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Germany in the World Economy during the Nineteenth Century

by

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The nineteenth century, as is well known, lasted from 1815 to 1914. My lecture will cover the whole of this period. It will be limited neither to just the final phase of it, nor to Germany's surpassing Britain in economic leadership based on higher growth rates or more sophisticated technology. My topic is the changing place of Germany in the world economy between the Napoleonic Wars and the beginning of the First World War.

The term 'world economy' requires some explanation. In the eighteenth and early nineteenth centuries the world economy consisted largely of the Atlantic economic community; it did not yet include regions such as Black Africa, or large parts of Asia. The world economy of 1810 or 1815 was much smaller than that of 1900 or 1913, by which time Japan, parts of China and much of Africa had become integrated into it.[1] In other words, 'world economy' means different things at different times.

At the beginning of the nineteenth century 'Germany' too was a somewhat loosely-defined entity. Again, a pragmatic approach seems most appropriate: generally references to 'Germany' will extend to those territories which later became part of the Second German Empire or the *Kleindeutsche Reich*. Austria, however, will not be excluded altogether, at least not initially. And sometimes the sources are such that they relate either to Central Europe, to Prussia or to the *Zollverein*. British commercial statistics around 1800 distinguish between 'Germany', 'Prussia' and 'Austria', as indeed did many Germans themselves at the time. When the British spoke of the *Reich* in the late eighteenth century, they were referring to those areas which belonged neither to Prussia nor to Austria, in particular all the small principalities, free cities and ecclesiastical territories which constituted much of what is now the Federal Republic of Germany.[2]

It is necessary to define our terms flexibly enough to allow us to deal with the unreliability of the figures available. I shall now proceed to look at Germany's position in the world economy from two main perspectives: that of international trade and that of the movement of capital. Migration, important as it is, does not appear to be as crucial for Germany as either of the other two factors, and can therefore be dispensed with in this survey.

I

What was the structure of the German economy around 1800? How were the German territories integrated into the international economy of the day? It has been estimated that somewhat less than two thirds of the gainfully employed (62 per cent) lived from primary production: agriculture, forestry, gardening and fishing. About one fifth (21 per cent) were active in the secondary sector (including mining), the majority employed in small handicraft shops or domestic industries connected to the market through the putting-out system. More than half of these (or about 12 per cent of all gainfully employed people) worked in textiles. About one sixth of the working population (17 per cent) earned their living mainly in the tertiary sector, that is, in trade, transport, administration and the like. It must be remembered that these are only rough estimates,[3] but if they are not too inaccurate, they suggest that in the 1760s the German economy, like that of Britain, was no longer purely agricultural. Though agriculture was still dominant, manufacture and trade were gaining in importance, and in regions like Saxony and cities like Hamburg they were already the factors which determined economic life.

The German territories had long maintained close and complex trading links with the rest of the world. Since the Middle Ages Southern Germany had been involved in Mediterranean trade, and had thereby gained access to

European trade with the East. Northern Germany had had many connections with Northern and Eastern Europe since the times of the Hanse. The Rhine had always been one of the main thoroughfares of Europe, and the Western parts of Germany had close links with Switzerland, France and the Netherlands which, together with the German ports, provided them with access to England and the Atlantic trade. Germany, like other European regions, imported East Asian spices, silk goods and tea, West Indian sugar, tobacco, coffee and Russian furs, linseed, hemp and grain. German exports included both agricultural and manufactured goods: grain to England and the Netherlands, textiles to Mediterranean countries and the East as well as to America and even England, metal products, tools, weapons and other goods in many directions. Since national statistics did not exist in Germany at this time, it is difficult to estimate the volume of trade. Statistics for France, England and Russia, as well as those for German harbour traffic, indicate that until the 1790s France and her colonies were Germany's most important trading partners. Sugar in particular, one of the most important trade items, came mainly from French, not from British or Dutch sources. Goods from the colonies accounted for more than 60 per cent of all imports into Germany from France in the years immediately preceding the French Revolution.[4]

The Napoleonic Wars, the continental system and the British blockade only temporarily disrupted trade. In fact, the volume of trade (including smuggling) increased; of course, the routes by which goods entered and left Central Europe changed, as did the flags of the ships which transported them. The American flag was more frequently in evidence, and Britain superseded France as the most important carrier. If Kutz's arguments and statistics about the development of Central European foreign trade during the Napoleonic era are correct, the volume of imports doubled between 1787/89 and 1815/17. Imports through

France remained at about the same level, with marked fluctuations during the war years. Trade passing through Britain increased four fold. Whereas before Napoleon the ratio of imports from Germany's principal trading partners was 4:3 in favour of France, it was now 2:3 in favour of Britain. Nevertheless, Britain did not gain a monopolistic position. The United States, followed by the independent countries of Latin America, also became involved in Central European trade. To give but one example: in 1815 five ships from Brazil docked in the harbour of Hamburg, by 1824 the number had risen to 137. Their cargo consisted mainly of sugar and tobacco. It has been estimated that two thirds of Brazilian sugar exports during these years were shipped to Hamburg, not exclusively on Hamburg lines, but also on Scandinavian, Dutch and British vessels. If there was a loser in international trade as a result of the Napoleonic Wars, it was France, not Germany. The winners were the United Kingdom and the new countries overseas.[5]

