

المؤتمر الدولي الثلاثون للتاريخ العسكري
XXX° Congrès International d'Histoire Militaire
XXXth International Congress of Military History



Aspects économiques de la défense
à travers les grands conflits mondiaux

The economic aspects of defence
through major world conflicts

Rabat, août 2004

ACTES - ACTA

Hidden treasure : The Italian war economy's contribution to the German war effort, (1943-1945)

Dr. Timothy D. Saxon (Etat-Unis)

Introduction

Gerhard Schreiber has described the German conquest, occupation, and exploitation of Italy in 1943 as the Wehrmacht's "last victory" of the Second World War.¹ His description is correct in that the German seizure of Fascist Italy produced a substantial economic windfall that materially assisted Germany in continuing the Second World War until the economic collapse of Hitler's Reich. Italy, even after the bitter war years from 1940-1943, remained a prize worth winning. The German conquest and subsequent economic exploitation of Italy raise a variety of important questions, inspired in part by Peter Lieberman's book, *Does Conquest Pay?*. Why did a society as nationalistic and modern as Italy cooperate with the German occupation? What factors allowed the Germans to extract a significant material advantage from their occupation? Did this exploitation of Italy inspire resistance or were other factors more important in the thinking of Italians who chose to fight the German occupation? Does the Italian experience during World War II have any current relevance to potential conflicts around the globe?²

Strategic Considerations of the Italian Campaign

Italy occupied a central place in Allied strategy after the May 1943 defeat of Axis forces in Tunisia. Removing Fascist Italy from the war would eliminate the only power directly supporting the German war effort with a significant number of troops in the European theater. Italian troops, large numbers of whom had been killed and captured in North Africa and Russia, still defended parts of the Balkans, Greece, and southern France against Allied invasion. Moreover, removing Italy from the war might undermine the continued participation of Hungary and Romania as Axis allies as well as head off potential Turkish moves favoring the Axis.³ Spanish and Swiss support for Germany might also be reduced in the event an Allied conquest of Italy.

Removing Italy from the war also offered the chance to strike a stinging economic blow to the German war effort. When German officials surveyed the Italian economy in May, 1943, a surprising picture of the Italian war economy emerged.⁴ Major General Hans Henrici, a member of the German economic staff in Italy, told Allied interrogators after the war that German autho-

rities learned that northern Italy had "a sufficient number of highly modern factories" and "the best and most modern machines of German, American and Swiss origin." Moreover, large numbers of highly-skilled industrial workers lived in northern Italy, where German administrators could draw upon them to support the German war effort.⁵ Italy's petroleum production facilities and naval shipyards were located in northern Italy as were some twenty-seven aircraft factories and sixty-four arms and munitions works.⁶ Although total Italian industrial output amounted to only 2.7 percent of world production in 1939, Italy's industrial base was a considerable prize if added to Germany's 10.7 percent of world production.⁷

Why didn't Allied strategic planners consider the economic potential of northern Italy when drafting their plans to eliminate that nation from the war? Allied forces needed to approach Italy from North Africa via Sicily and then to the heel of the boot-shaped Italian peninsula. Short-ranged Allied fighter aircraft imposed an absolute limit on possible invasion sites, given that the German Luftwaffe, which Ultra intelligence tracked closely, still packed a potent punch in the Mediterranean theater. Moreover, the Germans had retained most of their armor and motorized forces in northern Italy, which meant the farther north the Allies landed, the more powerful the initial German counterattack against the Allied beachhead was likely to be.⁸ A plan calling for the landing of the American 82nd Airborne Division near Rome was the boldest Allied proposal of an otherwise unimaginative and uninspired campaign. When German force levels increased in the Rome area, General Dwight D. Eisenhower cancelled the landing at the last minute on 8 September 1943, effectively eliminating any Allied attempt to contest Germany for control of northern and central Italy at an early stage in the campaign.⁹

Conquest: Operation Achse

The coded message, "Bring in the Harvest," initiated Operation Achse, the German scenario for an Italian surrender and Allied invasion of Italy in September 1943.¹⁰ The message was an altogether appropriate one given what followed. German forces quickly seized control of Italy's transportation hubs including ports, roads, and railroads, often against stiff Italian resistance.¹¹ Erwin Rommel's plan, predicated on an Allied invasion of Italy as far north as Rome, called for German forces to abandon southern Italy and fall back at least as far as the Italian capital. Albert Kesselring's decision to disregard this plan by resisting at Salerno and conducting a fighting withdrawal to the Liri Valley line south of Rome was one of the war's most important strategic decisions. Not only did the Germans retain control of northern Italy's industrial base, they also prevented the establishment of the U.S.A.A.F.'s Fifteenth Air Force on forward bases from which it would have been able to bomb targets deep in Eastern Europe more effectively than they could from the Foggia airfield complex deep in southern Italy.¹²

