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German chemical firms in Latin America in the 1970s and 1980s: Strategy and management of multinationals in a volatile environment

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ABSTRACT

This article explores foreign multinationals and their analysis of the future economic relevance of Latin American countries amidst the economic and financial turbulences in the 1970s and 1980s. In particular, it investigates how German chemical companies adapted their investment and foreign market strategies towards the fast-changing Latin American markets. Utilising a variety of archival resources, the article presents two case studies (Bayer/Hoechst) from the German chemical industry, which is one of Germany's most globalised sectors. The article shows the way in which they adapted to Latin America's state-led industrialisation and macroeconomic uncertainty by strategically managing the emphasis between exports and FDI. Despite the unmet expectations of the 1950s and 1960s, these companies maintained their presence in Latin America but progressively shifted towards overseas production through their own subsidiaries.

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1. Introduction

During the first globalisation before the First World War, Latin American countries were among the main investment areas of multinational companies, principally in the search for raw materials (Grosse, 1989, pp. 11–15; Lanciotti & Lluch 2009; Wilkins, 1970, p. 203). About 16% of total German foreign investment was placed in Latin America in 1914, and Latin America continued to be a strategic foothold for potential business of German firms in the interwar period, during which British and American chemical companies increased their investments in this region (Forbes, 1978; Hastedt, 1970; Lanciotti & Lluch, 2015a; Miller 2013; Schröter, 1990; Wilkins, 1974a, 1974b; Young, 1988).[1] Even after 1945, Latin America remained an important sales market for German companies. Moreover, it became again a major investment target for West German chemical firms, since other markets had been taken over by competing companies of former enemy states. When the oil crisis broke out in 1973, and

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currency and debt problems spread across Latin America, the question of how foreign companies should react, took centre-stage. In addition to financial problems, their cooperation with the military regimes provoked criticism in Western societies. This article examines the business strategies of two German chemical companies in response to these challenges.

Many Latin American countries pursued protectionist economic policies in the 1950s and 1960s. The term *import substitution industrialisation* (ISI) has been widely used to refer to this period, even though import substitution was often combined with export promotion and regional integration, especially since the 1960s. Hence, the concept of state-led industrialisation is more appropriate to describe this development. The state, accordingly, took on a wide range of responsibilities by developing infrastructure, founding banks, and intervening in markets (Bértola & Ocampo, 2012, pp. 155–157; Bulmer-Thomas, 2014, pp. 296–345; Cárdenas et al. 2000; Ffrench-Davis et al. 1995, pp. 188–208). In the process, the promotion of investment by multinationals in new import-substituting activities became a core component of state-led industrialisation. However, over the course of the 1960s and 1970s, this perspective shifted towards the idea that national investors should play a central role in new manufacturing sectors (Bértola & Ocampo, 2012, pp. 165–167).

The 1973/74 oil shock had different effects on the oil-exporting and oil-importing countries (the former included Venezuela, Ecuador and later Mexico, the latter Brazil), resulting in debt-financed growth. Nevertheless, growth rates declined, and borrowing abroad increased, in the whole region (Ffrench-Davis et al. 1995, pp. 182–184). Afterwards, in response to the debt crisis of the 1980s, Latin American countries began to liberalise their economies and to reduce trade barriers. Hence, in the last third of the twentieth century, many of them suffered turbulent histories. These were marked, on the one hand, by military governments, coups, human rights violations and democratic movements, and, on the other, by an economic opening to the global economy. Here, state-owned enterprises were privatised, controls on prices and capital transfers were removed, and debt to foreign countries grew (Bulmer-Thomas, 2014, pp. 346–390; Hernàndez & Parro, 2008; Krugman & Obstfeld, 2006, pp. 244–251; Schneider, 2004). Beginning in the 1970s and into the mid-1980s, Latin American governments changed their economic paradigms from state-led industrialisation to market reform and global economic integration. Companies had to adapt their strategies to these government-imposed constraints. Even though firms faced the same rules, they adopted different strategies – depending on whether they were parts of business groups, were owned by a foreign multinational enterprise (MNE), and on their type of business (Bértola & Ocampo, 2012, pp. 138–197; Ffrench-Davis et al. 1995, pp. 209–247; Ocampo & Ros, 2014; Schneider, 2013, pp. 43–89). This is precisely where the article comes in and explores the different foreign strategies that German companies have adopted in this situation of crisis.

This article not only draws on contemporary criticisms relating to expansionism and the power of multinational corporations – especially with regard to US multinationals in Central and South America – but pursues several strands of scholarly literature that take a look at the chemical industry in Latin America. Firstly, it falls within the body of literature that examines trade and investment relations between Western Europe and Latin America after the Second World War (Tussie, 2014). When examining the strategic decisions of multinationals in Latin America, it is appropriate to look at the conditions for exports and investments in the context of international economic relations (Krugman & Obstfeld, 2006; Schenk, 2021). Secondly, it takes up lines of thought on the importance of MNE and FDI (foreign direct

investment) for the economic development of other countries – even to develop national firms with sophisticated capabilities to become multinational companies (Crespo & Fontoura, 2007; De Mello, 1997; Görg & Strobl, 2001; Lluch, 2024; Miller, 2010; Sarker & Serieux, 2022).[2] MNE and FDI played an important role in Latin America's economic development, even at the end of the twentieth century (Ferraz et al. 2014; Schneider, 2013, pp. 73–89). Recent research shows that existing infrastructure has favoured FDI inflows to Latin America since the 1970s. At the same time, high debt – as in the 1980s – has had little effect on FDI as long as investors believed that property rights were secure (Williams, 2015). Thirdly, this article touches on the broader business history research on the chemical industry, its internationalisation, and its structural change in the 1970s and 1980s (Arora et al. 1998; Galambos et al. 2007; Lesch, 2000; Marx, 2019, 2023). Finally, it considers the literature on dealing with non-democratic regimes and the political risks of business abroad which, moreover, argues that non-market elements and historical context are relevant to the understanding of international business (Altamura, 2021; Bucheli, 2008; Donzé & Kurosawa, 2013; Forbes et al. 2019; Haan, 2020; Jones & Lubinski, 2012; Schneider, 2004).

The article uses these findings to inquire about the business strategies of two German chemical companies (Bayer/Hoechst) with regard to the economic turbulences of the 1970s and 1980s in Latin America. It asks to what extent these companies changed their investment policies and foreign strategies, and questions the relationship between exports from West Germany and foreign production by Latin American subsidiaries. The two corporations Bayer and Hoechst were among the largest European chemical companies, with dramatically increasing foreign investment since the 1970s (Marx, 2017, 2019). The article shows the way in which they adapted to Latin America's state-led industrialisation and macroeconomic uncertainty by managing strategically the emphasis between exports and FDI and leveraging on collaboration between German multinationals on the one side and Latin American states and local business partners on the other side. It illustrates that the subsidiaries of Bayer and Hoechst generally expanded their product range in line with that of the parent company and that foreign production increased – especially by setting up joint ventures with the state or local private-sector companies. Moreover, it highlights the fact, that the German companies shifted parts of their financing to Latin America to circumvent the effects of high inflation and that Latin American subsidiaries became export companies to other Latin American and North American markets.

The questions are answered on the basis of diverse archival sources from state and corporate archives. While files from the Federal Ministry of Economic Affairs in the German Federal Archives (Bundesarchiv) in Koblenz (Germany) provide information on the attitude of the government and official German-Latin American economic relations, documents on the German Chambers of Foreign Trade in Latin America are available in the Rhenish-Westphalian Economic Archive (Rheinisch-Westfälisches Wirtschaftsarchiv) in Cologne (Germany). The study is mainly based on documents from the company archives of Bayer (Leverkusen) and Hoechst (Friedrichsdorf near Frankfurt am Main/both Germany); the foreign market strategies are especially traced from the annual reports, the minutes of the board of directors and supervisory board as well as other internal records and analyses. Special focus is placed on Brazil and Argentina, while offering perspectives on Mexico and Peru. Clearly, the political and economic development of these countries was not uniform (Dávila & Miller, 1999; Schneider, 2004). However, Latin American markets often appeared comparable to West European managers. Against this background, the analysis addresses multiple

countries, but focuses only on these two companies (Barbero, 2008). Some information on the staff and turnover of the Latin American subsidiaries is provided in the appendix (see Tables A1 and A2).

In the following, the first part of the study analyses the development of official economic and private-sector relations between West Germany and Latin America after the Second World War and at the accelerated inflation since the 1970s. This is done on the basis of West German exports and FDI from the 1950s to the 1980s. The Western European chemical industry was one of the most international industries in the nineteenth century and even penetrated the world market after 1945. The second part of the article addresses the business strategies of the two German multinationals in reaction to the challenges of the 1970s and 1980s, and how the companies coped with rising foreign debt, inflation, and the uncertainties unleashed by changing government policies.

2. German-Latin American economic relations: from World War II to the debt crisis (1950s–1980s)

Prior to the First World War, Latin America was one of the preferred areas of investors from all over the world. It was also one of the traditional markets of German chemical companies, which had a leading global position at that time. They exported numerous chemical products to Latin America, and partly produced there too. By 1900, eight German companies accounted for three-quarters of the world's production of artificial dyes. In 1913, the German chemical industry had an 85 per cent world market share of dyes and new medicines (Engel, 2009; Jones, 2005, p. 78; Murmann & Landau, 1998, p. 29; Penny, 2013). According to Alfred Chandler, in the 1880s and 1890s, BASF, Bayer and Hoechst developed into integrated learning bases in which the constant accumulation of knowledge about technical processes and management tasks made it difficult for newcomers to enter the market (Chandler, 2005, pp. 6–9, 114–118; Homburg, 1992; Murmann & Landau, 1998, pp. 30–35). During the German Empire, the chemical industry was one of the most foreign-oriented industries along with electrical and mechanical engineering. Its export/production ratio of 35.5 per cent in 1913 far exceeded that of other German industries. Alongside the US and Great Britain with the predecessor companies of ICI, DuPont or Allied Chemical, Germany was one of the three large manufacturing nations of chemicals and paints that sold a considerable part of their production abroad before the First World War (Hagen, 1997, 1999; Jones, 1988; Schröter, 1990).

German companies wanted to continue this tradition after 1945, but to do so they had to rebuild production structures in Germany. Due to the loss of foreign assets, they also needed to re-establish trade relations with foreign countries – especially with Latin America. In the first decade after the Second World War, German industrialists, bankers and representatives of associations travelled to overseas territories to explore business prospects (so-called 'good-will missions'). While these trips had economic motives, they were also intended to improve Germany's international reputation and send out signals of reconciliation. The aim was to re-establish the personal contacts that had been interrupted by the war. Countries and regions were selected on the basis of their potential as trading partners, and on account of their traditional relations or expected economic growth. In the 1950s, these trips led to Indonesia (1951) and East Asia (1956), Central America (1956), Ghana and the colonial Nigeria (1957) and Latin America (1959) (Dörre, 2019, pp. 37–38). The trip to Latin America in autumn 1959 – led by the Federation of the German Industry (BDI) – took the delegation of German

business representatives and managers to Brazil, Argentina, Chile, Venezuela and Mexico. Alexander Menne, vice president of BDI and member of the Hoechst board of management, joined the group on behalf of the chemical industry. During their visit, the industry representatives were particularly concerned with the role of the state in the industrialisation process, with the problem of political instability and the obvious lack of qualified labour. Nevertheless, German industrialists still considered Latin America to be an important future market. The state plans for industrialisation promised lucrative business, even though Latin American governments decided on the inward-looking model of development to reduce their vulnerability to external shocks (Bulmer-Thomas, 2014, pp. 296–345; Dörre, 2019, pp. 41–52).

