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## **West Germany - Expanding Where The Markets Are**

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# Multinational Business

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## Summaries of In Depth Articles in This Issue

### 1 West Germany: Expanding Where the Markets Are

The rapid expansion of West German exports in the 1970s has now been overtaken by the more rapid growth of West German FDI. The experience of West German multinationals reflects this trend; companies which invest abroad are largely concerned either with expanding into new export markets or with securing existing markets, motives ranking very much higher than the search for lower wage costs or cheaper supplies. Foreign employment and production figures for the top 40 West German MNCs are examined, together with their current strategies.

### 2 Canada in the USA

For most of this century Canada has been a host nation to FDI. However, since 1975 there have been greater outflows of FDI than inflows. Most of the inward investment still comes from the USA, but now Canadian multinationals are investing in the USA itself. This paper explores the economic determinants of Canadian outward investment, breaking them down into a series of US 'pull' and Canadian 'push' factors. The implications of the Canadian experience of the reversal of its FDI patterns are explored for other advanced industrial nations.

### 3 Diversification: The European Versus the US Experience

An ever declining proportion of large companies is engaged in a single or even one dominant activity. A survey of 300 top companies in the USA and Europe carried out by FOR found 43 per cent were diversified into correlated activities and 27 per cent into non-related activities in 1983, with European companies rather more highly diversified than US companies. It examines diversification and penetration by sector over 1979-83, and looks at the role of technology, identifying a new concept of 'focused' diversification which is emerging among more profit-conscious managers.

### Other In Depth articles planned for 1987

If Labour wins: Implications for Multinationals in the UK  
Robert Silver

Political Liberalisation and MNCs in the Pacific Rim  
Patricia Goldstone

Multinationals in Yugoslavia  
Patrick Artisien, Cardiff Business School

Technology and the Multinationals Revisited: Examples from Pakistan  
Jack Baranson, Illinois Institute of Technology

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## In Depth 1

### West Germany: Expanding Where the Markets Are

BERNARD M GILROY AND UDO BROLL<sup>1</sup>

#### The forces of globalisation

Fundamental structural changes have transformed West German production methods in world markets. Worldwide sourcing strategies reflect the movement away from simple commodity exchange to international production. The global strategies of integrated international enterprises flow from the internationalisation of the West German economy.

Three major, interrelated factors underlie the rapid rise of German multinational enterprises:

- the process of market expansion;
- diversification;
- and integration.

As is the case for most industrialised nations, the expansion of enterprises in West Germany has involved product differentiation and vertical integration. The very rapid growth of German firms since the 1960s was made possible by an increasingly integrated market, supported by investment in transport as well as communications and by an economic and political consensus. These factors have enhanced Germany's central management capacity worldwide.

Industrial realignment has been reinforced by another, more specific, movement. For a wide range of manufacturing commodities, relative factor abundance has become increasingly similar among Western nations. Under these conditions the pattern of world specialisation in production depends to a large extent on factors such as non-competitive firm behaviour and government policies. The internationalisation of West German firms is increasingly replacing market-oriented foreign trade. Commodities and services are exchanged internationally among the units of one firm. Strategic bundling of resources in non-market packages has led to an often 'invisible' international transfer of resources. As such, German economic structural adjustment and innovation processes have occurred at the firm level. Competitiveness has come to be based on 'private' absolute advantages internal to the firm.

#### Export led growth preceded foreign direct investment

It was the saturation of domestic markets and the under-utilisation of domestic capacities that led to the use of exports by West German firms as the initial strategy in crossing national borders. To illustrate this strategy a few figures are helpful.

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**Table 1 West Germany's international economic involvement since 1960**

		1960	1965	1970	1975	1980	Annual average growth 1960-80
<i>Trade:</i>							%
Exports (fob)	DM bn	47.9	71.7	125.3	221.6	350.2	10.5
	% of GDP	15.8	15.6	18.2	21.2	23.6	
Imports (cif)	DM bn	42.7	70.4	109.6	184.3	341.4	11.0
	% of GDP	14.1	15.3	16.0	17.6	23.0	
<i>Long term private international capital flows</i>							
Exports	DM bn	-1.4	-2.2	-8.6	-21.9	-27.4	16.0
	% of GDP	-0.5	-0.5	-1.3	-2.1	-1.8	
Imports	DM bn	2.5	4.6	10.1	2.5	12.7	8.5
	% of GDP	0.8	1.0	1.5	0.2	0.8	

Source: Juhl, P. (1985), *The Federal Republic of Germany*, in: Dunning, J. H. (ed.), *Multinational Enterprises, Economic Structure and International Competitiveness*, John Wiley & Sons, New York, page 128.

