

THE NAZI-SOVIET PACT:
ITS EFFECT UPON THE GERMAN WAR ECONOMY

by

Raymond C. Ahl, B.S.

A Thesis submitted to the Faculty of the
Graduate School, Marquette University in
Partial Fulfillment of the Re-
quirements for the Degree
of Master of Arts

Milwaukee, Wisconsin
May, 1966

PREFACE

This study has been undertaken to determine the extent of aid rendered to the German war economy by the Nazi-Soviet trade agreement. Involved in the assessment of aid rendered to Germany by this pact of August 23, 1939, would be not only Russian raw materials delivered to Germany, but also the aid rendered Germany by Russia acting as a buyer for her on the world market, and Russia's consent to transit goods through her territory from countries bordering Russia but not Germany.

Also to be given consideration is the effect this Pact had on influencing other nations to trade or not to trade with Germany. At times Germany was able to exert pressure on other nations whose strategic position, because of the Pact, became militarily indefensible, particularly the Balkan nations.

In attempting to determine the total effect of the Pact, the first chapter will deal with German self-sufficiency in regard to vital war materials, her production capabilities, her need of raw materials and products as determined by previous consumption, and the stockpile of these materials that Germany had on hand previous to the invasion of Poland.

The second chapter will deal with the terms of the Pact, and to what extent these terms were carried out. The third chapter will examine the influence of the Pact upon German-Russian trade, and the fourth chapter will examine how the Pact affected German trade with other nations. The third and fourth chapters will attempt to measure goods Germany received from these nations, and the value of these goods to the German war economy. If German exports to them were of such value that they were indispensable to her war economy it will be taken into account.

Chapter five will summarize the total benefit in goods received by Germany attributable to the Pact, taking into account the amount Germany produced and the amount she needed, and how these imports affected the German stockpile of critical war materials. The significance of the aid rendered Germany by these imports will be discussed.

In conclusion, I will attempt to analyze the significance of the Pact in regard to promoting German war capabilities. It is the contention of the writer that the Pact gave Germany enough aid to strengthen her war economy considerably, and thereby contributed to lengthening the War.

I would like to acknowledge my debt to Dr. Leo J. Wearing of Marquette University. His suggestions greatly aided me in the organization and preparation of this work.

TABLE OF CONTENTS

Chapter I: State of the German Raw Material Supply	
Before the Pact.....	5
Oil.....	6
Iron and Steel.....	8
Food and Feedstuffs.....	9
Rubber.....	12
Aluminum.....	13
Wool, Cotton and Zellwoole.....	14
Coal.....	14
Lead.....	15
Zinc.....	16
Tin, Copper.....	17
Phosphates and Pyrites.....	18
Manganese.....	19
Tungsten.....	20
Chrome, Nickel.....	21
Other Miscellaneous War Materials.....	22
Chapter II: The Nazi-Soviet Pact.....	24
Diplomacy of the Pact.....	24
Contents of the Pact:	
Political.....	28
Economic.....	29
Pact as Carried Out:	
By Germany.....	31
By Russia.....	34
Chapter III: Effect of the Pact Upon Trade Relations	
between Germany and Russia:	
Nazi-Soviet Trade Relations.....	37
Oil.....	38
Iron and Steel, Food and Feedstuffs.....	40
Wool and Cotton.....	41
Coal, Phosphates, Pyrites, Manganese.....	42
Chrome, Nickel.....	43
Goods Purchased by Russia for Germany, and	
Shipped Through Russia to Germany:	
Rubber.....	45
Wool and Cotton, Tin.....	46
Copper, Manganese, Antimony, Fats, Oils,.....	47
German Exports to Russia.....	48
Assessment of Loss to the German War	
Economy.....	50
Chapter IV: Effect of the Pact Upon Trade Relations	
between Germany and Other Nations.....	52
German Trade Relations with Rumania.....	53
Goods Imported by Germany from Rumania:	
Oil.....	53
Food and Feedstuffs.....	55
Manganese.....	56
Wool.....	56
Goods Exported by Germany to Rumania.....	56

German Trade Relations with Hungary:	
Goods Imported by Germany from Hungary.....	57
Oil, Iron Ore.....	58
Grain, Bauxite.....	59
Coal.....	60
Goods Exported by Germany to Hungary.....	60
German Trade Relations with Poland.....	61
Goods Imported by Germany from Poland:	
Oil, Grain.....	61
Coal, Zinc.....	62
German Trade Relations with Yugoslavia.....	63
Lead.....	63
Copper, Bauxite.....	64
German Exports to Yugoslavia.....	64
German Trade Relations with Bulgaria.....	65
German Trade Relations with Greece.....	66
German Trade Relations with Sweden.....	67
German Trade Relations with Norway.....	68
German Trade Relations with Finland.....	69
German Trade Relations with Turkey.....	71
German Trade Relations with the Baltics.....	73
Chapter V: Total German Imports Attributable to the	
Pact: Analysis of Their Value.....	74
Oil.....	74
Iron and Steel.....	77
Feedstuffs and Foodstuffs.....	78
Rubber.....	80
Aluminum.....	81
Wool and Cotton.....	83
Coal.....	84
Lead.....	85
Zinc, Tin.....	86
Copper.....	87
Phosphates, Pyrites, Manganese.....	88
Wolfram (Tungsten).....	89
Chromium.....	90
Nickel.....	91
Antimony, Miscellaneous.....	92
Conclusion.....	93
Implications of this Study.....	95
Appendix.....	96
Bibliography.....	105

CHAPTER ONE: STATE OF THE GERMAN RAW MATERIAL SUPPLY BEFORE THE PACT

The assessment of the German war economy must of course be in terms of materials important for carrying on warfare. Therefore raw materials take precedence over money. As Horst Mendershausen states, "In the realm of the domestic economy of a warring nation, it is not money that counts, but productive power and stocks of useful goods."¹ John Maynard Keynes, also, stated that "economy is a question of materials and manpower, not of finance."² Hitler believed this also, for he stated to Munters, the Latvian foreign representative in Germany, that "The bases for world economy is not money, but rather production."³ Therefore, on September 9, 1936, he announced at Nuremberg a four-year plan to make Germany self-sufficient in raw materials.⁴

The idea of national self-sufficiency in raw materials was not begun by Hitler in Germany. In 1926 the German army formed an economic high command with this end in view.⁵

1 Horst Mendershausen, The Economics of War (New York: Prentice-Hall, 1940), pp.62-63.

2 Frank Munk, The Legacy of Nazism: The Economic and Social Consequences of Totalitarianism (New York: The Macmillan Co., 1943), p.19

3 Great Britain: Her Majesty's Stationery Office, Documents on German Foreign Policy, 1918-1945, Series "D" (13 vols. London: Her Majesty's Stationery Office, 1956), VII, Doc. 485, p.655.

4 William L. Shirer, Berlin Diary: The Journal of a Foreign Correspondent, 1939-1941 (New York: Alfred A. Knopf, 1941), p.67

5 Joseph Borkin and Charles A. Welsch, Germany's Master Plan (New York: Duell, Sloan and Pierce, 1943), p.55



Count von Moellendorf, the director of I.G. Farben, cooperated with them by advocating economic programs to achieve national self-sufficiency.⁶

The importance to Germany of materials supplied because of the Pact is in large part determined by German self-sufficiency in regard to these various materials. Self-sufficiency is determined by the percentage figure arrived at upon dividing peacetime production by peacetime consumption. However it is well to keep in mind the statement by Mendershausen, "Self-sufficiency in war must be 140% of peacetime production, as there is greater need."⁷

To be considered are the following supplies which Germany possessed in regard to peacetime self-sufficiency:

Oil: German production of oil could not hope to keep pace with her consumption. Her peacetime self-sufficiency in oil was estimated at 33%.⁸ Though her capacity to produce oil was increased by plants producing oil from the hydrogenation of coal, the amount of increase was limited by plant capacity and by the fact that it took five tons of coal to produce one ton of oil. With the plant placed in operation early in 1940, Germany could produce 1,850,000 tons of hydrogenated oil annually to add to her annual production of approximately 550,000 tons of natural oil.⁹

6 Borkin and Welsch, Germany's Master Plan, p.52

7 Mendershausen, Economics of War, p.36

8 David Livingston Gordon and James Royden Dangerfield, The Hidden Weapon (New York: Harper and Row, 1947), p.7

9 Business Week, Dec. 2, 1939, p.46

However, in view of prewar use by Germany of five million tons in 1937 and 7.1 million tons in 1938, these supplies were entirely inadequate for peacetime use, and even more meager in terms of wartime need.¹⁰

The inadequacy of the oil supply in Germany is pointed out by the British Petroleum Department, which estimated German oil imports in 1937 at 4.3 million tons, and stated that in a major war Germany's oil-import need would double. Later, it estimated German war need at 11.7 million tons, and her supply, with Rumanian oil, at 9.7 million tons.¹¹ H.S. Steinberger, in "Der Treibstoffverbrauch im Kriege," estimated German war need even higher, at 12.65 million tons annually.¹²

At the War's outset the "Rustungs und Wirtschaftsamt" recorded the German oil reserve at 2,134,000 tons.¹³ This, with other incoming supplies, was estimated by the German economic experts as a six month supply in a blitzkrieg-type war of short duration.¹⁴ The British War Economy Board estimated that Germany had a three to four month oil supply, and a year's supply of aviation gasoline.¹⁵ With estimated

10 W.N. Medlicott, The Economic Blockade (2 vols. London: Longmans, Green, and Co., 1952), I, p.34; Fritz Sternberg, From Nazi Sources: Why Hitler Can't Win (New York; Longmans, Green, and Co., 1939), p.105

11 Medlicott, The Economic Blockade, I, pp.33,418.

12 Sternberg, From Nazi Sources, p.106

13 Medlicott, The Economic Blockade, I, p.27

14 Burton H. Klein, Germany's Economic Preparations for War (Cambridge, Mass.: Harvard University Press, 1959), p.77

15 Medlicott, The Economic Blockade, I, p.27

German need in a major war at well over ten million tons, it was apparent that German production of well under three million tons was entirely inadequate for her war economy.

Iron and Steel: Germany had a peacetime self-sufficiency of around 30% in iron ore, having to import 65% of its iron ore from foreign sources in 1939. Germany produced between 3.5 million and 5 million tons of iron ore itself from 1938 to 1940, and imported 18 million tons in 1938 and 14 million tons in 1940. With it she produced 22.6 million tons of iron and steel in 1938 and 21.5 million tons in 1940. Previous to this her consumption of iron and steel products had been close to 18 million tons from 1936 through 1938.¹⁶ (annually) German industry had enough capacity to manufacture all iron ore supplies which she could obtain, so the question mark was procuring the necessary quantity of iron ore.¹⁷ Her imports of iron ore in 1936 had already been as high as 18.4 million tons.¹⁸

At peacetime standards, Germany had a six-month stockpile of iron ore at the war's outset.¹⁹ However, with but a 30% home sufficiency in iron ore, Germany's iron supply in time of war would be hopelessly inadequate without huge imports. William

16 Bureau de Statistique de l' Organization des Nations Unies, Annuaire Statistique de la Societe des Nations, 1926-1962 (New York: Department des Questions Economiques, 1927-1962), pp. 114-115, 228, 230-231; Gordon and Dangerfield, The Hidden Weapon, p.7.

17 Klein, Germany's Economic Preparations for War, p.115.

18 Vaso Trivanovitch, Economic Development of Germany under National Socialism (New York: National Industrial Conference Board, 1937), p.129.

19 Klein, Germany's Economic Preparations, p.77

Shirer, on March 8, 1940, wrote from Berlin, "A decree today orders all persons and firms who possess old metal or scrap iron to deliver it to the state. Lack of iron may lose Germany the war."²¹

Food and Feedstuffs: Germany was reasonably self-sufficient in food and feedstuffs, though prewar imports indicate that she did not produce a surplus, and that she was not one-hundred percent self-sufficient.²² Her average daily calorie intake per adult was 2,850 in 1938, and 2,800 in 1940. In the first world war it had dropped to 1,500 calories per adult per day. This also might be compared with India's 1,970 calories per adult per day in the 1930's.²³

The German people therefore suffered no apparent serious food shortage, though they were subjected to rationing. As Shirer reported on May 1, 1940, "but today I noticed in the Tiergarten many of them feeding the squirrels and ducks with their rationed bread."²⁴

20 This date is prior to the German invasion of Norway which occurred on April 9, 1940. The invasion of that date ensured for Germany huge supplies of Swedish iron ore.

21 Shirer, Berlin Diary, p.245.

22 Annuaire Statistique, pp.272-275; Gordon and Dangerfield, The Hidden Weapon, p.196; Klein, Germany's Economic Preparations for War, pp.88-89

23 Gordon and Dangerfield, The Hidden Weapon, p.196; Annuaire Statistique, pp.272-275.

24 Shirer, Berlin Diary, p.324

German grain consumption was approximately twenty-three million tons annually,²⁵ and the normal German prewar import of grain was 3.8 million tons.²⁶ Despite the report of the German Reich Food Ministry of October, 1940, that even with Russian grain deliveries to Germany, the German reserve of grain would be used up by August of 1941, the seriousness of the situation must not be overestimated.²⁷ Grain has substitutes, such as potatoes, and Germany's potato crop averaged forty-seven million metric tons from 1934 to 1938.²⁸ Also indicating that the German people were far removed from the threat of famine is the fact that reputedly one-half of the German potato crop was used to manufacture alcohol, indicating no serious food shortage.²⁹ The reports of famine that emanated from various German-occupied territories is explained by Goering, who in reply to inquiries of whether it was true that Russian prisoners were eating each other, stated that there was no food shortage, and that the policy of prisoner starvation was deliberate.³⁰

25 Karl Brandt, Management of Agriculture and Food in the German-Occupied and Other Areas of Fortress Europe, Vol. II: Germany's Agricultural and Food Policies of World War II (2 vols; with the collaboration of Franz Ahlgrimm and Otto Schiller; Stanford: Stanford University Press, 1953), II, p.7

26 Medlicott, The Economic Blockade, II, p.644

27 Nazi-Soviet Relations: Documents from the Archives of the German Foreign Office, ed. by Raymond J. Sonntag and James Stuart Beddie (Didier, New York: Department of State, 1948), p.200.

28 Annuaire Statistique, p.66

29 Paul Hagen, Will Germany Crack?, trans. by Anna Caples, (New York: Harper and Brothers, 1942), p.65

30 Ihor Kamenetsky, Secret Nazi Plans for Eastern Europe (New York: Bookman Associates, 1961), p.152.

Lack of cattle feed was very serious in Germany during and after World War I, but by World War II the Scholler-Tornesch Company of Germany was producing a cattle fodder composed of wood, yeast, and amino acids; a product sometimes referred to as wood-sugar. The previous import of 2.5 million tons of soybeans annually was to be replaced in the cattle diet by this product.³¹ As Munk states, "Germany is producing feed-stuffs from cellulose, poplar, straw, reed, potatoe tops, flax, and trees."³² And Mendershausen explains that Germany's timber problem was solved by the invasion of Norway, Poland, Czechoslovakia, and Austria.³³ Therefore it may be assumed that these supplies for German feedstuffs were available.

Though meat and fat in the German diet were reduced during time of war, cereals and potatoes were increased in a proportionate amount.³⁴ The increase appears to be attributable to eastern land production that Germany fell "heir" to largely because of the Pact. However, based on the usual wartime decrease in production and increase in need, it might be assumed that in time of war Germany needed to import food. But the food situation could not be described as critical from 1939 through 1941.

31 Borkin and Welsch, Germany's Master Plan, pp.298-299.

32 Munk, The Legacy of Nazism, pp.38-39.

33 Mendershausen, The Economics of War, p.34.

34 Klein, Germany's Economic Preparations, pp.88-89

Rubber (Buna): It is important to note that supplies of natural rubber were entirely controlled by the Dutch East Indies, Malaya, Ceylon, and Brazil.³⁵ Seeing that Japan was able to extract rubber from the Dutch East Indies, Germany had a ready source for acquiring rubber as long as Russia was willing to tranship it by land, the sea being blockaded by British naval might. Prewar, Germany had imported about 80,000 tons of natural rubber per year.³⁶

But rubber can be made synthetically by a combination of alcohol, coal, and butadiene being added to a slight amount of natural rubber. The I.G. Farben Company used this patented process and called their product buna.³⁷ Buna lasts one and one-half times as long, and costs six times as much to make as do natural rubber products. Nevertheless Germany had stimulated prewar production as early as 1935 by placing a 100% tax on the sale of natural rubber products.³⁸

Klein states that Germany was reasonably self-sufficient in rubber production and supply.³⁹ By 1940 she was producing as much rubber as she had previously imported, (80,000 tons) and by 1941 was turning out 110,000 tons of buna. Yet to manufacture this quantity, she needed only about 3,000 tons of raw

35 Borkin and Welsch, Germany's Master Plan, pp.202-203.

36 Hagen, Will Germany Crack?, p.165.

37 Borkin and Welsch, Germany's Master Plan, p.44

38 Sternberg, From Nazi Sources, p.111; F. Lee Benns, Europe Since 1914, 4th.ed., (New York: F.S. Crofts, 1939), p.787

39 Klein, Germany's Economic Preparations for War, p.77

rubber per year.⁴⁰ Therefore, provided that Germany could procure 3,000 tons of natural rubber per year she would be self-sufficient in this important commodity.

Aluminum: Germany used aluminum as a substitute for copper as a conductor of electricity, and also as an inexpensive light-weight metal of great value in the production of war machines for the Wehrmacht and planes for the Luftwaffe.⁴¹

By 1939 Germany had the means to smelt approximately 200,000 tons of aluminum. However, she could not supply herself with the necessary bauxite. She produced no bauxite till 1940, and procured 75% of her supplies from Italy and the Balkans.⁴²

In the years preceding the War Germany had imported an average of 980,000 metric tons of bauxite annually, and at the War's beginning she had an aluminum stockpile estimated at a 5.5 month supply, or an amount of slightly less than 100,000 tons.⁴³ It is generally estimated that four units of bauxite will reduce to one unit of aluminum.⁴⁴

⁴⁰ Annuaire Statistique, p.211; Medlicott, The Economic Blockade, II, p.14.

⁴¹ Harold G. Moulton and Louis Marlio, The Control of Germany and Japan (Washington D.C: Brookings Institution, 1944), p.22

⁴² Klein, Germany's Economic Preparations for War, p.63; Annuaire Statistique, pp.123,236.

⁴³ Trivanovitch, Economic Development of Germany, p.129; Klein, Germany's Economic Preparations for War, p.77.

⁴⁴ James F. McDivitt, Minerals and Men: An Exploration of the World of Minerals and its Effect on the World We Live In (Baltimore: Johns Hopkins Press, 1965), p.101.