Both sides were interested in intensifying their economic relations. After a joint German-Argentine commission was already set up in 1966, an agreement on intensified cooperation in scientific research and technological development was signed with Brazil in 1969. The German-Brazilian Joint Economic Commission was finally founded in 1974. Government and business representatives met there regularly to discuss improvements in economic relations (such as the bilateral exchange of goods or the promotion of investment). The Brazilian side mainly sent civil servants and government representatives, while the Germans tended to delegate private entrepreneurs. Here the Brazilian government's influence on economic life became apparent.[3] In contrast to Germany, the Brazilian business associations were weak in internal organisation and not very forceful in representing their interests in national politics (Schneider, 2004, pp. 108). This expansion of institutional relations was accompanied by visits of leading German figures to Latin America – such as German business representatives (i.e. Hans-Günther Sohl of BDI) in August 1974, and the minister of economic affairs Hans Friderichs to Mexico, Ecuador and Brazil in September of the same year.[4]

In this way, German industry, especially the chemical sector, developed into a major exporter to Latin America and a significant investor there. The German chemical industry was certainly one of the larger investors – along with car manufacturers like Volkswagen do Brasil (Acker, 2017; Kopper, 2017). Many Latin American economies expected and experienced high economic growth in the post-war period. A rising population and the government's goal of rapid industrialisation promised favourable sales opportunities (Taylor, 2006, pp. 86–87).

2.1. German chemical industry exports to Latin America

After the Second World War, the Allies had an enormous interest in limiting the powerful position of the German chemical producers, because they had been an inherent part of the Nazi war economy. However, Allied arms controls proved problematic due to the chemical industry's increased importance for supplying the population. Large parts of the food, health and clothing sectors depended on products from chemical pharmaceutical companies. Thus, the Allied goal of reconstruction could not be achieved without the use of the chemical industry. Consequently, Western Allies soon authorised reactivating some plants. Although German corporate structures were revised as a result of the deconcentration of IG Farbenindustrie, the individual pre-merger companies (BASF, Bayer, Hoechst) stayed intact (Müller, 2022). The companies suffered reparations and the loss of their foreign assets. However, by 1949, segments of the West German chemical industry were once again exportable, and these exports became the engine of expansion in the decades of the economic miracle. With the upswing in the German economy as a result of the Korean War (Korean

boom), the chemical industry increased its share of West German exports to the pre-war level of about 15 per cent. In other words, IG successors generated about one-third of their sales in foreign sales. As early as 1953, the sales of the three large West German successors were over 90 per cent of the total sales of IG Farbenindustrie from 1943 (Abelshauser, 1996, 2011, pp. 424–429; Teltschik, 1992, pp. 199–210).

German companies were by no means able to enter every market. On the one hand, Western – especially American – companies had taken advantage of Nazi Germany's autarky policy and had occupied foreign markets that were difficult to recapture after 1945. On the other hand, liberalised trade relations did not prevail worldwide. The General Agreement on Tariffs and Trade (GATT) was concluded on 30 October 1947. West Germany joined the treaty on 1 October 1951, but it took some time before tariffs were lowered. Trade barriers, therefore, remained high for a long time – even among industrialised countries. From a German perspective then, frictionless trade relations with the Latin American region were desirable.[5] Brazil and Argentina were among German's largest export markets at the beginning of the 1950s. The share of total German exports to Brazil and Argentina in 1951 was 3.43% and 3.02% (10th and 12th place in the list of German export markets). By comparison, exports to the US were 6.78% and to Italy 4.56%. Chemical products – along with mechanical engineering products, vehicles and iron goods – were at the top of German exports in both Argentina and Brazil.[6]

A glance at the turnover and trade data of the (West) German chemical industry reveals five points: Firstly, from a long-term perspective, domestic sales in Germany increased from the 1950s to the early 1990s. During this period, the cuts following the two oil price crises are clearly visible. Secondly, foreign sales did not rise completely in parallel with domestic sales, but they increased throughout the second half of the twentieth century. Thirdly, and associated with the latter, the export/production ratio of the (West) German chemical industry rose from about 18 to 50 per cent between 1953 and 2000 (Marx, 2019, pp. 837–838). The export/production ratio of the chemical industry was already five per cent higher than that of the manufacturing industry in 1953 and continued to increase faster until 1973. From 1973 onwards, this dynamic slackened somewhat, but the chemical industry nevertheless remained more strongly oriented towards the export of its products than many other sectors. Among West German chemical companies, export orientation continued to be a guiding principle (Verband der Chemischen Industrie, 2015, p. 33).

Fourthly, the regional distribution of imports and exports of chemical products shows the prominent position of European neighbouring countries for West German trade. The EC/EU states became increasingly important for the import and export of chemical products after the Second World War. In contrast to the 1930s, no Latin American country was among Germany's ten largest trading partners – neither in 1955, nor in 1984. Here, other European states and the US dominated (Statistical Yearbook of Germany, 1985, pp. 269; Ziegler, 2018). In total, all German exports to Argentina in 1981 (1984) amounted to DM 2.4 billion (DM 2.2 billion) and to Brazil to DM 2.3 billion (DM 2.6 billion).[7] This was certainly a large amount, but it placed the two Latin American countries far behind the European countries and even behind countries like Algeria or South Africa. In contrast, German direct investment in Latin America was more significant. This was not least due to the transition of many Latin American governments to an economic policy of 'inward development'. The protectionist plans of state-led industrialisation to establish local industry characterised the economic policy of Latin America until the 1970s.

2.2. FDI of the German chemical industry in Latin America

The Second World War caused a break in global economic integration. The loss of all German foreign property brought about a reduction in German foreign investment to a comparatively low level until the 1970s. Due to the confiscations in the Allied countries – especially by the Alien Property Custodian in the US – German chemical companies lost numerous direct investments. In Latin America, too, they lost their property – not least due to pressure from the US. In Argentina, the confiscated German companies were not re-privatised until 1958 (Lanciotti & Lluch, 2014, pp. 87; Schröter, 2001, pp. 186–187). Many West German firms therefore (and because of the domestic capital requirements for reconstruction) opted to internationalise their business by restarting exports in the post-war years. It was not until the end of the 1950s that West German foreign direct investment increased. The relative importance of West German capital has therefore been observed in Argentine afterwards – especially of chemical and pharmaceutical companies (Rossi, 2022, p. 7).

FDI by West German companies was not a global phenomenon in the post-war decades, but was mostly channelled into other European countries. In fact, 85 per cent of all FDI worldwide between 1945 and the mid-1960s was made by the US (Jones, 2005, pp. 87–88). It was not until the 1980s that US companies lost larger world market shares in some industries to Western European, Japanese and South Korean firms. At that time, the triad countries – the US, Japan and the states of the European Community (EC) – accounted for about four-fifths of all incoming and outgoing direct investment. Although a new globalisation gathered momentum in the 1960s, worldwide FDI in relation to gross world product remained below the value of 1913 until 1990 (Grosse, 1989, pp. 25–26; Jones, 2005, pp. 20–21; Jones & Schröter, 1993, p. 3).

FDI of the West German chemical industry was also strongly oriented towards other industrialised countries. The European Economic Community (EEC) accounted for the largest share of German direct investment in the chemical industry in 1964. The importance of the EEC increased even more until 1976, not least due to the northern expansion of the EEC in 1973, but the US – still behind Brazil in 1964 – developed into a second central pillar of investment. Consequently, the stock of German direct investment in the EEC and the US was more or less equal at about 30 per cent, respectively, since the mid-1970s.[8] This increasing importance of Western industrialised countries went hand in hand with a relative loss of importance of the Latin American markets, which could not meet the expectations placed upon them in the 1960s (Abreu, 2008, pp. 348–381; Rossi, 2022; Olbricht, 1974). As in the 1950s, Latin American countries were still dependent on know-how transfers in the chemical sector (United Nations, Economic and Social Council, 1966). Measured by the number of FDI, Brazil and Mexico (14 each) were undoubtedly among the investment priorities of German chemical companies in 1965. More investments can only be found in France (18) and the US (19) at that time (Schröter, 1990, p. 187). In 1981, the German chemical industry's FDI in Brazil were still higher than in Great Britain or the Netherlands. While this points to Brazil's outstanding position, other regions of the world had grown even more strongly. Latin America's relative decline in importance was undeniable. Argentina's declining position can be explained, for example, by a long period of stop-go policies and economic stagnation, especially between 1969 and 1989, and by the process of deindustrialisation and liberalisation of the economy that began under the minister of finance Martínez de Hoz after 1976 (Lewis, 1990). Conversely, regions with strong research and capital resources, such as the US and Japan, gained in prominence (Figure 1).

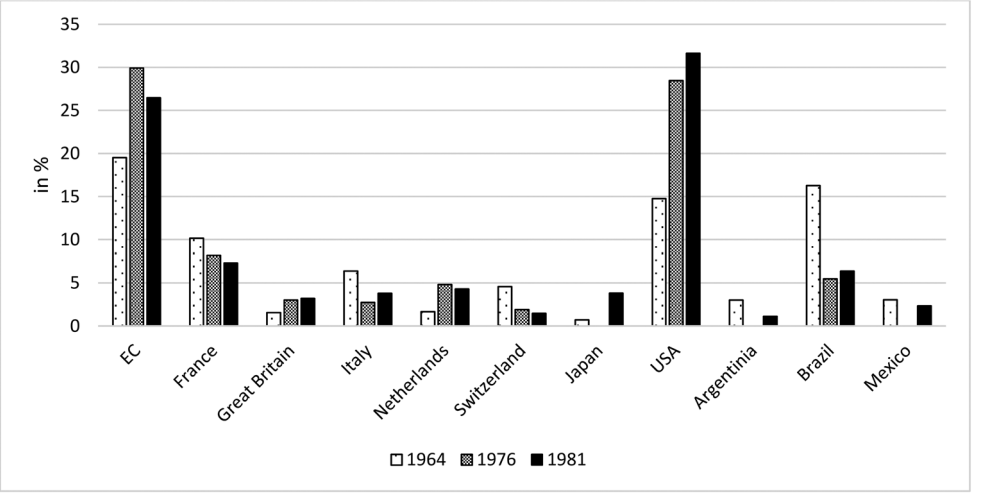

Figure 1. Percentage share of the FDI stock of the West German chemical industry in selected countries (1964–1981).
Source: Deutsche Bundesbank, 1965, 1979, 1984.
Note: In the case of Japan, Argentina and Mexico, no data on the chemical industry are available for 1977. With the northern enlargement of the EEC in 1973, Denmark, Ireland and Great Britain also belonged to the EC. In 1976 and 1981, total direct and indirect investment.