In 1980 West German exports and imports were valued at roughly eight times those of 1960. The contribution of exports to the West German GDP over this period had risen from some 15.8 per cent to 23.6 per cent. Up to the end of the 1970s West Germany normally earned an export surplus.

Exporting firms typically started off by servicing the foreign market through local distributors, upon the policies of which they had little or no control. The process of expansion, diversification, and integration into world markets led to the need for more systematic management and ultimately the internationalisation of the control function of foreign distribution.

### Motives for investing abroad

The basic motives for foreign investment by West German corporations are similar to those for international companies in other countries: securing market positions abroad, overcoming tariff and non-tariff barriers to trade, exploiting new markets, benefiting from tax and financial advantages, securing raw material inputs through vertical integration, taking advantage of low foreign wage rates, etc. There are, however, some particular characteristics peculiar to the West German experience. Studies based upon questionnaire results have revealed that German foreign direct investment is overwhelmingly affected by market motives. One recent survey of affected German foreign investors revealed a rating order of the ten most important motives for investment abroad (Table 2).

The extension of activities abroad to new markets was the most important motive (No. 1 rating), being followed by securing and extension of an already existing market (No. 2 rating) and securing and control of marketing in the host country (No. 3 rating). The significance of these three motives

**Table 2 Motives for foreign investment by West German firms**

Motive	Rating			
	Total	ICs <sup>a</sup>	NICs <sup>b</sup>	DCs <sup>c</sup>
Extension of activities abroad to new markets	1	1	1	1
Securing and extension of an already existing market	2	2	2	2
Securing and control of marketing in the host country	3	3	4	3
Political stability of the host country	4	5	3	4
Export base for products of the West German parent company	5	4	10	9
Overcoming of trade and export barriers	6	7	6	6
Expectation of a high investment return	7	8	5	7
Suppliers for enterprises in the host country	8	6	11	12
Low wage costs	9	12	7	5
Securing of supplies in the host country	10	10	8	8
Employment creation	11	17	9	10
Strengthening of the economic independence of the host country	12	18	12	11
Transport cost savings	13	9	19	16
Government promotional measures by the host country	14	16	13	14
Production for the parent company in West Germany (re-import)	15	13	14	20
Utilisation of technologies developed for the specific needs of the host country	16	15	15	18
Processing of indigenous raw materials for the host country's domestic requirements	17	19	18	13
Relocation induced by exchange rate	18	11	20	25
Supplier for a large West German enterprise also operating in the host country	19	20	16	21
Low prices for raw materials and fuels	20	14	21	17
Governmental promotional measures by West Germany	21	24	17	19
Securing and extension of the raw materials base	22	21	22	15
Other reasons	23	22	23	22
Securing of energy supply	24	24	24	23
Promotional measures by international institutions	25	25	24	24

<sup>a</sup> Industrialised countries.

<sup>b</sup> Newly industrialised countries.

<sup>c</sup> Developing countries.

Source: Kayser, Gunter, Schwarting, Uwe (1981), 'Foreign Investments as a Form of Enterprise Strategy: On the Results of a Survey', in *Intereconomics*, November/December, pages 295-9.

was regarded by 79.3 per cent of the 654 subsidiaries of German parent companies in 17 countries as being 'large' or 'very large'. Motive No. 4, political stability in the host country, also plays a decisive role, along with the sales and market factors. The survey demonstrated that before undertaking investments abroad more than 60 per cent of the enterprises had viewed the political stability of the host country as being guaranteed for the near future. Motives 5 and 6 illustrate the fact that German foreign investments commonly function as a 'bridgehead'; an intensification of

exporting activity occurs using the new location as a base. Foreign investments take a complementary rather than substitutional rôle for the enterprise. The extension of production outside German borders was often a result of trade barriers, as represented by Motive No. 6.

The expectations of a high investment return and the low wages motives are return-oriented and cost-oriented motives for foreign investment. Half of the surveyed enterprises regarded the ratings 7 and 9 as being equally important in the choice of which country to invest in.

Motive No. 8, suppliers for enterprises in the host country, and No. 10, securing of supplies in the host country, illustrate the willingness of the enterprises to adapt to the existing economic situation of the respective host nation.