Wool, Cotton, and Zellwoole: Germany, being in the cooler temperate zone, grows no cotton. Furthermore, Germany produced only 25% of the wool that she consumed. In 1939, Germany used 249,000 metric tons of cotton, and 81,000 metric tons of wool.⁴⁵

However, Germany had developed a substitute for cotton in the ersatz material they called zellwoole. Made out of potato leaves, pinewood, beechwood, and straw, this artificial fabric assumed greater and greater importance. By 1939, Germany was able to produce 225,000 tons of zellwoole annually.⁴⁶ With pine, beechwood, and potato leaves in plentiful supply, especially with the addition of Polish and Norwegian territory, there was little likelihood of a crucial shortage of fiber from which to manufacture needed textiles. Production of zellewoole did much to alleviate the shortage of textile goods; a shortage which could have otherwise become critical.

Coal: Germany, particularly because of the Saar and Ruhr basins, was self-sufficient in coal production. Germany had bituminous coal in the Ruhr, Upper Silesia, and the Saarbrücken, and lignite in Leipzig, Dresden, and Chemnitz.⁴⁷ Germany's coal production stood at 212,000,000 tons

⁴⁵ Annuaire Statistique, p.278

⁴⁶ Heinrich Hauser, Battle Against Time: A Survey of the Germany of 1939 from the Inside (New York: Charles Scribner and Sons, 1939), p.126; Business Week, September 30, 1939, p.22.

⁴⁷ According to Clifford A. Mcfadden, editor of the Atlas of World Affairs, five tons of lignite is equal in heat energy to one ton of bituminous coal. p.70.

in 1938 and 225 million tons in 1939.⁴⁸ Coal was a product in plentiful supply in Germany. Not only did Germany have enough for wartime use, but used it as an export to pay for needed products. She used coal to obtain iron ore from Sweden and France, and also shipped coal to Italy in exchange for mercury, silk, and other Italian products. She combined coal with oil to make plexiglass for the Luftwaffe, and she used five tons of coal to make one ton of oil by breaking down coal into its component parts by the process of hydrogenation.⁴⁹ Beside this, coal was an indispensable source of energy for electricity, manufacture, heat and many other purposes.

Lead: Lead is important as a non-conductor of electricity. It is used in the cells of batteries to "store" the charge. It is used in cables to resist corrosion. It is used in paint to give it an enduring quality. It is mixed with gasoline to "soften" its explosion in an engine. It is also used in the manufacture of bullets in wartime.

Germany refined an average of 175,000 tons of lead per year from 1938 through 1941.⁵⁰ Germany was 40%

48 Annuaire Statistique, pp.105-108.

49 Borkin and Welsch, Germany's Master Plan, p.121.

50 Annuaire Statistique, p.235.

sufficient in lead ore; her 1939 production of 89,300 metric tons being typical. By 1941 it had increased to 101,500 metric tons.⁵¹ According to the Statistisches Reichsamt, Germany had a nine to ten month supply of smelted lead available at the War's beginning, an equivalent of 190,000 metric tons of smelted lead stockpiled.⁵²

Zinc: Zinc was used as a rust-preventive, malleable metal. It could be replaced by other metals or other coatings. It was important though not indispensable. There was a lack of concern about the zinc supply in Germany, as officials never mention it in their correspondence concerning the war economy. Germany was 70% sufficient in zinc supply at her peacetime use rate.⁵³ At the War's beginning, she had a 36 month supply, or a stock on hand of 283,000 metric tons.⁵⁴ It seems that Germany had enough or was able to procure enough to remain unconcerned in regard to her wartime sources of zinc supply.

⁵¹ Cleona Lewis and John C. McClelland, Nazi Europe and World Trade (Washington D.C: Brookings Institution, 1941), p.91; Gordon and Dangerfield, The Hidden Weapon, p.8; Annuaire Statistique, pp.121-122.

⁵² Klein, Germany's Economic Preparations for War, p.57; Medlicott, The Economic Blockade, II, p.656.

⁵³ Gordon and Dangerfield, The Hidden Weapon, p.8

⁵⁴ Klein, Germany's Economic Preparations for War, p.57; Medlicott, The Economic Blockade, II, p.656. Medlicott disagrees with Klein, stating an 11.5 month supply was on hand, but evidence points toward Klein's figure.

Tin: Germany produced no tin, and was 100% deficient.

Tin was used to preserve food in cans, and to mix with copper to make bronze. In 1941, however, the British Economic War Ministry Board judged the German tin supplies as adequate, and discontinued preemptory buying of tin on the world market.⁵⁵ Admiral Brassey also, reporting on the German Fuehrer's conference in 1943, reports that it was stated that Germany needed 7000 tons of tin per year, that her stockpile at the war's outset had been 7000 tons, and that in 1943 it had dwindled to 6700 tons.⁵⁶

Though the British Economic War Ministry estimated 7000 ton to be but a three to four month supply, it seems that that amount was indeed closer to a year's supply. According to the Reichmonatliche Rohstoffubersichten, Germany's need was not that great, as a 2% beryllium additive to copper would substitute for tin in making bronze, thereby cutting Germany's need for tin.⁵⁷ Furthermore, Spain, producing 100,000 tons of tin annually, could easily supply Germany's needs.⁵⁸

Copper: Copper is needed in the manufacture of ammunition. It is also very pliable and malleable. Because of its nature it can be easily drawn into wire which conducts electricity readily. It resists corrosion as well. Germany's

⁵⁵ Medlicott, The Economic Blockade, II, p.11

⁵⁶ Medlicott, The Economic Blockade, II, pp. 14,656.

⁵⁷ Borkin and Welsch, Germany's Master Plan, p. 237.

Medlicott, The Economic Blockade, I, p.26; II, p.656

⁵⁸ Annuaire Statistique, p.122.

self-sufficiency in copper was but 10%, as she produced on the average about 30,000 tons per year, but in peacetime used somewhere between 250,000 and 300,000 tons.⁵⁹ It was difficult for Germany to obtain copper, and she resorted to looting conquered countries of it as well as collecting it by governmental decree from her own civilian population.⁶⁰

According to the Statistisches Reichsamt, as cited by Medlicott, a stockpile of 183,000 metric tons of copper was possessed by Germany at the War's beginning; a 7-month supply.⁶¹

Phosphates and Pyrites: Phosphates are necessary as a nutrient to maintain soil productivity. They are important for sustaining crop yield and quality. Pyrites are basic to the chemical industry and necessary in the production of acids. Ferro-phosphates are used in making steel, and in the manufacture of incendiaries such as smokescreens.⁶²

German pyrite production in 1938 was 176,000 metric tons, which according to the British War Economics Board was a three or four month supply.⁶³ In phosphates, German production was 370,000 metric tons, representing 45% of consumption.⁶⁴ However, supply can be reduced on phosphates without immediate

⁵⁹ Annuaire Statistique, p.117; Gordon and Dangerfield, The Hidden Weapon, p.8; Lewis and McClelland, Nazi Europe and World Trade, p.87.

⁶⁰ Shirer, The Berlin Diary, pp.245-248.

⁶¹ Medlicott, The Economic Blockade, I, p.32; II, p.656.

⁶² Lewis and McClelland, Nazi Europe and World Trade, p.102.

⁶³ Medlicott, The Economic Blockade, I, p.26.

⁶⁴ Borkin and Welsch, Germany's Master Plan, p.8

critical effects. Germany would need to import these supplies in a prolonged war to sustain her food economy. There is no evidence pointing to the conclusion that Germany did not sustain her food production at adequate levels during World War II. Her chemical industry also continued without apparent collapse. It appears that Germany was not experiencing a serious shortage of phosphates and pyrites.

Manganese: Manganese is an almost indispensable element needed in the hardening of steel. It not only deoxidizes other metals used in the steel-making process, but also hardens iron into steel. Chrome sometimes is used to serve as a substitute, but chrome too was in short supply in Germany.

The sources of manganese were limited. Russia produced 2,000,000 and more tons per year, while in other areas accessible to Germany, Italy and Rumania were a distant second and third with only approximately 15,000 tons of annual production each.⁶⁵ Germany, producing none, had imported 253,000 tons in 1937.⁶⁶ However, Germany did not consume this much annually, as her 197,000 metric ton stockpile at the War's beginning was estimated as representing an eighteen to twenty month supply.⁶⁷

⁶⁵ Lewis and McClelland, Nazi Europe and World Trade, pp.106-107.

⁶⁶ Gordon and Dangerfield, The Hidden Weapon, p.7.

⁶⁷ Klein, Germany's Economic Preparations for War, p.63; Medlicott, The Economic Blockade, I, p.32; Lewis and McClelland, Nazi Europe and World Trade, pp.106-107.

Wolfram (Tungsten) Tungsten is also a necessary mineral in hardening steel. It is especially important in tool steel and machine tools. It is estimated that in 1938 Germany had twenty times as much tungsten carbide in use as did the United States; and that without adequate supplies of tungsten carbide, German industry would have taken twice as much time to achieve one-half the results.⁶⁸

Though the British War Economics Ministry estimated German need for tungsten at 6,000 tons per year, the German economic experts estimated her need at but 1,920 tons per year. Also, though tungsten was difficult to obtain, Germany was unwilling to export arms to China in exchange for tungsten imports.⁶⁹

Germany had a stockpile of 5,000 tons, according to the Monatliche Rohstoffubersichten of the Statistisches Reichsamt.⁷⁰ The amount of tungsten carbide that she had enabled her to ship machine tools to Russia without apparently hurting her own war effort. Judging by peacetime use, Germany had an eleven to fifteen month supply, but on restricted wartime use, the supply could be extended so that it would last for better than two years.⁷¹

⁶⁸ Borkin and Welsch, Germany's Master Plan, p.264.

⁶⁹ German Documents, Series "D", VIII, (Nov. 11-17, 1939), Doc. 345,368, pp.397,418; Medlicott, The Economic Blockade, I, p.528; II, p.14

⁷⁰ Medlicott, The Economic Blockade, II, p.656.

⁷¹ Klein, Germany's Economic Preparations for War, p.57; Medlicott, The Economic Blockade, I, p.32.

Chrome: Chrome is especially important in applying a tar-nish resistant coat to metals that would otherwise corrode. It is used to make steel stainless, and also used to harden metal needed for armor-plating in war machines. The chief sources for chrome ore were Turkey and Russia.⁷²

Germany produced no chrome ore herself, but her need was estimated by the German Economic Policy Department at 12,000 tons per month. She had a stockpile of 56,300 metric tons according to the Statistisches Reichsamt, or an eight month supply.⁷³

Nickel: Germany also needed nickel for coating and armor-plating. Though it also was in short supply, it does have substitutes. Germany was 100% deficient in nickel production. She had imported 6,000 tons of nickel in 1935 and 3,000 tons in 1936.⁷⁴ The Statistisches Reichsamt placed the German stockpile of nickel at 9,200 metric tons at the War's outset, and Medlicott estimated it as a thirteen month supply.⁷⁵

72 Annuaire Statistique, p.124.

73 German Documents, Series "D", VIII, Doc.577, p.650; Klein, Germany's Economic Preparations for War, p.57; Medlicott, The Economic Blockade, II, p.656.

74 Trivanovitch, Economic Development of Germany, p.129.

75 Medlicott, The Economic Blockade, I, p.32; II, p.656.

Other Miscellaneous War Materials: Germany also produced magnesium, the lightest of the light metals, for making bombs. Abundantly placed in soil, magnesium was available to Germany to the full extent that her capability to manufacture it would permit.⁷⁶ She produced antimony for hardening bullets. A 2,500 metric ton stockpile was estimated by Medlicott as a 13.6 month supply, and Germany could receive all she needed from Austria.⁷⁷

Germany was also 100% sufficient in nitrates for explosives and potash for fertilizer.⁷⁸ According to Medlicott, Professor Haber's process of extracting nitrogen from coke, water, and air, gave Germany 97% sufficiency in nitrate explosives by 1938-1939. Others point to their export of 164,700 tons of nitrates in 1937, and give them credit for complete self-sufficiency in that regard.⁷⁹

Platinum, used as an alloy in storage tanks for nitric and sulphuric acid, could be supplied in needed amounts by smuggling. The same was true for mica, industrial diamonds, and other precious gems, as a few pounds of these items would suffice for Germany's wartime need.⁸⁰

76 Moulton and Marlio, Control of Germany..., p.9; Borkin and Welsch, Germany's Master Plan, pp. 15, 230.

77 Annuaire Statistique, p.111; Medlicott, The Economic Blockade, I, p.32; II, p.656.

78 Gordon and Dangerfield, The Hidden Weapon, p.58

79 Lewis and McClelland, Nazi Europe and World Trade, pp. 121-123; Medlicott, The Economic Blockade, I, p.30.

80 Borkin and Welsch, Germany's Master Plan, pp. 48-54

Italian sulphur, gypsum for cement, and mercury could also supply Germany with 100% of her needs.⁸¹ Gold supplies were sufficient at the outset of the war to pay for Germany's needed imports for approximately 6 months from that date, and immeasurable quantities were added by loot from conquered countries.⁸² Plastics and wood products produced by I.G. Farben and other industries made it possible for Germany to cut back on civilian metal consumption, thereby converting metal for peacetime use into war materials.⁸³

81 Lewis and McClelland, Nazi Europe and World Trade, pp. 123-127.

82 Sternberg, From Nazi Sources, p.69

83 Borkin and Welsch, Germany's Master Plan, p.44.

II. The Nazi-Soviet Pact

A. Diplomacy of the Pact: On April 17, 1939, Kurt von Weizsacker, the Secretary of the German Foreign Office, was approached by the Russian Charge Merekalov, in regard to the formation of an economic alliance; economic negotiations to begin in Berlin.¹ After Maxim Litvinov was replaced by Molotov as Secretary in charge of foreign affairs in the Soviet Union, the Russian trade delegate Astakhov asked Walther Schnurre of Germany to find out if Molotov would be more acceptable to Germany than Litvinov had been.²

As negotiations for a Nazi-Soviet Pact warmed in Moscow, Molotov told Count von der Schulenberg, German ambassador to Russia, that economic agreement was impossible without a previous sound political base being laid.³ Molotov continued to give the Germans the impression that Russia might still sign an agreement with France and Britain rather than with Germany.⁴ However, Schulenberg took pains to point out to the German Foreign Ministry that Russia had not rejected economic and political discussions with Germany, but was actually encouraging them.⁵ In early June,

1. Irwin Deutscher, Stalin, A Political Biography, (New York: Oxford University Press, 1949), pp. 431-432.

2 German Documents, Series "D", VI, Doc. 332, p. 429

3 German Documents, Series "D", VI, Doc. 424, p. 558

4. William L. Langer and S. Everett Gleason, "Cold War Revision: Stalin's 'Blank Check' of 1939," The Outbreak of the Second World War, ed. John L. Snell (Boston, 1962), p. 12

5 German Documents, Series "D", VI, Doc. 478, p. 642

Russian-German economic negotiations were resumed. By the middle of June, 1939, the Russians let the Germans know through the channels of the Bulgarian Foreign Ministry that a Russian-German Pact would prevent a Russian-British agreement from being signed.⁶ However, Russia's repeated declarations of mistrust and suspicion of German good intentions prompted Hitler to suspend negotiations on June 27, 1939.⁷

Germany continued in its refusal to negotiate until mid-July. At this time, Russia was negotiating with Britain and France, but their negotiations aimed at encircling Germany with military might and preventing German aggression were stalemated on a disagreement concerning the meaning of "indirect" aggression.⁸ Russia became suspicious of the British stand in that regard. Suddenly, on July 16th, Russia offered to resume economic negotiations with Germany in the German capital, and on July 22nd, the Soviet news agency Tass published the same offer.⁹

Germany, aware of Russian duplicity, did not act upon this offer immediately. Finally, on July 29th, the German ambassador to Russia, Schulenberg, was instructed to state that Germany was willing to resume economic negotiations with Russia if Molotov would abandon his reserve. Simultaneously,

6 German Documents, Series "D", VI, Doc. 529, p.728

7 German Documents, Series "D", VI, Doc. 583, p.810

8 Langer and Gleason, "Stalin's Blank Check," p.18

9 German Documents, Series "D", VI, Doc. 699, p.955

Joachim von Ribbentrop conferred with Astakhov in Berlin, and told him that all problems from the Baltic to the Black sea could be solved between Germany and Russia.¹⁰ It only waited upon the Russian desire to remould the German-Russian relationship. Schulenberg talked to Molotov in early August, and after a satisfactory exchange of compliments, Molotov agreed to accept a credit agreement as a first step in improving Russian-German relations.

On August 10th, one day before the arrival of the British-French military mission in Moscow, Astakhov told Schnurre that Russia desired an improvement in political relations with Germany. Schnurre asked him to explain the remark in the light of the British-French military mission, or to explain the mission.¹¹ On August 14th, Russia indicated that she would like to continue political discussions, by easy stages. Ribbentrop then indicated his willingness to travel to Moscow, but Molotov, when broached concerning this trip, stated that such an important visit by a high-ranking German official would require extensive and long-term preparations on the part of Russia. Such a meeting, he stated, must include an agenda of Russian-German non-aggression, a guarantee of the Baltics as in Russia's sphere of interest, and German good offices being brought to bear on Japan to lessen Russian-Japanese tension.¹²

¹⁰ German Documents, Series "D", VI, Docs. 736, 760, pp. 1015, 1049-1050.

¹¹ German Documents, Series "D", VI, Doc. 775, p. 1072; German Documents, Series "D", VII, Doc. 18, p. 17.

¹² German Documents, Series "D", Docs. 56, 70, pp. 62, 76

Actually, the Russians were as happy to be negotiating as quickly as possible as was Germany, but Russia's Molotov and Stalin sensed German urgency. Finally, Hitler, without resort to the usual veiled language of diplomacy, wrote a personal message to Stalin, stressing the imminence of war and the need for speed in negotiations if the spoils were to be parceled out. He urged Stalin to receive Ribbentrop as early as possible. Stalin agreed to forward the date from August 26th or August 27th to August 23rd. Events were moving so swiftly that the meeting took place but two days after the arrangement for it was made.¹³

On August 19th, the economic protocol which was to be associated with the Pact was announced as completed.¹⁴ The stage was now set for Germany's attempt to isolate Poland, thereby "encouraging" France and Britain not to honor their commitments to her. Germany felt that with this Pact, she was all but eliminating the possibility of a general European war, and if one should nevertheless come, the Pact would ensure that for Germany it would not be a war against them from an eastern and a western front simultaneously.¹⁵

¹³ German Documents, Series "D", VII, Docs.113,158, pp.121-122,167.

¹⁴ Nazi-Soviet Relations, pp.83-84.

¹⁵ Allan Louis Charles Bullock, Hitler: A Study in Tyranny (New York: Harper and Row, 1952), pp.538-546.