German planners, who had been operating in Munich since early August under the cover name of "Economic Staff Aschoff," pursued two particular goals in the early stages of the takeover. Having surveyed the potential boost to German war production that assimilating Italian industry offered,¹³ planners wanted to integrate Italian factories and farms into the German war economy quickly and efficiently. They also wanted to keep the Allies from seizing Italy's industrial capacity, something that better fit with Kesselring's developing strategy than Rommel's plans to abandon much of the Italian peninsula. Economic Staff Aschoff's plans and actions after Operation Achse played a critical role in restoring Italian war production.¹⁴

An urgent meeting held on 17 September 1943 discussed the necessity of putting the Italian economy back to work. Participants clearly understood that reaching this goal required several steps. First, German administrators needed to put an Italian administrative structure in place that could assume responsibility for supervision of the Italian economy. Second, the meeting's participants, who made no attempt to cover the purpose of restoring the functioning of the Italian economy, learned that Italy would suffer the same fate as other occupied states. Minutes recorded that, despite the presence of Italian representatives from the Bank of Italy, Alfa Romeo, and other Italian concerns, "[e]xperience has shown clearly that the exploitation of foreign countries is possible only when the local administrative and economic institutions are made useful in the quickest way possible for the area's own requirements." Finally, participants noted that military security and mobility required the restoration of Italian infrastructure to working status as quickly as possible.¹⁵

Shortly thereafter Army Group B's commander established a committee (Italienische Wirtschaftskomitee beim Deutschen Oberbefehlshaber) to direct the Italian economy with seven members named by his Representative for Direction of the Economy (Beauftragter für die Wirtschaftsführung). The Committee worked at the Provincial Economic Council's office in Milan and had responsibility for establishing food, price, and wage policies for Italian civilians, direction of the economy in the Army Group's area, and reporting the economy's requirements. The German administration would enforce current economic laws, although changes could be ordered by the Army Group commander. On 12 September 1943, Hitler had assigned Albert Speer sole responsibility for arms production in Italy. The Committee therefore noted that questions concerning armaments were to be directly controlled by the Special Representative of the Reich's Minister for Armaments and War Production (Sonderbeauftragter des Reichsministers für Bewaffnung und Kriegsproduktion), who initially focused on restoring motor vehicle production, an area of strength given the presence of Alfa Romeo, Fiat, and other well-known Italian vehicle producers in northern Italy.¹⁶

Lagging coal deliveries constituted an immediate problem hindering restoration of full production. In August 1943, a month before the Italian surrender, of the one million tons of coal Germany had agreed to supply to Italy, only 700,000 tons arrived. The reduction of coal shipments in the chaos after the German takeover almost crippled production, and shortfalls of rubber, iron, oil shipments also had to be made good. The lack of coal and centralized planning put serious limits on Italian production in September 1943.¹⁷ The situation improved in October 1943 as coal deliveries increased to 1,400,000 tons, ninety-three percent of the target. German authorities dramatically reduced the target in November 1943 to 400,000 tons, of which 385,000 were delivered. Coal deliveries slowly rose in early 1944 only to collapse in the late 1944 to 100,000 tons, less than a forty percent of the promised 250,000 tons.¹⁸

The German occupation of Italy uncovered large stockpiles of raw materials that Italian industrialists had carefully hoarded in hopes of being the first to initiate consumer production at the war's end. Field Marshal Albert Kesselring reported that he believed the Italians had pursued "a deliberate policy of hoarding quite beyond my comprehension. The discovery, after the defection of the Italians in 1943, of vast stores of unused war material is alone sufficient proof of this cheese-paring."¹⁹ Major General Hermann Burkhart Mueller-Hillebrand confirmed after the war that Italian industrialists had engaged in hoarding.