In the 1980s and 1990s, these developments largely continued. The EC and the US market remained the two central investment regions for West German chemical companies. Investments to Japan and Asian states still lagged far behind. For the Latin American markets, the development in the 1980s and 1990s was sobering. The states hit by the Latin American debt crisis lost appeal as investment territories. Consequently, in the case of Argentina and Brazil, FDI in 1992 was below the level of 1982 (deflated values). Only Mexico developed more dynamically; indeed, after some initial setbacks, Mexico had levelled with Brazil by the end of the decade (Figure 2).[9]

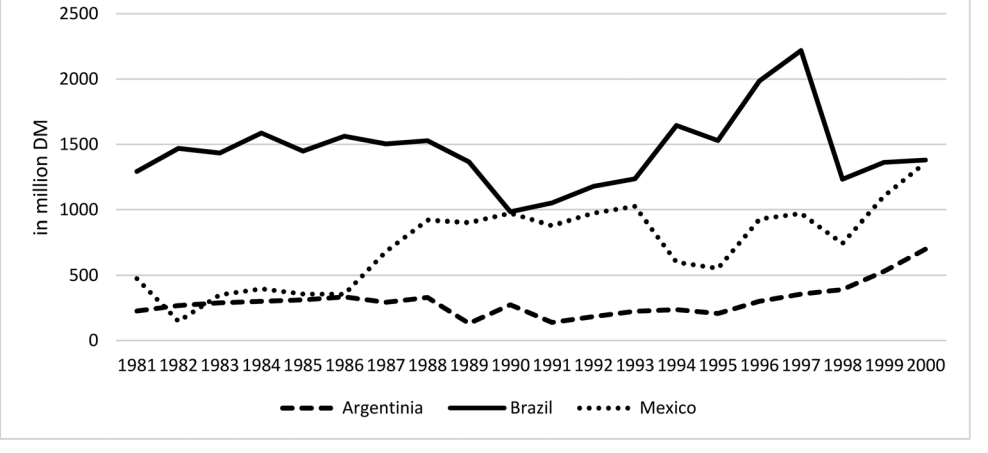

Figure 2. Stock of German direct investments by the chemical industry in Latin America (1981–2000).
Source: Deutsche Bundesbank, 1976–1990, 1993–2003.
Note: Deflated by producer prices of industrial products (base year 1981) (Deutsche Bundesbank, 2022).

3. German companies between military dictatorship, oil shocks and debt crisis

When the US government promoted the Second World War as a triumph of democracy, democratic structures gained importance in many Latin American countries as well. However, with a few exceptions like Mexico, Colombia, or Venezuela, military regimes were established in large parts of Latin America from the mid-1960s. While there had already been mainly short-term interventions by the military, more authoritarian governments were now established over the longer time. The turning point in this history is marked by the military coup in Brazil in 1964, when President João Goulart was forced into exile and a new regime under General Humberto Castelo Branco came to power. In addition to economic and social problems, one of the most important reasons for the rise of autocratic regimes was the Cold War and the strict anticommunism of many Latin American governments. The wave of military dictatorships first took hold in Brazil (1964–85), followed by Argentina (1966–1973 and 1976–1983), Peru (1968–1980), Bolivia (1971–1982), Ecuador (1972–1979), Chile (1973–1990), and Uruguay (1973–1985) (Bethell & Castro, 2008; Hatzky & Potthast, 2022, pp. 76–78; Krepp et al. 2020; Schoultz, 2016).

Against the backdrop of the military coups in Brazil and Argentina in the 1960s, the Argentine sociologist Guillermo O'Donnell developed a taxonomy for classifying Latin American military regimes. According to O'Donnell, a group of states had developed into countries with relatively advanced urbanisation and industrialisation. Military rule had an economic-modernizing function, especially in connection with transnationally operating foreign companies, such as IBM, Philips, Dow Chemical, or Volkswagen. O'Donnell describes this government type as 'bureaucratic authoritarianism', under which he subsumes the military dictatorships of Brazil and Argentina (O'Donnell, 1973). Other authors, however, throw doubt on how suitable this term is for describing the military regimes of the 1970s, and see them rather as regimes that could be considered part of the global emergence of neo-conservatism. These new regimes of the 1970s – especially in Argentina, Chile, and Uruguay – passed monetarist economic policies (in the wake of a worldwide trend of anti-Keynesianism), dismantled and repressed labour organisations, privatised public goods and services, and shifted their orientation to a social order in which collective life would be regulated solely by the market (Cammack, 1985; Schamis, 1991). This transition, however, did not take place everywhere at the same time and with the same intensity. The shift to neoliberal policies occurred in Chile from 1975, Argentina from 1976, Mexico from 1988, and Peru from 1991 onward, while it never fully materialised in Brazil. It was also accompanied by different forms of liberalisation in terms of investment, trade, and finance.

However, it was precisely in these countries with large sales markets where German chemical companies had traditionally maintained a strong presence. Nonetheless, economic prospects and risks alone did not determine their business interests in Latin America. In addition to classical economic risks, such as supply problems, patent and trademark infringement, or rivalry with other companies, the companies also had to deal with political, social and financial risks (Casson & da Silva Lopes, 2013). Continuous currency fluctuations made long-term corporate planning as difficult as social movements threatening foreign interests (e.g. the Cordobazo in Argentina at the end of May 1969) or abrupt policy reversals (e.g. in Argentina in 1976). For example, this became evident in October 1975, when Heinrich Metz,

the production manager for Mercedes-Benz in Argentina, was kidnapped and then later released for a ransom of several million US dollars (N.N., 1975). Against the background of military regimes and the Cold War, business prospects and political risks thus had to be weighed against each other (Forbes et al. 2019). Even if German managers might have sympathised with some economic policies of right-wing governments in Latin America, the political risks were often higher than in large parts of Western Europe and the US. Nevertheless, Latin America remained attractive for West German chemical companies since the rising population and progressing industrialisation reinforced expectations of high demand for chemical products.

This continued attractiveness was, not least, a result of global developments in the chemical markets. Demand in many industrialised countries had dropped considerably in the 1960s, and then further after the oil price crisis in 1973. Hence, competition on the international stage increased significantly. Withdrawal from Latin America was therefore not a viable option. As many markets were already occupied by competitors, there was a growing trend towards mergers and acquisitions (M&A) at a global level. In this way, it was possible to circumvent market access restrictions and penetrate the market more quickly. The growth of the world's leading Western European and North American companies took place mainly through acquisitions and joint ventures with foreign companies. At the same time, the chemical industry increased its specialisation as a result of the capital-intensive research. It was therefore necessary to recoup research costs, not only through sales in the domestic market, but also worldwide. In this sense, specialisation, globalisation and M&A went hand in hand (Marx, 2023).

The two West German companies Bayer and Hoechst were not only among the world leading chemical companies, but also among the most research-intensive (Grosse, 1989, pp. 210–212; Marx, 2023). In contrast to BASF, the third major West German company, Bayer and Hoechst were less active in the production of basic chemicals, fertilisers and industrial goods. Bayer was a leader in polyurethane (foam/plastics) and also produced pharmaceuticals (Aspirin) and man-made fibres (Dralon). Hoechst was one of the world's largest pharmaceutical companies after the acquisition of Roussel Uclaf in 1974, and also produced man-made fibres (Trevira), polyethylene plastics and dispersions (Mowilith). In these business areas, the two companies had a competitive advantage and thus, built plants globally.[10] While diversification strategies and the broadening of their product ranges made them multifaceted competitors, agreements, cooperation, and the traditional separation of product areas among them were maintained until the 1980s. Starting around 1980, the corporate trend of diversification shifted towards a concentration on core competencies. In the case of Hoechst and Bayer, this meant strengthening their portfolios in the life sciences, i.e. the agricultural and health/pharmaceutical sectors. The product ranges of the two companies still differed in these areas, but competition between them increased as a result (Marx, 2023).

3.1. Bayer during state-led industrialisation

In the course of the Second World War, the German chemical giant IG Farbenindustrie lost its foreign assets and trademarks. This also included Latin America, with exception of Uruguay. Shortly after the war, Bayer began to rebuild sales and consulting companies in its traditional sales markets, i.e. Argentina, Brazil, and Mexico.[11] In addition to exports, which were handled by Bayer's sales companies and third-party agencies, local production was soon established

in response to import restrictions, especially in the areas of crop-protection and pharmaceuticals. Within this frame, the West German parent company supplied active ingredient concentrates that were processed and packaged locally into ready-to-use products (Kleedehn, 2007, pp. 169–171).[12]

In Argentina, Bayer negotiated with the state and individual companies to repurchase the IG Farbenindustrie assets. However, it was not until 1958 that Hoechst and Bayer finally regained their trademarks, patents and trade names. In return, they had to give up their claims to their material assets (Kleedehn, 2007, pp. 181–192). From an economic perspective, this provided a solid basis for restarting the business – either *via* exports or new investments. Argentina's administration under president Arturo Frondizi (1958–1962) greatly welcomed foreign investment, which was oriented towards a type of 'developmentalism' that was promoted less by the state than by heavy industry and the entrance of multinational companies (Belini, 2020; Rougier & Odisio, 2023, pp. 171–173, 199–211; Szusterman, 1993). Bayer, however, did not always choose FDI, but instead opted for a foreign strategy differentiated by the product segment. In the dyestuffs sector, for instance, the German company pursued the strategy of indirect exports to Argentina, i.e. exporting *via* well-established import houses. The effort to re-establish the business was met with considerable difficulties as numerous local producers had become established in the market. Foreign competitors – like ICI or Swiss companies – also fiercely defended their newly acquired market shares. Furthermore, Argentina resisted the general trade liberalisation trend for a long time. The country did not ease its import controls until 1959. However, Bayer regained a solid foothold in the Argentine dyestuffs market until the early 1960s (Kleedehn, 2007, pp. 192–205).

In the case of basic chemicals, Bayer's export opportunities to Argentina – as well as to the other Latin American countries – were quite limited after the Second World War because these products were now largely produced domestically. In addition, DuPont and ICI had merged their Argentine sales and manufacturing interests in the joint venture Duperial, resulting in a powerful foreign competitor.[13] By comparison, business prospects for speciality chemicals were better due to Argentina's ongoing inward industrialisation policy. Still, state and corporate interests did not always meet. Since consumer products were subject to considerable import restrictions – a consequence of the import substitution policy – Bayer's export of man-made fibres, for example, was negligible. The Argentine man-made fibre market was essentially satisfied by the acetate silk production of Rhodia (a subsidiary of the French multinational Rhône-Poulenc, a traditional market player). It was not until the liberalisation of trade in 1959 that Bayer's chemical fibre exports to Argentina increased significantly (Cayez, 1988, pp. 189, 265; Kleedehn, 2007, pp. 205–209).