Some of the structural changes which had occurred during the war persisted after the peace treaties were signed. For example, Westphalian, Saxon, Silesian and Bavarian linen never recaptured its former position on the American market. On the other hand, Saxon and Rhenish cotton spinning factories flourished during the continental blockade; in Saxony alone production increased twenty fold.[6] After 1815 a few of these new factories succumbed to British competition. The majority, however, although they went through a period of difficulty, managed to hold their own, both on the German market and beyond, for example, in Southern Europe and Turkey. The German sugar industry also benefited from the continental blockade. It is true that most of the early factories did not survive, but in the 1820s and 1830s, assisted partly by duties on West Indian cane sugar, the German beet sugar industry attempted a second take-off, and this time it was successful. It not only won most of the home market; it also became one of Germany's most important export items in the late nineteenth century. In 1880 the value of sugar exports exceeded that of exports of machinery or chemical products. Those German export products that lost out included grain, wool and wooden products such as ship-masts and planks, which lost most of their British markets. Smaller industries such as those manufacturing the gold- and silver-wires which had been exported from Nuremberg to the Mediterranean countries, also suffered a set-back. Altogether, however, Southern Germany was not affected as adversely as the Rhenish region, where Napoleonic customs borders separated markets which had traditionally been linked across the Rhine, particularly in textiles and heavy industry. The left bank benefited because it was integrated into the French market, whereas the right bank lost its markets together with some of its productive capacity which was transferred to the left bank. Aachen and Krefeld, the Hunsrück and the Eifel doubled their industrial production between 1789 and 1811, and coal production on the Saar increased three fold, while the Wuppertal lost its markets in Cologne and west of the Rhine. An interesting case is provided by Cologne, where trade on the Rhine was hampered. But entrepreneurs invested heavily in industry, particularly in cotton textiles, with the result that Cologne became probably the biggest industrial city in Napoleonic Germany. Of course, this structural change was modified, but not radically reversed, once the German regions were re-integrated.[7]

II

With the foundation in the 1830s of the *Zollverein* which kept statistics, we are on somewhat safer ground as far as Germany's international trade is concerned. But national trade statistics are not available before 1880, and until 1905 they were based on estimates made by 170 experts, who multiplied the volume of trade by average prices. Comparing the more accurate figures of 1906 with those of 1905, Hoffmann has calculated that export values in the official statistics were 4 per cent higher than they ought to have been, while import values were 3 per cent lower.[8] Consequently, until 1905 the balance of trade figures were biased in favour of Germany. However, such subtleties, important as they are, cannot concern us here. What was the structure of foreign trade in Germany in the 1830s in terms of commodities and areas? At this time Germany experienced the beginning of what Alexander Gerschenkron would have called a 'spurt' in industrialisation and economic growth. Perhaps it was not a big spurt; perhaps it was not yet a take-off in the Rostowian sense – although I believe that as one of several waves which led to the modernisation of the German economy, it was at least as important as the take-off of the 1850s, which is reflected more clearly in the statistics. The structure of Germany's foreign trade around 1830 indicates that Germany was what today would be called a developing country (or threshold country), on the verge of industrialisation. Seventy per cent of its exports consisted of raw materials and foodstuffs which were sold mainly to Western countries; 22 per cent was made up of manufactured goods sold largely to its less developed neighbours in the East, in the Southwest and overseas. Imports were more balanced, but display the same feature: a little more than one third (36 per cent) consisted of goods from the colonies, including raw materials such as cotton, a considerable part of which was re-exported. A little less than one third (32 per cent) was made up of manufactured goods which originated mainly in Western European countries such as Britain, Belgium and France, and the same proportion was made up of raw materials and foodstuffs, mainly from Eastern and Southeastern Europe. By now Britain had become by far the most important trading partner, accounting for 40 per cent of Germany's imports and exports, though British re-exports were also of considerable value.[9]

During the next twenty-five years a noticeable though not fundamental change took place in these proportions. On the export side the share of manufactured goods doubled, reaching about 50 per cent in the middle of the 1850s, but the direction of these exports had not yet changed significantly. Germany still primarily provided the less developed countries in Eastern and Southeastern Europe with manufactured goods. Twenty-two per cent of the exports consisted of raw materials, mostly wool, and foodstuffs represented about the same share, giving a total of 44 per cent as compared to 70 per cent in 1830. But the types of manufactured products being exported had already changed in a characteristic way. While at the beginning of the 1830s textile products represented 80 per cent of all manufactured products exported, by 1855 this figure had dropped to 50 per cent. Metal products such as tools, and also rails and locomotives, made up a growing percentage of German exports.

Imports increasingly consisted of industrial raw materials such as cotton, and semi-finished products, like yarn, to be finished in Germany. Forty per cent of all imports in this period consisted of raw materials, 16-22 per cent of semi-finished products. Goods from the colonies (excluding cotton) accounted for 15-20 per cent, and the proportion of manufactured goods fell to about the same level. German industry was beginning to become competitive not only in textiles, but also in investment goods like railway equipment, locomotives, steam engines and machine-tools. (See Table 1.)