Italy, for instance, would make counterrequests for large quantities of raw materials and coal. In this connection, moreover, as was discovered after the defection of Italy in September, 1943 when the Italian armament industry was more strictly controlled by German agencies, the Italian government had never been in full control of its industries. Raw materials sent from Germany for armament purposes were found hoarded for post-war purposes."²⁰

German officials used some of these raw materials in Italian factories and assigned material reshipment to Germany, which began the day of the German takeover, high priority in the administration of the Italian industrial base.²¹ In September and October 1943 alone, some 68,200 tons of raw materials were transported back to Germany.²²

Despite this hidden wealth of materials, Italian officials had requested increased raw-material shipments up to the Italian surrender in September 1943. Given this situation, it can be argued that the Italian collapse rendered a significant service to the German war effort. Germany gained control over Italian production and raw material caches after the Italian surrender. German control of Italian production facilities permitted the determination of the Italian war industry's true raw material requirements and allowed the transfer of excess raw materials back to Germany.²³

The discovery of hoarded raw materials challenges interpretations of Italian economic weakness as resulting from the shortage of such goods. While Italian arms producers could not match German production in terms of total output, Italian factories could have significantly increased armament production during the Second World War using materials stockpiled by Italian industrialists. Evidence suggests that the low levels of Italian production stemmed more from weak state control of the industrial sector than it did from a shortage of raw materials. Lucio Ceva and Giorgio Rochat note that "in September 1943 the Germans seized three times as much steel as was available in 1940." The return of such raw materials to Germany materially assisted the rapid expansion of German war production in late 1943 and early 1944.²⁴

Mussolini's lack of control over Italy's war industries lay at the root of the Italian economic failure in World War II. One scholar describes the Italian effort at mobilizing national resources during the Second World War as 'trifling' when compared with that of the First World War. An examination of economic figures bears out this assertion. Stephen Harvey notes that

certain non-strategic industries were virtually unaffected by the war: private expenditure on furniture for example was 5,837,000,000 lire (1939 values) in 1939 and had dropped only slightly to 5,282,000,000 lire in 1942. It is illuminating to compare national economic investment in the First World War with that in the Second World War. Statistics for the ratio between consumption and investment show that mobilization of national resources 1939-45 was trifling compared to 1915-18:

1915 -7.8	1940 +5.7
1916 -21.9	1941 +6.8
1917 -30.2	1942 +2.9
1918 -30.9	1943 -1.2" ²⁵

Moreover, as recent research affirms, no shortage of raw materials precipitated Italy's poor production record and eventual defeat. What explains Fascist Italy's poor performance? Mussolini's government failed to impose a strict regime demanding maximum production. This failure to control Italian producers, not a dire shortage of raw materials, constitutes the primary economic factor contributing to Italian defeat in the Second World War.²⁶

Albert Speer, German minister of armaments and war production, quickly and energetically reorganized Italian arms manufacturing. His efforts, combined with those of other German administrators of the Italian war economy, resulted in Italy contributing nearly fifteen-plus percent of total German war production during 1944.²⁷ Between April and October 1944, German representatives purchased some RM 299,000,000 worth of goods from Italian

industry. Purchases of consumer goods and textiles, which alone were valued at some RM 300,000,000, aided the German war effort by relieving pressure on German factories that increasingly focused on arms production.²⁸ Although iron ore production sank from 835,773 tons in 1943 to 390,483 tons in 1944, Italy still provided significant amounts of aluminum, mercury, zinc, copper, and manganese ores for production.²⁹ Iron production sank from 648,000 tons (1943) to 232,938 tons (1944), as did steel production, which fell from 1,727,201 tons (1943) to 1,026,193 tons (1944), which was not as important as it may first seem, given that large stockpile of iron and steel existed in Italian warehouses in 1943.³⁰ Italian factories also manufactured fuses, cartridge and shell casings, long-barreled antitank and anti-aircraft guns, and vehicles, all of which were in short supply.³¹ Italian raw material stockpiles helped prevent bottlenecks that had hindered output in both Germany and other occupied countries until late in 1944.³²

The German war effort also benefited from control of northern Italy's rich agricultural regions, especially the fertile Po Valley.³³ A German survey of Italian agricultural surpluses reported on 2 September 1943 that northern Italy could supply 249,180 tons of rice, 76,900 tons of corn (Mais), and 165,700 tons of potatoes.³⁴ This massive surplus meant that Germany could supply a good portion of its agricultural needs from northern Italy, feed its troops fighting there, and release German farmers either to fight or produce arms. A steady stream of agricultural produce flowed from the provinces of upper Italy to Germany and to Wehrmacht forces fighting in occupied Italy. By December 1943, Italian farmers had provided 41,500 tons of rice to Germany. In 1944, Italian fields, orchards, and vineyards supplied wheat, rice, corn, oats, rye, potatoes, sugar, fruit, vegetables, meat, fat, fish, and wine for German consumption.³⁵ In just the last three months of 1944, food shipments from northern Italy to the Reich totaled approximately 82,500 tons.³⁶

