. Some scholars argue that empires also overstretch their resources by fighting expensive wars far from home, contributing to their own demise.

In recent centuries, the largest great-power wars have been won by ocean-going, trading nations whose economic style differs sharply from that of land-based empires. Rather than administer conquered territories, these "hegemons" allow nations to control their own economies and to trade fairly freely with each other. This free trade ultimately benefited hegemons as advanced producers who sought worldwide export markets. The Netherlands after the Thirty Years' War (1648), Great Britain after the Napoleonic Wars (1815), and the United States after the World Wars (1945) each enjoyed predominance in world trade. By virtue of superior naval military power, each of these great powers shaped (and to some extent enforced) the rules and norms for the international economy. For example, the international financial institutions of the Bretton Woods system grew out of U.S. predominance after World War II. As nations recover in the decades following a great war, however, their power tends to equalize, so a hegemon's raw power gradually matters less, and international economic institutions tend to become more independent—surviving because they offer mutual benefits and help resolve collective goods dilemmas. For example, the United States today, despite its military predominance, does not unilaterally control the World Trade Organization.

Naval power has been used historically to win specific trading and extraction rights, in addition to its broader uses in establishing global economic orders. When asked the reasons for declaring war on the Dutch, a seventeenth-century English general replied, "What matters this or that reason? What we want is more of the trade the Dutch now have." U.S. warships in the nineteenth century forced open Japan's closed economy. And in the mid-1990s, both Canada and Russia used warships to drive away foreign fishing boats from areas of the high seas that shared fish

WARTIME FRANCE. Women harnessed to plow, Oise, 1917. (Prints and Photographs Division, Library of Congress)

populations with Canadian and Russian exclusive economic zones as defined under the UN Convention on the Law of the Sea. In the last decades of the twentieth century, disputes over control of small islands, which now convey fishing and mining rights up to two hundred miles in all directions, have led to military hostilities in the South China Sea and the Falklands/Malvinas, among other places.

Military power has provided the basis for extracting tolls and tariffs on trade, in addition to its more direct role in conquest of resources and trade routes. Danish cannons overlooking the Baltic Sound for centuries gave the Danes a stream of income from tolls on the Baltic trade. Riverborne trade in Europe faced similar choke points where strategic military fortifications allowed tolls to be charged. The military' defeat of the Ottoman Empire, by contrast, cost Turkey the ability to control or tax traffic from the Black Sea to the Mediterranean, which today includes a large and growing number of oil tankers.

War and the World Economy. Just as wars' costs and outcomes affect economic conditions and evolution, so too do economic conditions and evolution affect war. Casuality runs in both directions. For example, Dutch economic strengths in the early seventeenth century allowed rapid and cheap production of ships, including warships. The resulting naval military advantage in turn supported Dutch long-distance trade. The wealth derived from that trade, in turn, let the Netherlands pay and train a professional standing army, which successfully sheltered the Netherlands from the ruinous Thirty Years' War. This protection in turn let the Dutch expand their share of world trade at the expense of war-scarred rivals. Thus the evolution of warfare and of world economic history are intertwined.

War is the proximal cause of the recurring inflationary spikes that demarcate fifty-year "Kondratieff waves" in the world economy. Those waves themselves continue to be controversial. However, they may have some predictive value to the extent that they clarify the historical relationships between war and military spending on the one hand, and inflation and economic growth on the other. The 1990s mainly followed a predicted long-wave phase of sustained low inflation, renewed growth, and reduced great-power military conflict. If this pattern were to continue, the coming decade would see continued strong growth but new upward pressures on military spending and conflict, eventually leading to a new bout of inflation in the great-power economies. Since scholars do not agree on the mechanism or even the existence of long economic waves, however, such projections are of more academic than practical interest.

The relationship between military spending and economic growth has also generated controversy. Despite its pump-priming potential in specific circumstances, as during the 1930s, military spending generally acts to slow economic growth, since it diverts capital and labor from more productive investment, such as in roads, schools, or basic research. During the Cold War, high military spending contributed (among other causes) to the economic stagnation of the Soviet Union and the collapse of North Korea, whereas low military spending relative to GDP contributed to Japan's growth and innovation. During the 1990s, as real military spending worldwide fell by about one-third, the United States and others reaped a "peace dividend" in sustained expansion. However, effects of military spending are long term, and sharp reductions do not bring quick relief, as Russia's experience since 1991 demonstrates.