B. Contents of the Pact:

a. Political:

Ribbentrop flew to Moscow on August 23, 1939. He and Stalin and Molotov sat up till 3 A.M. drawing up the detailed provisions of a Nazi-Soviet pact of non-aggression. This Pact was to be of ten years duration. In an amicable spirit they promised faithfully to refrain from attacking one another, to refrain from joining alliances directed against the other, and to consult on all future problems affecting the interests of both high contracting parties.¹⁶

In the Secret Protocol agreement attached, Poland was to be divided between them along the line of the Narew, Vistula, and Bug Rivers. In addition, Estonia, Latvia, and Finland were recognized as areas of exclusive Soviet interest, and Bessarabia was recognized as an area where Russia had a "special interest". Germany claimed "disinteressement" in the area of the Balkans and southeastern Europe.¹⁷

The only disagreement that rose was the question of Russia's demand for the ports of Liepaja and Ventspils on the Baltic (sometimes called Libau and Windau). On this question, Ribbentrop placed a special phone call to Hitler, and Hitler agreed to the Russian demand.¹⁸

16 Nazi-Soviet Relations, pp.77-78.

17 Nazi-Soviet Relations, pp.78-79

18 German Documents, Series "D", VII, Doc.210, p.223

b. Economic:

On August 19, 1939, the agreement on the economic part of the Pact was announced. However, its details were not made public. When the details of the Pact were discovered after the war, it became known that the economic commitments involved were quite extensive. The proposed Pact was to increase trade between both countries to the point where volume would be nine times the rate of from 1936 to 1938.¹⁹

Russia had agreed to supply Germany with 900,000 tons of oil in the first year of the Pact. The Pact as amended on September 28, 1939, called for an additional supply of one-half the annual output of the Russian controlled Polish oil fields, or an additional 500,000 tons (approximate). Since oil was in critical supply in Germany, it had inestimable value to the German war economy.

Equally important, Russia agreed to ship over one million tons of feed grains to Germany. Germany in the first World War had found her food and fodder supply to be insufficient. Although her self sufficiency on food production rose from 80% to as high as 90% by World War II, she still lacked complete sufficiency. Russia also shipped 500,000 tons of phosphates, 100,000 tons of cotton, and 100,000 tons of chromium to Germany.²⁰

19 Borkin and Welsch, Germany's Master Plan, p.58.

20 Nazi Soviet Relations, pp.77-78; German Documents, Series "D", Doc. 436, pp.427-430; Klein, Germany's Economic Preparations for War, pp.77,88-89; Atlas of World Affairs, ed. by Clifford H. MacFadden, Henry Madison Kendall, and George F. Deasy, (New York: Thomas Y. Crowell, 1946), passim

In exchange, Russia wanted mostly finished steel products and machine tools. Many of these were of military value. She asked for airplanes and ships, and also for German technicians to work on the construction of them. She wanted the plans for the warships Bismarck, Prinz Eugen, Seydlitz, and the ex-Lutzow. She wanted delivery of over 30 airplanes of various types, and she wanted patents on secret formulas for explosives and other German inventions. Germany did sell her the plans for the ships and deliver the planes, but refused to divulge patents on explosives as far as is known.²¹

A clearing agreement was arranged to eliminate the transfer of hard ~~currency~~. Russia was granted a credit toward the purchase of 200 million Reichsmarks worth of goods and services. However, Russia was to deliver ahead of Germany. Germany was to deliver a similar amount in 18 months that Russia was to deliver in 12 months. Soviet deliveries from the twelfth to the eighteenth month were to be counterbalanced by German deliveries from the sixteenth to the twenty-seventh month. Since the Pact lasted for twenty-two months, this turned out to be a decided German advantage with a German monetary gain of approximately 230 million Reichsmarks in war materiel.²² If Germany could not meet its quota and fell behind in deliveries, it remained the option of the Soviet Union to accept coal deliveries to equalize the trade.²³ It turned out to be a very favorable economic arrangement for Germany.²⁴

21 German Documents, Series "D", VIII, Doc.607, pp.763-4.

22 German Documents, Series "D", VIII, Doc.607, p.764.

23 Nazi-Soviet Relations, pp.77-78.

24 German Documents, Series "D", XII, Doc.280, p.474.

The Pact as Carried Out:

By Germany: In the case of German attacks upon Poland, Norway, Belgium, France, Yugoslavia, and Greece, Germany lived up to its agreement to inform Russia of her doings, but did not do so in a consulting manner. It was rather done as an "fait accompli".²⁵

Germany was not to join in any alliances against Russia, according to the provisions of the Pact. On September 27, 1940, Germany entered into a Tri-partite Pact with Italy and Japan; a political and military statement of agreement concerning objectives of the War. She did not inform Russia of this, but later invited Russia to join if Russia did so on Germany's terms.²⁶ Russia remained unconvinced that this pact was not actually directed against her, although in the pact there was a written stipulation that it was not to be construed as directed against Soviet Russia in any way.²⁷

On August 30, 1940, Germany and Italy made what is called "The Second Vienna Award" in the Balkans. Arbitrarily they settled a dispute between Hungary and Rumania, and Bulgaria and Rumania. The dispute threatened to shut off the German supply of oil from Rumania. Germany therefore settled it by

²⁵ Nazi-Soviet Relations, passim.

²⁶ Paul Schmidt, Hitler's Interpreter, (New York: Simon and Schuster, 1951), p.219

²⁷ The USSR: A Concise Handbook, ed. by Ernest J. Simmons, (Ithaca, New York: 1947), p.131

awarding part of Rumania's Transylvania to Hungary, and the Dobruja of Rumania to Bulgaria. Further, they guaranteed the adjusted Rumanian frontiers against Russia, although they did not admit that it indeed was directed against Russia.²⁸

Russia protested this award and guarantee bitterly, with Molotov saying, "Surely the German government could not have been in doubt that the Soviet government was interested in Hungary and Rumania."²⁹ Germany replied that such a Russian interest could not be admitted, since Russia had already procured what it had wanted from Rumania when it occupied Bessarabia and North Bukovina on June 23, 1940.³⁰

On October 13, 1940, German troops were invited to enter Rumania against Soviet wishes. Antonescu, premier of Rumania, was pro-German. On March 1, 1941, German troops were invited into Bulgaria, over which Russia had demanded a sphere of interest in October of 1939 and again in November of 1940 as a precondition to their accession to the Tri-partite Pact. On April 6, 1941, the Germans invaded Yugoslavia, a country which one day previous to this had signed a pact of friendship with Stalin and Russia. The Yugoslav cabinet with military backing had provoked this German attack by overthrowing the

²⁸ Stephen D. Kertesz, Diplomacy in a Whirlpool (Notre Dame: Notre Dame University Press, 1953), p.51.

²⁹ Kertesz, Diplomacy in a Whirlpool, p.52; German Documents, Series "D", X, Doc.515, pp.588-589.

³⁰ German Documents, Series "D", X, Doc.515, pp.588-589.

premier of Yugoslavia who had been pro-German. This greatly angered Hitler.³¹

These invasions were not in line with Germany's claim of "disinteressement" in the Balkans, but Germany claimed that the necessities of war forced her to occupy them, and she would withdraw upon the conclusion of peace.

Probably the crucial decision to discontinue the Pact was made between November 13th and 16th, 1940, when on Hitler's bidding, Molotov was invited to Berlin. The purpose of the Hitler-Molotov conference was to discuss Russia's active partnership in the Tri-partite Pact that had been signed two months before by Italy, Japan, and Germany. Hitler proposed that Russia join, and that Russia recognize that her paramount interests lay in the Batum and Baku region to Russia's south, and from there toward an outlet on the Indian Ocean. Molotov persisted in trying to settle problems related to Bulgaria and Finland.³² Hitler decided that Russia was not interested in a permanent pact, and was simply waiting for the opportune moment to enter the War on the side of Britain.³³ On November 25, 1940, Russia replied to Germany's offer officially. She would join the Tri-partite Pact if they could have air and naval bases in Turkey and the Dardanelles, and a protectorate over Bulgaria.

³¹ USSR: A Concise Handbook, p.131; Kertesz, Diplomacy in a Whirlpool, p.52; Walter Anger, Das Dritte Reich in Dokumentum, (Frankfurt am Main, 1957), pp.154-157.

³² Schmidt, Hitler's Interpreter, pp.219-224.

³³ Schmidt, Hitler's Interpreter, pp.224-225.

By Russia: Russia made peace with Japan on September 15, 1939, and entered Poland on September 16, 1939. Ribbentrop had suggested that Russia do so earlier, but Russia did not wish to appear to be an aggressor. On September 10, 1939, Russia suggested that she should enter with the excuse of saving her brother Slavs from German aggression. Ribbentrop refused to agree to this. Finally it was decided that Russia should enter on the pretext that she would rescue her Byelorussian and Ukrainian brothers from the state of anarchy that existed in Poland in view of the collapse of the Polish government.³⁸

Russia pressed the Baltics into giving her air and naval bases in October, 1939, but did not make them surrender their sovereignty as independent states. In June of 1940, however, she incorporated them into the Soviet Union while Germany was tied up in the west in the war against France. Russia also offered a mutual assistance pact to Bulgaria in October of 1939, but Bulgaria refused to accept it. As late as December of 1939, the German Foreign Office instructed Bulgaria that in case she should become involved in a war against Russia, she could not help her.³⁹

When Russia began a war with Finland on November 30, 1939, Germany maintained a strict neutrality. In September, 1939, Russia had given Germany a slice of Polish territory in the Lublin and Cracow regions for her sphere of interest

³⁸ John Scott, Duel for Europe (Boston: Houghton-Mifflin, 1942), p.39; German Documents, Series "D", VIII, Docs.46,70, pp.44,68

³⁹ German Documents, Series "D", VIII, Doc.454, p.533

in Lithuania. Russia was able to give Vilna back to the Lithuanians, and for the Germans to insist on revising Lithuanian frontiers in Germany's favor would make it appear that Germany was robbing Lithuania, and Russia was her "donor."⁴⁰

Russia unexpectedly demanded Bukovina along with Bessarabia in June, 1940, from Rumania. Germany was able to reduce her demand to Bessarabia and North Bukovina, but Germany resented Russia's taking advantage of Germany's preoccupation with the war in the west. Then on March 24, 1941, after Russia had insisted on Turkish territory as a necessary condition to her joining the Tri-partite Pact, Russia promised to "protect" Turkey's rear should Turkey become involved in a Balkan war.⁴¹ The insinuation was that Russia would welcome a Turkish attack upon Germany.

Finally, Russia's pressure on Germany to remove troops from Finland, and her friendship pact with Yugoslavia's anti-German government angered Germany even more.

Economically, Russia carried out her part of the Pact very well. She even agreed to deliver to Germany products from Iran, Afghanistan, Rumania, Japan, and Manchuria, and also agreed to act as a buyer for Germany on the world market.

⁴⁰ Nazi-Soviet Relations, pp.103-123

⁴¹ USSR: A Concise Handbook, pp.132-133

In the last months of the Pact, Russia was doing all in her power to appease Germany economically. Schnurre commented that as voluminous as were Russia's deliveries to Germany, that Russia's attitude suggested that Germany could press for even more Russian deliveries.⁴²

42 German Documents, Series "D", VIII, Doc.163, p.168;
German Documents, Series "D", XI, Docs.128,437, pp.221-223,
766-767; German Documents, Series "D", XII, Doc.659, p.1063.

III. EFFECT OF THE PACT UPON TRADE RELATIONS BETWEEN GERMANY AND RUSSIA

A. Nazi-Soviet trade relations:

Russia did everything in its power to fulfill the economic conditions specified by the Pact. The lack of complaint throughout the secret German documents captured by the Allies is evidence in itself of Russian fulfillment.¹ Also, Gustav Hilger, a member of the German trade staff dealing with Russia, states that as of April 13, 1941, the Soviets were fulfilling the terms of the agreement.²

Previous to the Pact, German trade relations with Russia were on a limited basis. Hilger states that despite ideological differences existing between Germany and Russia from 1936 to 1939, short term clearing agreements were maintained and frequently balanced.³ With the Pact, Molotov called for an increase in trade to the extent of at least one billion Reichsmarks.⁴ Russia was a cooperative, willing partner of Germany's from the outset of the War. As Schnurre stated on February 26, 1940, "During the long and difficult negotiations, the desire of the Soviet government to help Germany and consolidate firmly the political understanding in economic matters too, became more and more evident." He goes on to imply that Russia was cooperative to the point of crippling her own economy.⁵

¹ Nazi-Soviet Relations, passim; German Documents, Series "D", VI-XII, passim.

² Gustav Hilger and Alfred G. Meyer, The Incompatible Allies (New York: Macmillan Company, 1953), p.326.

³ Hilger and Meyer, The Incompatible Allies, p.284.

⁴ Hilger and Meyer, The Incompatible Allies, p.50.

⁵ Nazi-Soviet Relations, p.134.

German officials expressed their opinion many times of the tremendous value of the Nazi-Soviet Pact to the German war economy. Karl Ritter, a German economic official, stated that Russian goods shipped to Germany in the first six months of the Pact were of such value that Hitler could not have considered attacking Russia during this time.⁶ Hitler himself, in a letter to Mussolini concerning the Nazi-Soviet Pact stated, "Our economies complement each other to an extraordinary degree. The trade agreement we have concluded with Russia, Duce, means a great deal to us in our situation:"⁷ In fact, the Pact was so important to Hitler that on March 30, 1940, he placed the filling of Soviet orders before deliveries to his own Wehrmacht rather than risk losing Russian supplies because of Germany's tardiness in making her deliveries to Russia.⁸

German-Russian Trade: Its value to the German war economy. Oil: In the first twelve months of the Pact, Russia shipped 900,000 metric tons of oil to Germany.⁹ In addition, on September 28, 1939, in the amended Pact, Russia agreed to ship oil over and above the originally specified amount; a quantity equivalent to the production of the Drohobysch-Boryslav regions of Poland, amounting to an addition of approximately 500,000 metric tons annually.¹⁰

6. Max Beloff, Foreign Policy of Soviet Russia till 1941, New York, 1947), p.294.

7. Max Jacobson, Diplomacy of the Winter War, (Cambridge, Mass.: Harvard University Press, 1961), p.190

8 Alan Louis Charles Bullock, Hitler: A Study in Tyranny, (New York: Harper and Brothers, 1952), p.526

9 Hilger and Meyer, The Incompatible Allies, p. 317.

10 Nazi-Soviet Relations, p. 109

39

Taking into account the German oil reserve of two million metric tons at the war's beginning, and Germany's 1939 production of approximately two million metric tons, Russia's oil shipment to Germany represents an increase of better than 33% in German supply.¹¹

However, it was the opinion of many experts that Germany needed between ten and thirteen million metric tons of oil to sustain her war economy.¹² Russia must be credited with supplying her own oil plus Poland's oil to Germany in view of statements by Schnurre, and Hilger that Russia was carrying out the terms of the Pact.¹³

Undoubtedly, over a million tons of oil per year was a major boost to the German war economy; so valuable that Germany was willing to surrender not only coal but steel tubing, machine tools, planes, ships, and military patents to attain it.¹⁴

¹¹ Medlicott, The Economic Blockade, I, p.57; Gordon and Dangerfield, The Hidden Weapon, p.7

¹² Hilger and Meyer, The Incompatible Allies, p. 185; Sternberg, From Nazi Sources, p. 106.; Medlicott, The Economic Blockade, I, p.33

¹³ Hilger and Meyer, The Incompatible Allies, p. 185; Nazi-Soviet Relations, p.134

¹⁴ German Documents, "Series"D,(February 11,1940) Doc. 607, pp.762-765.*

Iron and Steel: Russia delivered 500,000 tons of iron ore to Germany during the first year of the Pact, but since 80,000 tons of iron per month had to be used by German manufacturers to fill Russian orders, Germany did not gain in iron supply for her own war economy by iron ore shipped to her from Russia.¹⁵ With German home supply entirely inadequate, Russia's contributions nil, Germany had to rely on Swedish, and later French, iron ore shipments.

Food and Feedstuffs: The Nazi-Soviet agreement of September 28, 1939, specified one million tons of grain and legumes annually should be delivered to Germany by Russia.¹⁶ Kruitkov, the Russian economics minister, admitted to a total Pact delivery of 1,575,000 tons (metric).¹⁷ With German consumption standing at 23,000,000 tons annually,¹⁸ and prewar imports averaging 3.8 million tons, this Russian delivery in itself was not enough to alleviate a potential food shortage in Germany, but with supplies from other countries it assumes significance.¹⁹ However, Russia did offer Germany a supply for 1941-42 of five million tons in an effort to discourage Germany from breaking the Pact.²⁰ However Germany hoped to get 8.7 million tons of grain annually after the conquest of Russia.²¹

¹⁵ German Documents, Series "D", VIII, Doc. 438, p.512; Nazi-Soviet Relations, pp.131-133.

¹⁶ Nazi-Soviet Relations, pp. 123-133.

¹⁷ Medlicott, The Economic Blockade, I, p.668

¹⁸ Brandt, Management of Agriculture and Food, p.7

¹⁹ Medlicott, The Economic Blockade, II, p.644

²⁰ Brandt, Management of Agriculture and Food, p.454

²¹ Brandt, Management of Agriculture and Food, p.621

Wool and Cotton: Kruitkov admits to Russia supplying Germany with 1500 tons of cotton and 300 tons of wool.²² However, there is much evidence that his amounts are grossly understated. Russia herself had a bumper crop of cotton in 1940, yet did not diminish imports. U.S. exports of cotton to Russia plus cotton exports of other nations to Russia were suspected of being forwarded by Russia to Germany.²³ Also, Lord Halifax of England wrote to Sumner Welles that Russia had sent 60,000 tons of cotton to Germany from January to October of 1940.²⁴ Walther Schnurre of Germany picks up the story from there by stating that in 1941, Russia continued cotton shipments with an additional 23,000 tons.²⁵ Therefore the Russian commitment of 100,000 tons of cotton annually according to the terms of the Pact seems to have been filled according to this evidence and the indicated German satisfaction with Russian fulfillment of deliveries up to the final days of the Pact.

In view of Germany's prewar use of 249,000 tons of cotton annually,²⁶ this was a significant and important contribution to the German war economy; especially if considered along with the approximate German production of 225,000 tons of zellewoole in 1939-1940.²⁷

22 Medlicott, The Economic Blockade, I, p.668

23 Medlicott, The Economic Blockade, I, pp.493-495.

24 Medlicott, The Economic Blockade, I, p.495.

25 German Documents, Series "D", XII, (May 15, 1941), Doc. 521, p.826

26 Annuaire Statistique, p.279

27 Hauser, Battle Against Time, p.126; Business Week, September 30, 1939, p.20-22.

Coal: Germany was 100% sufficient in coal supply. She shipped some of her surplus coal to Russia. Coal was a product that Germany could use to pay for many of her imported products needed in time of war.²⁸

Phosphates and Pyrites: Kruitkov states that Russia shipped but 200,000 tons, but the Pact called for 500,000 tons annually, and this is more reliable in view of the captured German documents.²⁹ With the German phosphate supply of 370,000 tons representing 45% of German prewar consumption, and pyrites being the base of the chemical industry, this Russian shipment represents a valuable though not an irreplaceable supply.³⁰

Manganese: Russia shipped an admitted 165,000 tons of manganese to Germany.³¹ This represented at least a fifteen month supply to Germany at the German wartime-use rate, despite Germany's prewar import rate of better than 200,000 tons per year.³² Since manganese was in fact irreplaceable as a deoxidizer in the German steel-making process, Russia's contribution to the German war economy in this instance was essential and irreplaceable, as no other country with which Germany could trade could supply one-tenth of the manganese which Germany needed yearly.