Table 1: *German Foreign Trade 1830-1876*

a) Structure of Foreign Trade 1830-1876 in Current Prices (1,000 Talers)

Year	A: Imports			B: Exports			
	Raw Materials and Foodstuffs	Semi-finished and Finished Products	Total[1]	Raw Materials and Foodstuffs	Semi-finished and Finished Products	Total[1]	Balance
c. 1830	85,083	30,055	131,508	99,855	28,141	149,584	+ 18,076
1837	97,571	39,948	139,483	59,033	91,040	149,543	+ 10,060
1840	108,406	49,923	160,579	76,040	88,473	166,318	+ 5,739
1843	119,937	52,851	174,867	61,532	76,498	138,432	− 36,435
1846	151,301	56,963	210,512	69,884	81,845	151,919	− 58,593
1849	117,850	43,995	163,573	73,040	85,558	159,809	− 3,764
1852	150,786	50,818	204,102	86,000	122,359	209,536	+ 5,340
1855	266,437	66,689	336,356	170,669	170,016	347,382	+ 11,026
1864	297,141	92,027	393,070	155,945	226,226	386,275	− 6,795
1872	849,067[2]	245,967[2]	1,154,867[2]	430,200[2]	365,767[2]	830,733[2]	− 324,134[2]
1876	1,036,200[2]	191,200[2]	1,303,833[2]	520,867[2]	347,467[2]	868,334[2]	− 435,499[2]

b) Volume of Foreign Trade 1837-1855 in 1837-41 Prices

Year	A: Imports			B: Exports			
	Raw Materials and Foodstuffs	Semi-finished and Finished Products	Total[1]	Raw Materials and Foodstuffs	Semi-finished and Finished Products	Total[1]	Balance
c. 1837	96,189	39,021	136,748	61,265	88,656	151,054	+ 14,306
1840	110,668	51,340	163,856	72,734	90,898	164,671	+ 815
1843	136,178	63,708	200,996	61,335	83,578	145,718	− 55,278
1846	154,159	64,684	219,283	60,622	95,298	156,618	− 62,665
1849	135,268	54,514	190,202	75,018	108,013	183,689	− 6,513
1852	154,531	61,900	217,130	76,877	151,600	230,267	+ 13,137
1855	229,700	75,023	305,778	124,201	205,273	330,840	+ 25,062
Geometric Growth Rates 1837-55	+ 5.0	+ 3.7	+ 4.6	+ 4.0	+ 4.8	+ 4.5	+ 3.2

1) Adding the entries for raw materials and foodstuffs to those for semi-finished and finished products does not produce a figure equal to the total value of imports and exports because the latter include goods which are not accurately described.
2) All Mark values at a rate of 3 Marks = 1 Taler; foreign trade with chemical products, including the data for Alsace-Lorraine, is subsumed under the heading Raw Materials and Foodstuffs.

Source: W. Fischer, J. Krengel and J. Wietog, *Sozialgeschichtliches Arbeitsbuch*, Vol. 1 (Munich, 1982), p.91.

Manufacturing for the railways soon turned out to be Germany's leading industrial sector. In the 1830s and early 1840s Germany still depended totally on imports of rails, equipment and locomotives from Belgium, Britain and the United States. Within less than twenty years this state of affairs had changed dramatically. By 1860 Germany was not only self-sufficient in this respect, but could also compete with its Western neighbours in third markets. Backward and forward linkages produced considerable growth in the coal and iron industry, and in machine building. When the first railways were built in Germany in the late 1830s, no German factory was capable of producing adequate rails or equipment. Until 1840 four English firms, two or three Belgian and one American were the sole suppliers of locomotives. The bulk of them came from R. Stephenson in Newcastle, Sharp and Co. in Manchester, Cockerill in Seraing and W. Norris in Philadelphia. By 1853, however, 94 per cent of the 729 locomotives in use on the Prussian railways had been built in Germany. More than half of them came from Borsig in Berlin, and other German railway lines were supplied by firms such as Krauss-Maffei in Munich, Keßler in Karlsruhe or Egestorff in Hanover. It had taken only one decade, from 1842 to 1851, to achieve this dramatic change. After the middle of the 1850s, Prussian railways (mainly private, not state-owned lines) rarely purchased foreign-made locomotives. Those that were imported came from Austria. For all practical purposes German firms were the sole suppliers. In view of the fact that the share of locomotive production within the German machine-building industry rose from under 3 per cent in 1840 to 55 per cent in 1855, and 74 per cent in 1875, it is not surprising that supplying German and other railway networks greatly stimulated the whole field of engineering industries. By quickly adopting British technology, first in textile machinery and later in mechanical engineering, Germany had, by 1850, become an industrial centre in its own right. This was achieved long before the political unification of the country took place.[10]