The global north-south divide—a stark feature of the world economy—is exacerbated by war. The dozens of wars currently in progress worldwide form an arc from the Andes through Africa to the Middle East and Caucasus, to South and Southeast Asia. In some of the world's poorest countries, such as Sudan and Afghanistan, endemic warfare impedes economic development and produces grinding poverty, which in turn intensifies conflicts and fuels warfare.

The role of war in the world economy is complex, yet pervasive. The shadow of war lies across economic history, influencing its pace and direction, and war continues to both shape economic developments and respond to them.

[See also War Finance.]

BIBLIOGRAPHY

Brandes, Stuart *D. Warhogs: A History of War Profits in America.* Lexington, Ky., 1997. A history of profiteering by Americans in wartime, through World War II.

Braudel, Fernand. *Civilization and Capitalism, 15th-18th Century, vol. 3, The Perspective of the World.* Translated from the French by Sian Reynolds. New York, 1984. Detailed macrohistory of the evolution of the Eurocentric and war-prone world system.

Cipolla, Carlo M. *Guns, Sails, and Empires.* New York, 1965. Describes the European conquest of the rest of the world.

Cranna, Michael, et al., eds. *The True Cost of Conflict.* New York, 1994. Descriptions of the economic, social, and environmental consequences of seven armed conflicts—the Gulf War, East Timor, Mozambique, Sudan, Peru, Kashmir, and former Yugoslavia—based on a study by six humanitarian organizations.

Gilpin, Robert. *War and Change in World Politics.* Cambridge, 1981. A political scientist's theoretical and historical account of how power and economics interplay in the rise and fall of great powers.

Goldstein, Joshua *S. Long Cycles: Prosperity and War in the Modern Age.* New Haven, Conn., 1988. A comprehensive review of the literatures on Kondratieff cycles and hegemony, with historical interpretations and empirical analysis of economic time-series.

Hamilton, Earl J. War *and Prices in Spain, 1651-1800.* Cambridge, Mass., 1947. An extended analysis of inflationary effects of war in one location and period.

Howard, Michael. *War in European History. Oxford,* 1976. A short, readable overview of war's evolution with attention to economic aspects.

Kennedy, Paul. *The Rise and Fall of the Great Powers: Economic Change and Military Conflict from 1500 to 2000.* New York, 1987. A historian uses several key cases to argue that great powers overstretch themselves militarily and thereby economically undermine their own success.

Keynes, John Maynard. *The Economic Consequences of the Peace.* New York, 1920. Discusses the negative economic impacts of the Versailles Treaty and World War I on Germany.

Koistinen, Paul A. C. *Beating Plowshares into Swords: The Political Economy of American Warfare, 1606-1865.* Lawrence, Kans., 1996. First of a five-volume series detailing the economic underpinnings of U.S. military might. *Mobilizing for Modern War* covers 1865-1919; *Planning War, Pursuing Peace* covers 1920-1939.

Rabb, Theodore K., ed. *The Thirty Years' War.* New York, 1981. Collection of essays that enumerates the economic catastrophe of 1618-1648, notably in Rabb's own chapter on economic effects of the war.

Rasler, Karen A., and William R. Thompson. *The Great Powers and Global Struggle, 1490-1990.* Lexington, Ky., 1994. Develops theoretical and empirical arguments about the economic ascent and decline of great powers and hegemons, especially through global wars.

Seligman, Edwin R. A. "The Cost of the War and How It Was Met." *American Economic Review 9* (1919), 739-770. An interesting review of the unprecedented expenses incurred by World War I, written in its aftermath.

Silberner, Edmund. *La guerre dans la pensee economique du XVIe au XVIIIe siecle.* Paris, 1939.

Silberner, Edmund. *The Problem of War in Nineteenth Century Economic Thought.* Princeton, 1946. Survey of economists' efforts to tackle the economic effects and causes of war.

Tilly, Charles, ed. *The Formation of National States in Western Europe.* Princeton, 1975. Sociologists discuss the connections of war making, taxation, and state formation in early modern Europe.

Tracy, James D., ed. *The Political Economy of Merchant Empires: State Power and World Trade, 1350-1750.* New York, 1991. Traces the importance of trade-based wealth in the emergence of the modem state system.

Wright, Quincy. A *Study of War.* Chicago, 1942.

JOSHUA S. GOLDSTEIN