

# Economic warfare and the battlefield on the Eastern front, 1941-1945

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## *Abstract*

The narrative of World War II's Eastern front may be told as a sequence of great battles. The background process, however, was attrition, and central to attrition was economic warfare, which seldom features in accounts of the strategy of either side in the East. What happened in the great battles of the Eastern front cannot be fully understood without the context of economic warfare on each side. German anticipations of Allied economic warfare help to explain what battles would be fought in the East. With the war under way, Allied successes and German failures in economic warfare help to explain who would win the battles.

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Keywords: blockade, economic warfare, inter-Ally aid, strategy, war of attrition, World War I, World War II.

JEL Codes: H56, N44

Acknowledgements: This paper is a draft chapter for a Festschrift in honour of Hein Klemann, in preparation. It is based on two presentations, one to a meeting of the King's College London/Defence Academy UK Economic Warfare Research Group at the Victory Club, London, on 1 December 2022; and the second to a conference on 'Economic Aspects of the War in Ukraine 2022-2024', held at Wolfson College, Oxford, on 14 and 15 December 2023. I thank Greg Kennedy and Christopher Davis for the respective invitations and all the participants for comments.

### *About the author*

Mark Harrison is an Emeritus Professor of Economics at the University of Warwick, a Fellow of the British Academy and of the Academy of Social Sciences, and a research fellow of the Centre for Economic Policy Research. He has researched and written widely on the economic history of Russia, the two world wars, the Cold War, and defence and security. His most recent book is *Secret Leviathan: Secrecy and State Capacity under Soviet Communism* (Stanford University Press, 2023).

### *About Hein Klemann*

I met Hein at conferences organized by the German Historical Institute in Moscow in 2010 and 2011, and again in Rotterdam in 2012 to mark the publication of Hein's pioneering book (with Sergey Kudryashov), *Occupied Economies*. In 2019 Hein contributed a chapter on the economics of German occupation to *The Economics of the Second World War: 75 Years On*, a CEPR ebook that I edited with Stephen Broadberry. I admire Hein for his scholarly insights and contributions, which are matched by his modesty and gentle good humour. He has been a true colleague.

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The story of the Eastern front can be told as a sequence of great battles: Moscow and Leningrad in 1941, Stalingrad in 1942, Kursk in 1943, Stalin's 'ten blows' of 1944, and Berlin in 1945.<sup>1</sup> In this telling, economic warfare hardly rates a mention. First-rate histories of the war generally, and of the Eastern front in particular, can be indexed without an entry for 'economic warfare'.<sup>2</sup> As discussed below, neither Hitler nor Stalin saw much role for economic warfare in the East.

What happened in the battles of the Eastern front cannot be fully understood, however, without the context of economic warfare. Economic warfare mattered *ex ante* and *ex post*. Expectations of economic warfare helped decide that there would be an Eastern front. Then, once the war moved East, the realities of economic warfare helped decide who would win the battles.

## Little scope for economic warfare in the East?

What is economic warfare? If warfare is destruction of the adversary's fighting power and will to resist while preserving one's own, then economic warfare must be the same by other means. As stated in the terms of reference given to the British Ministry of Economic Warfare in 1939: 'Economic warfare is a military operation . . . its object is the defeat of the enemy . . . its function is to deprive the enemy of the material means of resistance'.<sup>3</sup> Helpfully, the same terms of reference also suggest what economic warfare is not. It 'must be distinguished from coercive measures appropriate for adoption in peace to settle international differences without recourse to war, e.g. sanctions . . . Unlike such measures, it has as its ultimate sanction the use of belligerent rights'.

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<sup>1</sup> John Barber and Mark Harrison, *The Soviet Home Front, 1941-1945: a Social and Economic History of the USSR in World War II* (London: Longman, 1991), pp. 26-39.

<sup>2</sup> The war in general: Gerhard L. Weinberg, *A World at Arms: A Global History of World War II* (Cambridge: Cambridge University Press, 1994). The Eastern front in particular: Evan Mawdsley, *Thunder in the East: the Nazi-Soviet War, 1941-1945* (London: Hodder Education, 2007).

<sup>3</sup> Quoted by W. N. Medlicott, *The Economic Blockade* (History of the Second World War: United Kingdom Civil Series), vol. 1 (London: HMSO, 1952), p. 7.

As for how economic warfare was waged at the time, there were two main instruments, blockade by sea and attack from the air. For use on land a third instrument, often neglected, was subversion or sabotage.