At about the same time, around the middle of the century, electrical engineering began to have an impact on German and world markets. For the first few decades electrical engineering in Germany and in much of Europe was clearly identified with one man and one firm: Werner Siemens and the Telegraphenbauanstalt which he opened in Berlin in 1847. During the 1850s Siemens supplied the Prussian and the Russian railways with telegraphs, opened a branch in England and in St. Petersburg, built all kinds of electrical equipment, particularly submarine cables and lines, and developed the dynamo. By 1855 Siemens employed more people outside Germany, mainly in England, than in Berlin.[11]

The third focus of Germany's export-oriented modern industry, the chemical and pharmaceutical industry, developed at about the same time. However, its origins have to be traced back to the late eighteenth century when France and Sweden led the field; in the first half of the nineteenth century many smaller firms developed in countries like Britain and France, Belgium and Switzerland. Germany had a fair share of these firms along the Rhine and in several cities. The German chemical industry's take-off did not occur, however, until the early 1860s, when the manufacture of artificial dyes and fertilizers, first developed in Britain, was started in Germany. At the same time the three later giants were founded: Bayer in Elberfeld, Gebr. Lucius und Meister in Hoechst near Frankfurt a.M., and the Badische Anilin- und Soda-Fabrik (BASF) in Mannheim (later transferred to Ludwigshafen). They are still flourishing today, after an interlude as members of I.G. Farben between 1925 and 1945. Here again the groundwork was complete before the foundation of the German Empire, although the full potential of these industries became apparent only later, when German and

Swiss firms together controlled about 90 per cent of the world market in chemical dyestuffs, and not much less in pharmaceutical products (although their share was only 28 per cent if all chemicals and allied products such as heavy chemicals are taken together).[12]

It would be wrong, however, to concentrate unduly on these showpieces of German industry. For a long time they were not very significant in the German economy as a whole, nor even within the context of German industry. More traditional pursuits such as textile manufacturing, food processing, construction, and even agriculture remained more important, not only in the domestic economy, but also as suppliers of foreign markets. In the 1880s the garment and leather industries still employed about a fifth of all Germans working in industry, textiles 13.4 per cent and food processing and construction each more than 12 per cent. The entire metal working complex was only in fifth position with 11.2 per cent, and the chemical industry was tiny, employing not more than 1.2 per cent of all industrial workers. Even in 1911/13 it still employed only 2.3 per cent, while metal working (including machine-building and electrical engineering) had become the most important branch of industry, employing 15.7 per cent of all industrial workers.[13] Nonetheless, the development of modern industries had a noticeable impact on Germany's foreign trade figures.

III

Let us therefore compare the structure of foreign trade in Germany at the beginning of the 1880s and in the years immediately before the First World War (again taking a period of about thirty years). In 1880 imports and exports had a total value of around 3 thousand million Marks each; by 1913 the figure had risen to 10 thousand million Marks.

Since prices tended to fall until the middle of the 1890s, and then to rise more quickly than they had fallen, in real terms the increase was a little less than three fold. Hoffmann has estimated that in real terms, foreign trade rose by an average of about 4 per cent per year, while production increased by about 2.7 per cent. Therefore foreign trade accounted for a greater share of the national product in 1913 than in 1880, or, for that matter, than in the middle or early nineteenth century.[14] (See Table 2a.)

The structure of exports developed as might be expected for any industrial economy. The share of foodstuffs (including alcoholic beverages and tobacco) fell from nearly a quarter to about 10 per cent; raw materials, mainly coal and some wool, hovered around 15-16 per cent. The share of semi-finished products increased from 14-16 per cent to more than 20 per cent, and that of finished products from a little below to clearly above 50 per cent (oscillating between 52 and 56 per cent). On the import side, foodstuffs and alcoholic beverages accounted for more than 30 per cent, showing no clear trend. Raw materials now became the most important item, rising from less than 36 per cent to 43-45 per cent in the years before the First World War. Semi-finished and finished products decreased from about 19 to 14-15 per cent and from 12 to less than 8 per cent respectively. (See Table 2b.)

Table 2: *German Foreign Trade 1880-1913*

a) Exports and Imports in Millions of Marks (in Current Prices)

Year	Exports	Imports	Balance of Trade
1880	2,923.0	2,813.7	+ 109.3
1885	2,854.0	2,922.6	− 68.6
1890	3,335.1	4,162.4	− 827.3
1895	3,318.0	4,119.0	− 801.0
1900	4,611.2	5,768.6	− 1,157.4
1905	5,731.6	7,128.8	− 1,397.2
1910	7,374.7	8,926.9	− 1,552.2
1913	10,097.5	10,750.9	− 653.4

Table 2: *German Foreign Trade 1880–1913*

b) Structure of Foreign Trade in Millions of Marks (in Current Prices) and in Percentages