28 German Documents, Series "D", VIII, Doc.607, pp.762-769.

29 Medlicott, The Economic Blockade, I, p.668; Nazi-Soviet Relations, p.133

30 Borkin and Welsch, Germany's Master Plan, p.8.

31 Klein, Germany's Economic Preparations for War, p.63.

32 Medlicott, The Economic Blockade, I, p.32; Klein, Germany's Economic Preparations for War, p.32; Lewis and McClelland, Nazi Europe and World Trade, pp.106-107.

Chromium: The Nazi-Soviet Pact called for Russian delivery of 100,000 tons of chrome, but Russia admitted to the delivery of only 24,000 tons.³³ The use of chrome was as a rust-inhibitor in the manufacture of steel, and as a strengthening agent in the production of armor plating.

Germany estimated her war need at 12,000 tons per month, and had on hand a stockpile of 56,300 metric tons.³⁴ In view of the agreements of the Nazi-Soviet Pact, and the evident fulfillment of them by Russia to German satisfaction, the Russian supply to Germany would more properly be estimated at close to the promised 100,000 tons annually, and of major importance to Germany, since only Turkey could have provided a like supply, and Turkey's chrome in the years of the Pact was committed to the Allied cause.

Nickel: Norway and Canada were the important sources of German supply. Germany estimated her need at at least 9,000 tons per year.³⁵ Russia would admit to shipping none, but according to the Pact, she had to ship at least 3,000 tons per year with which Germany would produce products for Russia. Beside this, Germany was trying to get Russian recognition of her right to the nickel of the Petsamo region of Finland.³⁶ Russian contributions of nickel, however, were unimportant in relation to the quantity needed by Germany.

³³ Nazi-Soviet Relations, pp.132-133; Medlicott, The Economic Blockade, I, p.688.

³⁴ German Documents, Series "D", VIII, Doc.577, p.650; Klein, Germany's Economic Preparations for War, p.57; Medlicott, The Economic Blockade, II, p.656.

³⁵ Medlicott, The Economic Blockade, I, p.369; II, p.656.

³⁶ German Documents, Series "D", X, Doc.87, p.108.

There were other products provided by Russia to Germany of lesser importance, but other than those fore-mentioned, Russia's value to Germany was that of a buyer for Germany on the world market, and a middleman in the transit of goods to Germany from other foreign countries. On September 28, 1939, Russia agreed to act as a buyer for Germany on the world market.³⁷

37 Nazi-Soviet Relations, p.134

B. Goods Purchased by Russia for Germany, or Shipped Through Russia to Germany:

There was an evident willingness on the part of Russia to aid Germany, according to Schnurre. This continued for the duration of the Pact with few lapses of Russian good will. Even when on November 11, 1940, Germany fell eighty-four million Reichsmarks behind schedule on treaty commitments, the Russian attitude remained favorable to Germany.³⁸ On September 28, 1939, Russia not only agreed to act as a buyer on the world market for Germany, but also agreed to allow goods in transit to Germany from Manchuria, Japan, China, Iran, and Afghanistan to go through Russian territory at reduced rates.³⁹ The products that Germany received in this manner cannot be fully determined, but some of those that can be confirmed are as follows:

Rubber: Approximately 18,000 tons of raw rubber was transhipped to Germany through Russia.⁴⁰ Germany needed 3,000 tons of raw rubber per year to mix with buna to create its needed amount of artificial rubber.⁴¹ 18,000 thousand tons therefore represents a possible six year supply for Germany, as 3,000 tons would mix with approximately 100,000 tons of buna; 3,000 tons thereby assuming great significance.⁴²

³⁸ German Documents, Series "D", XI, (Nov. 11, 1940), Doc. 318, p. 523

³⁹ Nazi-Soviet Relations, p. 134; Medlicott, The Economic Blockade, I, pp. 670-671.

⁴⁰ Medlicott, The Economic Blockade, I, pp. 670-671.

⁴¹ Medlicott, The Economic Blockade, II, p. 14

⁴² Annuaire Statistique, p. 211

Wool and Cotton: The estimated amount of wool and cotton shipped through Russia to Germany is 48,000 tons.⁴³ Prewar German use was approximately 330,000 tons of these fabrics combined.⁴⁴ However, zellewoole, a replacement fabric for wool and cotton, had risen in production by the time of the Pact to approximately 225,000 tons annually, and home wool production was registered as 20,000 tons.⁴⁵ Therefore the imports through Russia accounted for but 15% of German need, but the quality of the fiber in wool and cotton was usually considered superior to zellewoole, and the imports were therefore important. Though not vital, they represented a boon to the German war economy.

Tin and Tin ore: Shipments amounted to better than 1,000 tons.⁴⁶ Germany's need stood at 7,000 tons per year, and her production at zero. The German prewar stockpile was also 7,000 tons, so this was a contribution of limited value.⁴⁷ Spain produced 100,000 tons of tin annually, and could easily supply Germany's needs.⁴⁸

43 Medlicott, The Economic Blockade, I, pp.670-671

44 Annuaire Statistique, p.211

45 Annuaire Statistique, p.279

46 Medlicott, The Economic Blockade, I, pp.670,671

47 Medlicott, The Economic Blockade, II, pp.14,656

48 Annuaire Statistique, p.122

Copper: Approximately 5,000 tons was trans-shipped across Russia.⁴⁹ Germany's own yearly production was about 30,000 tons, and her yearly need estimated at between 250,000 and 300,000 tons.⁵⁰ In terms of German need and German production, this represents but a small contribution.

Manganese: Shipments were approximately 175 ton.⁵¹ With German need placed at 197,000 metric tons every twenty months, the amount is insignificant, but Russia herself supplied Germany with a minimum of 165,000 tons of manganese.⁵²

Antimony: Approximately 260 tons.⁵³ 2,500 metric tons was equal to more than a year's supply for Germany. This amount is better than ten percent of that, but relatively unimportant, as Austria had more than a sufficient supply to satisfy German needs.⁵⁴

Fats and Oils: Approximately 300,000 tons.⁵⁵ Germany's estimated need of fat was 400,000 tons annually.⁵⁶ This transit was significant in maintaining the German diet in this respect, as the transit total amounted to an approximate nine month supply, and Germany was rated but 60% sufficient.⁵⁷

49 Medlicott, The Economic Blockade, I, pp.670-671

50 Gordon and Dangerfield, The Hidden Weapon, p.8; Annuaire Statistique, p.117; Lewis & McClelland, Nazi Europe and World Trade, p.87

51 Medlicott, The Economic Blockade, I, pp.670-671.

52 Klein, Germany's Economic Preparations for War, pp.57,63.

53 Medlicott, The Economic Blockade, I, pp.670-671

54 Annuaire Statistique, p.111; Medlicott, The Economic Blockade, I, p.34

55 Medlicott, The Economic Blockade, I, pp.670-671

56 Nazi-Soviet Relations, pp.198-200.

57 Medlicott, The Economic Blockade, I, p.34

In addition, Russia is suspected of buying huge quantities of raw materials for Germany on the world market, as her import total showed a significant increase after the Pact. Even the Allied blockade of Germany worked poorly because of Russia's "open door" to Germany.⁵⁸

When Field Marshal Goering issued a decree against strengthening Russia's war potential, the Reich Food Ministry countered with the statement that Russia "is our sole economic contact with Japan, China, Manchukuo, Iran, Afghanistan, and South America."⁵⁹

C. German Exports to Russia: Germany exported finished machine tools, military patents, tube steel, and coal to Russia.⁶⁰ Germany often fell behind on delivery, and at the time of the close of the Pact, Germany had received goods of more value than she had surrendered in monetary terms, as Russia was to deliver as much material in eighteen months as Germany was to deliver in twenty-seven months. According to agreement, Russia was to deliver 285 million Reichsmarks worth of material in the closing months, to be balanced by but 117 million Reichsmarks worth of deliveries by Germany.⁶¹

⁵⁸ Gordon and Dangerfield, The Hidden Weapon, p.199

⁵⁹ German Documents, Series "D", (Sept. 28, 1940), Doc. 128, p. 223

⁶⁰ German Documents, Series "D", Doc. 607, pp. 762-767 * (VIII)

⁶¹ German Documents, Series "D", VIII, Doc. 607, p. 762*

XI, Doc. 637, p. 1066

Airplanes and patents for ships were considered top priority by Russia.⁶² When Russia complained of the slowness of German delivery and accused Germany of bad faith, Goering interjected that "Russian raw materials are absolutely vital to us."⁶³ Hitler then ordered even German Wehrmacht deliveries to be second to fulfilling the Russian orders for military equipment.⁶⁴

Russian requests for German goods and services included plans for the German ships Bismarck, Seydlitz, Prinz Eugen, and the pocket-battleship ex-Lützow, as well as requests for thirty-eight various aircraft, synthetic rubber, and equipment to aid in the oil distillation process.⁶⁵

According to Schulenberg, German ambassador to Moscow, in a communique as late as May 24, 1941, Russia apparently did everything in her power to carry out the terms of the Pact.⁶⁶ Russia had adopted an extremely cooperative attitude toward Germany dating back to the downfall of France.⁶⁷ Russia seemed to act on the assumption that economic appeasement of Germany would prevent a German attack upon Russia.⁶⁸

62 German Documents, Series "D", VIII, Doc.607, pp.762-767*

63 German Documents, Series "D", IX, p.60

64 German Documents, Series "D", IX, p.60

65 German Documents, Series "D", VIII, Doc.607, pp.762-767*

66 Nazi-Soviet Relations, (May 24, 1941), p.345

67 Hilger and Meyer, The Incompatible Allies, p.127

68 Medlicott, The Economic Blockade, I, pp. 635-638.

It might be assumed that on the basis of the last diplomatic exchange before Germany attacked Russia that, since Ribbentrop did not give as one of the reasons of the German attack upon Russia that Russia had broken the economic agreements of the Pact, that in actuality Russia had lived up to these agreements and had fulfilled her part of the economic bargain.⁶⁹

Assessment of loss to the German war economy:

- Russia was not able to benefit fully during World War II from German warship designs, and very little from German airplane designs. Machine tools undoubtedly helped Russia, but she could have received the same help on the world market had Germany not helped her. Therefore Germany received an indispensable, irreplaceable help from Russia, as British blockade of Germany prevented free German access to world markets, whereas Russia did not receive an irreplaceable help from Germany.

Germany, with a well-developed arms industry and military armaments program, plus Czechoslovakia's Skoda munitions works, could afford to give up machine tools, coal, military supplies and patents much more than she could afford to be without necessary supplies of oil for her war machine. Likewise, except for Russian aid, Germany would have been without manganese essential to the steel-making process, and without the reserve of grain needed to maintain the morale of the German army and people. The gains experienced by the German war economy appear

⁶⁹ German Documents, Series "D", XI, Doc.659, p.1063

to more than offset the losses. As Medlicott states, German exports to Russia were well within German peacetime capacity, though harder to sacrifice in time of war.⁷⁰

⁷⁰ Medlicott, The Economic Blockade, I, p.327.

IV. EFFECT OF THE PACT UPON TRADE RELATIONS BETWEEN
GERMANY AND OTHER NATIONS

A. German Trade Relations with Rumania:

Russia was interested in territorial acquisitions in Rumania before the Pact, but the British guarantee of Rumanian territory prevented any Russian action against her.¹ Also, an almost certain attack stemming from Hitler's Germany in this case prevented such Russian action. The secret protocol of the Pact, however, was to deprive Rumania of Bessarabia. Germany expressed her disinterest in the Balkans, and recognized Russian interest in Bessarabia.²

Furthermore, Russia demanded Bukovina from Rumania while Germany was entangled in war against France in the west. German objection to this demand saved Southern Bukovina for Rumania. Germany and Italy then, in the Second Vienna Award, guaranteed the remaining Rumanian territory after having bestowed the Dobruja on Bulgaria and Transylvania on Hungary.³ Rumanian oil supplies, however, remained intact. Germany had to see to this, as Germany needed Rumanian oil very badly.⁴

1. Simmons, U.S.S.R: A Concise Handbook, p.127

2 Heinz Georg Holldack, Was Wirklich Gschah: Die Diplomatischen Hintergründe der Deutschen Kriegspolitik (Munchen: Nymphenberger Verlagshandlung, 1948), p.235

3 Nazi-Soviet Relations, p.180.

4 Antonin Basch, The Danube Basin and the German Economic Sphere (New York: Columbia University Press, 1943), p.183.

On October 13, 1940, German troops entered Rumania upon the bidding of Premier Antonescu. The Pact therefore had the result of minimizing British influence in Rumania. As Ribbentrop had stated in August of 1939, and as Germany and Russia reaffirmed with their joint declaration of September 28, 1939, all problems from the Baltic to the Black were exclusively the province of Germany and Russia.⁵

The Pact drove Rumania politically and economically into alliance with Germany. It also had the result of reducing Rumania's territory, Russia gaining Bessarabia and North Bukovina. However, the valuable oil fields in the Ploesti region remained in Rumanian possession and thereby strengthened Germany immeasurably.

Goods imported by Germany from Rumania: The more important products delivered by Rumania to Germany or otherwise allocated to German use were as follows:

Oil: According to the agreement of September 29, 1939, Rumania was to deliver to Germany a minimum of 100,000 tons of oil per month.⁶ In actuality, delivery far exceeded the minimum amount agreed to. In 1941, Rumania shipped to Germany three million tons of oil, and the Wehrmacht used a great deal more.⁷ Rumanian yearly production during this time averaged about six million tons.⁸

⁵ German Documents, Series "D", VIII, (September 28, 1939), Doc. 161, p.167; Nazi-Soviet Relations, pp.74-75.

⁶ German Documents, Series "D", VIII, Doc. 166, pp.172-173

⁷ Brandt, Management of Agriculture and Food in German Occupied and other Areas of Fortress Europe, p.222.

⁸ Annuaire Statistique, p.111

Before July, 1940, Astra-Romana, Rumania's largest oil refinery, did not supply Germany, but even this supply fell to Germany as Germany tightened its economic grip on Rumania.⁹

German oil production was not much in excess of two million tons, including oil produced by hydrogenation of coal and by natural processes.¹⁰ In 1937, Germany had imported 4.3 million tons of oil. In 1938, she had consumed 7.1 million tons.¹¹ Though German self-sufficiency was rated at 33%, the British Petroleum Board estimated that her war need of oil might be double her peacetime need.¹² However, according to the Rustungs und Wirtschaftsamt, Germany had 2,134,000 tons of oil in reserve.¹³ Germany's import of three million tons of Rumanian oil and her on-the-scenes use of oil in excess of that was therefore essential to Germany in maintaining a strong war effort.¹⁴ Kurt Wiehl of the German War Economics Department estimated that Germany needed 400,000 tons of Rumanian oil from September to December of 1939 along with Russian shipments and Polish oil in order for Germany to be able to stave off gas rationing.¹⁵

9 Mendershausen, The Economics of War, p.45

10 Annuaire Statistique, p.111

11 Medlicott, The Economic Blockade, I, pp.33-34.

12 Medlicott, The Economic Blockade, I, p.33

13 Medlicott, The Economic Blockade, I, p.57

14 Brandt, Management of Agriculture and Food, p.222

15 German Documents, Series "D", VI, p.954

Russia recognized Germany's paramount interest in Rumanian oil.¹⁶ Rumania could provide Germany with three times the amount of oil that Germany herself could produce, and even with this addition, oil supply in Germany in wartime was so short that it nevertheless had to be rationed.¹⁷

German need for oil was not satisfied, even with Rumania's supply available to them. As stated by Ihor Kamenetsky, "Germany must have oil, some ten million tons a year. She was receiving only a million or so tons from Russia. The only way to get ten times as much from Russia would be to come in and take it."¹⁸ As seen, Rumanian oil did not satisfy German war demand, as even with it such oil-conserving tactics as rationing and the blitzkrieg-type warfare had to be employed. However, the Rumanian supply was irreplaceable and vital. The pipeline to carry oil from the Ploesti fields of Rumania to Germany, begun in 1940, demonstrates its need to Germany.¹⁹

Food and Feedstuffs: The agreement of September 29, 1939, provided that Rumania would ship to Germany 1,800,000 tons of corn, wheat, and barley. This represents an 8% increase in German supply, and better than 40% of Germany's average prewar import of food and feedstuffs.²⁰ This helped enable Germany to maintain her caloric intake per day per adult at 2,850.²¹

16 German Documents, Series "D", X, Doc.183, p.238.

17 Shirer, Berlin Diary, passim.

18 Ihor Kamenetsky, Secret Nazi Plans for Eastern Europe (New York: Bookman Associates, 1961), p.185

19 "Economic Chess", Business Week, (December 14, 1940), p.61

20 Medlicott, The Economic Blockade, II, p.644

21 Annuaire Statistique, pp.272-275.

Rumania was 110% sufficient in grain production, and once in economic control, Germany undoubtedly requisitioned the excess; an excess increased by German directed food rationing in Rumania.²² This increase was offset by greater wartime need. As Mendershausen states, greater wartime need means that wartime production must be 140% of peacetime production in order to maintain self-sufficiency.²³ The importance of Rumanian grain to Germany is indicated by Ribbentrop remarking to Schulenberg, "So, for example, the extraction of Rumanian oil..., the uninterrupted flow of Rumanian grain to Germany...are becoming of ever more vital significance for the Axis powers."²⁴

Manganese: The Resica mines of Rumania were under German control.²⁵ Germany produced none, but had 197,000 tons in reserve. Russia's annual shipment of 165,000 tons was considered a fifteen month supply.²⁶ Rumania's 15,000 tons produced annually was not vital to Germany, but helped maintain her reserves.²⁷

Wool: Rumania's export to Germany was about 20,000 tons per year.²⁸ German production and prewar imports were both near 80,000 tons annually.²⁹ Zellwoole reduced her need of Rumanian wool.²⁹

German Goods Exported to Rumania: Of Rumanian total imports, the amount from Germany rose from 30% to 90% from 1939 to 1943.³¹ Germany delivered mostly captured Polish weapons to Rumania.

22 Basch, The New Economic Warfare, p.134.

23 Mendershausen, The Economics of War, p.6.

24 Nazi-Soviet Relations, p.179.

25 Munk, The Legacy of Nazism, p.148.

26 Medlicott, The Economic Blockade, I, p.32.

27 Lewis and McClelland, Nazi Europe & World Trade, p.106

28 Annuaire Statistique, p.279.

29 Annuaire Statistique, p.279.

30 Hauser, Battle Against Time, p.126.

31 Brandt, Management of Agriculture and Food, p.221

32 German Documents, Series "D", VIII, Doc.166, pp.172-173.

B. German Trade Relations with Hungary

Hungary was controlled by a Magyar government. Previous to the Pact Hungary maintained neutrality between Russia and Germany.³³ She actually was opposed to any attempt by either to encroach upon her sovereignty. She had strong trade ties with Germany, and weaker ones with Russia.