Neither Hitler nor Stalin expected economic warfare to play much of a role in the East. When Hitler launched Barbarossa, the German invasion of the Soviet Union, in June 1941, he was fresh from the failure of the air attack against Great Britain. The Luftwaffe had bombed British war industries, towns, and ports for nearly a year. The bombing offensive was not without effect. It had forced Britain to build air defences and divert air power from other theatres, especially North Africa and the Mediterranean. The campaign was deliberately maintained into the summer of 1941 to help deceive Stalin as to Germany's next move and secure strategic surprise for the attack on Russia. But the effect of bombing on Britain's war economy was, to Hitler, imperceptible.<sup>4</sup>

Barbarossa was designed without an independent role for air power. Germany's air campaign aimed to destroy the Soviet air force and its forward bases, not to destroy the Soviet war economy. The land campaign aimed to overrun the western centres of Soviet war production before they could be mobilized. The southern thrust was to seize Ukraine's wheatfields as the harvest of victory, not as a means of victory. As German hopes of immediate success were disappointed and the war dragged out, there was no change to this basic orientation. Throughout the war the German air force made no attempts at strategic bombing of the Soviet rear.

To the extent that economic warfare acquired a significant role it was at sea, where the German navy was soon deploying warships and submarines to block British aid shipments via the sea routes to Russia's Arctic ports, Murmansk and Archangel. But this was entirely unplanned; the Red Army had been expected to collapse long before Allied assistance could make any contribution to the Soviet war effort.

On the Soviet side, the plan for war was one of defence of the frontier followed by an immediate counteroffensive to carry the war onto the enemy's territory. But Stalin had no plan to attack the German economy. At sea, the Red Navy was not in a position to blockade anyone. In the air, Soviet air power was limited to tactical support g-for the ground forces—even though the Soviet aircraft industry had developed a four-engine bomber, the TB-3, as early as 1936, and in August and September 1941 the Soviet air force assembled enough bombers for a few demonstrative raids on Berlin; in May 1942 a TB-7 flew Molotov to England and back, high above the airspace of occupied Europe.

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<sup>4</sup> Richard Overy, *The Bombing War: Europe, 1939-1945* (London: Penguin, 2014), pp. 123-125.

## **Economic warfare ex ante and ex post**

### *Expectations*

Germany's turn to the East in 1941 was framed by expectations of economic warfare. Blockade had been Britain's way of war at sea from Napoleonic times. In World War I, Germans struggled under the Allied naval blockade, which continued beyond the war's end through to the Treaty of Versailles. After defeat, German thinking was dominated by the need to avoid a repetition.

In the 1920s, Hitler set the aim of a colonial empire for Germany in Eastern Europe, ethnically cleansed and economically self-sufficient. But, if Germany succeeded in breaking the European order, Hitler anticipated renewed blockade by the conservative powers.

In power in the 1930s, the Nazis prepared the German economy for war under blockade. The Four-Year Plan aimed for self-sufficiency in key war materials: high-grade steel, synthetic oil, and synthetic rubber.<sup>5</sup> The problem of dependence on food imports remained. This weakness troubled German leaders as war approached. Hitler remarked in 1939: 'I need the Ukraine, so that no one is able to starve us again, like in the last war'.<sup>6</sup>

In the same year, however, Germany's war spilled over to the West. During 1940, Germany came into possession of much of Western and Northwestern Europe. On the territory under Germany control by this time, 25 million lived on imported food. Again, Germany was under Allied blockade. Attacking the Soviet Union in 1941 appeared to present Hitler with both the realization of a fundamental goal and the immediate solution to the problem of food. The Hunger Plan to starve out 30 million Slavs would release Ukraine's food for Germany.<sup>7</sup> The expected Allied blockade could be pre-empted by conquest.

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<sup>5</sup> Richard Overy, *War and Economy in the Third Reich* (Oxford: Clarendon Press, 1994), pp. 144-174, 177-204; Anand Toprani, *Oil and the Great Powers: Britain and Germany, 1914 to 1945* (Oxford: Oxford University Press, 2019), pp. 169-230.

<sup>6</sup> Lizzie Collingham, *The Taste of War: World War Two and the Battle for Food* (London: Allen Lane, 2011), p. 37.

<sup>7</sup> Alexander Dallin, *German Rule in Russia, 1941-1945: A Study of Occupation Policies* (London: Macmillan, 2/e, 1981), p. 311; Alex J. Kay, *Exploitation, Resettlement, Mass Murder: Political and Economic Planning for German Occupation Policy in the Soviet Union, 1940-1941* (New York: Berghahn Books, 2006), pp. 133-139.