Year	Foodstuffs		Tobacco and Alcoholic Beverages		Raw Materials		Semi-finished Products		Finished Products		Total	
	Marks	%	Marks	%	Marks	%	Marks	%	Marks	%	Marks	%
	1	2	3	4	5	6	7	8	9	10	11	12
Exports												
1880	588.4	20.1	66.0	2.3	424.1	14.5	462.5	15.8	1,382.0	47.3	2,923.0	100.0
1885	465.6	16.3	77.8	2.7	425.5	14.9	392.8	13.8	1,492.3	52.3	2,854.0	100.0
1890	457.8	13.7	49.4	1.5	532.6	16.0	488.2	14.6	1,807.0	54.2	3,335.1	100.0
1895	413.2	12.5	42.7	1.3	508.0	15.3	554.4	16.7	1,799.6	54.2	3,318.0	100.0
1900	487.7	10.6	55.1	1.2	742.3	16.1	755.4	16.4	2,570.7	55.7	4,611.2	100.0
1905	485.6	8.5	58.8	1.0	890.3	15.5	1,048.7	18.3	3,248.2	56.7	5,731.6	100.0
1910	733.3	9.9	62.5	0.8	1,178.2	16.0	1,527.8	20.7	3,872.9	52.5	7,374.7	99.9
1913	1,001.2	9.9	71.5	0.7	1,519.8	15.1	2,146.2	21.3	5,358.8	53.1	10,097.5	100.1
Imports												
1880	708.9	25.2	221.5	7.9	1,008.5	35.8	531.5	18.9	343.3	12.2	2,813.7	100.0
1885	680.2	23.3	236.2	8.1	1,079.6	36.9	568.7	19.5	357.9	12.2	2,922.6	100.0
1890	1,056.3	25.4	380.3	9.1	1,563.0	37.6	723.3	17.4	439.5	10.6	4,162.4	100.1
1895	1,052.5	25.6	374.6	9.1	1,582.7	38.4	708.4	17.2	400.8	9.7	4,119.0	100.0
1900	1,509.1	26.2	378.5	6.6	2,291.7	39.7	949.0	16.5	640.3	11.1	5,768.6	100.1
1905	2,106.4	29.5	407.4	5.7	2,914.7	40.9	1,000.8	14.0	699.5	9.8	7,128.8	99.9
1910	2,371.2	26.6	432.5	4.8	4,023.8	45.1	1,293.9	14.5	805.5	9.0	8,926.9	100.0
1913	2,949.0	27.4	525.7	4.9	4,659.8	43.3	1,660.1	15.4	956.3	8.9	10,750.9	99.9

The bulk of Germany's trade, like that of France, but unlike Britain's, was with its European neighbours. Europe absorbed more than three quarters of all German exports throughout the whole period, while imports to Germany from Europe fell considerably, from 75 per cent between the 1880s and 1900 to less than 55 per cent in 1913. More and more was imported from the countries of North and South America, Asia, Africa and Australia (as Table 2c shows). In the two decades before the First World War the United States became Germany's biggest single supplier, although in 1890 it had ranked only fourth. Russia, in spite of political disturbances and customs disputes with Germany, overtook Great Britain as well as Austria. This was the consequence of a change in the structure of imports: raw materials and foodstuffs, cotton and grain, and many less important goods such as wood, minerals, furs and tobacco were supplied by the major continental powers while Britain lost out to Russian coal, and its industrial exports to Germany also declined.

But Britain remained the most important market for German goods, even though its share sank from more than 20 to 14 per cent. Austria replaced the United States as the second biggest customer by just maintaining her share of about 10 per cent. France and the Netherlands, which became West Germany's best trade partners after the Second World War, were not insignificant, but with a share of 7-8 per cent, clearly ranked behind the leaders. (See Table 2c.)

But it must be remembered that in a growing world economy, a decreasing share of the overall volume of trade may nevertheless represent growth in absolute terms (although this growth may be less than average). Thus, German exports to Britain doubled between 1890 and 1913, and those to the United States increased by about 50 per cent. In the same period, however, German exports to certain underdeveloped countries jumped: there was a ten

Table 2: *German Foreign Trade 1880-1913*
c) Exports and Imports by Regions and Countries (expressed in Percentages)

Region or Country	Exports			Imports		
	1890	1900	1913	1890	1900	1913
Europe	78.1	77.8	76.1	75.7	62.8	54.7
France	6.8	5.8	7.8	6.2	5.1	5.4
Great Britain	20.7	19.2	14.2	15.0	13.9	8.1
Netherlands	7.6	8.3	6.9	7.2	3.6	3.1
Austro-Hungarian Empire	10.3	10.8	10.9	14.0	12.0	7.7
Russia	6.1	6.8	8.7	12.7	11.9	13.2
Africa	0.6	1.5	2.1	1.2	2.4	4.6
America	17.8	14.7	15.3	18.0	26.4	27.8
United States	12.2	9.3	7.1	9.5	16.9	15.9
Asia	2.8	4.9	5.4	3.9	6.1	9.7
Australia and Oceania	0.7	1.1	1.0	1.2	2.1	3.0
Total	100.0	100.0	99.9	100.0	99.8	99.8

Source: W. Fischer, 'Deutschland 1850-1914', in W. Fischer (ed.), *Handbuch der europäischen Wirtschafts- und Sozialgeschichte*, Vol. 5 (Stuttgart, 1985).

fold increase in exports to Argentina and Egypt, and a thirteen fold increase in exports to Morocco. Absolute numbers, however, remained small: for Morocco they were one million Marks in 1890 and thirteen million in 1913, which still only represented a share of 0.1 per cent of all German exports.[15]

Some of Germany's more recent suppliers made even greater gains. Egypt's exports to Germany increased fifty-nine fold from 2 to 118 million Marks; Canada's thirty-four fold from 2 to 64 million Marks; China's seventeen fold from 8 to 131 million Marks; Japan's nine and a half fold from 5 to 47 million Marks.[16] But despite these explosive growth rates, in 1913 these countries still ranked behind small European neighbours such as Switzerland and Denmark. India continued to be Germany's biggest overseas supplier, surpassed only by the United States, and followed by Argentina and Brazil. Hides, cotton, coffee, wheat and barley were the principal goods Germany imported from India; hides, wool, wheat and meat came from Argentina; coffee and hides from Brazil.