The German war economy similarly benefited from the large pool of skilled Italian labor. Italians worked in the factories of northern Italy or as forced labor in Germany. While Nazi labor authorities shipped some skilled Italian laborers from the great industrial belt of northern Italy to Germany, the majority of skilled workers remained in Italian factories producing goods vital to the German war effort until Germany's war economy collapsed during the winter of 1944-1945. Moreover, German authorities employed Italian military internees captured in 1943 as slave labor. Estimates of their numbers have ranged from 600,000 to 1,000,000. Many Italian workers labored under horrible conditions, while interned members of the Italian armed forces suffered virtual enslavement as German authorities treated them in the same fashion as Soviet prisoners of war. The difficulties under which internees labored contributed to an estimated 40,000 deaths among them.³⁷

The conquest of Italy yielded Germany substantial gains including stockpiles of raw materials, modern industrial plant, large pools of skilled labor, and agricultural production, all located close to the fighting front, which substantially boosted the output of the German war economy. Although optimal performance was never achieved, the occupation and exploitation of Italy more than paid the conquerors' costs.

RESISTANCE

According to Peter Lieberman's "logic of resistance . . . ruthless conquerors should be able to compel the political and economic collaboration of defeated societies at low cost."³⁸ The German experience in Italy confirms this theoretical assertion in many ways. The occupation of Italy required the use of large numbers of German troops, which found dual employment in both internal security and defense roles. Lieberman's argument that "expectations of liberation - for example - if the occupier is embroiled in a closely fought international war - can heighten resistance and reduce collaboration" also is confirmed by events in Italy.³⁹ Although Italian resistance increased as it became apparent that Germany was losing the war, the Germans made great gains in return for a security investment that they would have had to make anyway.

Resistance to the war and the costs that it imposed on Italian society began long before the 5 March 1943 workers' strike at the enormous Fiat Mirafiori factory complex in Turin, which Mussolini blamed on Italian communists. The strike spread throughout the industrial regions of northern Italy, inspired in part by the loss of large numbers of troops from the Italian Eighth Army in Russia, which turned passive resistance into open opposition to Mussolini's regime.⁴⁰ The situation was severe enough to become a topic of discussion at one of Hitler's Führer conferences that month.⁴¹

After the German takeover, strikes continued. By the fall of 1943, the economic situation for Italian workers had worsened, and strikes were reported in Turin. The issue behind a 17 November 1943 strike by 15,000 workers in two Fiat factories was rationing. Italian workers complained that German authorities had provided too little food and that they encountered problems procuring the rations that they were owed. Moreover, food prices were rising much faster than wages. Price for staples in the Italian diet such as olive oil, beans, and pasta climbed between 300-400 percent during 1944-1945. A similar situation likewise made it all but impossible to obtain clothing or shoes. German administrators wanted to improve the situation and reported that they needed to make sure that workers' canteens had sufficient food to serve for lunches at the factories.⁴²

The situation would not improve in 1944. The cost of living in the Italian Social Republic rose from a level of 436 in January to 617 in December.⁴³

In early 1944, strikes took on more of a political tone despite protest signs still complaining that Italian workers' rations compared unfavorably with those of other occupied nations. A walkout by 50,000 industrial workers in Genoa escalated into a violent confrontation that led to the shootings of two German officers and the perfunctory execution of eight Italians in reprisal. Only the arrival of armed police reinforcements stabilized the situation.⁴⁴ Early in March, the work stoppages culminated in a general strike called by the Committee for National Liberation (C.L.N.), which was supported by a million Italian workers who laid down their tools for eight days.⁴⁵

Leaders of the Italian resistance wished to make the general strike a test of strength with the Germans. Italian partisans halted bus and rail lines in the area, preventing the movement of workers and goods. The Germans responded in kind. Field Marshal Kesselring dispatched troops to northern Italy to support SS units and Italian Fascist militia in arresting and spirited away labor leaders to quell the demonstrations. Hitler initially demanded the deportation of twenty percent of Italian laborers in northern Italy to Germany, something that Dr. Rudolph Rahn, German Ambassador to Mussolini's Italian Social Republic, vehemently opposed on the grounds that the resulting decline in war production was exactly what Italian resistance movements wanted. Rahn also feared that Hitler's repressive policy would cause workers to go over to the partisans in large numbers, something that had not heretofore occurred.⁴⁶

Beyond the hindrance of strikes, two other factors slowed down industrial recovery. Allied air raids, which Italian industrialists blamed whenever a production shortfall took place, and a growing coal shortage that gripped Italy as it did Germany in the fall and winter of 1944-1945 contributed to the gradual decline of Italian output. Italian workers turned air raids warnings into lengthy pauses in their work, the only effective German response to which was payment of bonuses for workers who remained at their machines during the raids!⁴⁷ Nonetheless, despite the problems of striking workers, shortages of critical raw materials, and Allied air raids, the Germans did not lose control of Italian industry until the collapse of the German war economy.