Thus the 'blockade phobia' of the time decisively influenced the decisions behind the opening of the Eastern front.<sup>8</sup>

In this way, expectations of economic warfare decided where the next battles would be fought. It remained to be decided who would win them.

### *Realities*

The war, once begun, evolved in ways that Germany did not anticipate. At around the same time that Hitler decided that air power was ineffective against an industrial economy, the Allies decided that the obstacle had been lack of scale and intensity. The Anglo-American combined air offensive against the German war economy unfolded on a scale that eventually exceeded the earlier German efforts against Britain by orders of magnitude.<sup>9</sup>

While the economic effects of Allied bombing of Germany were slow to materialize, the military effects were immediate. The air offensive from the West diverted German resources from the East to defence of the homeland. Germany's aircraft industry was turned from making more bombers to more fighters: the share of fighters in new aircraft, which had been one quarter in 1939 and 1940, rose to one half in 1941 to 1945.<sup>10</sup> At the same time, Germany moved its air forces from East to West: from 1942 there were more fighters in the West and over Germany than in the East, and, from September 1943, more planes of all types.<sup>11</sup> The burden of air defence also diverted the efforts of the armament industry: by 1944, the volume of anti-air armament in production equalled that of all armaments produced in 1941. The Allied bombing offensive did have other important effects but not until late in 1944.<sup>12</sup>

Thus, economic warfare in the West explains why the Soviet Union did not face a large-scale bomber offensive and why the Red Army did not face an air-dominant army on the Eastern front.

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<sup>8</sup> Medlicott, *Economic Blockade*, vol. 2 (London: HMSO, 1959), p. 646. For the phrase, see Nicholas Mulder, *The Economic Weapon: The Rise of Sanctions as a Tool of Modern War* (New Haven: Yale University Press, 2022), pp, 226-258

<sup>9</sup> Overy, *The Air War*, p. 120.

<sup>10</sup> US Strategic Bombing Survey, *The Effects of Strategic Bombing on the German War Economy* (Washington DC: Overall Economic Effects Division, 1945), p. 277.

<sup>11</sup> Phillips P. O'Brien, *How the War was Won: Air-Sea Power and Allied Victory in World War II* (Cambridge: Cambridge University Press, 2015), pp. 290-291.

<sup>12</sup> Mark Harrison, 'Economic Warfare: Lessons from Two World Wars' (CEPR Discussion Paper no. 18439, 2023).

Another unanticipated development was the failure of Germany's plans to feed itself at the expense of Eastern Europe.<sup>13</sup> Here subversion and sabotage, the neglected third element of economic warfare, came into play. Faced with deep invasion, Stalin announced a policy of evacuation, scorched earth, and resistance to occupation—echoing the Russian response to the French invasion of 1812. Scorched earth presented the occupying administrators with a devastated economy: 'The whole centralized system of trade and distribution is disrupted; supplies have been burnt, evacuated or looted; the administrative apparatus has been dissolved, withdrawn, or liquidated. Factories and enterprises have been destroyed in part or in their entirety, their machinery wrecked. Sources of power have been blown up, and their equipment scattered or hidden. Spare parts cannot be located or have wilfully been mixed up. All rosters of parts and machinery have been destroyed. Fuel and lubricants have been burned or looted. There is no electric power. Often the water supply is out of order'.<sup>14</sup> Thereafter, partisan resistance prevented economic recovery across large swathes of Ukraine, Belorussia, and central and western Russia.<sup>15</sup>

The loss or destruction of industrial facilities should not have concerned the occupiers, who planned to deindustrialize and deurbanize northern Russia while eliminating millions of 'excess' consumers. Of far greater significance for German plans was the failure to restore agricultural activity and the marketing of food products which were counted on to feed the German Army in the East.

While German warfare in the East was damaged by both Allied economic warfare from the West and Soviet subversion in the German rear, German economic warfare against the Western allies failed to stop them from aiding the Soviet Union. In the second half of 1941 the UK began to ship military-economic aid to the Soviet Union by the Arctic sea route to Murmansk and Archangel, while Germany tried to cut it off. With American entry into the war, in 1942 the flow became a flood. The Arctic seas provided the most direct access for aid to the Soviet war effort, but they were also relatively dangerous, and around one quarter of the Arctic convoy shipments was lost to German attacks.<sup>16</sup> Other routes were eventually opened via Iran and Alaska; these were safer but slower, and

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<sup>13</sup> Dallin, *German Rule in Russia*, 366-368; Hein Klemann and Sergey Kudryashov, *Occupied Economies: An Economic History of Nazi-Occupied Europe, 1939-1945* (London and New York: Berg, 2012), pp. 98-118.