Bayer's pharmaceutical business in Latin America – and that of other European manufacturers – was restricted by the limited access to foreign currency and the high protective tariffs imposed by importing countries. Hence, there was a constant pressure to set up local production facilities for foreign companies (Gereffi, 1985; Jenkins, 1984, pp. 75–111). Against this background, Bayer's management decided to set up a final stage production in the crop-protection and pharmaceutical sector in Argentina. This specifically meant packaging imported active ingredients locally into ready-to-use pharmaceuticals or to formulate crop-protection products. For this purpose, a packaging plant was built alongside the sales company Proindar S.A. in 1957, which was renamed Bayer Argentina S.A. in 1964. Demand for active pharmaceutical ingredients consequently increased and, around 1960, Argentina became one of Bayer's ten largest pharmaceutical export markets (Kleedehn, 2007, pp.

209–216). Local subsidiaries of multinationals began to play a significant role in the process of manufacturing growth in Argentina in the late 1950s and throughout the 1960s (Katz & Kosacoff, 2000, pp. 302–303). Chemical and pharmaceutical companies – especially those from Germany – were among the largest foreign industrial companies during the phase of state-led industrialisation in Argentina (Lanciotti & Lluch, 2014, pp. 95, 101).[14]

Business in Brazil was somewhat different. After a German-Brazilian agreement on the German legacy assets was concluded in 1956, the following five years saw a wave of German investment in Brazil. The years under the Kubitschek government in the late 1950s witnessed rapid growth in new foreign investment (Abreu, 2008, pp. 340–341). For Bayer, Brazil was the most important state for FDI in Latin America at the time, with nearly half of all Bayer's foreign investments flowing there by the end of the 1950s. However, this did not apply to all product groups. For instance, Bayer did not generate significant sales with man-made fibres in either Brazil or Argentina. In Brazil (as in Argentina), the Rhône-Poulenc subsidiary Rhodiaceta and its sub-subsidiaries with a capacity of 400 tons/year and the Brazilian company Matarazzo with about 50 tons/year almost completely met the demand for acetate silk (Cayez, 1988, pp. 215–217; Reinert, 2014, pp. 176–177; Verg et al. 1988, pp. 352–357). Even new plastics, which were important for Bayer in industrialised countries, did not play a key role in its Latin American business in the 1950s. There simply was no significant demand for these products, and high import surcharges in the context of inward industrialisation made it difficult to export them from Germany (Kleedehn, 2007, pp. 241–243). In pharmaceuticals, it became apparent that an export strategy would also not succeed in Brazil due to import restrictions, an unfavourable exchange rate, and a fluctuating Brazilian foreign trade policy. As a consequence, the share of domestic production in Bayer's Brazilian pharmaceutical sales increased significantly in the second half of the 1950s and far exceeded deliveries from Bayer's plant in Leverkusen. In crop-protection, however, the total volume of Bayer's domestic production in Brazil remained low. At the beginning of the 1960s, Bayer's turnover in this segment was still largely achieved by imports from Germany (Kleedehn, 2007, pp. 244–251; Reinert, 2014, p. 176). Consequently, not only did the foreign companies differ in their product range and foreign strategy in the respective country, but the business also varied within the companies themselves depending on the chemical sector.

While sales companies dominated among Bayer's 51 European subsidiaries in 1961, import restrictions and a lack of foreign currency made it necessary to start production in many Latin American countries. Although the number of foreign share holdings was lower in North and South America – seven in the United States and Canada, and 32 in Central and South America – Bayer invested much more in production there than in Europe, with 4 and 19 manufacturing companies, respectively. Between 1952 and 1961, about half of all foreign investment went to Latin America – mostly to Brazil and Argentina. Coming in second were US and Canada with around a third, followed by Western Europe (Kleedehn, 2007, pp. 336–348). This distribution changed, however, in the years that followed.

3.2. Bayer in the economic crisis of the 1970s and 1980s

In the 1970s, Bayer invested foremost in Western Europe and the United States, whereas Latin America in this period lost its leading position. Bayer – like other German chemical and pharmaceutical companies (Hoechst or Merck)[15] – was still well represented in Latin America, but in relative terms the region became less important. In the case of Brazil, Bayer's executive

board agreed in 1968 to set up its own pharmaceutical compounding operation, even though it expected substantial start-up losses over several years. Bayer management still saw considerable growth potential in the Brazilian pharmaceutical market and therefore approved the DM 4 million (US-$ 1 million) investment.[16]

The German company continued its business in Latin America despite economic problems and human rights violations. Sales expectations remained high given the growing Latin American population, while demand declined in many Western industrialised countries. There was also a strong desire to gain market shares against competitors. In the middle of the 1970s, the Bayer executive board therefore intensively discussed the construction of plants in the Brazilian industrial city of Cubatão in the state of São Paulo. The managers admitted that profitability calculations were not entirely reliable in this case, since the business was determined by customs duties and prices, which depended largely on political circumstances.[17] In 1974, there was a political change in Brazil as Emílio Garrastazu Médici handed over the administration to Ernesto Geisel. Geisel started out with a project of controlled political liberalisation. Nonetheless, the authoritarian military regime remained firmly in place since Brazil did not fall into a deep economic crisis after the oil crisis, and there was no notable international pressure for political change (Bethell & Castro, 2008, pp. 202–203). For a global operating company like Bayer the economic crisis had financial consequences. With signs that the economic miracle might even come to an end in Brazil, the management cut planned investments in December 1975 and, finally, decided to sell the Cubatão site. This decision was not tied to any plans for retreat from Brazil. Rather, it shows how changeable the company's policy was in the face of rising economic uncertainty. Bayer wanted to expand its business and market share, but only if it was profitable.

The desire to stay and grow in Brazil was simultaneously expressed by the fact that Bayer do Brasil became one of the most important dyestuff manufacturers in South America in the second half of the 1970s.[18] Bayer did not want to bear the cost of a new site (Cubatão), but it nevertheless expanded the production site in Belford Roxo (state of Rio de Janeiro), where it had been manufacturing basic chemical products for dyestuffs as well as textile auxiliaries and crop-protection agents since the late 1950s. In Belford Roxo, it built up new plants for basic chemical substances and intermediates, polyurethanes and rubber chemicals (Reinert, 2014, p. 177; Verg et al. 1988, pp. 355–357). With the exception of the Western European markets, German chemical companies around 1980 therefore had relatively high market shares in Latin America – much higher than in North America or Japan, where other national competitors dominated (Table 1).

Table 1. Shares of chemical markets in per cent (1980).

	Bayer	Hoechst	BASF	Total
West Germany	6.8	9.2	15.5	31.5
Other EC countries	2.3	2.5	2.2	7.0
Rest of West Europe	2.7	2.5	2.6	7.8
Eastern Bloc	0.3	0.4	0.3	1.0
North America	1.4	1.1	1.1	3.6
Latin America	2.6	2.1	1.7	6.4
Japan	0.6	0.6	0.4	1.6
Rest of Asia	1.8	2.1	0.6	4.5
Australia, Africa	2.6	5.3	2.3	10.2
Total (World)	1.8	2.0	2.2	6.0

Source: BAL 379/36 Unternehmenskonferenz (10.09.1981).

One consequence of the Brazilian economic policy in the 1960s was a rapidly growing dependence on external energy resources. As in other countries, crude oil was of paramount importance for industry, with large parts of the demand being met from abroad. While those Latin American countries already exporting crude oil could finance the expansion of other industries with the revenue, the increased energy prices had a significant impact on non-producers (Abreu, 2008, pp. 381–393). In Brazil, the military regime developed the hard-to-access offshore oil wells near the coast of Rio de Janeiro to reduce dependence on oil imports and to benefit from the export of crude oil. This decision increased the need for capital – especially from abroad – but the profitability of these projects was by no means guaranteed. Brazil, which had a wave of FDI at the beginning of the 'Brazilian Miracle' around 1967, now became an unreliable region of investment. At the same time, other Latin American governments needed foreign capital to finance public sector debt. Thus, large parts of Latin America relied on external financing, growing trade and fiscal deficits in the 1970s (Ayres et al. 2021; Bértola & Ocampo, 2012, pp. 199–213; Ffrench-Davis et al. 1995, pp. 226–237; Abreu, 2008, pp. 370–393). However, Bayer maintained and, with its acquisition of the US company Miles in 1978, even strengthened its presence in Latin America (Verg et al. 1988, pp. 356, 518).

At the end of the 1970s, Bayer's largest Latin American subsidiaries were located in Mexico, Argentina, Brazil and Peru. Unlike the North American subsidiaries, whose shares were held by US financial and management holding company Rhinechem (later Bayer USA Inc.), Bayer's Latin American companies continued to be owned by the Canadian management and financing company Bayforin. This was done for tax reasons, and because of the access to the North American capital market. In the 1980s, Bayer de México, Bayer Argentina S.A., and Bayer do Brasil were 99.9% owned by Bayforin. Only in the case of the Peruvian Bayer Industrial S.A., which produced the acrylic fibre Dralon for the Andean Common Market in a textile fibre factory in Lima, was the share only 60%. This was due to government restrictions in line with the dependency school (Fitzgerald, 1983, pp. 76; Stallings, 1983, pp. 154–155, 165–166; Guasti, 1983, p. 196; Thorp & Bertram, 1978, pp. 294–296).[19] On 27 May 1983, large parts of the Peruvian man-made fibre factory were destroyed by a terrorist attack in which eight to twelve armed saboteurs entered the factory premises and set several fires. The damage to buildings, machinery and goods totalled around $35 million. The Peruvian government under Fernando Belaúnde Terry, which held a 30% stake in Bayer Industrial S.A., promised rapid reconstruction. Bayer subsequently bolstered security measures at the plant.[20] As a consequence of the attack, the Bayer corporate conference in September 1983 explicitly addressed the threat of violence abroad, and the executive board set up a crisis team. Such attacks were unknown to the company in Western Europe.[21]

In general, business prospects for all Latin American subsidiaries worsened considerably in the 1980s due to the high level of national debt and associated economic problems (Bértola & Ocampo, 2012, pp. 199–213). Import restrictions and in some cases high inflation made business more and more difficult. Nevertheless, Bayer did not withdraw from the region. On the one hand, Bayer had a long-established presence in these markets; on the other, the population boom and industrial policy convinced German managers that there would be growing demand in the long run. At the end of 1983, the total risk exposure of Bayer AG and Bayforin in Latin America was worth DM 854 million (US-$ 334 million), of which Mexico accounted for DM 209 million (US-$ 82 million) and Brazil for DM 327 million (US-$ 128 million).[22] These amounts demonstrate Bayer's commitment to the Latin American market.