Collapse

Allied air force leaders finally hit upon the correct manner of attacking the German war economy in September 1944. Air Chief Marshal Sir Arthur Tedder, with the assistance of operational research specialist, Solly Zuckerman, had argued before Operation Overlord that the key to the German war economy was its rail system, which delivered parts to German factories dispersed to render Allied bombing ineffective, and coal, which was the primary fuel used by German homes and industry. Tedder and Zuckerman argued vehemently that only by bombing critical railroad marshaling yards in France, Belgium, and Germany could Allied air forces both paralyze the movement of

reinforcements to Normandy and ensure the eventual collapse of the German war economy.⁴⁸

Tedder and Zuckerman were correct. Sustained attention by Allied bombers to the complex and not easily repaired marshaling yards in September and October 1944 paralyzed the transport of both goods and coal.⁴⁹ After the war, Albert Speer argued that the collapse of the German rail system ultimately caused the collapse of the vast German war economy. The campaign's effect upon Italy was immediate and irremediable. German coal deliveries dropped from 273,000 tons in August (forty-seven percent of target) to 100,000 tons in October (forty percent of target).⁵⁰ In January 1944, 150,000 rail cars had been available for shipping goods. By January 1945, that number had fallen to 41,000.⁵¹ By early 1945, fuel and ammunition, already in short supply by the summer of 1944, were no longer shipped from the Reich to Italy. German forces in Italy thereafter relied solely upon Italian production for small arms and ammunition. Although neither rations nor clothing supplies ever entirely disappeared, fuel shortages restricted vehicle traffic to just eighty kilometers movement during the final Allied offensive. When Allies broke finally broke through the German line at Bologna in April 1945, the German Fourteenth Army abandoned all of its equipment. Its sister force, the Tenth Army, lost half its equipment in the helter-skelter rush from Italy.⁵²

It is well worth noting that production in Italy finally halted because of the economic collapse in Germany and resulted from neither the destruction of the Italian industrial base nor resistance to the German occupation. German gains in Italy far exceeded the investment of men and coercive force that maintaining Italian production for the duration of the war.

Conclusions

The economic value of northern Italy to the German war effort was enormous. Whether in the form captured weapons used to refit divisions for combat or foodstuffs that fed Germans in the worst days of the war, occupied northern Italy made a vital contribution to the German war effort from 1943 to 1945 still not fully grasped.⁵³ As Germany retreated from the Ukraine, Poland, France, Belgium, and critical border regions such as Silesia and the Saar, the Italian contribution to the German war economy rose proportionally. At the least, it is worth noting that without Italian production, the German armies fighting in Italy could not have sustained their campaigns there. By late 1944 and early 1945, the Italian theater had become autarkic, depending on Italian production alone to continue the conflict.

The German experience seizing and integrating the Italian economy during the Second World War clearly reinforces Peter Lieberman's thesis that a ruthless state can substantially profit from the conquest of modern industrial nations. Lieberman says that some form of collaboration is necessary if

a ruthless state hopes to efficiently exploit a conquered nation. Many Italians cast their lot with the Germans, guided by private interest in maintaining either their assets or their incomes. While this cooperation with Germany might be attributable to the creation of the Italian Social Republic under Mussolini, it quickly became clear to Italians that the new regime retained little control over Italy. When Italian industrialists, workers, and farmers continued production, they fully grasped that Germany would be the prime beneficiary of their efforts.

Is what we learn from the Italian experience in World War II of use today? Recent events in Taiwan, where an attempted assassination of the ruling party leadership threw the island into turmoil and led to threats of intervention by the People's Republic of China, suggest that the question 'Does conquest pay?' is an important one in international relations. Would a Chinese conquest of Taiwan assist this nation in realizing its ambition to assert power as a regional hegemon and/or a global power? While Chinese GDP is currently estimated as the second largest in the world at \$5,989,000,000,000, trailing only the United States at \$10,450,000,000,000, Taiwan ranks twenty-third at \$406,000,000,000 or seven percent of Chinese GDP.⁵⁴ Given that many Taiwanese already have made major investments in the mainland China economy and share a common nationality with the potential conqueror, the suggestion that the conquest of Taiwan might be economically profitable to the People's Republic of China is not hard to believe. ▀