<sup>14</sup> Dallin, *German Rule in Russia*, p. 376.

<sup>15</sup> Klemann and Kudryashov, *Occupied Economies*, pp. 66-67 and Plate 1, facing page 180.

<sup>16</sup> Mark Harrison, *Soviet Planning in Peace and War 1938-1945* (Cambridge: Cambridge University Press, 1985), p. 258.

time lost on route was an indirect success for the German naval blockade in the North Atlantic.

British aid to the Soviet Union through the war reached around £300 million, and US aid under the Lend-Lease programme more than \$10 billion. From the side of the recipient, measured at prewar prices, the combined total for 1942 reached 5 per cent of Soviet GDP and 10% in 1943 and 1944 (see Table 1 below).

Nicholas Mulder has traced the idea of military aid for the victims of aggression as a 'positive sanction' back to World War I.<sup>17</sup> In the present context, the economist might reasonably describe military aid as the reverse pair of economic warfare. When a country is targeted by economic warfare, it loses resources or access to them. The trade-offs faced by decision makers are worsened. Either its war effort is weakened or, if the decision is made to maintain and protect it, the war effort becomes less sustainable. This is because the sustainability of the war effort is based on the civilian economy, which must find substitutes for all losses or economize to make them good out of its own reserves.<sup>18</sup>

In the case of military aid, everything is the other way round. The aid recipient gains resources. Trade-offs are improved. Either the war effort is augmented or, if it is held to the existing level, the war effort is made more sustainable because civilian reserves can now be replaced.

### **The contribution of Allied aid**

What difference did Allied aid make to the Soviet war effort? While this question cannot be answered definitively without speculation, the guesswork required is not particularly deep. The best moment to look at is 1942.<sup>19</sup> In that year, everything was terrible and getting worse. At the front, the Soviet war effort was inadequate. The Red Army was being cut to pieces and was retreating, sometimes running away, putting a stop to the enemy advance only at the very end of the year. In the rear, the Soviet war effort was not sustainable. Civilians were freezing and starving. The

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<sup>17</sup> Mulder, *Economic Weapon*, p. 12.

<sup>18</sup> Canonical references are Mançur Olson, 'The Economics of Target Selection for the Combined Bomber Offensive,' *Royal United Services Institution Journal* 107, no. 628 (1962), pp. 308–14; Mançur Olson, *The Economics of the Wartime Shortage: A History of British Food Supplies in the Napoleonic War and in World Wars I and II* (Durham, NC: Duke University Press, 1963).

<sup>19</sup> On 1942, see also Mark Harrison, 'Why Didn't the Soviet Economy Collapse in 1942?' in Roger Chickering, Stig Förster, and Bernd Greiner, eds, *A World at Total War: Global Conflict and the Politics of Destruction, 1939-1945* (Cambridge: Cambridge University Press, 2005), pp. 137-156.



stocks of people and of capital were shrinking and losses were not being replaced. If ever a society teetered on the brink of an abyss, this was it.

To achieve the dismal results of 1942, the Soviet economy allocated inadequate resources—101.4 billion rubles' worth (measured at prewar prices) to the war effort, and 73.1 billion rubles to civilian outlays of all kinds—household consumption, government consumption, and gross investment (the latter was a negative sum at the time, meaning that the rundown of inventories and fixed capital exceeded new investment).

Civilian and military outlays together made up the total of resources available to the Soviet economy, 174.5 billion rubles. As already pointed out, this total was not enough. In the terms of a guns/butter trade-off, it provided not enough guns to hold the enemy off, and not enough butter to keep everyone alive. Yet 174.5 billion was also more than the Soviet economy was capable of producing unaided. In 1942, Soviet GDP was just 166.7 billion rubles. The gap was made up by 7.8 billion rubles' worth of commodities (mostly guns with a little butter) imported from the Allies.

*Table 1. Soviet GDP and total resources available, 1940-1944 (billion rubles and 1937 factor costs)*

	1940	1941	1942	1943	1944
GDP	253.9	218.7	166.7	185.4	220.3
Net imports	0.0	0.3	7.8	19.0	22.9
Total resources available	253.9	219.0	174.5	204.4	243.2
Of which					
Defence outlays	43.9	61.8	101.4	113.2	117.2
Civilian outlays	210.0	157.2	73.1	91.2	126.0

Source: Mark Harrison, *Accounting for War: Soviet Production, Employment, and the Defence Burden, 1940-1945* (Cambridge: Cambridge University Press, 1996), p. 110. Total resources available = GDP + net imports = defence outlays + civilian outlays (household consumption, government non-defence consumption, and gross investment). The territory covered changes from year to year with the boundaries of the space under Soviet government control at the time.