After the Mexican payment moratorium and the economic crisis of 1982/83, the economic prospects for the subsidiary Bayer de México brightened somewhat. At the same time, economic conditions remained difficult, not least because of stable judicial, taxation, and property rights institutions of the pre-crisis era (Bértola & Ocampo, 2012, pp. 199–213; Haber et al. 2008; Kehoe & Meza, 2011; Meza & Werner, 2021). The Mexican subsidiary had a workforce of around 1,000 employees; it produced chemicals, dyes as well as agricultural and veterinary medical products (Bayer Annual Report, 1983, p. 45). Bayer de México's old debts to foreign banks amounted to US-$ 43.95 million in 1983. Bayer therefore made use of the Mexican government's attractive exchange rate hedging programs and thus managed to stabilise the foreign loans of several Mexican subsidiaries. Hence, the continuation of business was tied to the financial potency of the German parent company and to Mexican stabilisation programs (Ramirez, 1993).[23]

Despite Mexico's economic problems, withdrawal was out of question for the Bayer management. Between 1960 and 1980, the country's population had grown from about 38 million to 70 million, and this growth was expected to continue in the following years. In light of the realised investments and the expected increase in demand, the management decided to expand Bayer's activities in the dyes sector. It acquired the dyes and pigments factory Colorquim S.A. at the beginning of 1985 (Bayer Annual Report, 1984, p. 44). While the Mexican economy – like Bayer de México – recovered briefly in 1984/85, balance-of-payments problems emerged again by early 1986. Between 1983 and 1986, Mexico's terms of trade declined more than 40 per cent – the greatest decline coming in 1986 with the collapse of world market oil prices. Demand and revenue of Bayer de México were completely unsatisfactory. It was not until 1989 that the subsidiary stabilised (Bayer Annual Report, 1985, p. 46, 1986, p. 52, 1987, p. 54, 1988, p. 82; Buffie & Sangines Krause, 1989, p. 163).[24] After joining GATT in 1986, the integration into international economic organisations was marked by the signing of the North American Free Trade Agreement (NAFTA) in 1992 and the country's admission to the OECD in 1994 (Cuevas et al. 2005). Bayer's Mexican subsidiary also generated consistent profits during this period. By the end of 1994, however, the Mexican government was not able to maintain the fixed peso exchange rate against the US dollar, causing confidence in the Mexican economy to wane once again. Foreign capital was withdrawn and the country slid into an economic crisis (Tequila Crisis), demonstrating the long-term instability of the Mexican economic development (Bayer Annual Report, 1992, p. 56, 1993, p. 52; Lieberman, 2018, pp. 197–212).

At the beginning of the 1980s, the Brazilian subsidiary Bayer do Brasil, with its approximately 3,700 employees, was by far the largest subsidiary of the Bayer Group in Latin America. It was one of the largest dye manufacturers in South America. The subsidiary produced numerous basic chemical products and crop-protection products at the Belford Roxo site and had its own packaging plant for pharmaceuticals. The expansion of the site had to be carried out in accordance with Brazilian regulations and with Brazilian technology, since Brazil hardly allowed any imports. The project therefore ran under the term 'tropicalization'. As with the Peruvian property rights, the additional costs that multinational enterprises face when operating in foreign markets became apparent here (*liability of foreignness*) (Eden & Miller, 2004; Musacchio, 2008).[25] In the wake of the Latin American debt crisis from 1982, the Brazilian economy also fell into recession. This affected Bayer do Brasil as well (Bayer Annual Report, 1983, p. 45). In contrast to Mexico, however, the Brazilian economy recovered significantly in the second half of 1984, enabling Bayer do Brasil to increase its sales by 16 per

cent (in Brazilian currency) due to higher demand from the agricultural sector and increased exports (Bayer Annual Report, 1984, p. 44). Brazil's economic upswing continued. In 1986, the Brazilian subsidiary experienced the best financial year in its 90-year-old history, not least as a result of the Plano Cruzado.[26] Nevertheless, this did not apply to all Brazilian companies. Bayer do Brasil Nordeste in Porto de Aratu (Bahia) was thus shut down in the same year.[27] Moreover, the upswing was short-lived. As early as 1987, the Brazilian economy deteriorated again. As import restrictions due to currency and foreign exchange problems led to restrictions on raw material supplies, sales of Bayer do Brasil fell by 13 per cent in real terms and earnings were also significantly lower than the previous year.[28]

This volatile development of the Brazilian subsidiary was due to the country's persistent inflation problems. Between 1986 and 1990 Brazil introduced four comprehensive heterodox stabilisation plans – the Cruzado Plan (1986), the Bresser Plan (1987), the Summer Plan (1988), and the Collor Plan (1990) – attempting to stabilise the currency and achieve growth; they imposed comprehensive wage, price, and exchange-rate freezes; implemented or promised monetary and fiscal reforms; and introduced new currencies. However, almost all of them failed to remedy the inflation (Nazmi, 1995).[29] Brazil did not succeed in controlling inflation until Cardoso's Plano Real (1994). Like Argentina and Peru, the Brazilian economy at the end of the 1980s was characterised by high inflation, foreign exchange problems and trade barriers, i.e. many Latin American governments were unable to stabilise their economies after the debt crisis. These economic conditions created enormous uncertainty for MNEs (Bayer Annual Report, 1988, p. 82, 1989, pp. 44–45, 1990, pp. 9, 44; Ayres et al. 2021; Buera et al. 2021). Consequently, the region's share of turnover did not increase in the 1970s and 1980s (Table 2), even though Bayer, like other companies, still considered Latin America to be an expanding future market. In the case of the German pharmaceutical manufacturer Merck, Latin America's share has even declined significantly since the mid-1970s (Burhop, 2018, pp. 450–451).

The expectations for the Latin American markets that existed in the early 1960s largely dissipated in the 1980s. Brazil and other Latin American countries were forced by their debt problems to orientate to an economic policy issued by the IMF and the World Bank (with a reduction in government spending, liberalisation of trade policy, deregulation of markets, and privatisation of public enterprises). Later on, this became known as the 'Washington Consensus' (Angeles-Castro, 2020; Rischbieter, 2015). It was not until the currency reform in 1994 and the end of hyperinflation (Plano Real) that there were signs of a significant economic recovery, which lasted until the Asian crisis in 1998 (Lieberman, 2018, pp. 213–232).[30]

Table 2. Regional turnover of Bayer in per cent (1975–1987).

	1975	1985	1987
West Germany	32	20	22
EC (without West Germany)	23	22	29
Rest of Europe	14	13	10
North America	13	23	18
Central and South America	8	8	7
Far East	4	9	10
Near and Middle East	3	3	2
Africa	3	2	2
Total abroad	68	80	78

Source: Bayer Annual Report, 1984, p. 10, 1985, p. 8, 1987, pp. 8, 68.

3.3. Hoechst in Latin America: moving towards a new global economy

In the 1960s and 1970s, Latin American countries were (still) among Hoechst's foreign investment priorities. In 1969, Hoechst had 35 production plants in Latin America (Hoechst Annual Report, 1969, p. 38). The Hoechst management did not rely solely on exports from Germany, but instead founded local production companies – in many cases together with domestic companies – to supply the Brazilian market. One example is the foundation of the production company Companhia Brasileira de Sintéticos S.A. (CBS) in Osasco together with the Klabin Group (40%). Market access was achieved through a joint venture with a local investor. In 1972, the joint venture had over 900 employees; by the end of the 1970s, as a result of numerous expansions, the workforce had risen to approx. 1,400 (Evans, 1979, p. 142; Hoechst Annual Report, 1971, p. 56, 1979, p. 44).

The pharmaceutical production of Hoechst do Brasil was first expanded in 1966 – especially because production in the country was required by law. This was followed by the expansion of plant facilities for pigment dyes, Frigen, surfactants and other auxiliaries and the acquisition of two cosmetics companies in the years that followed (Hoechst Annual Report, 1966, p. 42, 1969, p. 38; Lanz, 1978, p. 473). At the end of the 1970s, Hoechst do Brasil's product range covered much of the portfolio of the West German parent company – with a focus on man-made fibres (polyamide and Trevira), crop-protection products, pharmaceuticals as well as dyestuffs, various auxiliaries and dispersions (Mowilith). In addition to pharmaceuticals, polyvinyl acetate dispersions and man-made fibres were among the company's most important products in the whole of Latin American. In Chile and Peru, production of dispersions began in 1966 at Quimica Hoechst Chile Ltda. and at the newly founded Quimica Hoechst del Peru S.A., while Fibro Quimica Chilena Ltda. set up a plant for the production of Trevira fibres. The latter was the first Trevira fibre plant in Latin America, with a capacity of 1,700 tonnes per year. While the Chilean business initially had a promising start, the economic policy pursued by Salvador Allende from 1970 onwards, which aimed at nationalising mineral resources and expropriating large foreign companies, was by no means in line with Hoechst's business ideas. Even the seizure of power by a military junta under General Augusto Pinochet in 1973 and the following economic liberalisation brought little improvement for foreign corporations (Ffrench-Davis et al. 2000). The management was less concerned about human rights violations than about property rights.[31]

During the political unrest of those years, the Chilean Hoechst factories were repeatedly occupied, forcing the Hoechst management to finally end Trevira production in Chile (Hoechst Annual Report, 1965, p. 41, 1966, p. 42; Lanz, 1978, pp. 461, 483–486). This demonstrates that wage levels, access to raw materials or market size were not the only reasons to consider when making foreign investments. We have to distinguish between different forms of risk, such as economic, social, political and natural risks, to which foreign investors could respond with different risk management strategies (Casson & da Silva Lopes, 2013). Hence, political stability and political restrictions against foreign importers and investors could be decisive as well (Bucheli, 2008; Forbes et al. 2019). The deputy chairman of the Hoechst board, Kurt Lanz, highlighted this in his autobiography: 'It is becoming increasingly clear that, quite generally, in recent years investments have been made preferentially in countries that promise a favourable and stable investment climate. This applies first and foremost to the US'.[32] (Lanz, 1978, pp. 505–506) The same could not be said for Chile at the beginning of the 1970s.

In Mexico, Hoechst launched two new big joint ventures with an investment volume of DM 100 million (US-$ 26 million) in 1969. Firstly, Hoechst and the French industrial group Péchiney (Rhône-Poulenc) joined forces with two Mexican banks to form Polimeros de México S.A., which produced 20,000 tonnes per year of polyvinyl chloride (PVC). Quimica Hoechst de México S.A. assumed responsibility for sales. Secondly, Hoechst planned to build a plant with a capacity of 3,000 tonnes per year of Trevira fibres with the Mondlak Group. At Hoechst, joint ventures developed into a typical form of market conquest, a strategy which was especially necessary in Latin America as many countries abandoned their liberal policies towards foreign capital and passed new, and more restrictive legislation on foreign investment since the end of the 1960s (Jenkins, 1984, pp. 185–193). In this context, a Mexican majority in share capital was made a condition in numerous economic sectors. Mexican customs legislation simultaneously protected domestic industry from foreign competition. As a consequence, imports of some Hoechst products were hardly lucrative (Hoechst Annual Report, 1969, p. 38; Lanz, 1978, pp. 453–455).[33]