Notes

- 1- Gerhard Schreiber, *Deutsche Kriegsverbrechen in Italien: Täter, Opfer Strafverfolgung* (München: C. H. Beck, 1996), 40.
- 2- Peter Lieberman, *Does Conquest Pay?* (Princeton, NJ: Princeton University Press, 1996), 14-15.
- 3- Peter Calvocoressi, Guy Wint, and John Prichard, *Total War: The Causes and Courses of the Second World War*, 2d ed. (New York: Pantheon, 1989), 398.
- 4- Oberkommando der Wehrmacht W Sib (Ausl), Document AL 2890 (OKW W Sib (Ausl) 2.11 a Az 3 i 10 Nr. 3901/43 g.Kdos.), *Die Wehrwirtschaft Italiens*. Imperial War Museum, London
- 5- Hans Henrici, "The Use of Italian Industry in the Service of German Munitions Production," NARA Microfiche Publication M1035 Fiche 0009, *Foreign Military Studies, D-Series (RG 338) D-0015*, 1947, 1-2.
- 6- *Deutschlands Rüstung Im Zweiten Weltkrieg: Hitlers Konferenzen mit Albert Speer 1942- 1945*, edited by Willi A. Boelcke (Frankfurt am Main: Akademische Verlagsgesellschaft Athenaion, 1969), 385.
- 7- James J. Sadkovich, "Understanding Defeat: Reappraising Italy's Role in World War II," *Journal of Contemporary History* 24 (1989): 34.
- 8- Ralph Bennett, *Ultra and Mediterranean Strategy* (New York: William Morrow and Co., 1989), 229, 246.

- 9- Wesley Frank Craven and James Lea Cate, *Europe: Torch to Pointblank 10-August 1942 to December 1943. The Army Air Forces in World War II*, vol. 2 (Chicago: University of Chicago Press, 1948), 519-20.
- 10- Wilhelm (Field Marshal) Keitel, RH2 Oberkommando des Heeres/Generalstab der Heeres. Band 636. Bl. 58-59, OKW/WFS/Op Nr.661746/43. g.K.Chefs. F.H.Qu., Den 1.8.43., Stichwort "Achse" "Westl. Mittelmeer - Chefs. Vom 19.5.1943-11.7.44", Bundesarchiv/Militärarchiv Freiburg, Germany, Microfiche; Shelford Bidwell, "Kesselring," in *Hitler's Generals*, ed. Corelli Barnett (New York: Grove Weidenfeld, 1989), 279; David Fraser, *Knight's Cross: A Life of Field Marshal Erwin Rommel* (New York: HarperCollins, 1993), 437.
- 11- Albert Kesselring and et al., *German Version of the Italian Campaign* (N. p.: Fifth United States Army Headquarters., 1945 [?]). 8-9; Siegfried Knappe and Ted Brusaw, *Soldat: Reflections of a German Soldier, 1936-1949* (New York: Dell, 1992), 270.
- 12- Ralph Mavrogordato, "Hitler's Decision on the Defense of Italy," in *Command Decisions*, ed. Kent Roberts Greenfield (Washington, D.C.: G.P.O., 1960), 310; Karl-Heinrich Graf von Klinkowstroem, "Italy's Break-Away and the Fighting Around Rome (September 1943)," NARA Microfiche Publication M1035, Fiche 0197, *Foreign Military Studies, D-Series (RG 338)*, D-301, Washington, D.C., 1947, 4, 14; Oberkommando d. Heeresgruppe B Heeresgruppenwirtschaftsführer. Bundesarchiv/Militärarchiv (Freiburg), RW 32/7: 16-17, 1 September, 1943, Lage- und Taetigkeitsberichts Nr. 1
- 13- Oberkommando der Wehrmacht W Sib (Ausl). "Wehrwirtschaft Italiens."
- 14- Maximiliane Rieder, "Zwischen Bündis und Ausbeutung," *Quellen und Forschungen Aus Italienischen Archiven und Bibliotheken*, no. 71 (1991): 652-53, 654.
- 15- Oberkommando d. Heeresgruppe B Heeresgruppenwirtschaftsführer, 17 September, 1943, *Organisation der Italienischen Wirtschaft Im Bereich der Heeresgruppe B*, Bundesarchiv/Militärarchiv (Freiburg), RW 32/7:126, 128; Rieder, "Zwischen Bündis und Ausbeutung," 625-26, 655.
- 16- Oberkommando d. Heeresgruppe B Heeresgruppenwirtschaftsführer, Protokoll Über die Beabsichtigte Organisation der Italienischen Wirtschaft Im Bereich der Heeresgruppe B, 1943, Bundesarchiv/Militärarchiv (Freiburg), RW 32/7:129; Max Wehrig, "Duties and Operation of the Italian Section of the Chief of Wehrmacht Motor Transportation," NARA Microfiche Publication M1035, Fiche 0086, *Foreign Military Studies, D-Series (RG 338) D-126*, Washington, D.C., 1947, 5-6, 10-12; Dietrich Eichholtz, *Geschichte der Deutschen Kriegswirtschaft* (Berlin: Akademie-Verlag, 1985), 157-58.
- 17- Rieder, "Zwischen Bündis und Ausbeutung," 649, 662.
- 18- *Annali Dell'Economia Italiana*, ed. Getano Rasi (Milano: Istituto Ipsosa, 1983), 9/1:236.
- 19- Albert Kesselring, *Kesselring: A Soldier's Record* (New York: Morrow, 1954), 119.