Upon completion of the Pact, Hungary's geographical position made it plain to her that she could expect no help against Germany's threat of using military force to secure her wishes. Hungary, unlike Poland, realized the futility of armed resistance to Germany in the new strategic situation created by the Pact.³⁴ The Pact put Hungary in such a position that she had to compromise her sovereignty in order to retain a semblance of it.³⁵ She leaned toward closer relations with Germany, but nonetheless was occupied by German troops in November of 1940. She traded less with Russia and gave in to German demands. Eventually, on September 27, 1940, she adhered to the Tri-partite Pact with Germany, Italy, and Japan.³⁶ In turn, Germany supported the Hungarian claims to Ruthenian Czechoslovakia and Transylvania in Rumania.³⁷

Goods imported by Germany from Hungary: In June of 1939, economic cooperation between Hungary and Germany was agreed upon.³⁸ On July 24, 1939, Count Teleki, Hungarian premier, agreed

33 Kertesz, Diplomacy in a Whirlpool, p.43

34 Kertesz, Diplomacy in a Whirlpool, pp.43-46.

35 Kertesz, Diplomacy in a Whirlpool, pp.52-53.

36 Simmons, U.S.S.R: A Concise Handbook, p.131

37 Kertesz, Diplomacy in a Whirlpool, p.51

38 Kertesz, Diplomacy in a Whirlpool, p.41

to coordinate the Hungarian economy with the German economy in event of war.³⁹ Subsequently with Hitler brow-beating Hungarian President Horthy, German troops were permitted to occupy Hungary as of November 20, 1940.⁴⁰

Hungary's economy was undoubtedly then bent completely to German war aims if it had not been previously.⁴¹ It therefore can be implied that where Hungary produced a product in which Germany was deficient, she could be compelled, either by economic reward or by force, to relegate it to Germany upon demand. The following Hungarian products fall into that category:

Oil: Hungary's crude oil production rose from 43,000 tons in 1938 to 144,000 tons in 1939, to 254,000 tons in 1940, and 427,000 tons in 1941.⁴² Undoubtedly, Germany, needing at least ten million tons annually, received the benefit of the increase.⁴³

Iron Ore: Hungary's 70,000 tons of iron ore production was insignificant in terms of German needs. Hungary's industrial complex was capable of smelting a million tons of iron ore annually, but according to Klein, Germany had an industrial complex more than ample for smelting and finishing whatever iron ore it was possible for her to obtain.⁴⁴

39 German Documents, Series "D", VI, Doc.712, p.972.

40 Anger, Das Dritte Reich in Dokumenten, p.156

41 Brandt, Management of Agriculture and Food, p.185.

42 Annuaire Statistique, p.111.

43 German Documents, Series "D", XII, Doc.580, p.935.

44 Klein, Germany's Economic Preparations for War, p.115.

Grain: Hungary's export of grain to Germany averaged 165,000 metric tons per year during the years of the Pact.⁴⁵ In view of the German need for twenty three million tons, of which 3.8 million was the average annual import, this was not of great significance. This is especially true in that potatoes and other crops may serve as a substitute.⁴⁶

Bauxite: Hungary ranked second in world production, producing 540,000 and 781,000 metric tons in 1938 and 1940 respectively.⁴⁷ The increase reflects German demand. Germany was using aluminum as a substitute for copper where she could, as copper was in short supply. Aluminum served its purpose in airplane construction as well as in being an electrical conductor.⁴⁸ Seventy-five percent of the German bauxite supply came from Italy and the Balkans, with Hungary as the chief source of supply.⁴⁹ In view of Germany's complete lack of workable bauxite deposits, but her smelting of up to 300,000 tons of aluminum annually, Hungary's bauxite deposits assumed great importance in the German war effort.⁵⁰

⁴⁵ Brandt, Management of Agriculture and Food, p.196

⁴⁶ Brandt, Management of Agriculture and Food, p.7; Medlicott, The Economic Blockade, II, p.644.

⁴⁷ Annuaire Statistique, p.123

⁴⁸ Moulton, The Control of Germany and Japan, p.22

⁴⁹ Klein, Germany's Economic Preparations for War, p.63.

⁵⁰ Louis Domerotzky, "The Industrial Power of the Nazis", Foreign Affairs, XIX, No.2 (April, 1941), pp.641-654.

Coal: Hungary produced between eight and ten million tons of lignite, but in view of Germany's surplus coal, this was of only minor significance to Germany's war economy.

Hungary had no raw materials important to Germany's war economy other than those forementioned; but her annual business productivity and technological know-how, especially in the manufacture of armaments and electrical equipment, made her contribution even more vital to Germany.⁵¹

German Exports to Hungary: Including a great variety of materials, they were of such a nature so as not to hurt Germany's war economy. The economic pacts with Germany signed by Hungary and Hungary's domination by Germany assured this, as is evident in the economic agreement between them of January 17, 1940.⁵²

⁵¹ Munk, The Legacy of Nazism, p.31

⁵² German Documents, Series "D", VIII, Doc.545, p.675.

C. German Trade Relations With Poland:

Poland was divided between Germany and Russia by the terms of the Nazi-Soviet Pact. Poland's economy became completely subservient to German war aims. For the most part, the Polish resources of iron, coal, animals and grain fell to Germany; and oil mostly to Russia.⁵³ However, the Soviets agreed to turn over most of the Polish oil, or the equivalent of the oil production of the Drohobycz-Boryslav region, to Germany in exchange for German steel tubing.⁵⁴

Goods Imported by Germany from Poland: Oil: About 500,000 tons of oil were received annually by Germany from the Russian-controlled Drohobycz-Boryslav region of Poland.⁵⁵ Germany, with gas rationing and exhaustion of oil reserves by 1942, desperately needed this oil.⁵⁶

Grain: Poland had, after the Pact, a continuing surplus of grain each year of about 600,000 tons.⁵⁷ However, Poland's average annual potato harvest of better than thirty-eight million tons was even more important to Germany. Germany used parts of Polish crops such as potatoes to feed its occupational army.⁵⁸ Beside this, potatoes were used in Germany for making light oils, and the leaves were used for the manufacture of

53 Clifford H. Macfadden, Henry Madison Kendall, and George F. Deasy, Atlas of World Affairs (New York: Thomas Y. Crowell, 1946), p.74

54 German Documents, Series "D", VIII, (February 11, 1940), Doc. 607, p.766*

55 German Documents, Series "D", VIII, Doc.607, p.766*

56 Medlicott, The Economic Blockade, II, p.652

57 Annuaire Statistique, pp.268-269; Brandt, Management of Agriculture and Food, p.51

58 Brandt, Management of Agriculture and Food, p.633

zellwoole and in the feeding of cattle.⁵⁹

Coal: Polish coal gave Germany an important surplus to use for trade.⁶⁰ She used it to increase her shipments to Italy and Russia as well as to other countries.⁶¹

Zinc: Poland was able to supply Germany with enough zinc to give Germany self-sufficiency in that metal, as Poland's production of 72,000 tons average annually could be added to Germany's 170,000 tons.⁶² However, Germany, with a thirty-six month zinc supply, was in no immediate danger of shortage.⁶³

Poland's other contributions, such as men and booty, Polish factories dismantled and taken to Germany, and other Polish assets taken by Germany are immeasurable, but of great importance to the German war effort. Nazi-occupied Poland's total war potential can be said to have been Germanized.

⁵⁹ Munk, The Legacy of Nazism, pp.38-39; Hauser, Battle Against Time, p.126; Business Week, September 30, 1939, p.22

⁶⁰ Medicott, The Economic Blockade, II, p.10

⁶¹ German Documents, Series "D", VIII, (October 4, 1939), Doc. 192, p.207

⁶² Lewis and McClelland, Nazi Europe and World Trade, p.7; Annuaire Statistique, pp.122, 235

⁶³ Klein, Germany's Economic Preparations for War, p.57; Medicott, The Economic Blockade, II, p.656.

D. German Trade Relations with Yugoslavia

The Pact at first had little effect on Nazi-Yugoslav trade relations. On April 7, 1941, Germany invaded Yugoslavia, and chained her economy to the German war effort. However, what the Pact did not do, the economic policies of Hjalmar Schacht did do. Yugoslav trade was tied to Germany by his barter mark and clearing arrangement plans.⁶⁴

Strategic location of Yugoslavia, very close to Italy, Germany's ally, made her vulnerable to Axis pressure, and she therefore did cooperate closely with them.⁶⁵ Yugoslavia's desire for arms, and her need to export her agricultural surplus found Germany ready and able to trade with her. Also, Yugoslavia produced many minerals of importance to Germany, including chromium, copper, bauxite, lead, and antimony.⁶⁶

Lead: Yugoslavia's lead production nearly equalled Germany's, being an average of 84,000 tons annually just before the Pact. Germany produced nearly 90,000 tons annually, but since their annual need stood at 175,000 tons, Yugoslavia's lead was extremely important to her.⁶⁷

⁶⁴ Ernest Hambloch, in Germany Rampant: A Study in Economic Militarism, (New York: Carrick and Evans, 1939), pp. 218-228, discusses Germany's barter-mark and clearing-house, and how it worked to German advantage.

⁶⁵ German Documents, Series "D", VI, Doc. 205, p. 249

⁶⁶ Annuaire Statistique, pp. 120-128

⁶⁷ Annuaire Statistique, pp. 121-122; Klein, Germany's Economic Preparations for War, p. 57; Medlicott, The Economic Blockade, II, p. 656.

Copper: Yugoslavia's copper export to Germany during the Pact averaged about 36,000 tons as against German national production of 30,000 tons.⁶⁸ But German need was estimated at between 250,000 and 300,000 tons.⁶⁹ Therefore, even if Germany was able to procure this amount from Yugoslavia, it would still be far less than the amount she needed, but with the aid of imports from other countries, a very significant addition.⁷⁰

Bauxite: Yugoslavia produced 406,000 metric tons of bauxite in 1938 and 283,000 metric tons in 1940.⁷¹ With German prewar imports of bauxite standing at about 981,000 metric tons as an annual average in the late 1930's, and German native supply nil, this was an extremely important resource made available to Germany.⁷²

German exports to Yugoslavia: Germany exported arms to Yugoslavia along with aspirins, mouthorgans, microscopes, and other such articles that did not curtail German war effort.⁷³

⁶⁸ German Documents, Series "D", VIII, (September 21, 1939), Doc. 117, p. 117; Germany III: The Economic Area, National Business, December 6, 1939, p. 134

⁶⁹ Gordon and Dangerfield, The Hidden Weapon, p. 8; Lewis and McClelland, Nazi Europe and World Trade, p. 87

⁷⁰ Medlicott, in The Economic Blockade, II, p. 261, estimates 18,000 tons, thereby differing with Lewis and McClelland.

⁷¹ Annuaire Statistique, p. 123; Klein, Germany's Economic Preparations for War, p. 77; Trivanovitch, Economic Development of Germany, p. 129

⁷² Moulton, Control of Germany and Japan, p. 22

⁷³ Fabian Society, Hitler's Route to Baghdad, (London: George Allen & Unwin, 1939), p. 29

E. German Trade Relations with Bulgaria

Bulgaria developed closer relations with Germany after the Pact. As the German Minister of Economics, Karl Clodius, stated, Bulgaria was aligned with Germany economically, but she was very weak.⁷⁴ The Russian embassy claimed that even before the Pact, Bulgaria delivered 75% of its exports to Germany.⁷⁵

Bulgaria's only export of importance to Germany was food. In 1939, they had shipped 200,000 tons of feed grains to Germany. In turn, Germany shipped them armaments. This trade arrangement was a general German trade policy in regard to the Balkans.⁷⁶

Germany received no great economic benefit by trade with Bulgaria. Bulgaria's geographic position was such that her prime importance to Germany was strategic for war purposes. Bulgaria's position, with access to the Dardanelles, made her valuable to Germany as well as Russia. Bulgaria, aware of Russia's wish to incorporate her territory, was driven toward Germany because of the Pact.⁷⁷ She had nowhere else to turn.

⁷⁴ German Documents, Series "D", IX, (May 4, 1940), Doc. 198, p. 284

⁷⁵ Hilger and Meyer, The Incompatible Allies, p. 132.

⁷⁶ German Documents, Series "D", VIII, (February 14, 1940), Doc. 614, p. 775; German Documents, Series "D", VI, Doc. 17, p. 73; Medicott, The Economic Blockade, I, p. 240

⁷⁷ Hilger and Meyer, The Incompatible Allies, p. 326; Beloff, Foreign Policy of Soviet Russia, p. 97.

F. German Trade Relations with Greece

Greece, with access to the Mediterranean Sea, was relatively unaffected by the Pact, other than that her strategic location suffered in view of her Western sympathies. Germany was not able to influence her economy till after she had conquered Greece in the spring of 1941, after the fall of Yugoslavia. Whatever mineral wealth Greece had then fell into German hands.

Greece's nickel output of the Karditsa mine of approximately 1,200 tons annually, and her chrome production of about 17,500 tons annually were probably of the most value to Germany.⁷⁸ Both represent a little better than a one month supply for Germany.⁷⁹ Strategic position of Greece to German war operations was in this case more important than products that Germany might acquire.

⁷⁸ Reveille, The Spoil of Europe, p.254; Annuaire Statistique, p.127; Medlicott, The Economic Blockade, I, p.600.

⁷⁹ Klein, Germany's Economic Preparations for War, p.57; Medlicott, The Economic Blockade, I, p.32; II, p.656.

G. German Trade Relations with Sweden

The Pact had little effect upon German-Swedish trade. Germany almost throughout the war was able to procure millions of tons of iron ore from Sweden. In fact, Germany was able to win unneutral concessions from Sweden because of pro-German business circles in Sweden. Sweden shipped four times as much lumber to Germany after September of 1939 than before, and Swedish and German trade was carried on at a tripled rate from then on.⁸⁰

Though Swedish delivery of iron ore to Germany was vital to her, it was not influenced by the Pact. If there had been no Pact, the Baltic would still have been a "German lake" controlled by German warships; and Swedish trade would have been procured by German military pressure. As it was, Germany restricted the rights of the Swedish Navy, limiting its ports of call.⁸¹ The fall of Norway ensured Germany the continued cooperation of Sweden.

The important commodity procured by Germany from Sweden was iron ore. Germany stated she would accept no less than eight million tons annually, this to be paid for by Germany with Polish coal.⁸²

80 Gordon and Dangerfield, The Hidden Weapon, p.77

81 Gordon and Dangerfield, The Hidden Weapon, p.62

82 German Documents, Series "D", VI, Doc. 187
Medlicott, The Economic Blockade, I, pp.146-147

H. German Trade Relations with Norway

The Pact had no direct effect on German-Norwegian trade relations, other than that it freed Germany's hand to attack and conquer Norway.

Norwegian goods shipped to Germany: Norway's whale oil and fish were in great demand in Germany. She also shipped 2,000 tons of nickel, amounting to one-sixth of Germany's yearly demand, as well as a variety of other products including lumber. In return Germany exported coal to Norway, at a high price.⁸³

⁸³ Brandt, Management of Agriculture and Food, p.231; German Documents, Series "D", VIII, Doc.165, p.170; Medlicott, The Economic Blockade, I, p.624

J. German Trade Relations with Finland

The German ambassador to Finland, Blucher, on October 10, 1939, stated that in the event Russia should capture Finland the loss to Germany of timber (used for cellulose in cattle feed), molybdenum, and copper would seriously injure the German war effort.⁸⁴

Though Finland was within the Russian sphere of interest according to the Pact, Russia failed to conquer Finland. Then, as Hitler explained to Molotov, Russia's war on Finland alienated Swedish and other neutral's sympathies for Germany, costing Germany their trade, so therefore Germany wished to continue to operate the Petsamo copper and nickel concessions in Finland till the War's end.⁸⁵ Germany realized between 14,000 and 19,000 tons of copper annually from the Petsamo mines as compared to Germany's own national production of 30,000 tons, and her need for between 250,000 and 300,000 tons; so this production was very important to her.⁸⁶

Nickel was in the developmental mining stage in Finland in 1940 and 1941, but by 1942 had reached 1,630 metric tons; by 1943, 8,970 metric tons, or about a ten-month supply for Germany.⁸⁷ This nickel supply was so valued by Germany that because she feared Russia would not respect this concession, she reenforced the Petsamo region with German troops.⁸⁸

84. Nazi-Soviet Relations, p.123.

85. Nazi-Soviet Relations, p.254

86. Medlicott, The Economic Blockade, I, p.626.

87. Medlicott, The Economic Blockade, II, p.656.

88. Anger, Das Dritte Reich, (October 8, 1940), p.147.

Finland's strategic location was, however, more valued by both Russia and Germany than was her export capability. Her trade agreements bound her more closely to Russia after the Pact, and her economic productivity was to be at Russian disposal. However, Finnish resistance to Russian domination prevented Russia from fully capitalizing upon the provisions of the Pact which had admitted Finland as a Russian sphere of influence.

K. German Trade Relations with Turkey

Turkish trade with Germany was not directly affected by the Pact. The chrome ore previously furnished by Turkey in 1938 to Germany was withdrawn, as Turkey asked for submarines and heavy guns in exchange. Possibly because of Russia supplying Germany with chrome, Germany was able to refuse, stating that these items were worth more to her than Turkish chrome.⁸⁹

The German-Turkish trade agreement worked out in June of 1940 provided that Turkey ship olive oil and oilseed to Germany.⁹⁰ Turkish economic concessions to Germany, however, remained substantial and important. As Turkey's imports of strategic goods was not limited by the navicert policy employed by Britain to limit these goods being surrendered to Germany by neutral countries, Britain and the United States shipped scarce goods to Turkey, and in turn Turkey trans-shipped many of them to Germany.⁹¹ Turkey capitalized where she could as a neutral. It might well be that Russia's Pact with Germany prompted an otherwise pro-ally nation to remain neutral, as Turkey had very close ties with England and France.⁹²

⁸⁹ German Documents, Series "D", VIII, (November, 1939), Doc. 391, p. 425

⁹⁰ German Documents, Series "D", VIII, Doc. 434, p. 570

⁹¹ Gordon and Dangerfield, The Hidden Weapon, pp. 4, 34.

⁹² German Documents, Series "D", VIII, Doc. 81, p. 80;
Gordon and Dangerfield, The Hidden Weapon, p. 301

Turkey was also to supply Germany with 12,000 tons of copper every eighteen months, and 12,000 tons of cotton as well.⁹³ In addition, Turkey along with Spain and Portugal served as one of Germany's best channels for smuggling and espionage.⁹⁴ Finally in 1943, Turkey resumed chrome shipments of 90,000 tons annually to Germany as she had previously promised in October of 1941.⁹⁵

93 Medlicott, The Economic Blockade, II, pp.250,595.

94 Gordon and Dangerfield, The Hidden Weapon, p.63.

95 Gordon and Dangerfield, The Hidden Weapon, pp.121,147.

L. German Trade Relations with the Baltic States.

The Baltics had exported dairy products, poultry, eggs, and fish to Germany. Of course, with Russia enjoying the Baltics as her sphere of influence according to the terms of the Pact, Germany lost much of their trade. On June 18, 1940, Russia took military possession of the Baltics. As Stalin explained to Germany, this was necessary to prevent England and France from setting Germany and Russia at odds over them.⁹⁶

Latvia, Estonia, and Lithuania had done 70% of their pre-Pact trade with Germany.⁹⁷ Therefore, because of the Pact Germany sustained a food loss for which she had to compensate. The strategic position of the Baltics, however, was more important than produce. The loss of Baltic food was inconsequential to the German war effort, whereas the loss of strategic position would not be considered insignificant.