Besides import restrictions and limitations on foreign investors, the general economic development of Latin America hampered business success in the 1970s. In particular, sales figures and volumes of goods diverged more and more. In 1975, for example, Hoechst's sales figures (in Argentine peso ley) in Argentina increased by 161 per cent as a result of high inflation rates, but this did not reflect the development of sold goods. In Brazil, Hoechst do Brasil's sales figures rose by 47 per cent in 1977 due to inflation, whereas the volume of sold goods only increased by 16 per cent and turnover in DM even declined. In addition, increasing costs resulting from government price controls – particularly for pharmaceuticals – could not be added to the prices. Hoechst do Brasil thus consistently lost money between 1977 and 1979. While the Argentine subsidiary Quimica Hoechst S.A. returned to profit in 1979 and the Mexican Quimica Hoechst de México S.A. also boosted earnings, at Hoechst do Brasil sales figures rose by 60 per cent merely due to high inflation. This loss in Brazil resulted from price controls but also from significant exchange rate losses caused by the devaluation of the Brazilian cruzeiro. Hoechst do Brasil did not yield a profit until 1980, achieving a net profit of of 622 million Brazilian cruzeiros (Hoechst Annual Report, 1975, p. 58, 1977, p. 43, 1978, p. 41, 1979, pp. 43–46, 1980, p. 45).[34]

Strong devaluations, high inflation rates, low economic growth and, above all, uncertainty about future economic development marked the Latin American economic area at the beginning of the 1980s. Multiple economic uncertainties and diverging trends in different product groups made it difficult for the Hoechst managers to get a handle on the market. In Argentina, profits and sales of Quimica Hoechst S.A. declined in 1981, only to rise again the following year. In Brazil, Hoechst do Brasil continued to make profits in 1981/82, whereas CBS accumulated heavy losses. And in Mexico, the profit at the Mexican subsidiary Quimica Hoechst de México of 1981 turned into a loss in the following year as a result of the strong devaluation of the Mexican peso. These developments highlight the ebb and flow of doing business in Latin America. In contrast to the 1960s, when the Latin American markets were regarded as promising from a German perspective, long-term corporate planning was hardly possible at this time because of these erratic economic conditions (Hoechst Annual Report, 1981, pp. 45–47, 1982, pp. 45–48; Lanz, 1978, pp. 448–494).

Furthermore, the Latin American business was not only characterised by economic and monetary problems. There were also morality-based criticisms at that time. At the beginning

of the 1980s, the German TV magazine 'Monitor' reported on multinational companies in Latin America that extract preparations such as clotting factors, human protein or antibody concentrates from blood plasma. The reporting took aim at the fact that poorer, malnourished sections of the population in particular depended on the money from blood donations. According to the president of the Brazilian Blood Donor Association and vice president of the International Federation of Blood Donor Organisations (IFBDO) Leonora Carlota Osório, Hoechst had nearly monopolised the use of blood in Brazil. Hoechst confirmed that its Brazilian subsidiary would buy human blood from private blood banks. Hence, according to the head of Hoechst's pharmaceutical division, Hansgeorg Gareis, the problem rested with these private blood banks. The managers, therefore, did not see any need for further action.[35]

After its internationalisation in the 1970s, Hoechst had substantial production capacities in Western Europe and North America. In 1983, the share of turnover from national production in the non-German EC states as well as in North America was about 75%. In Latin America, this share reached 60% – especially due to the production facilities in Brazil, Argentina and Mexico – whereas it was only 25% in Asia and around 33% in Africa. Thus, Hoechst had become an integral part of the Latin American economy and a significant regional producer (Hoechst Annual Report, 1983, p. 33). The high share of foreign production in Latin America was not entirely voluntary, since high inflation, foreign exchange problems and increasing foreign debt forced many countries of this region to reduce their imports. As a consequence, foreign production continued to rise, reaching two-thirds of sales generated in Latin America by the end of the 1980s (Hoechst Annual Report, 1984, p. 19, 1986, p. 15, 1987, p. 43, 1988, p. 32, 1989, p. 30).

In addition to these regional trends, the move from state-led industrialisation to neoliberalism took place at different times. The developments of the national economies therefore varied considerably. Chile and Argentina initiated neoliberal reforms in terms of investment, trade and finance in the mid-1970s, while Mexico followed at the end of the 1980s and Peru not before 1991 (Ffrench-Davis et al. 2000, pp. 136–138; Katz & Kosacoff, 2000, pp. 292–295; Kehoe & Meza, 2011, pp. 243–245; Rougier & Odisio, 2023, pp. 363–377). Similar disparities exist for economic growth – since recessions arrived at different times in different countries and products segments as well – and for the attitude towards FDI. Hoechst had to adapt to these developments one by one. In Argentina, in 1985, Hoechst divested its stake in the chemical fibre and synthetic resin producer Indur S.A. (acquired in 1970) as sales of chemical fibres were becoming less lucrative. On the other hand, it built production facilities for dispersions (Mowilith) at the new site in Zárate, northwest of Buenos Aires. In the following year, a factory for active pharmaceutical ingredients started production (Hoechst Annual Report, 1983, p. 49, 1984, p. 40, 1985, p. 40, 1986, p. 42).[36] Despite economic difficulties, Hoechst did not withdraw from Argentina. Rather, it changed and broadened its product range and built up new local production. As a consequence, the share of local production was 75% in 1987 (Hoechst Annual Report, 1987, p. 43).[37]

In Brazil, Hoechst was primarily represented in the 1980s by Hoechst do Brasil Quimica e Farmaceutica S.A. in São Paulo, which manufactured and distributed chemical and pharmaceutical products, and by the chemical fibre producer CBS. Due to the increasing Brazilian oil production from the mid-1970s, the chemical industry remained one of the most dynamic sectors, accounting for 19% of Brazilian industrial production in 1985.[38] Nevertheless, the importance of the chemical industry was not directly reflected in the success of foreign

subsidiaries. As CBS made continuous losses, it was merged with Hoechst do Brasil in September 1984 (Hoechst Annual Report, 1983, p. 49, 1984, p. 20, 40).

The economic development of Hoechst do Brasil, not to mention its relations to the Brazilian military dictatorship, are difficult to estimate on the basis of the available documents. The volume of sold goods, turnover and profits no longer followed the same trend. In 1983, for example, the volume of sold goods declined, while turnover (measured in Brazilian Cruzeiro) increased – but decreased after being converted into DM. Despite a high increase in volume, the pharmaceutical sector made losses in 1986 because the Brazilian government imposed a price freeze on medicines.[39] The agricultural division struggled with similar problems. While West German management in the first post-war decades could usually equate growth in sold goods with higher turnover and profits, this correlation – exacerbated by fluctuating exchange rates – no longer applied to the Latin American countries in the 1980s. Nevertheless, Hoechst expanded its production in Brazil and started up new facilities for crop-protection products and dyestuffs in 1986/87. The approximately 4,800 employees of Hoechst do Brasil generated sales of DM 720 million (US-$ 400 million) in 1987. By 1989, this figure climbed to DM 1.2 billion (US-$ 638 million), of which about 90% was generated in the country. Hence, the West German export model lost importance for Hoechst in Brazil. For some product groups – such as Frigen, Ozasol or Remazol dyes – the Brazilian subsidiary had a market share of about 50%. This demonstrates the importance of foreign companies for the development of national chemical industries. Overall, the Brazilian market was still important for Hoechst at the end of the 1980s, even though the relevance of other regions – such as the US – had increased significantly from a German corporate perspective in the meantime (Hoechst Annual Report, 1986, p. 42, 1987, p. 43, 1988, p. 32, 1989, p. 30).[40]

In addition to Argentina and Brazil, Hoechst also maintained its presence in Mexico in the 1980s. Similar to other foreign subsidiaries, Quimica Hoechst de México S.A. produced pharmaceuticals, dyestuffs and dispersions; and it operated as a sales company for its own products, for Hoechst goods produced in Germany and for the two Mexican sub-companies Sociedad Mexicana de Quimica Industrial S.A. (crop-protection products, surfactants and dyestuffs) and Polimeros de México S.A. de C.V. (PVC). In the 1980s, sales and net profits of Quimica Hoechst de México increased, but much of this was absorbed by high inflation. Mexico was fully caught up in the Latin American debt crisis, which also affected the profit opportunities of foreign companies (Ffrench-Davis et al. 1995, pp. 237–240).[41]

With the takeover of the US company Celanese in the second half of the 1980s, Hoechst first and foremost increased its market share in the US – this was the driving force of the acquisition. In the process, it also expanded its Mexican business, since Celanese had a large subsidiary in the neighbouring country. In 1990, the Hoechst management succeeded in increasing its stake in Celanese Mexicana – Mexico's largest private chemical company at the time – from 40% to about 51%. With its approximately 8,200 employees, Celanese Mexicana generated sales equivalent to DM 1.4 billion (US-$ 843 million) in 1991. This made Hoechst an important employer and a major economic factor in the Mexican chemical industry as well as the Mexican economy as a whole, not least for Mexican exports. Furthermore, it once again demonstrated the importance of foreign companies in certain industrial sectors (Jenkins, 1979; Kahn, 2019, pp. 69–70).

Table 3. Regional turnover of Hoechst in per cent (1970–1985).

	1970	1975	1980	1985
West Germany	46	32	31	25
Rest of EEC	11	22	22	23
EFTA	12			
Rest of Europe	4	9	9	9
Eastern Europe	3	6	5	5
North America	7	9	11	15
Latin America	6	7	6	7
Africa	3	7	6	5
Asia	6	6	8	9
Australia / Oceania	2	2	2	2
Total abroad	54	68	69	75

Source: Hoechst Annual Reports, 1970–1985.

Moreover, this was another example of how Hoechst was able to expand its market share in third countries through acquisitions of other multinationals. In so doing, it created a multi-layered network of shareholdings and sub-companies in numerous countries in the last third of the twentieth century. From the perspective of a multinational with global operations, Latin America was only one of many world regions in which Hoechst sold and invested in the 1970s and 1980s (Table 3). The fact that Latin America's importance did not increase despite a growing population and also that many of the expectations of the 1960s went unfulfilled was primarily a result of the innovative power and sales strength of North America and Western Europe as well as Latin America's economic and currency problems.

4. Key findings

In the final quarter of the twentieth century, Latin America experienced a fundamental shift from state-led industrialisation to neoliberalism and an opening to the global economy. Besides this overall regional trend, political and economic developments differed nationally. While Chile and Argentina took this step in the mid-1970s, Brazil never fully did so. National growth dynamics and investment opportunities for foreign capital also varied (Cárdenas et al. 2000; Ffrench-Davis et al. 1995). Furthermore, expansion opportunities of foreign multinationals also differed due to firm-specific advantages. While British, French, and US companies were able to continuously maintain their pre-1945 business after the Second World War, German companies had been expropriated abroad. As a result, they had to manage their return to the world market in the 1950s, before they could develop their foreign investments. In this context, the German chemical industry benefitted from its traditionally strong internationalisation and its longstanding relations with Latin America. The growth prospects in the Latin American markets were promising in the 1950s and early 1960s in light of intensifying industrialisation and a growing population.

In the 1970s and 1980s, business prospects dimmed due to global economic crises after the oil price shocks and the increasing debt of many Latin American countries. High growth rates of the 1960s tempted many Latin American governments to advance industrialisation by borrowing from international creditors. Lenders were willing to provide money in view of the economic prospects. Banks recycled incoming petrodollars by granting low-interest loans with long maturities to states, state-owned enterprises and the private sector seeking credit. Hence, Latin American foreign debt quadrupled between 1975 and 1983. When

interest rates on the interbank market and on public loans rose again and loan amounts issued in US dollars became more expensive due to the US high interest rate policy, Mexico announced a moratorium on payments in 1982. As a consequence, the international financing system collapsed (Altamura, 2016; Rischbieter, 2016, pp. 14–15).