It is perhaps interesting to note that the survey revealed that promotional measures by international institutions, such as exist especially for investments in developing countries and newly industrialised countries, occupy the lowest level of the ranking order.

Direct investment patterns thus evolve out of the enterprises' desire to grow where the markets are. Foreign direct investment (FDI) is only one way of doing international business. The establishment of production facilities abroad has often been promoted as import/export markets were endangered by restrictive government policies or the oligopolistic rivalry of competitive firms. West German industrial sectors engaging in a high volume of foreign direct investment are characterised by technological intensity, large firm size, and high intra-industry concentration rates, which are all indicative of intensified levels of competition.

### West German foreign direct investment flows

As may be seen in Table 1 above, West Germany's long term private international capital outflows increased by about 20 times between 1960 and 1980. Yet the corresponding inflows grew only approximately fivefold. Thus the international pattern of locational advantage appears to have changed in disfavour of West Germany. International economic involvement through direct investment flows has expanded more rapidly than export trade. German firms have realised that servicing important markets by exports alone would be inefficient in the long run. They have hence acquired production facilities abroad, from which they can either serve one important local market, or export from logistically advantageous locations to third countries.

### How international are West German firms?

At present, West German multinationals make approximately one third of their capital investments in foreign locations, and their foreign subsidiaries represent some 30 per cent of the total number of their employees. This to some extent reflects the high West German wage levels and the locational advantages of low wage countries. Both proportions have risen appreciably since the mid-1970s, but over the same period the volume of West German foreign production has more than doubled, an even better illustration of the



rapid international expansion of the last decade. The volume of foreign production has indeed for most firms achieved an order of magnitude similar to that of exports.

The involvement of the 'Top 40' West German multinational enterprises is illustrated in Table 3. For most enterprises, foreign production (column 2) and exports (column 4) are of much the same order of value, though for some companies (Bayer, Henkel, Boehringer) foreign production is considerably larger. Exceptions are Daimler-Benz, BBC and Krupp.

Table 3 The 'Top 40' West German multinational enterprises, 1982

Company	Foreign employees ('000)	Foreign subsidiary production (DM mn)	Exports (DM mn)	New foreign direct investment (DM mn)
Siemens	104.0	9,905	12,179	664
Hoechst	82.7	13,850	11,927	889
Volkswagen	81.1	11,346	15,733	1,212
Bayer	80.2	19,700	7,020	832
Bosch	41.1	3,627	4,108	259
Daimler-Benz	36.6	7,756	17,833	423
Mannesmann	29.0	4,855	6,060	146
BASF	28.3	8,643	9,549	575
Agfa Gevaert	22.3	—	—	—
Thyssen	21.6	—	—	153
Gutehoffnungshütte	19.8	—	10,060	—
AEG	16.5	2,117	3,633	40
Henkel	16.2	5,050	722	188
Triumph International	16.0 (ca.)	—	—	—
Boehringer (Ingelheim)	13.9	1,985	649	62
Varta	12.9	695	361	31
Brinkmann	12.2	—	—	—
Bertelsmann	11.9	—	—	—
VDO Schindling	11.3	—	237	—
Grundig	11.1	1,369	150	45
Merck	10.9	—	—	—
Ford-Werke	10.8	—	—	—
Freudenberg	7.6	774	577	44
BBC	6.9	199	1,920	18
Krupp	6.8	1,622	5,602	48
Wella (ca.)	6.8	—	—	—
Schering	6.8	—	—	78
Dt. Babcock	6.5	—	—	—
Beiersdorf	6.4	946	231	90
Continental	6.1	451	673	42
Nixdorf	6.1	—	—	—
Enka	5.8	133	1,570	13
Degussa	5.7	1,520	3,901	62
Zeiss-Stiftung	5.6	—	1,072	—
Flicke-Gruppe (ca.)	5.5	—	—	—
BMW	5.5	—	7,100	—
Kugelfischer	5.2	427	980	40
Triumph-Adler	5.1	—	—	138
Osram	5.1	508	453	14
Liebherr	5.0	—	1,095	—

Source: Mettler, P. H. (1985), *Multinationale Konzerne in der Bundesrepublik Deutschland*, Herchen Verlag, Frankfurt/Main 1, page A31.