- 20- Hermann Burkhardt Mueller-Hillebrand, *Germany and Its Allies in World War II: A Record of Axis Collaboration Problems* (Frederick, Md.: University Publications of America, 1980), 77.
- 21- Rieder, "Zwischen Bündnis und Ausbeutung," 659.
- 22- *Deutschlands Rüstung Im Zweiten Weltkrieg*, 308.
- 23- Bundesarchiv Koblenz, R71755:133-134.
- 24- Lucio Ceva and Giorgio Rochat, "Italy," translated by John Gooch, in *The Oxford Companion to World War II*, ed. I.C.B. Dear and M.R.D Foot (Oxford: Oxford University Press, 1995), 585, 586.
- 25- Stephen Harvey, "The Italian War Effort and the Strategic Bombing of Italy," *History* 70 (February 1985): 34-35.
- 26- Ceva and Rochat, "Italy", 585, 586.
- 27- *Deutschlands Rüstung Im Zweiten Weltkrieg*, 308; György Ránki, *The Economics of the Second World War*, edited by Helmut Konrad, *Böhlau Zeitgeschichtliche Bibliothek*, vol. 21 (Vienna: Böhlau Verlag, 1993), 341.
- 28- *Deutschlands Rüstung Im Zweiten Weltkrieg*, 397; W. A. Boelcke, *Die Deutsche Wirtschaft 1930-1945: Interna Des Reichswirtschaftsministeriums* (Düsseldorf: Droste, 1983), 319.
- 29- *Annali Dell'Economia Italiana*, ed. Getano Rasi (Milano: Istituto Ipsos, 1983), 9/2:112.
- 30- *Annali Dell'Economia Italiana* 9/2:116.
- 31- Henrici, "Use of Italian Industry," 3; R. L. DiNardo, *Mechanized Juggernaut or Military Anachronism: Horses and the Germany Army of World War II*, *Contributions in Military Studies*, vol. 113 (New York: Greenwood, 1991), 75.
- 32- Wehrig, "Italian Section," 6.
- 33- Oberkommando der Wehrmacht W Stb (Aust), "Wehrwirtschaft Italiens," 7.
- 34- Oberkommando d. Heeresgruppe B Heeresgruppenwirtschaftsführer, 2 September, 1943. File: Br.B.Nr. 87143 GKdos, Untersuchung Über die Ernährungswirtschaftliche Leistungsfähigkeit Norditaliens, Bundesarchiv/Militärarchiv (Freiburg), RW 32?7:22-35.
- 35- Ernährungswirtschaftliche Bilanzen Italiens. 1. Januar 1944 Bis 31. Juli 1944, Washington, D.C., NARA, RG T-84 (Microfilm), Roll 103, File: Frames 1397414-461.
- 36- Abt. Ernährung und Landwirtschaft (E.u.L.) Referat Ia -Transporte, 16 Januar 1945, 1945. Au. Ia III Tr. 3500. Jahresbericht Bundesarchiv/Militärarchiv (Freiburg), RH 31/VIII:3.
- 37- *Trial of the Major War Criminals Before the International Military Tribunal*, (Nuremberg, Germany, 1948). XVI:451-52, 522; Henrici, "Use of Italian Industry," 1; Ulrich Herbert, "Labour and Extermination: Economic Interest and the Primacy of Weltanschauung in National Socialism," *Past and Present* 138 (February 1993): 180-81; Jens Petersen, "Deutschland und Italien 1939 Bis 1945," in *Der Zweite Weltkrieg*, ed. Wolfgang Michalka (Munich: Piper, 1989), 116-18; Gerhard Schreiber, *Die Italienischen Militärinternieten Im Deutschen Machtbereich 1943 Bis 1945*, *Beiträge Zur Militärgeschichte*, Band 28 (München: R. Oldenbourg Verlag, 1990), 230-3.
- 38- Lieberman, *Does Conquest Pay?* 21.
- 39- Lieberman, *Does Conquest Pay?* 24.