This economic development provided the framework for foreign companies in Latin America, whose business was partly welcome by governments and partly limited by state restrictions, depending on the respective time period and country. As a result of high inflation rates in many Latin American countries, previous parameters (like quantities sold, prices, etc.) became less meaningful, while the business of chemical companies became very volatile. The fact that Bayer, Hoechst and other foreign companies, like French Rhône-Poulenc, did not ultimately withdraw from the Latin American markets was due to countervailing forces, in which Latin America was still thought to be on the path to modernity and to hold future profit opportunities. Furthermore, the companies had invested considerable sums there over the past 30 years and in some cases had gained significant – if not always profitable – market shares. In light of a falling demand in many Western industrialised countries, companies wanted to maintain these market shares.

The trade and investment policy of German chemical companies in Latin America was always linked to their global business strategy. With regard to Latin America, this strategy can be characterised by seven points: Firstly, until the 1960s, Bayer and Hoechst followed a diversification strategy that focused on the affiliation of product areas. From about 1980 onwards, this corporate policy came to an end, and the two companies concentrated more and more on a few core competencies, especially in the life sciences. Bayer and Hoechst were already among the world leaders in certain fields; they wanted to exploit this competitive advantage worldwide and pushed into the world market, including Latin America. Hence, the Latin American subsidiaries gradually expanded their product range in line with that of the parent company – particularly in the case of well-engineered products that required little research knowledge to produce. Secondly, man-made fibres retained a higher status in Latin America than in Europe in the 1970s and 1980s. This was particularly true for the French competitor Rhône-Poulenc, but also for Hoechst. While the production of man-made fibres in Western Europe slid into crisis, their production in Latin America was still profitable (Marx, 2017). Thirdly, the German companies increasingly obtained intermediate products on the Latin American markets, or produced them there in order to circumvent import restrictions. This led to an increase in the foreign production of multinationals. Fourthly, the question of how to penetrate the foreign market was often answered by setting up joint ventures or acquisitions. Particularly joint ventures with the state or local private-sector companies provided a kind of insurance against political risk. At a later time, these joint ventures were regularly entirely taken over and expanded. This market-penetration strategy can be explained by the fact that Bayer and Hoechst – as other German companies like Merck (Burhop, 2018, pp. 399–404) – had lost their assets after the Second World War. Simply put, it was the fastest way to regain market shares. Fifthly, German companies reacted extremely cautiously to the social and political risks posed by coups, military governments and state barriers to markets (Casson & da Silva Lopes, 2013). As long as they did not lose control of their foreign assets, they continued to invest despite any human rights violations (Altamura, 2021; Haan, 2020). The country's form of government was of secondary importance. Western European companies cooperated with right-wing military dictatorships as well as with democratic governments. This

cooperation took place against the backdrop of the Cold War, in which Western governments also maintained relations with right-wing regimes (Bösch, 2024). Sixthly, there was a unanimous response to the increasing economic uncertainty due to high inflation figures starting in the 1970s. Bayer and Hoechst shifted parts of their financing to Latin America. Specifically, capital was to be raised locally in order to avoid the risks of currency fluctuations such as appreciation, depreciation and enormous inflation rates. And seventhly, the Latin American subsidiaries, which were initially supposed to produce for local markets, became export companies to other Latin American and North American markets. The local manufacturing position maintained during the economically difficult years provided commercial opportunities for MNEs when intra-Latin American trade was liberalised and inflation controlled in the 1990s. In this way, foreign subsidiaries of West European chemical companies grew into a global production network. This shift was caused by government programs to build up national (exportable) industries, import restrictions and programs for the participation of domestic shareholders. The exports were in line with the Latin American governments' concerns over their balances of trade (Rougier & Odisio, 2023, pp. 232–251, 260–304).

All in all, the Latin American markets – even after the implementation of democratic rules – remained an uncertain environment due to the long-lasting effects of the debt crisis. The expectations of the companies in the 1960s for Latin America as a region with a booming population and rising prosperity were not fulfilled, nor were those of governments for a national and internationally competitive industry. On the path to this goal, Latin American states became indebted in the 1970s and staggered into a long phase of economic and monetary uncertainty with high inflation. The globally operating chemical companies therefore increasingly turned to other regions – in North America and Asia – with strong research and development and large sales markets.

Notes

I would like to thank Christopher Reid and Paroma Ghose for some linguistic improvements.

1. On the importance of Latin America for ICI and its predecessors, see: Reader, 1970: 34, 60-63, 396-397, 453-454.
2. For the importance of foreign chemical companies in Spain (see: Puig, 2003, 2011). For investing multinationals from less advanced economies (see: Knoerich, 2017; Stal & Cuervo-Cazurra, 2011).
3. BArch, B 102/172889, Botschaft der BRD in Buenos Aires an Auswärtiges Amt (26.05.1966), Auswärtiges Amt an Bundesminister für Wirtschaft und Finanzen (30.08.1971), Vermerk von Krüger (01.09.1971), BDI an Bundesminister für Wirtschaft und Finanzen (29.10.1971), Fischer an Abteilungsleiter W/V (01.09.1972); 'Bekanntmachung des Rahmenabkommens zwischen der Regierung der BRD und Brasiliens über die Zusammenarbeit in der wissenschaftlichen Forschung und technologischen Entwicklung. Vom 30. September 1969', in BGBl 1969 Teil II, 2118-2123.
4. BArch, B 102/173302, Steeg (Leiterin der Abt. V) an Minister (12.07.1974), Friedrichs an Apel (10.10.1974); BArch, B 102/172902, Vorläufiger Kurzbericht über die BDI-Delegationsreise Brasilien (1974); BArch, B 102/211543, Steeg an Minister betr. BDI-Besuch in Brasilien (24.06.1974), Programm für das 2. Deutsch-brasilianische Unternehmertreffen (4.8.-17.8.1974).
5. These relations had already intensified in the 1930s. In 1937, Brazil accounted for 24% of all German cotton imports. At the same time, Brazil ranked among the 10 largest trading partners of the German Reich, accounting for 3% of German imports and exports. Not least trading

relations intensified in the 1930s because of the German system of 'compensation trade' using Aski-Marks (Ausländer-Sonderkonten für Inlandszahlung). By this, especially Latin American countries could send raw materials to Germany; the payment was held in a special German bank account that could be used to buy German manufactures at a discount. Cf. Ziegler (2018, pp. 30–34). On the revival of trade relations with Latin America – particularly arms deals with Brazil (see: Boelcke, 1971, 1994: 40ff). Cf. for the importance of GATT for Latin America: (Bértola & Ocampo, 2012, pp. 161–162).

6. Cf. Statistical Yearbook of Germany, 1952 (Statistisches Jahrbuch der BRD, 1952: 257 (Außenhandel – Anteil der wichtigsten Länder am Außenhandel 1936, 1950 und 1951), 267 (Handelsverkehr mit den wichtigsten Herstellungs- und Verbrauchsländern 1950).
7. In 1981, DM 2.4 billion (DM 2.3 billion) are equivalent to US-$ 1.1 billion (US-$ 1.0 billion); in 1984, DM 2.2 billion (DM 2.6 billion) are equivalent to US-$ 0.8 billion (US-$ 0.9 billion); calculated on the basis of annual averages of the DM and dollar exchange rates.
8. For the US (see: Borrmann & Scharrer, 2001).
9. Cf. also: Birch and Halton (2001) and Ferraz et al. (2014).
10. For the main competitive advantages of Dupont, ICI or Dow Chemical (see: Grosse, 1989, pp. 219–221).
11. Bayer had been represented by its own companies in Argentina and Brazil since 1911, followed in 1920 by the establishment of La Química Industrial Bayer, Weskott y Cía. in Mexico (Verg et al., 1988, p. 356).
12. As a result of the Second World War, the Belgian chemical group Solvay also had great losses in Central and Eastern Europe and lost control over its British and American investments; hence, after 1945, it made attempts to grow in Brazil, the United States and West Germany (Homburg, 2013, pp. 334–336).
13. In Argentina in 1935 and in Brazil in 1937, ICI and DuPont set up joint ventures (Duperial of Argentina and Duperial of Brazil). At the beginning of the 1950s this cooperation ended due to the Ryan Judgement at the US Court of Appeals (Reader, 1975, pp. 222–229, 428–444); United States v. Imperial Chemical Industries, https://case-law.vlex.com/vid/united-states-v-imperial-890513612 (08.04.2023)).
14. The subsidiaries of Bayer (Anilsud) and Hoechst (Química Hoechst) were among the 100 largest foreign companies in Argentine in 1959/60. Cf. the Empresas Extranjeras en Argentina/Foreign Companies in Argentina Database (1870–1971), https://empexargentina.com/ranking-1959-60/ (30.03.2023); Rossi, 2022, p. 8. See also Azpiazu et al., 1986; Lanciotti & Lluch, 2015b; Lluch & Lanciotti, 2020; Zanotti, 2018).
15. Burhop, 2018, pp. 399-404. For the engagement of Mannesmann in Brazil, see Nellißen (1997); for the nuclear deals with Brazil and Argentina in the 1970s, see Romberg (2020, pp. 65–120, 177–225).
16. Bayer Unternehmensarchiv, Leverkusen (BAL) 387/1-8 Bayer Vorstandssitzung (05.12.1967, 23.01.1968). The three Brazilian companies Aliança, A Chimica Bayer and Bayer do Brasil were merged in 1969 to form a single company called Bayer do Brasil S.A., headquartered in São Paulo. Verg et al. (1988, p. 357).
17. BAL 387/1-16 Bayer Vorstandssitzung (16.03.1976, 18.05.1976). At the beginning of the 1970s, the Brazilian government was (still) interested in building a national pharmaceutical industry. In fact, domestic production met a large part of the demand, but much of it was foreign-owned and raw materials had to be imported. Cf. RWWA 181-3168-3 Bericht der Deutsch-Brasilianischen Handelskammer in Rio de Janeiro und Sao Paulo: Die brasilianische pharmazeutische Industrie (13.04.1971).
18. BAL 387/1-16 Sondersitzung des Vorstands (11.12.1975); BAL 387/1-17 Bayer Vorstandssitzung (03.05.1977); BAL 387/1-18 Bayer Vorstandssitzung (05./06.12.1978, 16.10.1979).
19. BAL 380/7-70 Bayer Vorstandssitzungen. Veränderungen in den Geschäftsführungen und Aufsichtsorganen der in- und ausländischen Beteiligungsgesellschaften (1984); BAL, 'Bei Bayer Industrial in Peru arbeiten 730 Menschen. Aus dem Lande der Alpakas kommt Dralon für Südamerika', in: Unser Werk 36, 71. year, no. 6, 1985: 22-23; Bayer Annual Report, 1987: 54.
20. BAL 380/7-67 Bayer Vorstandssitzung (07.06.1983, 16.08.1983).