Four German multinational concerns (Siemens, Hoechst, Volkswagen, Bayer) dominate the scene in terms of international scale. Each of these four employed at least twice as many foreign employees as any other West German firm in 1982, and the value of their foreign production was also at least twice as great as any other. In terms of export value, however, Daimler-Benz outranks all of these. The top four employed some 348,000 workers internationally in 1982, and seven other enterprises (Bosch,

**Table 4 Employment and production, total and per cent abroad, for the 'Top 40' West German multinational enterprises, 1982**

Company	Total employees ('000)	Employees abroad (%)	Production/sales (DM mn)	Production abroad (%)
Siemens	324.0	32	40,109	25
Hoechst	182.2	45	34,986	40
Volkswagen	239.0	34	37,434	30
Bayer	179.5	45	34,834	57
Bosch	112.2	37	13,812	26
Daimler-Benz	185.7	20	38,905	20
Mannesmann	112.6	26	16,469	29
BASF	115.9	24	34,844	25
Agfa Gevaert	35.1	64	5,887	...
Thyssen	144.7	15	30,610	...
Gutehoffnungshütte	87.4	23	18,693	...
AEG	92.7	18	13,257	16
Henkel	33.0	48	8,158	62
Triumph International	-	...	-	...
Boehringer (Ingelheim)	22.8	61	3,515	...
Varta	-	...	-	...
Brinkmann	...	...	2,713	...
Bertelsmann	29.5	40	6,036	...
VDO Schindling	-	...	-	...
Grundig	31.5	35	2,863	48
Merck	19.6	56	2,493	...
Ford-Werke	49.1	22	11,724	...
Freudenberg	21.6	35	2,451	32
BBC	-	...	-	...
Krupp	78.2	9	16,720	10
Wella	-	...	-	...
Schering	20.1	34	3,511	...
Dt. Babcock	32.3	20	6,344	...
Beiersdorf	...	...	2,170	44
Continental	-	...	-	...
Nixdorf	16.0	38	2,287	...
Enka	30.1	19	4,000	3
Degussa	12.9	44	7,375	21
Zeiss-Stiftung	29.7	19	2,721	...
Flicke-Gruppe	-	...	9,701	...
BMW	47.5	12	11,620	...
Kugelfischer	23.8	22	1,988	21
Triumph-Adler	11.2	46	1,964	...
Osram	-	...	-	...
Liébherr	12.8	39	2,565	...

Source: Jeske Jürgen J., 'Die hundert größten Unternehmen', in *Frankfurter Allgemeine Zeitung*, August 28, 1983, Nr. 192, p. 11.

Daimler-Benz, BASF, Mannesmann, AEG, Thyssen, Gutehoffnungshütte) employed a further 212,700.

The total volume of new West German FDI in 1982 was DM13,158 mn according to official Central Bank statistics, rising to DM21,100 mn by 1985. Hence the largest investor in 1982, Volkswagen, accounted for just over 9 per cent of the total.

### Acquisition strategies have predominated

Recent research has indicated that West German multinationals have realised foreign expansion strategy during the period 1977–81 mainly by acquiring a going foreign concern. Some 60 per cent of manufacturing expansions of German multinationals during the period 1977–81 applied foreign acquisition strategies for market entrance. Only 40 per cent of German manufacturing expansions have occurred through the establishment of new subsidiaries.<sup>1</sup>

Up to the end of the 1960s, the international competitiveness of West German exports was supported by the persistent devaluation of the Deutschmark. This permitted most industrial sectors to obtain a relatively good position in world markets. Simultaneously, import competition was pushed back. The exchange rate level acted much like an export subsidy; on the one hand foreign markets could be serviced using greater price margins, and at the same time domestic investment was attractive. Under such a scenario foreign direct investment appeared unattractive to German entrepreneurs. However, with the introduction of flexible exchange rates in 1973 these price conditional competitive advantages were increasingly diminished. West Germany was transformed in 1974 from a capital importer to a capital exporter. The implementation of a flexible exchange rate acted as a catalyst to FDI, behind which the more fundamental motives such as securing and winning market shares were concealed.