A comparison of German imports between 1880 and 1913 reveals, as William Woodruff has shown, a clear trend towards diversification. Cotton and wool, the raw materials for the classical textile industries, accounted for 17 per cent of all German imports in 1880, but for only 10 per cent in 1913; grain accounted for 10 per cent in 1880, and 8 per cent in 1913. Cattle, coffee, cacao and tea, animal foodstuffs, hides and skins all lost relative importance (though growing in real terms) while coal, copper, iron ore and other industrial raw materials were imported in ever greater quantities. Heavy industry in Germany had become a large complex which could no longer be maintained by domestic sources of raw materials alone.

This trend towards diversification becomes even more apparent if exports are examined. Textile goods accounted for 15 per cent of all German exports in 1880; by 1913, this figure had been halved. First place was occupied by iron and steel products with 13 per cent and machinery with 7 per cent. But industrial Germany, like England, also exported coal (5 per cent) and sugar (3 per cent). Raw materials were seldom sold outside Europe. Ninety-eight per cent of all German coal exports and 87 per cent of all sugar exports remained within Europe. Cotton goods were more widely distributed. Only 58 per cent went to European countries, and the rest was shipped to North and South America, Asia, Africa and Australia; in 1880, 70 per cent had been exported to European countries, and the rest had gone mainly to the United States.

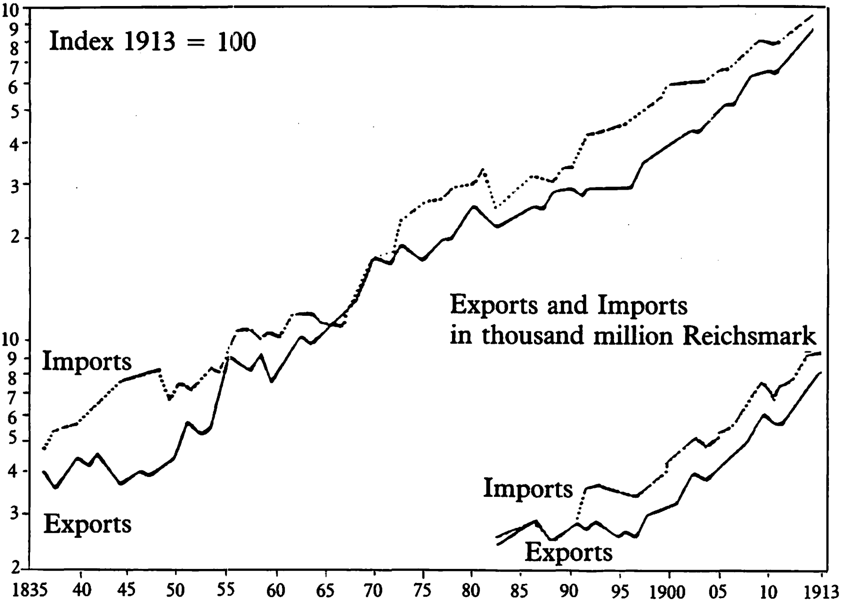
The same trend towards diversification also applied to the supply situation. The most dramatic changes took place in the sources of wool. While in 1880 only 1 per cent of all German imports of wool came from Australia, by 1913 this figure had risen to 42 per cent. Another 22 per cent came from Argentina, and 12 per cent from South Africa. A radical change also took place in the suppliers of wheat. While in 1880 Europe was the largest source, with Russia being the main supplier, in 1913 Europe provided less than a quarter. The bulk was now supplied by the United States (40 per cent), followed by Russia (24 per cent), Argentina (19 per cent), Canada (12 per cent) and Australia (4 per cent).

The same pattern which has emerged elsewhere is illustrated here: the new white settlements overseas were being drawn into the Atlantic world economy to a far greater degree than were Asia and Africa. Africa's increasing importance as a trading partner was not due to trade with Black Africa, but to trade with either South Africa, which delivered 12 per cent of Germany's wool imports in 1913, or the Islamic countries in the North. Egypt, for example, supplied 12 per cent of Germany's cotton imports, and 6 per cent of Germany's iron ore imports originated in Morocco.