96 Anger, Das Dritte Reich, Doc.145, p.173

97 Medlicott, The Economic Blockade, I, pp.55-56.

V. TOTAL GERMAN IMPORTS ATTRIBUTABLE TO THE PACT:
ANALYSIS OF THEIR VALUE

A. Oil

Oil is of prime importance to a mechanized army and an industrial economy, particularly in war. One of the reasons that the United States forces were able to destroy the German defenses at the Remagen bridge and capture it intact in 1944 was that the German Eleventh Panzer Division under General Wietersham, ordered to reenforce it, had sufficient vehicles to do the job, but lacked the gasoline supply with which to move them.¹ The British Economic War Ministry estimated German need at 11.7 million tons annually.² H.S. Steinberger, a German oil expert, estimated it at 12.65 million tons.³ In 1937, Germany had actually used five million tons, and in 1938, seven million tons.⁴

War would increase German oil consumption, but certain economic measures would tend to lower it. Colonel Schell, the German official in charge of the conservation of oil, estimated that by using wood-coal conversion engines in previous gas-mobiles, Germany could save 500,000 tons of oil per year.⁵ Also, by using the Blitzkrieg method of warfare, even more oil could be conserved.⁶

Nevertheless, Germany's own productive capacity of

1 John Toland, "The Last 100 Days", Look, (May 4, 1965), p.40

2 Medlicott, The Economic Blockade, I, pp.33,418.

3 Sternberg, From Nazi Sources, p.106

4 Medlicott, The Economic Blockade, I, p.34; Sternberg, From Nazi Sources, p.105

5 Hagen, Will Germany Crack?, pp.65-66.

6 Nation's Business, (June, 1941), p.56

natural and hydrogenated oil was far short of even the most conservative estimates of German need. She produced about 550,000 tons of natural oil and about 1.8 million tons of synthetic oil, manufactured by the hydrogenation of coal, with five tons of coal needed to produce one ton of oil, but insufficient facilities available to fully utilize existing and excess German coal supplies.⁷

Germany had an oil reserve on hand at the War's outset of 2,134,000 tons, but her national self-sufficiency was but 33% of her peacetime need.⁸ With increased wartime need it became necessary to ration oil.⁹ The British Petroleum Department estimated German oil imports in 1937 at 4.3 million tons, and also estimated German need of imports as double that in a major war.¹⁰

By 1941, Germany was able to raise her own production (including Austrian) to nearly three million tons.¹¹ This being the case, Germany still needed to increase her oil imports to at least seven million tons per year. It is estimated that Rumania was able to export three million tons of oil to Germany in 1941.¹² It is felt that Germany had at her disposal after June of 1940 the approximate six

7 Business Week, (December 2, 1939), p.46

8 Medlicott, The Economic Blockade, I, p.57

9 Shirer, Berlin Diary, *passim*.

10 Medlicott, The Economic Blockade, I, p.33

11 Medlicott, The Economic Blockade, I, p.34

12 Brandt, Management of Agriculture and Food, p.222

million produced by Rumania annually.¹³ Russia supplied her with between 600,000 and 900,000 tons annually from her own wells, and about 500,000 tons from Polish wells.¹⁴ Undoubtedly Germany received some benefit from Hungary's increase in oil production from 43,000 metric tons in 1938 to 420,000 tons in 1941, since Hungary had promised to prime its economy to German war needs.¹⁵ Germany therefore had at her disposal over ten million tons of oil. Germany, because of the Pact, obtained oil from Russia, and had secured her oil supply from Hungary. Beside this, Russia had recognized German paramount interest in Rumanian oil.¹⁶ Polish oil was delivered to her by Russia, and she also captured Polish oil supplies in her offensive against Poland. All of this oil in German hands enabled Germany to keep her war machine moving.

Even the British Economics Ministry discounted the possibility of a German oil shortage during the years of the Pact.¹⁷ Finally, it was the knocking out of 90% of the German oil installations by Allied bombing that created a late 1944-early 1945 German oil shortage.¹⁸ Since the British blockade prohibited Germany from procuring oil from other sources, it follows that in a resource considered to be of crucial value in modern

¹³ Annuaire Statistique, p.111.

¹⁴ Hilger and Meyer, The Incompatible Allies, p.317; Nazi-Soviet Relations, p.109.

¹⁵ Annuaire Statistique, p.111; Kertesz, Diplomacy in a Whirlpool, pp.52-53.

¹⁶ German Documents, Series "D", X, (July 15, 1940), Doc. 183, p.238.

¹⁷ "Blitzkrieg Methods Conserve Oil", Nation's Business (June, 1941), p.96.

¹⁸ Medlicott, The Economic Blockade, II, p.640.

warfare, the Nazi-Soviet Pact enabled Germany to correct a very serious deficiency.

Iron and Steel: Iron and steel too, are indispensable in modern warfare, both being essential to a mechanized army. Germany produced about 30% of the iron ore it consumed, but increased its production to nearly five million tons in 1940.¹⁹ At the outset of the War, she had an iron ore supply of approximately six months on hand.²⁰

Germany had an iron and steel-making capacity of twenty-six million tons annually, and needed to import iron ore to meet her wartime need. From 1936 through 1938, German iron and steel consumption was close to eighteen million tons annually. During this time she was building her war machine. It is doubtful that her wartime need of iron ore would sink below her need of it to prepare for war.²¹ Therefore Germany had to import approximately twelve to seventeen million tons plus to meet her war need.

Of this Germany received approximately ten million tons annually from Sweden.²² She was to procure even further supplies upon conquering France's Alsace-Lorraine region. With Swedish and French imports, Germany suffered no shortage of iron ore, though efforts to conserve supply were made.

However, these supplies can only remotely be considered as an effect of the Pact. The Pact allowed Germany to release its military might on France and Norway, thereby ensuring

19 Annuaire Statistique, pp.114-115

20 Klein, Germany's Economic Preparations for War, p.77

21 Annuaire Statistique, pp.230-231

22 Medlicott, The Economic Blockade, II, p.478

Germany her iron ore supply. But securing these supplies might better be assessed primarily to German military prowess, and she might well have secured them without the Pact.

Russia contributed 500,000 tons of iron ore in the first year of the Pact, but it took 100,000 tons of iron ore to make her supplies.²³ The other nations affected by the Pact had insignificant supplies of iron ore in relation to Germany's need. The Pact only indirectly aided Germany to procure iron ore by helping her to use armed force to procure it in France, and persuasion to procure it in Sweden.

Feedstuffs and Foodstuffs: Having an adequate diet is known to be a prerequisite of the maintenance of the morale of the people in time of war. Germany produced about twenty million tons of grain annually and consumed about twenty-four million tons, importing an average of four million tons.²⁴ However, a large part of this grain consumed was used for feedstuffs, and substitutes such as sugar beets and wood-sugar could be used.²⁵ Also, potatoes, of which Germany produced over forty-five million tons annually, was a foodstuff that could serve as a substitute for grain.²⁶ In addition, Germany had a three to four month reserve of meat and butter at the War's outset.²⁷

23 Nazi-Soviet Relations, pp.123-133

24 Brandt, Management of Agriculture and Food, II, p.7;
Medlicott, The Economic Blockade, II, p.644

25 Borkin and Welsch, Germany's Master Plan, pp.298-299

26 Annuaire Statistique, p.66

27 Medlicott, The Economic Blockade, I, p.26

Germany was better than 80% sufficient in food supply, but needed help from the Pact. She actually received assistance through the Pact in that it helped her acquire 60% of Polish territory, and Polish territory had been producing an average of 38,000,000 tons of potatoes annually. In addition to this, Russia supplied over a million tons of grain; Poland, 600,000; Hungary, 165,000; Bulgaria, 200,000; and Rumania, 600,000 tons. This gave Germany almost three million tons of imports of grain, a good percentage of which was attributable to the Pact itself.²⁸

As Mendershausen states, however, in war self-sufficiency must be reckoned at 140%, not 100%.²⁹ At any rate, the Reich Economic Minister reported exhaustion of Germany's grain surplus just before the attack upon Russia.³⁰ German calorie consumption per adult of over 2,800 per day for this period of time indicates, however, that no major food shortage occurred.³¹ By the use of substitute feedstuffs, Germany maintained her meat base to an extent that did not necessitate dangerously reducing the number of livestock in Germany. For example, cattle in Germany from 1939 to 1948 dwindled from 15.7 million head to 13.3 million, a minimum loss to be expected.³²

Germany received foodstuffs from Denmark, France, Turkey, the Baltics, Spain, and other sources. Unlike the situation in

28 individual figures here quoted have been previously cited under specific countries as mentioned in Parts III, IV.

29 Mendershausen, The Economics of War, p.36.

30 Nazi-Soviet Relations, p.200.

31 Gordon and Dangerfield, The Hidden Weapon, p.196.

32 Annuaire Statistique, p.71.

World War I, Germany had no food shortage of serious consequence, though Shirer points out the rationing of food.³³ Though meat and fats decreased in percentage of the total diet, grain and potatoes increased, in large part due to the Pact and Eastern grain shipments.³⁴ The Pact certainly had a beneficial effect on the German food supply, alleviating the 15-20% deficiency in the German self-sufficiency program.³⁵

Rubber: Rubber was essential to the German war economy. The sources of rubber were the Netherlands East Indies, Malaya, Ceylon, and Brazil. Germany, prewar, had imported about 80,000 tons of natural rubber as an annual average.³⁶ However, rubber can be produced as a synthetic, mixing a small quantity of natural rubber with alcohol, coal, and a petroleum byproduct called butadiene. This artificial rubber, called buna, needed about 3,000 tons of natural rubber mixed with it to produce approximately 100,000 tons of buna.³⁷

Though prewar German imports stood at about 80,000 tons annually, they were undergoing a reduction in that Germany in 1939 produced 62,000 tons of buna, and in 1940 buna production was able to replace the previously imported 80,000 tons.³⁸ Needing

33 Shirer, Berlin Diary, p.187.

34 Klein, Germany's Economic Preparations for War, pp.88-89.

35 Brandt, Management of Agriculture and Food, passim.

36 Hagen, Will Germany Crack?, p.165.

37 Medlicott, The Economic Blockade, II, p.14.

38 Medlicott, The Economic Blockade, II, p.14; Annuaire Statistique, p.211

only small amounts of rubber, she was adequately supplied by the Netherlands East Indies with transit across Russia, as she received 18,000 tons, or a six year minimum supply in this manner.³⁹ Buna was not considered as inferior to the natural rubber product, as it lasted 50% longer, although it cost more per unit to produce.⁴⁰

Germany at the time of the Pact was self-sufficient in regard to rubber, even to the point of exporting their buna-type product.⁴¹ However, Russia's help in allowing transit of natural rubber to Germany weakened the effect of the British blockade in regard to bulk rubber, just as it weakened it in regard to preventing other shipments that Germany needed in bulk, and making it completely ineffective against materials not needed in bulk.⁴²

Aluminum: Germany had no supply of bauxite from which aluminum is produced until 1940, and then they had but 9,000 tons.⁴³ Prewar she had imported 75% of the bauxite which she used from Italy and the Balkans.⁴⁴ Her plants, however, were capable of smelting over 200,000 tons of aluminum, for which at least 800,000 tons of bauxite would be needed.⁴⁵

Germany had a 5.5 month supply of aluminum on hand at the War's beginning, or about 100,000 tons.⁴⁶ Her need was

39 Medlicott, The Economic Blockade, I, p.670.

40 Sternberg, From Nazi Sources, p.111

41 Klein, Germany's Economic Preparations for War, p.77

42 Medlicott, The Economic Blockade, I, II, passim.

43 Gordon and Dangerfield, The Hidden Weapon, p.8;
Annuaire Statistique, p.123

44 Klein, Germany's Economic Preparations for War, p.63

45 Klein, Germany's Economic Preparations for War, p.63

46 Klein, Germany's Economic Preparations for War, p.77

flexible, but by standards of prewar use, 200,000 tons a year would be needed to sustain the war economy.⁴⁷

Though figures are not given for Hungary's bauxite export to Germany, it is known that her economy was harnessed to German need from 1939 to 1944. Hungary produced between 500,000 and 700,000 tons of bauxite annually, a great deal of which was undoubtedly exported to Germany.⁴⁸ Yugoslavia also produced over 300,000 tons annually.⁴⁹ The amounts from these two nations alone would have enabled Germany to maintain peacetime production of aluminum.

The Pact was of such nature that Hungary and Yugoslavia were placed in a position in which they could not receive help in defending themselves, so had to submit to German economic bullying. Though Germany later could obtain bauxite from France, this did not nullify the value of the Balkan supplies which she could receive from the outset of the Pact till after June of 1940, when France fell. Even when French supplies were available, they were not sufficient to replace the Balkan contribution of bauxite to Germany.⁵⁰

⁴⁷ Klein, Germany's Economic Preparations for War, p.77; Trivanovitch, Economic Development of Germany, p.129.

⁴⁸ Klein, Germany's Economic Preparations for War, p.63.

⁴⁹ Annuaire Statistique, p.123.

⁵⁰ Annuaire Statistique, p.123.

Wool and Cotton: Fabrics for clothing and a multitude of other purposes are essential to a continued war effort. Germany was 100% deficient in cotton production, and only 25% sufficient in wool production.⁵¹ German consumption of cotton in 1938-39 was 249,000 metric tons, and her consumption of wool stood at 81,000 metric tons.⁵² Of this, Germany raised 20,000 tons of wool in her homeland.⁵³

In time of War, Germany was cut off from her sources of cotton supply except for Russian transit of cotton to her from Iran and Afghanistan.⁵⁴ Russia evidently fulfilled her commitment to supply Germany with 100,000 tons of cotton annually, or about 40% of German prewar use.⁵⁵ However, Germany did not need to fulfill 100% of her peacetime requirements of these commodities. By 1939, Germany was producing an artificial fabric to substitute for wool and cotton called zellewool.⁵⁶ It was manufactured from potato leaves, the leaves of pinewood and beechwood, and straw. She produced 225,000 tons annually at the time of the Pact.⁵⁷ Coupled with imports of better than 100,000 tons of cotton and smaller quantities of wool, plus home clothing collections,

51 Annuaire Statistique, p.278

52 Annuaire Statistique, p.279

53 German Documents, Series "D", VIII, Doc.607, p.762*
Mendershausen, The Economics of War, pp.136-138.

54 Nazi-Soviet Relations, p.134; Medlicott, The Economic Blockade, I, pp.670-671

55 German Documents, Series "D", XII, Doc.521, p.826;
Medlicott, The Economic Blockade, I, p.495.

56 Shirer, The Berlin Diary, p.85

57 Hauser, Battle Against Time, p.126

this gave her at least the same supply as she had been acquiring prewar. Russia's deliveries of cotton greatly aided her in achieving a satisfactory wartime production of fabrics. Also, Germany's acquisition of a good part of Poland's potato crop and forests helped her in acquiring the necessary ingredients for zellewool.⁵⁸

Coal: Coal was needed by Germany for many reasons. She needed it for heat and power of course. She also needed it to produce electrical energy, synthetic rubber, and hydrogenated oil. Germany was able to convert five tons of coal into one ton of oil in this manner.⁵⁹

Germany produced over two hundred million tons of coal annually, and was completely self-sufficient in supply.⁶⁰ The acquisition of Polish coal mines enabled Germany to use coal as a product for export. With the surplus provided by Polish coal, Germany used coal to pay for imports from Sweden, France, Italy, Norway, Switzerland, Russia and many other countries.⁶¹ The Pact therefore did not promote German self-sufficiency in coal, as she already possessed this, but it provided a product which Germany could exchange for war materials extremely valuable to her own war effort.

⁵⁸ Brandt, Management of Agriculture and Food, p.633; Munk, Legacy of Nazism, pp.38-39; Business Week, (September 30, 1939), p.22.

⁵⁹ Borkin and Welsch, Germany's Master Plan, pp.44, 121.

⁶⁰ Annuaire Statistique, p.108.

⁶¹ German Documents, Series "D", VIII, (October 4, 1939), Doc.192, p.207.

Lead: Lead is a non-conductor of electricity; an erosion-resistant substance. Used for motor vehicle batteries and bullets, as an additive to gasoline, and a base for paint, it assumed importance to the German war economy. Germany refined an average of 175,000 tons of lead per year from 1938 to 1941.⁶² She was only 40% sufficient, however, in lead ore.⁶³ At the War's outset, Germany had a supply of about 190,000 tons on hand, which it was assumed would last for at least nine months.⁶⁴ She needed to import at least 100,000 tons of lead ore annually, or cut back on its use. Yugoslavia with an annual production of lead ore of approximately 70,000 tons, delivered about 90% to Germany. Also Rumania had production of 6,000 tons; Greece, 6000 tons; Turkey, 7,000 tons, and Austria, 8,000 tons. Beside this, Spain had also promised to deliver lead to Germany.⁶⁵

While there is no proof that Germany was furnished 100% of this lead ore, there is no doubt that she acquired a great deal of it. Germany could still come close to her prewar production of lead. At any rate, Germany was able to maintain her supply at adequate levels, having a reported reserve in 1944 at the respectable figure of 59,000 tons.⁶⁶

62 Annuaire Statistique, p.235

63 Gordon and Dangerfield, The Hidden Weapon, p.8

64 Medlicott, The Economic Blockade, I, p.33; Medlicott, The Economic Blockade, II, p.656.

65 German Documents, Series "D", VIII, Doc.572, p.704; Lewis and McClelland, Nazi Europe and World Trade, p.91

66 Medlicott, The Economic Blockade, II, p.656.

Zinc: Zinc is a rust preventive, malleable metal. Germany was judged to be 70% sufficient in zinc supply.⁶⁷ However, at the beginning of the War, she had a stockpile of an estimated one-to-three years' adequacy.⁶⁸

Germany did have to import some zinc. Yugoslavia exported about 32,000 tons annually, most of it to Germany.⁶⁹ Sweden also was a potential source of German supply in that her annual production was near 68,000 tons.⁷⁰ Germany evidently was able to maintain a sufficient supply, as in 1944 her stockpile was still about 115,000 tons.⁷¹ Zinc was important to the German war economy, but not vital, as substitutes could be found.

Tin: Tin can be mixed with copper to harden it into a bronze. It was also used to line food containers. In 1941 the British Economic War Ministry Board estimated the German tin supply as adequate, and discontinued the use of a preemptory buying policy to keep it from falling into German hands.⁷² Spain was Germany's only important source of supply, producing 102,000 tons annually.⁷³ Germany estimated her need at 7,000 tons, and in 1939 had that amount on hand.⁷⁴ German tin supply remained adequate; however, not directly due to the Pact.