### Product differentiation strategies

The rapid growth and sophistication of West German consumer demand has encouraged product differentiation at home, but also rising imports from abroad. Exploitation of returns to scale in production has led to diversification in national production and export structures as well as FDI flows from West German enterprises, thereby reducing the structural adjustment costs facing the German economy. The product diversification strategies of German multinationals express an intensive specialisation effect within the various sub-branches of the German economy. A strategy of product differentiation reflects the firm's desire to lessen its dependence upon a narrow product range. One alternative is to shift production into higher quality products, which has been the traditional route for West

<sup>1</sup> See Olle, W. (1983) *Strukturveränderungen der internationalen Direktinvestitionen und inländischer Arbeitsmarkt*. Minerva Publikation, Munich. And further, Olle, W. (1985), *Der Umfang der Internationalisierung deutscher Unternehmen*, pages 9–11, in Mettler (1985), op. cit.

German multinationals. Another is to move downstream, through integration, from simple commodity production operations into processing operations that are more closely related to engineering activities. A third possibility, specialisation in entirely new activities, is tantamount to a partial or total exit from a previously held market niche.

The increasing significance of diversification strategies of West German multinational enterprises is illustrative of their reaction to the slump in demand and the rise in production costs which characterised the 1970s. Diversification into higher quality products and processes offers better demand prospects and reduced threat from foreign substitutes.

Over the last decade, West German multinationals have been making increasing use of options such as joint ventures, technology swapping arrangements or capacity sharing arrangements and countertrade strategies. These contractual forms of international involvement permit German enterprises to concentrate on those product lines in which they are most competitive while importing semi-finished inputs from abroad. Unfortunately, the value added statistics obtainable for the US import and export structure are still not published officially in West Germany.

### **West German multinationals and institutional constraints**

Institutional restraints confront West German firms with regard to organised labour. Hence rationalisation strategies, often needed to combat foreign penetration and competition have not commonly represented a practical solution. Only those firms capable of adapting to the new industrial environment brought about by the integration of markets on a world basis will be able to profit from the potential earnings of a larger market. At the moment, this adaptation process is still in its infancy in many sectors of West German industry. The rising voices of protectionism in political arenas exemplify the structural adaptation processes that are in motion. Changing market structures due to rising levels of intra-industrial transactions have increased the velocity of change in the competitive environment facing German producers.

The West German government has, however, followed a strategy of promoting advanced technologies facing intense international competition. In 1984 West Germany announced a four year \$1.2 bn programme to aid the microelectronics, communications and computer industries by reducing risks, improving training methods and developing applications. The government opted to play an indirect role in fostering the development of these industries, which are characterised by high levels of competition among multinational enterprises.

### **West German foreign direct investment is concentrated in developed countries**

The proportion of West German FDI in developed countries is substantially higher than that found elsewhere. Table 5 below demonstrates this heavy concentration, which showed no tendency to alter between 1976 and 1982, a period in which foreign direct investment more than doubled in current Deutschemark terms.

**Table 5 West German foreign direct investment by area (1976 and 1982)**

	1976		1982	
	DM mn	%	DM mn	%
Developed countries	36,351	73.9	82,350	75.5
EC	16,836	34.3	31,945	29.3
other European	9,137	18.6	13,978	12.8
non-European	10,378	21.0	36,427	33.4
Developing countries	8,116	16.5	16,456	15.1
Africa	769	1.6	1,511	1.4
Latin America	6,518	13.3	12,717	11.7
Asia	829	1.7	2,228	2.0
Opec members	1,864	3.8	3,225	3.0
Eastern bloc countries	11	0.0	25	0.0
Other	2,799	5.7	6,987	6.4
<b>TOTAL</b>	<b>49,081</b>	<b>100</b>	<b>109,043</b>	<b>100</b>

Source: Monatsberichte der Deutschen Bundesbank und Beilage zu 'Statistische Beihefte zu den Monatsberichten der Deutschen Bundesbank', Reihe 3, Zahlungsbilanzstatistik Nr. 4, April 1984.

Roughly 75 per cent of German foreign direct investments are located in developed countries. This concentration of activity illustrates the sensitivity of German corporate investors to per caput income, market size, income distribution structures, the availability of necessary support and service industries and the presence of advanced local financial intermediaries in potential locations.

Whereas little has changed with regard to the global distribution pattern of West German foreign direct investment between developed and developing countries over time, there has been a drastic redistribution of German international investments within the developed countries. Up to the middle 1970s annual German foreign direct investment flows concentrated largely upon countries within Europe (with France, Switzerland and Belgium-Luxembourg being the main investment targets). The concentration of German assets in neighbouring European countries was largely due to their proximity and similarity of industrial structure. During the second half of the 1970s, however, a significant reorientation of German foreign investment flows favouring non-European countries has occurred. German direct investment in the USA has largely replaced investment in the European Community and this trend is likely to continue in the near future. Furthermore, the first indications of increasing levels of German direct investment in Japan have been registered. Through their strategy of takeovers, German enterprises were able to expand into these markets relatively easily. The chemical industry especially has exploited the advantages of gaining existing distribution outlets through takeovers, avoiding many of the costs and risks associated with new establishments.