IV

Germany's role in the world economy towards the end of the nineteenth century was not based solely on trade, of course. It was increasingly influenced by the movement of capital, and, to a lesser degree, by migration. Before considering Germany's position on the capital market, a few remarks on the *balance of trade*, the *terms of trade* and the *share of trade in national income* might be appropriate. Most experts agree that the German balance of trade was negative during most of the nineteenth century, as was Britain's, while a surplus in services, and earlier probably also in capital flow, made up for this deficit. Graph 1 gives an impression of what the balance of trade may have been like. There are many uncertainties, however, since as mentioned above, the value of trade was only estimated roughly, and imports may have been underestimated, while exports may have been overestimated. The balance in Graph 1 is more likely to be an underestimation than an overestimation. It is

Graph 1: *German Foreign Trade 1835/80-1913, Volume and Value*



Source: R.Tilly, 'Verkehrs– und Nachrichtenwesen, Handel, Geld–, Kredit– und Versicherungswesen 1850-1914', in H. Aubin and W. Zorn (eds), *Handbuch der deutschen Wirtschafts– und Sozialgeschichte*, Vol. 2 (Stuttgart, 1976), p. 584.

also unlikely that a surplus resulted more frequently than is shown. (See Graph 1.)

Germany's surplus in services was derived to a much lesser degree from the financial sector, that is from banking and insurance, than was Britain's. Though places like Hamburg were important in this field, German trade, like that of most other countries, was still financed heavily through London. The surplus originated mostly in shipping. The German merchant fleet, though always much smaller than the British one, expanded quickly during the nineteenth century. Between 1830 and 1870 it grew by 3.2

per cent per year; if incoming traffic by German ships is measured in gross registered tons (GRT), the growth rate is the same. After 1870 there was no major upturn in this rate, but productivity rose rapidly as steam shipping became more important. The following figures might serve as an illustration: between 1850 and 1913 the crews on German ships doubled, the size of the fleet grew 6.6 fold (measured in GRT), but the load carried by these ships and their crews was twelve times larger than in 1873.[17]

After 1895 the *terms of trade* also developed to Germany's disadvantage. Import prices rose more quickly than export prices. In a period of rapid growth for the German economy this did not matter too much. It would have been a more serious hindrance to growth had it happened during a period of economic depression.[18]

A final remark about the *share of foreign trade* in the German economy; Werner Sombart has estimated that this was about 25 per cent in 1825. In the 1870s it was about 35 per cent of national income, significantly lower than in Britain where at this time it was close to 44 per cent, but about the same as in France (33 per cent) and significantly higher than in the United States (14 per cent). During the Great Depression the share of foreign trade in the German economy fell. It is not possible to say whether this was due to protectionist policies which resulted in higher trade barriers, or simply to the fact that a slackening economy can do with fewer imports, and had difficulty finding outlets in the world market. Probably both factors reinforced each other. In the 1890s and early in the twentieth century the share of foreign trade in the German economy fell below 30 per cent. The trend was similar in Britain and the United States where it fell to 38.5 per cent and 12 per cent respectively. Interestingly enough the proportion of foreign trade did not rise immediately after the sharp economic upswing in the second half of the nineteenth century; foreign trade trailed behind for some time. Apparently exports did not grow as much as domestic sales. But in the years immediately preceding the First World War (1910-1913), foreign trade rose to 33.6 per cent, a share which was not attained again until the 1960s.[19] Between 1880 and 1900 the share of exports alone, which economists often regard as the most significant indication of economic strength, fell from about 18 to 13 per cent in current prices, but subsequently rose again to 17.5 per cent. The decline seems to have been partly the result of falling export prices; the rise which followed was, however, a sign of strength. As the terms of trade deteriorated for Germany, a rise in the proportion of exports meant that the volume of exports must have increased considerably and/or that the structure of exports changed in favour of more valuable products, particularly investment goods. This is exactly what happened.

Green and Urquart have demonstrated that if the share of foreign trade in goods is compared with the production of goods, Germany occupied a middle position in a group of seven nations.[20] The ratio of international commodity flows to commodity output was about 2:3 in Germany (with a peak of 71 per cent around 1890), which was much higher than in France, the United States or Canada, but lower than in Sweden, the United Kingdom or Australia, where at times the ratio was higher than 90 per cent.

V

Are the strength of the German economy in the last phase before the First World War, and its earlier weakness (or backwardness) compared to Britain, France and Belgium, reflected in the flow of capital? It is likely that they were, but too little is known about this subject to give a definite answer. Statistics about the movements of capital in and out of Germany are practically non-existent before the First World War. We do know something about the regional and micro-level, and about the role of foreign loans in finance. Large Belgian and British investments existed in the Ruhr around the middle of the century, and there was also considerable direct investment of French (particularly Alsation), Swiss and American capital in the Southwest at this time. We know about large German investments in Austria, Russia and the United States, and some spectacular intrusions of German capital into other regions such as Turkey, North Africa and later, China, but we do not know the overall figures. My guess is that small investments, direct and indirect, made across the border in both directions – Dutch, Swiss, Austrian, Belgian and French investments in Germany and vice versa – were in fact of greater value than the more prominent cases such as the Deutsche Bank's promotion of Oriental Railways, or Mannesmann's mining exploration in Morocco. Investments in the German colonies were notoriously small. The Germans, as good businessmen, preferred to invest in prospering countries such as the United States. If they did get involved in Africa, they invested in British possessions rather than in the barren German Southwest. A great deal of short-term working capital went to Latin America, promoting trade with these countries, and there was, of course, some capital invested wherever German emigrants settled, Brazil, the United States or the African possessions. But in total, it remained far behind not only British but also French foreign capital investments. When stock was taken at the beginning of the First World War, Great Britain had invested 18 thousand million Dollars abroad, France 9 and Germany 5.8. Nearly half of all German investment (44 per cent) was in Europe, particularly in neighbouring Austria; 20 per cent was in North America, mainly in American and Canadian railways; another 15.5 per cent in Latin America, largely in Argentina and Brazil; about 12 per cent in Asia, mostly in China; and only about 7 per cent in Germany's African colonies.[21]