67 Gordon and Dangerfield, The Hidden Weapon, p.8

68 Klein, Germany's Economic Preparations for War, p.57;
Medlicott, The Economic Blockade, I, p.32.

69 Lewis and McClelland, Nazi Europe and World Trade, p.94

70 Medlicott, The Economic Blockade, II, p.478

71 Medlicott, The Economic Blockade, II, p.656

72 Medlicott, The Economic Blockade, II, p.11

73 Annuaire Statistique, p.122

74 Medlicott, The Economic Blockade, II, p.656

Copper: Copper was extremely important to Germany in that it served in electrical wiring, ammunition, and as a corrosion-resistant metal of various other uses. Germany produced about 30,000 tons of copper annually, but prewar consumption ranged between 250,000 and 300,000 per year. Therefore Germany was little better than 10% sufficient in supply of copper.⁷⁵

At the War's beginning, Germany had a stockpile of 183,000 metric tons; an estimated 7.2 month supply.⁷⁶ She was reported to have received 5,000 tons via Russian transit. She could potentially draw upon the average yearly production of 36,000 tons in Yugoslavia, 8,000 tons in Turkey, 18,000 tons in Sweden, 10,000 tons in Austria, and up to 19,000 tons in Finland.⁷⁷ This accounts for about 130,000 potential German tons, but according to German consumption records, she used better than 250,000 tons a year for five years, and maintained an 189,000 ton stockpile.⁷⁸ It could be that possibly some of the copper purchased by Russia from the United States and Chile, countries which have huge supplies, found its way into German hands as well. However, not to be discounted is the fact that Germany was able to procure much copper from captured countries, and also by demanding her own civilian population to contribute. If German supplies were at all increased by Russian trans-shipment or by booty, the Pact no doubt contributed to German copper supply.

⁷⁵ Gordon and Dangerfield, The Hidden Weapon, p.8; Lewis and McClelland, Nazi Europe and World Trade, p.87; Annuaire Statistique, p.117

⁷⁶ Medlicott, The Economic Blockade, I, p.32; II, p.656

⁷⁷ Medlicott, The Economic Blockade, I, p.26; Annuaire Statistique, p.117; others previously cited, Part III & IV

⁷⁸ Medlicott, The Economic Blockade, II, p.656

Phosphates and Pyrites: Phosphates are necessary to the soil to sustain crop yield and quality. Pyrites are basic to the chemical industry; used principally in the production of sulphuric acid, and in time of war for producing incendiaries and smokescreens as well.⁷⁹ According to the International Yearbook of Agricultural Statistics, as cited by Lewis, Germany produced 370,000 tons of phosphates and 176,000 tons of pyrites annually, and imported as much, if not more, than those amounts of each.⁸⁰

Self-sufficiency, however, in those materials cannot be defined exactly. Though the products have importance, imports are not crucial to a war economy except over a very long period of time. Nevertheless Russia agreed to supply Germany with 500,000 tons of phosphates.⁸¹ Kruitkov claims that Russia delivered only 200,000.⁸² However, with imports from French North Africa as well, Germany was able to maintain a sufficient supply. Russia's export of a probable 500,000 tons was no doubt a great aid to Germany.

Manganese: It is an indispensable element in the deoxidizing of steel, and also extremely important in hardening steel. The sources of supply are limited, and Germany had to import 100% of her manganese. Russia was the best source, as in Europe and Asia she had the only adequate supply.

79 Lewis and McClelland, Nazi Europe and World Trade, p.102

80 Medlicott, The Economic Blockade, I, pp.38-39.

81 Nazi-Soviet Relations, p.133

82 Medlicott, The Economic Blockade, I, p.668.

In 1938, Russia produced 2,273,000 metric tons; Italy and Rumania a distant second and third in Eurasia with 15,000 and 14,900 metric tons respectively.⁸³

Germany had a 197,000 metric ton stockpile, which was regarded as an eighteen-to-twenty month supply.⁸⁴ Kruitkov admits to Russian shipments to Germany of 165,000 metric tons.⁸⁵ Though probably more, even this would be an additional fifteen month supply, very important in that it was Germany's only important source of manganese.

Wolfram (Tungsten): Tungsten is used primarily in hardening steel for making tool steel. Germany had almost twenty times as much estimated tool steel or tungsten carbide in use in 1938 as did the United States, even though Germany had no local source of supply.⁸⁶

Germany had an eleven month supply on hand, or about 5,000 tons at the War's outset, and she needed an estimated 6,000 tons a year.⁸⁸ But the official German estimate of yearly need made at the German Fuehrer's Conference, according to Brassey, was but 1,920 tons.⁸⁹ Therefore, outside estimates may be a little high, as Germany was evidently able to conserve on the use of tungsten to a great extent.

83 Lewis and McClelland, Nazi Europe and World Trade, p.1 pp.106-107

84 Klein, Germany's Economic Preparations for War, p.57; Medlicott, The Economic Blockade, I, p.33

85 Medlicott, The Economic Blockade, II, p.656

86 Borkin and Welsch, Germany's Master Plan, p.264

87 Klein, Germany's Economic Preparations for War, p.57

88 Medlicott, The Economic Blockade, II, p.656

89 Medlicott, The Economic Blockade, II, p.312

Germany received her tungsten from Spain and Portugal, and refused to deal arms for tungsten to China, indicating that her supply was not critically short.⁹⁰ Germany received about 2,000 tons of tungsten per year, and was forced to curtail amounts used. However, according to her own estimated yearly need, she was able to "get by" on that amount.⁹¹ The Pact did not have a direct influence upon her supply.

Chromium: Chrome is necessary in a war economy for many reasons, but particularly for armor plating capable of high resistance to penetration. The German production of chrome was nil in that she had no home supply. Turkey and Russia were the chief sources of chrome ore for Europe and Germany.⁹² Germany had on hand at the War's outset an approximate eight month supply of chrome, or approximately 56,000 tons.⁹³ Russia admitted to shipping 24,000 tons, but had agreed to ship 100,000 tons annually. In view of the fact that Germany made no protest over Russian non-fulfillment, and constantly expressed pleasure over Russian performance of the terms of the Pact, it seems reasonable to assume that Germany truly received 100,000 tons. This would be

⁹⁰ German Documents, Series "D", VIII, (November 11-17, 1939), Docs. 345, 368, pp. 397, 418.

⁹¹ Medlicott, The Economic Blockade, I, p. 32; Klein, Germany's Economic Preparations for War, p. 57

⁹² Annuaire Statistique, p. 124

⁹³ German Documents, Series "D", VIII, Doc. 577, p. 650; Klein, Germany's Economic Preparations for War, p. 57; Medlicott, The Economic Blockade, II, p. 656.

at least an additional eight month supply.

In addition, Greece contributed 17,500 tons.⁹⁴ In 1943, Turkey was to once again ship 90,000 tons, resuming shipment that she had suspended in 1939.⁹⁵ Despite these shipments the German stockpile was diminished by 1944, but not exhausted. It had dipped to a reserve of 18,000 tons.⁹⁶

Seeing that Turkey had discontinued chrome shipments to Germany, only Russia could supply Germany with needed chrome, and she did. The Pact was therefore essential to providing Hitler's war machine with the needed chrome.

Nickel: Like chrome, nickel is needed in armor plating. Germany herself was completely deficient in a supply of nickel. However, she had a stockpile of 9,200 metric tons, or a thirteen month supply at the most.⁹⁷ Germany acquired 46,500 tons in five years, and she consumed 47,700 tons, thereby maintaining most of her reserve.⁹⁸

Of this, Norway contributed 2,000 tons per year. Finland's contribution had grown to 9,000 tons by 1943.⁹⁹ As this accounts for only a fraction of reported German nickel supply, the remainder may have come from unreported trade channels, conquered countries, or may have been a contribution of the German volksdeutsche themselves.

- 94 Medlicott, The Economic Blockade, I, p.600
 95 Gordon and Dangerfield, The Hidden Weapon, p.121
 96 Medlicott, The Economic Blockade, II, p.656
 97 Medlicott, The Economic Blockade, I, p.32
 98 Medlicott, The Economic Blockade, II, p.656
 99 Medlicott, The Economic Blockade, I, p.624

Antimony: Antimony is added to lead to harden it, and to bullets and shrapnel to make it more effective. Germany had a stockpile of 2,500 tons. She had sources of supply in Austria, Yugoslavia, and Czechoslovakia, and received all that she needed from them. In the years 1940 through 1944 Germany consumed 10,800 tons, and received 10,600 tons, thus maintaining her reserve.¹⁰⁰ However, little of this was directly due to the influence of the Pact.

Miscellaneous items of importance to the German war economy:

Magnesium is the lightest of the light metals. It is in plentiful supply throughout the earth's surface. It has great tensile strength, and was used by Germany for making bombs. I.G. Farben held a patent monopoly on it at the War's outset. In 1938, Germany produced 16,000 tons of magnesium. There was no shortage, and the Pact had no effect upon supply.¹⁰¹

Professor Haber of Germany extracted nitrogen from coke, water, and air in 1927. It provided the necessary base for needed German explosives. Germany had complete self-sufficiency in this regard, even exporting nitrate explosives at times.¹⁰²

Germany was able to smuggle in the needed platinum, diamonds, and mica.¹⁰³ Italy was able to supply Germany with the needed gypsum, mercury, sulphur, and silk.¹⁰⁴ Finally, Germany looted whatever gold she could from the conquered nations.¹⁰⁵

100 Medlicott, The Economic Blockade, I, pp.261-265, 656.

101 Borkin and Welsch, Germany's Master Plan, pp.230-231.

102 Lewis and McClelland, Nazi Europe and World Trade, pp.121-123; Medlicott, The Economic Blockade, I, p.30

103 Gordon and Dangerfield, The Hidden Weapon, p.54

104 Lewis and McClelland, Nazi Europe and World Trade, p.123

105 Sternberg, From Nazi Sources, p.69

Conclusion:

The Nazi-Soviet Pact was a significant factor in prolonging World War II. Because of it, Germany was able to procure needed oil, foodstuffs, and minerals from the East, and thereby frustrate the British blockade of the seas. Germany had sufficient supplies of raw materials in 1943 and 1944 to increase her war production.¹⁰⁶

At no time during the Pact was Germany short of needed raw materials for war production. At no time did she suffer severe privation due to lack of food. As Hitler stated to his General Staff immediately after the signing of the Pact, "We need not fear a blockade. The East will supply us with grain, cattle, coal, lead and zinc. I am only afraid that at the last moment some schweinhund will make a proposal for mediation."¹⁰⁷ Walther Schnurre, German economic expert, also stated that if Germany could extend her trade to the East, the British blockade would be decisively weakened.¹⁰⁸ The Pact allowed Germany to do this. Immediately preceding the Pact, Hitler had stated to his Commanders-in-Chief, "our economic situation is such, because of our restrictions, that we cannot hold out more than a few years."¹⁰⁹ After the Pact, he voiced no concern about Germany's economic situation, or restrictions.

106 Klein, Germany's Economic Preparations for War, p.188.

107 Telford Taylor, Sword and Swastika (New York: Simon and Schuster, 1952), p.299.

108 Beloff, Foreign Policy of Soviet Russia, p.294.

109 Klein, Germany's Economic Preparations for War, p.64.

As the Strategic Bombing Survey indicates, it was bombs, not raw material scarcity, that exhausted the German war economy.¹¹⁰ The consequences resulting from bombs shortening German raw material supplies were quickly seen. In 1944, Speer declared German supplies adequate, and capable of sustaining a prolonged war.¹¹¹ But the bombs disrupted necessary German raw material supplies soon after, and Germany was rapidly defeated.

General Thomas of the German Economic High Command, after Germany's surrender, stated, "It must be made a matter of public record that Germany entered upon war quite insufficiently prepared from an economic point of view, and that her economic collapse would have occurred much earlier except for the fact that Hitler's campaigns of conquest yielded tremendous booty in the way of raw materials and fuels."¹¹² He might have added that the Nazi-Soviet Pact had much to do with these acquisitions, and therefore aided in forestalling German collapse.

In explaining the final collapse of the German war economy despite the aid rendered to it, we might keep in mind the statement by David L. Gordon, who in explaining British difficulties in regard to war materiel supply stated, "but even with all the world's supplies we sometimes ran short. The appetite of total war has no limits."¹¹³

110 Medlicott, The Economic Blockade, II, p.640.

111 Medlicott, The Economic Blockade, II, p.401

112 Louis Lochner, Tycoons and Tyrants (Chicago: Henry Regnery, 1954), p.210.

113 Gordon and Dangerfield, The Hidden Weapon, p.7

Implications of this Study:

It is evident that the Pact enabled Germany to obtain many necessary war supplies. Rumanian oil, Polish oil, timber, cereals and potatoes, Russian oil and manganese, plus her transit of cotton, copper, and rubber supplies to Germany greatly aided the German war economy. It gave her strength to extend her territory, and helped her procure territory safe from the bombing raids of the R.A.F. and other Allied forces.

Finally it was Japan's bombing of Pearl Harbor, and the American entry into the European war which seemed to turn the tide against Germany. It took a long time to dislodge Germany from strategic positions, but when it was done, it seems to have been American firepower and manpower which were principally responsible.

The Pact did much to strengthen Germany. Hitler's breaking of the Pact on June 22, 1941, did much to bring about Germany's downfall. The Pact allowed Germany to strengthen her strategic position. It put her in a position to win the War, had she not broken it, and had the United States not entered the War.

TABLE I: DOCUMENT OF THE ECONOMIC AGREEMENT BETWEEN NAZI
GERMANY AND SOVIET RUSSIA

Economic Agreement of February 11, 1940, Between
the German Reich and the Union of So-
viet Socialist Republics.

No. 607

ernment was bringing influence to bear on Sweden to induce her not to give any military assistance to Finland. I told the Minister that these reports were false. According to our information Sweden had herself declined to assist Finland with Swedish troops, but permitted the departure of volunteers, who, however, if they were members of the Swedish armed forces, had to resign from the service. We had not taken any official stand on this action by Sweden. A different situation would naturally arise if forces of the powers with whom we were at war should arrive in Sweden or Norway en route to Finland. That would be an issue of importance to us.

The Minister remarked that the coming two months would be the most critical for Finland. If they could be weathered, Finland would surely be able to hold out until the end of the summer; for climatic conditions in the spring would confront Russia with even greater difficulties than in the winter.

WOERMANN

No. 607

FR/0026-0021

*Economic Agreement of February 11, 1940, Between the German Reich
and the Union of Soviet Socialist Republics*

zu RM 9 g. Rs.¹

In the exchange of letters of September 28, 1939,² between the Reich Minister for Foreign Affairs and the Chairman of the Council of People's Commissars and Commissar for Foreign Affairs of the Union of Soviet Socialist Republics it was established that the Government of the German Reich and the Government of the Union of Soviet Socialist Republics, on the basis of and in the sense of the general political understanding achieved, desired by all possible means to develop the commercial relations and the exchange of commodities between Germany and the Union of Soviet Socialist Republics. For this purpose an economic program was to be drawn up by both sides, according to which the Union of Soviet Socialist Republics should make deliveries of raw materials to Germany, which should be compensated for by Germany with industrial deliveries over a more extended period of time.

As a result of the negotiations for the establishment and execution of the contemplated economic program, the Government of the German Reich and the Government of the Union of Soviet Socialist Republics have made the following Agreement:

¹ RM 9 g. Rs: Document No. 636.

² Document No. 162.

Article 1

In the period February 11, 1940, to February 11, 1941, in addition to the deliveries provided for in the Credit Agreement of August 19, 1939,³ the commodities enumerated in List 1⁴ to the value of 420 to 430 million reichsmarks shall be delivered from the Union of Soviet Socialist Republics to Germany.

Article 2

In the period February 11, 1941, to August 11, 1941, there shall be delivered, likewise in addition to the deliveries provided for in the Credit Agreement of August 19, 1939, commodities to the value of 220 to 230 million reichsmarks from the Union of Soviet Socialist Republics to Germany, namely, in each case, half of the values or amounts specified for the various commodities in List 1.

Article 3

The Government of the Union of Soviet Socialist Republics pledges itself to take all measures necessary to insure the performance of the deliveries named in Articles 1 and 2. The deliveries shall begin immediately.

Article 4

In payment for the Soviet deliveries provided for in Article 1, German products of the kind designated in List 2 (war material)⁵ and List

³ Vol. VII, document No. 131.

⁴ Not printed (2093/452908-09). In addition to the products summarized in general terms in section 2 of document No. 636, the list also includes such items as asbestos, sulphur, rags, powdered arsenate, iridium, tobacco, guts, herbs, iodine, turpentine, oils of ether, opium, nicotine, spruce-needle oil, endocrine products, brownstone, mica ore, glycerine, licorice, horn materials, albumin, seeds, vegetable tar, and lime.

⁵ Not printed (1137/324410-51), a 42 page typewritten list on which contract negotiations were to begin without delay. The principal items in the 14 categories of the list are summarized as follows:

1. Naval construction. Cruiser *ex-Lützow*: After launching, the hull and all the equipment, armament, spare parts, etc., to be delivered for completion in the USSR, with 80 percent of the total to be delivered within 12 months of the signature of the Economic Agreement, the rest within 15 months. Complete plans, specifications, working drawings, and trial results of *ex-Lützow*, plus information on the performance of *Seydlitz* and *Prinz Eugen* or *Admiral Hipper*. Plans for battleship *Bismarck* and a large destroyer with 15 cm. guns; complete machinery for a large destroyer.

2. Shipbuilding material. Electrodes for welding, 365 tons; armor plate, 31,000 tons; various types of boiler tubing, 2628 tons; 175 power shafts of various lengths; 1 submarine periscope; several thousand items of electrical equipment; and various tanks, motors, ventilating systems, etc.

3. Naval artillery. One 381 mm. double turret, fully equipped, to be delivered by Mar. 1, 1941; preliminary sketches for a 406 mm. triple turret and working drawings for a 280 mm. triple turret; 2 noncorrosive submarine guns; fire control apparatus; etc.

4. Mine and torpedo gear.

5. Marine acoustical devices; precision clocks and watches.

6. Hydrographic instruments; optical instruments.

7. Aircraft. 10 Heinkel "He-100"; 5 Messerschmitt 109; 5 Messerschmitt 110; 2 Junkers "Ju-88"; 2 Dornier "Do-215"; 3 Buecker "Bü-131", 3 "Bü-133"; 3

3 (industrial equipment and other industrial products)⁶ to the value of 420 to 430 million reichsmarks shall be delivered from Germany to the Union of Soviet Socialist Republics during the period of February 11, 1940 to May 11, 1941.

Article 5

In payment of the Soviet deliveries provided for in Article 2, German products of the kind designated in List 4 (war material)⁷

Fokke-Wulf "Fw-58-V-13"; 2 Fokke-Wulf "Fa-266" helicopters; all of these for delivery within 12 months. One Messerschmitt 209 in 15 months, if ready; various motors, instruments, spare parts, armaments, bombs, etc.

8. Field artillery and ballistics instruments. Two 211 mm. heavy howitzers, fully equipped; a complete 105 mm. antiaircraft battery comprising 4 guns; a ballistics laboratory like that of Krupp at the proving grounds near Meppen; laboratory equipment.