The engagement of German investors in developing countries has remained relatively small. German foreign direct investment in developing countries has traditionally been concentrated in Latin American countries such as Brazil, Argentina and Mexico. The decrease in investment in these areas is to a large extent due to the balance of payments problems of these

countries and the effect of the international recession period 1980-82, as well as the observed increased use of international contract cooperation forms without an explicit capital involvement. Furthermore, the wage cost induced expansion of German multinational enterprises which characterised the main motive of nearly one fourth of all German investment in developing countries during the 1970s has lost much of its force. New production methods involving microelectronics have decreased the wage cost share of many production processes, thereby reducing the wage differential motivation for location overseas.

It is perhaps interesting to note that South Africa has despite the increasing level of political instability since 1983 received more German investment capital than during the more peaceful years of the past. This investment strategy is in marked contrast to the industrial investment policies of most other industrialised nations, which have preferred not to support the apartheid system.

### The sectoral structure of German foreign direct investment

German FDI is not only concentrated by area but by sector as well (Table 6). The most important German foreign investor has remained the chemical industry, making up almost 20 per cent of total foreign direct investment flows. The chemical industry is followed by the holding companies (insurance) and credit institutes with a further 18 per cent of total investment. The service sector has become a strong element in German direct investment flows, compared with the mid-1970s.

The process of internationalisation of West German production has been extensive in the more traditionally export oriented industrial branches such as the chemical or textile industries. Intra-firm trade transactions of German multinational firms have been estimated to be of the magnitude of some 20 per cent, illustrative of the intensive specialisation effect within the various domestic branches of the international economy combined with an increasing expansion of the differentiated product ranges of West German

**Table 6 West German foreign direct investment by main industrial sectors (1976 and 1982)**

	1976		1982	
	DM mn	%	DM mn	%
Mining	1,814	3.7	4,459	4.1
Chemical	10,057	20.8	21,339	19.6
Electrical and electronic	5,885	12.2	11,171	10.2
Transport/automotive	4,608	9.5	9,979	9.2
Machinery	3,316	6.8	6,883	6.3
Iron & steel production	1,539	3.2	3,891	3.7
Holding companies	6,286	13.0	11,805	10.8
Banking	2,603	5.4	7,536	6.9
Trade	2,262	4.7	4,150	3.8
TOTAL stock	48,377	100	109,043	100

Source: Mettler, P. H. (1985), page A24.

multinationals. German multinational investments have to a large extent consisted of horizontal investments. The establishment and development of integrated markets has promoted rationalisation of operations, within political restrictions, on a horizontal basis, encouraging German firms to obtain economies of scale through an international division of production. The outward-looking strategies of German multinationals will continue to intensify world competition in the future.

Fundamental structural changes have been observed in West Germany since the mid-1960s. These changes have been characterised by a movement away from a traditional emphasis on domestic production towards the internationalisation of the West German economy.

Three major, inter-related factors underlie the rapid pace of German multinational expansion:

- the presence of a skilled labour force
- a high rate of technological innovation
- a strong emphasis on research and development

As in the case of other industrialised nations, the rapid pace of expansion in West Germany has been supported by a number of factors, including: the very rapid growth of German firms since the 1950s was made possible by an increasing, in general, market supported by a well-developed transport as well as communications and by an economic and political consensus. These factors have enhanced Germany's central role in the world economy.

Germany's economic growth has been reinforced by another, more specific, development. For a long time, Germany has been a major exporter of high-technology products, particularly in the field of machinery and electrical equipment. This export-oriented growth has been supported by a number of factors, including: the very rapid growth of German firms since the 1950s was made possible by an increasing, in general, market supported by a well-developed transport as well as communications and by an economic and political consensus. These factors have enhanced Germany's central role in the world economy.

#### Export-led growth preceded foreign direct investment.

It was the presence of domestic markets for the firm's products that allowed German firms to expand their operations into foreign markets. The rapid growth in exports preceded foreign direct investment.

Department of Economics, University of Toronto