This differed considerably from the British investment pattern. Britain invested very little in Europe, about a third in North America, and the rest was distributed fairly evenly between Asia, Africa and Oceania.

Hardly anything is known about how German investments were divided between direct and portfolio investments, since the only macro figures we can collect are for portfolio investments in foreign loans and bonds.[22] Hoffmann estimates that the stock of German foreign investment was about 7 thousand million Marks in the early 1880s, growing to 20 thousand million Marks in 1913. But the annual net flow was rarely more than 500 million, with the exception of 1905. This is about the same as the estimate made in 1930 by Herbert Feis, who put the net flow between 500 and 600 Marks for the period 1894 to 1914.[23] Using Hoffmann's figures (as provided by Simon Kuznets), David Landes has estimated that German foreign investment in the early 1880s was less than 20 per cent of the total net capital formation at current prices (compared to more than 51 per cent in the United Kingdom), and between 5 per cent (in the late 1880s) and 2 per cent (in 1911/13) of national product.[24] But shortly before the First World War the ratio of German foreign investment to total net capital formation had decreased to 5.7 per cent (despite a rise in absolute terms), because of heavy domestic investment within Germany, while in the United Kingdom it had risen to nearly 53 per cent. Even if the German figures are too low because of a lack of information about direct investment, the difference is remarkable and demonstrates a decisive feature of the buoyant German economy in the early twentieth century: its concentration on domestic investment. It must be assumed, however, that there was a great deal of direct investment in neighbouring European countries where German firms opened branches or offices. Hertner has demonstrated this for the operations of the big electrical companies in Italy.[25]

As far as foreign investments inside Germany are concerned, it can be assumed that direct investments predominated. This is suggested by the fact that one of the main outlets for portfolio investments, the railways, were bought out by the German government in the 1880s and subsequently, in so far as they had not been state-owned from the beginning.

Investments usually make for long-term capital flow. Short-term flow is mainly associated with foreign trade, speculation in prices on the world exchange markets and occasionally with the currency operations of central banks. Hot money-flows as a result of political crises remained small, at least compared with the interwar period. The wars of the 1860s seem to have left the capital markets fairly calm. The big influx of gold and French Francs in 1871 after the Franco-Prussian War partly counteracted the eagerness of Germans to invest in French government bonds which were issued to pay the reparations of 5 thousand million Francs. It is common knowledge that Rothschild in Paris and other French banks tried to prevent Bleichröder and other German banks and their clientele from becoming too involved in the lucrative business of lending to the French government.[26] Unlike what happened during the interwar years, these reparations, large as they were in terms of the French gross national product, did not create a long-term international payment problem; it was settled quickly via the international capital and money market. Politically motivated changes in international capital flows occurred, however, in the late 1880s and 1890s, when Russo-German relations became strained, and France replaced Germany as the main lender to Tsarist Russia.[27] The Morocco and Balkan crises in the last decade before the First World War resulted in a certain amount of unrest. In comparison with the broad and relatively calm stream of commercial transactions, both short- and long-term, however, these politically inspired capital movements can be regarded as minor.

VI

In conclusion, I shall summarise Germany's position in the world economy in the decades before the First World War. It is well known that in industrial production, Germany overtook all countries except the United States. Germany was the major supplier of chemical products in the world market, the second largest supplier of electrical engineering products and machines of all kinds, and one of the three or four great suppliers of investment as well as consumer goods. In international trade, Germany continued to trail behind Britain, but retained second place ahead of the United States. In financial matters, Germany had a long way to go to catch up with the British financial community's dominant position. Germany was a major partner in the Atlantic world economy, but one heavily oriented towards Europe. The only really large market for Germany outside Europe was the United States. The rest of the world, though rapidly gaining in significance for the German economy, was still fairly marginal. Germany did not rely on those areas which later became known as the Third World. It is true that the German consumer, like other Europeans, had acquired a taste for goods from the colonies: tea and coffee, spices, bananas and coconuts. But German industry depended mainly on Europe and North America for raw materials, at least until the end of the nineteenth century, and the colonial regions, even India and Japan, remained unimportant as export markets. Enthusiasm and hopes for these markets were much higher than their real value turned out to be. Germany's colonial policy had a very narrow economic basis. Its advocates were professors, school-teachers and clergymen rather than businessmen, though of course certain exporters and importers, shipping lines, banks and settlers had vested interests. But the strength of the German economy was to be found elsewhere: it was based on its broad, diversified industry, and its connections with other European and North American markets.

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