9. Communications. Radio, telephone, and telegraph equipment.

10. Chemical warfare equipment; synthetic rubber (Buna S, SS, N, NN).

11. Engineer equipment. Roadbuilding gear, explosives, pumps, etc.

12. Munitions. Samples of pyroxylin and dinitroglukol powder; 500 105 mm. mortar charges; 150 parachute flares; a shell-loading plant (75-150 mm.) with hourly capacity of 1000 75 mm. shells, similar to plant at arsenal in Jüterbog; installations to produce nitroglycerine, hexogen, TNT, natrium acid, and TNRS.

13. Armored vehicles and accessories. One medium tank, type III, fully equipped; 5 10-ton trallers; 2 20-ton trallers; 5 half-tracks.

14. Machine tools and other equipment. 308 machines of various types.

⁶ Not printed (2093/452910-21). The principal items on this list were the following:

1. Mining equipment. 146 excavators, 90 of them to be delivered within 10 months; drills worth 8,325,000 RM; electric locomotives; cars; electric motors; compressors worth 3,900,000 RM; pumps with electric motors worth 1,380,000 RM; etc.

2. Locomobiles and turbines, 7,700,000 RM and 1,900,000 RM respectively, including generators.

3. Equipment for petroleum industry. Diesel engines worth 6,500,000 RM; compressors worth 8,100,000 RM; drills and parts worth 4,500,000 RM; electric motors worth 6,250,000 RM; pumps worth 1,800,000 RM; drill-tubes worth 6,500,000 RM; pump compressor tubes worth 5,000,000 RM; etc.

4. Equipment for electric power plants. Turbines with generators up to 6000 KW, worth 10,000,000 RM; steam generators with armatures, worth 30,000,000 RM; transformers worth 5,250,000 RM; oil switches (high power) worth 10,000,000 RM; meters and protection worth 4,000,000 RM; etc.

5. Equipment for the chemical industry. Turbo-compressors and gas-bellows for nitrogen and sulphuric acid; numerous items of laboratory and industrial apparatus; plastics machines; high-pressure tubes; etc., with a total value of about 12,000,000 RM.

6. Equipment for steel wire works; machinery worth 6,900,000 RM.

7. Forges and presses, 800,000 RM.

8. Coal and steel tubing. Coal worth 52,500,000 RM, of which 20,000,000 RM worth was to be delivered between Sept. 28, 1939, and Sept. 27, 1940; 12,500,000 RM worth between Sept. 28, 1940, and May [Feb.?] 11, 1941; and the rest between Feb. 11, 1940, and May 11, 1941. Steel tubing worth 16,250,000 RM, with 10,000,000 RM worth to be delivered between Sept. 28, 1939 and Sept. 27, 1940, and the rest by May 11, 1941.

9. Ships. To be delivered "promptly": one tanker of about 12,000 tons; M/S *Memel*; M/S *Phoenicia*; S/S *Nürnberg*. To be delivered within 12 months: 1 training vessel; 1 repair ship; 1 hoist-ship.

10. Metals. 50,000 tons of steel tubing (including the quantities shown in sections 3 and 8 above); about 45,000 tons of other metals and metal products.

⁷ Not printed (1137/324452-57). The main items were the following:

1. Naval construction. 5 floating cranes, 3 of them having 250 tons capacity; outfitting an electrode shop; various other items similar to those in List 2.

2. Naval artillery and other matériel. Two 381 mm. double turrets for delivery in 17 and 20 months; 3 280 mm. triple turrets for delivery within 30-36

and List 5 (industrial equipment and other industrial products)* to the value of 220 to 230 million reichsmarks shall be delivered from Germany to the Union of Soviet Socialist Republics during the period of May 11, 1941 to May 11, 1942.

Article 6

The Government of the German Reich pledges itself to take all steps necessary to insure the performance of the deliveries named in Articles 4 and 5. The German deliveries shall begin immediately.

Article 7

In List 6* appended to this Agreement are specified the machinery, months (or alternatively 3 additional 381 mm. double turrets within 23-29 months); 4 149.1 mm. triple turrets within 18-22 months; 14 105 mm. twin mounts (including 4 sets to be included with *Lützow*); all naval artillery to be fully equipped with fire control apparatus and spare parts; 2 8 m. submarine periscopes, by mid-1941.

3. Hydrographic gear. 1950 stop-clocks; 2000 stop-watches; 80 chronometers; 3 gyro-compasses for training; 150 deck clocks.

4. Aircraft equipment. Three installations for altitude testing of motors; 2 motion picture theodolite stations; 5 fully-equipped motor testing establishments; 1 cylinder-testing device.

5. Machine tools, etc. Seventeen machine tools for delivery in fall 1941; 20 others, delivery dates unspecified; 1 plant for bimetallic rotating bands for shells, capacity 2000 tons per year, during second half of 1941; 1 plant for widia and titanite alloys, with capacity of 30 tons per year (the exact production formulas to be furnished, and the plants to be set up in working order in the USSR, with a 2-year period for installation and training of personnel). Delivery of these 2 plants will be governed by the conditions stated in List 6.

*Not printed (2093/452922-23). Principal items:

1. Mining equipment: various excavators worth 15,000,000 RM; cars, drills, compressors, and electric motors, totaling 12,500,000 RM.

2. Diesels, locomobiles, turbines, and boilers: 32,500,000 RM.

3. Equipment for electric power plants: 12,000,000 RM.

4. Coal: 40,000,000 RM.

5. Metal-working machines, especially of Hasse & Wrede system, in quantities to be agreed upon.

6. Forges, presses, and equipment for steel wire plants: 2,000,000 RM.

7. Ships: 1 crane ship with 75-ton lift; 5,450 h.p. tugs; 1 self-propelled river tanker.

8. Metals: 50,000 tons of drill tubing and compressor tubing; 15,000 tons of steel cable; 300 tons of rustproof steel tubing; 3,000 tons of zinc-coated wire.

*Not printed (2093/452924-26). This list is prefaced by two general conditions: (1) that the industrial processes revealed by Germany to the Soviet Union be kept secret; (2) that the Soviet Union refrain from competing with German firms in the world market with products of the installations, plants, and processes furnished by Germany.

The list includes the following items to be ready, depending on conditions, in "normal delivery time":

1. Complete plants for recovering old rubber by analysis (capacity 5 to 10 tons); for continuous vulcanizing of fabrics; and for hydrogenation of coal to produce 200,000 tons of oil per year.

2. Plans and equipment for plants to produce Rohgummi Buna [synthetic rubber]; synthetic urea (2,000 tons annually); aniline and chlorbenzol (10,000 tons annually); phenol and chlorbenzol (6,000 tons annually); 4 types of anilines (5000 tons annually); chlorbenzol by continuous chlorination; betanaftol, turam; koptaks, difinilguanidin; concentrated nitric acid (10-15,000 tons annually); hydrosulphate by electrolysis; cellulose wool.

3. A plant for rapid vulcanization.

4. Plans and equipment for Renn and Lurgi [metallurgical] installations, ready in 12 and 12 to 15 months, respectively.

equipment, and processes of production which the Union of Soviet Socialist Republics is interested in acquiring or receiving. Both parties shall take all steps that may be necessary in order that commercial contracts for machinery, equipment, and processes of production of the kind enumerated in the list may be concluded as soon as possible.

The payments that become due on the basis of these contracts during the validity of this Agreement shall be made from special accounts of the Union of Soviet Socialist Republics in Germany by way of the German-Soviet clearing system. If they become due during the first 15 months of the Treaty they shall be used in settlement of the Soviet deliveries provided for in Article 1, and insofar as they become due in the succeeding 12 months, in settlement of the Soviet deliveries provided for in Article 2.

For this settlement other payments which are credited to the special accounts of the Union of Soviet Socialist Republics, for example for transit traffic, shall also be used.

Article 8

The Government of the Union of Soviet Socialist Republics has declared by the exchange of letters of September 28, 1939, that it is prepared to deliver, in addition to the quantities of petroleum otherwise agreed upon or still to be agreed upon, a supplementary quantity of petroleum equivalent to the annual production of the Drohobycz and Boryslaw oil region, in such proportions that half of this amount shall be delivered to Germany from the oil fields of the said oil region and the other half from the other oil regions of the Union of Soviet Socialist Republics. As compensation for these petroleum deliveries the Union of Soviet Socialist Republics shall receive deliveries of coal and steel tubing.

It is agreed that the quantities of petroleum and petroleum products to be delivered in accordance herewith during the period September 28, 1939, to September 28, 1940, shall be included in the amount named in List 1. In calculating the value of the compensatory deliveries of coal and steel tubing, it shall be assumed that this first annual amount is equal to the value of 30 million reichsmarks. These petroleum deliveries shall be compensated by German deliveries of coal to the value of 20 million reichsmarks and steel tubing to the value of 10 million reichsmarks. These deliveries shall be made by September 28, 1940.

Article 9

Both parties take it for granted that the mutual deliveries based on this Agreement are to balance.

The Soviet deliveries made during the first 12 months of the duration of this Agreement shall be compensated by German deliveries

by May 11, 1941; that is, after the first six months 50 percent of the Soviet deliveries provided for in the first period of the treaty shall be balanced by 40 percent of the German deliveries provided for in the same period of time; after 12 months 100 percent of the Soviet deliveries shall be balanced by 80 percent of the German deliveries. The rest of the German deliveries shall be made within the following 3 months.

The Soviet deliveries made during the period from the 13th to the end of the 18th month of the duration of this Agreement shall be compensated by German deliveries to be made during the period from the 16th to the end of the 27th month, computed from the date this Agreement goes into effect, in equal quarterly amounts. It is provided that during this second period of the Agreement a balance sheet of the mutual deliveries shall be drawn up every three months.

Article 10

Each of the two Governments shall appoint plenipotentiaries who shall meet on the date specified in the previous Article. The task of these plenipotentiaries shall be to study currently the total commercial intercourse between Germany and the Union of Soviet Socialist Republics and the observance of the percentage relationship between the German and the Soviet deliveries mentioned in Article 9, and to take all measures necessary to carry out the economic program agreed upon between the Governments, especially to balance the above-mentioned percentage relationship.

The Plenipotentiaries of both Governments shall be empowered within the scope of their duties to communicate with each other directly, either in writing or orally. They may from time to time draw the experts needed in their work into their consultations.

If the percentage relationship fixed by Article 9 for the mutual deliveries is disturbed in one of the periods of time, both parties shall take measures in the shortest possible time for the removal of the disproportion, in which connection supplementary deliveries, especially of coal, shall be used by Germany as a means of settlement. In case this cannot be arranged, the interested party shall have the right to discontinue temporarily its deliveries until the stipulated relationship is attained.

Article 11

In the execution of this Agreement the following shall be applied:

- a) the Agreement regarding exchange of goods and payments of December 31, 1939;²⁰
- b) the provisions of Article IV and of section 3 of Article V of the Credit Agreement of August 19, 1939.

²⁰ Not printed (3782/E041719-21).

Besides, in connection with the payment of Soviet obligations arising from orders made on the basis of this Agreement, the provisions of section 5 of Article V of the above-mentioned Credit Agreement shall be correspondingly applicable;

c) the Confidential Protocol of August 26, 1939.¹¹

Article 12

Both Parties have agreed that the accommodations granted for transit traffic on the basis of the exchange of letters of September 28, 1939 (freight reductions of 50 percent on soybeans and the payment of all railway freight charges in the transit traffic through the German-Soviet clearing system) shall remain in force during the entire period of the validity of this Agreement. In order to facilitate use of the sums paid in reichsmarks by Germany for freight charges, Germany shall lend her cooperation to the Soviets in placing orders in Germany and in acquiring goods and techniques of production there.

Article 13

This Agreement shall not affect the Credit Agreement between the German Reich and the Union of Soviet Socialist Republics of August 19, 1939, which shall remain completely in force.

Article 14

This Agreement shall become effective upon signature.

Done in two original copies in the German and the Russian languages respectively, both texts being equally authentic.

Done in Moscow, February 11, 1940.

For the Government
of the German Reich:
K. RITTER
K. SCHNURRE

Representing the Government of the
Union of Soviet Socialist Republics:
A. MIKOYAN
BABARIN

CONFIDENTIAL PROTOCOL

In connection with the Economic Agreement signed today between the German Reich and the Union of Soviet Socialist Republics, the undersigned Plenipotentiaries of the Governments of both Parties have agreed concerning the following:

The Government of the Union of Soviet Socialist Republics shall instruct the proper Soviet commercial organizations to enter into negotiations with the German organizations and firms designated by the Government of the German Reich in regard to the purchase by the Soviet Union of metals and other goods in third countries and in

¹¹ Vol. VII, document No. 340.

regard to the sale of these metals and goods to Germany. Such sales shall be made by the Soviet organizations on the following basis:

Payment for the goods by the German purchasers up to 70 percent in transferable foreign currency to be designated by the Soviet commercial organization making the delivery and 30 percent in reichsmarks in accordance with the German-Soviet Agreement regarding exchange of goods and payments of December 31, 1939. If the German purchaser is not in a position to make payment in the currency suggested by the Soviet commercial organization, he may offer to make payment in another transferable currency. If the Soviet commercial organization refuses this currency, payment shall be made in gold on conditions to be agreed upon between the purchaser and the Soviet commercial organization making delivery.

In this connection the Germans shall, for the purpose of utilization of the sums in reichsmarks paid by the Germans to the Soviet commercial organizations, lend their cooperation in placing orders in Germany and in the acquisition of goods and production techniques in Germany.

Moscow, February 11, 1940.

For the Government
of the German Reich:
K. RITTER
K. SCHNURRE

Representing the Government of the
Union of Soviet Socialist Republics:
A. MIKOYAN
BABARIN

No. 608

F18/435

*The Trade Representative of the Soviet Union in Germany to the
Chairman of the German Economic Delegation*

at present in Moscow, February 11, 1940.

HERR MINISTER: I have the honor to acknowledge the receipt of your communication of today's date, which reads as follows:¹

"Germany agrees that the amounts of money totaling 58.4 million reichsmarks provided for war material by the Credit Agreement of August 19, 1939, may in accordance with the provisions of the said Credit Agreement also be used for ordering articles from Lists 2 and 4 appended to the Economic Agreement of February 11, 1940. It is agreed that articles to be ordered in this manner shall be decided upon between the Ministry of Economics of the Reich and the Trade Agency of the Union of the Soviet Socialist Republics in Germany."

I declare myself to be in agreement with the contents.

Please accept, Herr Minister, the assurance of my highest consideration.

BABARIN

¹Not printed (F18/436).

BIBLIOGRAPHYPrimary Sources:

- Anger, Walter. Ed. Das Dritte Reich in Dokumentum. Frankfurt am Main, 1957.
- Brandt, Karl., Ahlgrimm, Franz., and Schiller, Otto. Management of Agriculture and Food in the German-Occupied and Other Areas of Fortress Europe. Vol. II: Germany's Agricultural and Food Policies in World War II. 2 vols. Stanford, 1953.
- Bureau de Statistique de l' Organization des Nations Unies. Annuaire Statistique de las Societe des Nations. New York, 1927-
- Gordon, David Livingston, and Dangerfield, James Royden. The Hidden Weapon. New York, 1947
- Great Britain. Her Majesty's Stationery Office. Documents on German Foreign Policy, 1918-1945, Series "D". 12 vols., 1956
- Hagen, Paul. Will Germany Crack?: A Factual Report on Germany. Trans. by Anna Caples. New York, 1942.
- Hauser, Heinrich. Battle Against Time: A Survey of the Germany of 1939 from the Inside. New York, 1939
- Hilger, Gustav, and Meyer, Alfred G. The Incompatible Allies. New York, 1953.
- Holldack, Heinz Georg. Was Wirklich Gschah: Die Diplomatischen Hintergrunde der Deutschen Kriegspolitik.
- Jacobson, Max. Diplomacy of the Winter War. Cambridge, Mass., 1961
- Kamenetsky, Thor. Secret Nazi Plans for Eastern Europe. New York, 1961.
- Kertesz, Stephen D. Diplomacy in a Whirlpool. Notre Dame, 1953
- Lochner, Louis. Tycoons and Tyrants. Chicago, 1954
- Medlicott, W.N. The Economic Blockade. 2 vols. London, 1952-1959
- Schmidt, Paul. Hitler's Interpreter. New York, 1951.
- Shirer, William L. Berlin Diary: The Journal of a Foreign Correspondent, 1934-1941. New York, 1941.
- Sonntag, Raymond James, and Beddie, James S. Eds. Nazi-Soviet Relations: Documents from the Archives of the German Foreign Office. New York, 1948

Secondary Sources:

- Basch, Antonin. The Danube Basin and the German Economic Sphere. New York, 1943.
- Basch, Antonin. The New Economic Warfare. Columbia, 1941.

Secondary Sources, continued:

- Beloff, Max. Foreign Policy of Soviet Russia till 1941.
New York, 1947.
- Borkin, Joseph and Welsch, Charles C. Germany's Master Plan. New York, 1943
- Bullock, Allan Louis Charles. Hitler: A Study in Tyranny.
New York, 1952
- Business Week, September 30, 1939, pp.20-22.
- Business Week, December 2, 1939, p.46.
- Deutscher, Irwin A. Stalin, A Political Biography. New York, 1949.
- Domerotzky, Louis. "The Industrial Power of the Nazis", Foreign Affairs, XIX, (No.2, April, 1941), pp.641-654.
- Fabian Society. Hitler's Route to Baghdad. London, 1939.
- Hambloch, Ernest. Germany Rampant: A Study in Economic Militarism. New York, 1939.
- Klein, Burton H. Germany's Economic Preparations for War.
Cambridge, 1959.
- Langer, William L., and Gleason Everett. "Cold War Revision: Stalin's 'Blank Check' of 1939," The Outbreak of the Second World War, ed. by John L. Snell. Boston, 1962.
- Lewis, Cleona, and McClelland, John C. Nazi Europe and World Trade. Washington D.C., 1941.
- Macfadden, Clifford H., Kendall, Henry Madison, and Deasy, George F. (eds.) Atlas of World Affairs. New York, 1956.
- McDivitt, James F. Minerals and Men: An Exploration of the World of Minerals and Its Effect on the World We Live In.
Baltimore, 1965.
- Mendershausen, Horst. The Economics of War. New York, 1940.
- Moulton, Harold G., and Marlio, Louis. The Control of Germany and Japan. Washington D.C., 1944.
- Munk, Frank. The Legacy of Nazism: The Economic and Social Consequences of Totalitarianism. New York, 1943.
- Nation's Business. "Blitzkrieg Methods Conserve Oil". June, 1941, p.96.
- Reveille, Thomas. The Spoil of Europe. London, 1942.
- Simmons, Ernest J. (ed.) USSR: A Concise Handbook. Ithaca, New York, 1947.

Secondary Sources, continued:

Sternberg, Fritz. From Nazi Sources: Why Hitler Can't Win.
New York, 1939.

Taylor, Telford. Sword and Swastika. New York, 1952.

Toland, John "The Last 100 Days", Look, May 4, 1965,
pp.35-48.

Trivanovitch, Vaso. Economic Development of Germany under
National Socialism. New York, 1937.