- 40- Calvocoressi, Wint, and Pritchard, *Total War*, 398; Frederick W. Deakin, *The Brutal Friendship: Mussolini, Hitler and the Fall of Italian Fascism* (New York: Harper & Row, 1962), 261-63; Harvey, "Italian War Effort," 44; Tim Mason, "The Turin Strikes of March 1943," in *Nazism, Fascism and the Working Class*, ed. Jane Caplan (Cambridge: Cambridge University Press, 1995), 287; I. S. O. Playfair, et al., *The Mediterranean and Middle East*, ed. Sir James Butler, vol. IV, *The Destruction of Axis Forces in Africa, History of the Second World War. United Kingdom Military Series* (London: H.M.S.O., 1966), 409.
- 41- Office of the A C of S Headquarters 101st Airborne Division, G-2, U.S. Army Military History Institute, *Adolf Hitler Papers. Stenographic Account of Staff Conferences of Adolf Hitler and German High Command. 53 Parts, Fragment No. 7. Fragment of an Evening, Situation Probably of Early March 1943 at the Wolfsschanze., Carlisle, Pa., 3-5; Hitlers Lagebesprechungen: Die Protokollfragmente Seiner Militärischen Konferenzen 1942-1945*, edited by Helmut Heiber, *Quellen und Darstellungen Zur Zeitgeschichte*, vol. 10 (Stuttgart: Deutsche Verlags-Anstalt, 1962), 184-86.
- 42- Feldwirtschaftsoffizier Piemont (Bolbrinker), 28 Dezember, 1943, Lagebericht Für die Zeit Vom 16.November Bis 24.Dezember 1943, Br.B.Nr.1791183/43. Bundesarchiv/Militärarchiv (Freiburg), RW 32119/1: 16; ADEI 9/1:246.
- 43- ADEI 9/1:247.
- 44- Der Bevollmächtigter General der Deutschen Wehrmacht in Italien. Abt. Ia. Anlagen zum KTB I.1.1944-20.4.1945 - F4:146-148, Abt.lalLg.Nr.1418/44 g.Kdos., 28 January 1944, Lagebericht Über der Zeit Vom 15.12. Bis 15.1.1944. Bundesarchiv/Militärarchiv (Freiburg), RW 31/VII/6:146; Erich Kuby, *Verrat auf Deutsch: Wie das Dritte Reich Italien Ruinierte* (Hamburg: Hoffmann & Campe, 1982), 448-49, 450.
- 45- Karl Mittermaier, *Mussolinis Ende Die Republik von Salò 1943-1945* (München: Langen Müller, 1995), 161-62; Calvocoressi, Wint, and Pritchard, *Total War*, 409-10.
- 46- Lutz Klinkhammer, *Zwischen Bündnis und Besatzung: Das Nationalsozialistische Deutschland und die Republik von Salò 1943-1945*, *Bibliothek Des Deutschen Historischen Instituts in Rom*, vol. 75 (Tübingen: Max Niemeyer, 1993), 287, 295, 297; Kuby, *Verrat auf Deutsch*, 452; Mittermaier, *Mussolinis Ende*, 163.
- 47- Wehrig, "Italian Section," 11-12; Dr. Hans Leyers, "Italian War Production Subsequent to 13 September 1943," NARA Microfiche Publication M1035 Fiche 0003 *Foreign Military Studies, D- Series* (RG 338) D-0003, Washington, D.C., 1947, 23-26.

- 48- Alfred C. Mierzejewski, *The Collapse of the German War Economy: Allied Air Power and the German National Railway* (Chapel Hill: NC, 1988), 81-82.
- 49- Mierzejewski, *Collapse of the German War Economy*, 103-24.
- 50- ADEI 9/1:236.
- 51- Abt. Ernährung und Landwirtschaft (E.u.L.) Referat Ia -Transporte, RH 311 VII/18:3.
- 52- IMT, XVI:490-91: Klaus Bertelsmann, Nachlaß Hans Röttiger, *Die Entwicklung der Personellen und Materiellen Lage der Verbände Des OB Südwest Vom Sommer 44 Bis Zur Kapitulation*, BundesarchivMilitärarchiv (Freiburg), N422, Bd. 26: 4-5, 21.
- 53- *Entwicklung der Personellen und Materiellen Lage*, N422, Bd. 26:19-20; Rieder, "Zwischen Bündis und Ausbeutung," 627.
- 54- Central Intelligence Agency, "Rank Order - GDP.", 2002, 29/03/04 <www.cia.gov/cia/publications/factbook/rankorder/2001rank.html>.