Given these facts, it is not hard to suggest what would have happened without Allied aid. With eight billion rubles less for defence, the Red Army would have retreated faster, perhaps not stopping on the Volga at Stalingrad. Or, with less for consumption, Soviet civilians would have died at a faster rate. Or, with less for investment, the Soviet economy's productive capital would have shrunk faster. Most likely the war on the Eastern front would have ended in 1943.

Supplementing their own efforts with Allied aid, the Red Army won at Stalingrad, and the Soviet state survived, although the margin was perilously narrow. As for 1943 and 1944, it is not so easy to speculate on

how things might have been different without Allied aid, but it is also less important to do so. In each of those years, resources were now sufficient. The inflow of Allied aid was substantially greater. So too was Soviet domestic output. In 1943, as a result, the increase in supplies from all sources over 1942 was around thirty billion rubles, with forty billion more in 1944. In 1943 the first priority remained the war effort, and the second priority was to reverse the shrinking of the capital stock, so investment was restored while household consumption fell slightly. Despite the victories, civilians continued to die. In 1944 there was enough for all uses of resources to recover. The most important thing is that in both years the Soviet Union was now winning its war by a substantial edge. If there must be a counterfactual scenario for the absence of Allied aid, it is that the Soviet advance on the Eastern front would have slowed down, possibly risking stalemate.

Finally, just as economic warfare is a negative sum game, the gains from inter-Ally aid were both positive and shared. As recipient, the Soviet Union obviously gained. Less obviously, the donors also gained. This came about because the shared Allied resources were applied more efficiently, and their productivity was augmented. Allied aid to the USSR followed the principle of comparative advantage. The Soviet advantage lay in carbohydrates, fossil fuels, and guns, and that is what the Soviet economy continued to produce. The American advantage lay in complex machinery and refined fuels and foodstuffs. Among the US goods that the Soviet Union imported during the war were 15,000 aircraft, 427,000 vehicles, 2.8 million tons of steel, 2.7 million tons of petrochemicals, \$1.1 billion of machinery, 15 million pairs of army boots, and 4.5 million tons of food. These were only the most prominent line items of a much longer list.<sup>20</sup>

Setting Russian and Ukrainian troops to fight in Russia and Ukraine with American vehicles and food rations was the most efficient way for the Allies to fight the Germany ground forces in 1942 and 1943. The pooling of resources saved Allied lives and shortened the war. Burden-sharing was a useful element in the Allied advantage over the Axis powers which, by contrast, did not even coordinate strategy, let alone pool resources.

## **Conclusion**

The story of the Eastern front cannot be fully grasped without thinking about economic warfare. Like World War I, World War II was a war of attrition. Economic warfare was a necessary phase of attrition. Attrition has no heroes and does not make an exciting story. Nonetheless, attrition

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<sup>20</sup> Harrison, *Soviet Planning*, p. 258.

and, with it, economic warfare, are essential processes in the background of the stories that we tell ourselves to understand the world wars.

The great battles of the Eastern front stir us with drama and tragedy. But they were brought about because German National Socialists anticipated Allied resistance in the form of a blockade. The Nazis tried to pre-empt it by going East. Their expectation of economic warfare decided that there would be an Eastern front.

In the event, aspects of Allied economic warfare that no one correctly anticipated denied Germany the advantages it sought. Scorched earth and partisan resistance sabotaged the food supplies that the invaders expected to capture. The Anglo-American air offensive from the West helped decide that, having moved East, the German army would quickly lose air dominance and would suffer losses because of that throughout its long advance and retreat.

Finally, German economic warfare, which took the form of a naval counter-blockade against the Allies, failed to block Allied aid to the Soviet Union. Allied aid in 1942 helped the Red Army to stand at Stalingrad and helped decide that the Red Army could win, thereby transferring the strategic initiative from German to Soviet hands. In this sense, the smaller aid flow of 1942 was more critical to the war in the East than the larger flows of 1943 to 1945.

It is also part of the picture that in general, by means of aid to the USSR, the overall efficiency of the Allies' national war efforts was improved, saving Allied lives and shortening the war for everyone.