21. BAL 379/36-2 Protokoll der 33. Unternehmenskonferenz (UNK) am 8. September 1983 (26.09.1983). The continuing problems in the international acrylic fiber market finally prompted Bayer's management to sell its 60% interest in the acrylic fiber plant in Peru to Mitienwald S.A. of Montevideo, Uruguay, on 23 April 1992. In doing so, Bayer got rid of a major source of losses in the Dralon business area. See Bayer Annual Report, 1992: 11, 16, 30.
22. BAL 380/7-71 Bayer Vorstandssitzung (22.05.1984). US-$ calculated on the basis of the annual average of the DM and dollar exchange rates in 1983.
23. BAL 380/7-68 Bayer Vorstandssitzung (20.09.1983), Vermerk Bayer Finanzsekretariat (15.09.1983).
24. In 1987, the Bayer executive board approved the early repayment of USD 14.7 million in hard currency loans by Bayer de Mexico. Although this resulted in exchange rate losses of about USD 8 million, it enabled Bayer to repay all foreign bank loans that would otherwise have been included in the country's official debt rescheduling process. If they became part of the official debt restructuring process, Bayer managers expected the extensions of the loans they had guaranteed and, if necessary, to supplement them with fresh capital. As a result of the repayment, refinancing in Mexico was henceforth carried out by means of local loans. Cf. BAL 380/8-15 Bayer Vorstandssitzung (31.03.1987).
25. Cf. on the expansion of the Belford Roxo site with an MDI plant: BAL, Artur Horn: 'Bayer do Brasil. Wie Deutsche und Brasilianer eine Produktionsanlage bauten. 'Tudo bem' – in Belford Roxo lief es „wie am Schnürchen"', in: Unser Werk 36, 71. year, no. 1, 1985: 22-23. In 1983/84, the Ministries of Health and of Industry and Trade intensified legislation against foreign pharmaceutical companies in order to promote domestic production of drugs. As a result, import duties were raised and imports of certain intermediates were prohibited to stimulate the domestic market. By the end of the 1980s, 70% of the demand for drugs could be satisfied by domestic production (Franculino & Gomes, 2017; RWWA 181-3168-3 Pharma-Industrie fürchtet um Brasilien-Geschäft (15.07.1983), Multinacionais e indústria farmacêutica, in: Folha de S.Paulo, 06.11.1983). German companies had great concerns about the interpretations of the Brazilian Central Bank, which wanted to cancel foreign capital registrations if a foreign company ceased production. Cf. RWWA 181-3167-1 Auslandskapitalgesetzgebung (04.09.1984). In 1988, the Brazilian National Congress discussed a legal amendment to nationalize mining companies. This also affected Bayer do Brasil, which was involved in the extraction of raw materials for its own production through subsidiaries. Cf. RWWA 181-3168-2 Fachvereinigung Auslandsbergbau: Nationalisierung der deutschen Bergbauunternehmen in Brasilien (27.06.1988).
26. BAL 380/8-11 Bayer Vorstandssitzung (22.04.1986); BAL 380/8-13 Bayer Vorstandssitzung (04.11.1986); Bayer Annual Report, 1985: 46, 1986: 52.
27. BAL 380/8-13 Bayer Vorstandssitzung (23.09.1986).
28. BAL 380/8-14 Bayer Vorstandssitzung (24.02.1987); BAL 380/8-15 Bayer Vorstandssitzung (28.04.1987); Bayer Annual Report, 1987: 54.
29. As Lourdes Sola has shown, the experience of the 1980s indicates that the road which runs from high inflation to political regime change may be neutral, in the sense that it is indifferent to whether the regimes affected are democratic or authoritarian. Even the authoritarian regimes in Latin America came under increasing pressure from inflation and debt (Sola, 1991).
30. Bayer Annual Report, 1992: 56-57; 'Globaler Wahnsinn', in: Der Spiegel 42/1998, 12.10.1998: 110-126. In 1998/99, numerous Latin American countries again experienced an economic crisis characterized by public deficits, the decline in the value of their currencies and the slump in world market prices for Latin American export goods. For example, the Brazilian subsidiary Bayer S.A. reported a loss of EUR 19 million in 1999. Cf. Bayer Annual Report, 1999: 81.
31. For the complicity in crimes against humanity in Argentina in the case of the West European chemical company Akzo (see: Haan, 2020).
32. 'Es wird immer deutlicher, daß ganz generell in den vergangenen Jahren Investitionen bevorzugt in Ländern vorgenommen wurden, die ein günstiges und stabiles Investitionsklima versprechen. Das gilt in erster Linie für die USA'.
33. In 1969, Rhône-Poulenc acquired the chemical divisions of Péchiney, Saint-Gobain and Naphtachimie (Cayez, 1988). For further information on Mexico's reservations about foreign investment (cf. Gertschen, 2017).

34. Hoechst-Archiv, Hoe. Ausl. 57 I/Hoechst G-Beteiligungen im Ausland/Länder A-Z/3. Lateinamerika, Hoechst Report Nr. 42/43: Neue Perspektiven in einem großen Land. Hoechst in Argentinien (Dezember 1984/Januar 1985).
As a result of the devaluation of the cruzeiro and the low dollar exchange rate, Roussel Uclaf expected exchange rate losses of FF 30 million for 1980. Cf. Archives Historiques de la Groupe Sanofi, Fonds Roussel Uclaf, Cont.N° 786, P.V. Directoire 3, Procès-verbal de la Réunion du Directoire (12.12.1979).
35. Hoechst-Archiv, Hoe. Ausl. 57 I/Hoechst G-Beteiligungen im Ausland/Länder A-Z/3. Lateinamerika, Steinbicker, Otmar: 'Brasilien. Blutgeschäft des Hoechst-Konzerns', in: Unsere Zeit, 31.07.1981; 'Menschenblut', in: General-Anzeiger Bonn, 23.07.1981. In the mid-1980s, Hoechst and its subsidiary Behringwerke were accused of using blood plasma from developing countries. Although Hoechst do Brasil and its subsidiary Instituto Behring did not maintain their own blood banks, they nevertheless produced drugs from plasma from Brazilian blood banks whose control was questionable. Cf. Georg Bremer: 'Ein ganz besonderer Saft', in: Die Zeit, 12.10.1984.
36. Cf. for Indur: http://www.indur.com/empresa [26.08.2024].
37. In 1988, Hoechst's turnover in Argentina was DM 164 million. Cf. Hoechst Annual Report, 1988: 32.
38. WAUK, 'Chemie im Land des Samba', in: Hoechst heute Nr. 87, Dezember 1986: 34-35.
39. Cf. for the Brazilian capabilities in the pharmaceutical sector: Torres and Hasenclever (2016). The pharmaceutical industry in Brazil was characterized by severe import and price controls for several years. Cf. RWWA 181-3167-1 The Pharmaceutical Industry in Brazil (03.08.1983), Protokoll der 9. Sitzung der Deutsch-Brasilianischen Gemischten Kommission für wirtschaftliche Zusammenarbeit (11./12.11.1982); RWWA 181-3176-1 Bundesverband der Pharmazeutischen Industrie an Bundesminister der Wirtschaft betr. Brasilien und Lage der pharmazeutischen Industrie (31.08.1977).
40. WAUK, 'Chemie im Land des Samba', in: Hoechst heute, no. 87, December 1986: 34-35. Cf. on the cooperation of West German corporations with the Brazilian military dictatorship: Kopper (2017). Since October 1983, the management of Hoechst do Brasil was in the hands of Claudio Sonder, who was born in Brazil in 1942 and had worked for Hoechst since 1966. In 1996 he was appointed to the Hoechst board of management; finally he became chairman of the board of the outsourced Celanese AG. Cf. WAUK, Alexander Hoffmann: 'Claudio Sonder. Sein Rezept: Organisation und Improvisation', in: Hoechst heute, no. 87, December 1986: 58; Wehnelt (2009, pp. 87–89).
41. In 1988, Hoechst's turnover in Mexico was DM 145 million (Hoechst Annual Report, 1988, p. 32).

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Appendix A

Table A1. Staff and turnover of Bayer subsidiaries in Latin America (1970–1988).

	Bayer de México		Bayer do Brasil (Industrias Quimicas)		Bayer Industrial (Lima)	
Year	Staff	Turnover (in m. DM)	Staff	Turnover (in m. DM)	Staff	Turnover (in m. DM)
1970			2367	221	23	–
1971	665	74	2551	160	199	–
1972	689	77	2685	195	452	24
1973	763	74	3196	237	452	46
1974	792	88	3944	259	479	58
1975	875	101	4181	303	610	54
1976	931	117	4448	415	657	80
1977	937	103	3810	417	639	68
1978	1041	125	3652	422	666	59
1979	1169	151	3858	442	665	62
1980	1299	184	3897	495	668	80
1981	1402	312	3792	687	687	108
1982	1104	227	3728	778	753	117
1983	1024	159	3751	733	751	124
1984	1098	265	3846	827	737	179
1985	1248	276	3928	794	747	171
1986	1249	173	4517	736	757	143
1987	1331	153	4267	601	741	
1988	1318	179	4392	780	746	

Source: Bayer Annual Report, 1970–1988.
Note: Figures in DM to allow better comparability of values with regard to high inflation rates and several currency reforms in different countries. Figures in DM from the annual reports of Bayer AG, except for the years 1972/73 and 1984–1986 when the values were converted into DM on the basis of the exchange rates of the Deutsche Bundesbank (average exchange rates, annual averages; Mexico: controlled rates; Brazil: open market rates). The figures for these years are very uncertain, as it is not known how the company has factored the strongly fluctuating exchange rates into its accounting.

Table A2. Staff and turnover of Hoechst subsidiaries in Latin America (1970–1988).

	Hoechst do Brasil (Quimica e Farmaceutica)		CBS		Química Hoechst (Argentina)		Química Hoechst de México	
Year	Staff	Turnover (in m. DM)	Staff	Turnover (in m. DM)	Staff	Turnover (in m. DM)	Staff	Turnover (in m. DM)
1970	1812	170			646	67	837	88
1971	1935	184			678	82	813	88
1972	2046	251	911	29	729	95	836	113
1973	2149	261	1339	64	777	104	882	120
1974	2492	298	1062	57	797	136	1005	138
1975	2467	320	1287	71	851	56	967	152
1976	2756	531	1433	85	870	80	967	119
1977	2698	356	1451	86	896	77	925	116
1978	3016	333	1354	81	874	79	910	128
1979	2992	246	1396	59	918	117	937	163
1980	2999	405	1461	87	910	184	1030	231
1981	2921	445	1430	92	902	82	1079	280
1982	3065	504	1308	118	924	85	999	125
1983	2995	409	1222	76	966	94	953	185
1984	4212	521			940	105	996	223
1985	4406	571			709	129	1159	127
1986	4625	792			689	95	1129	107
1987		720				147		119
1988		854				164		145

Source: Hoechst Annual Report, 1970–1988.
Note: Figures in DM to allow better comparability of values with regard to high inflation rates and several currency reforms in different countries. The figures are based on the annual reports of Hoechst AG. The reports present the sales figures of the subsidiaries in domestic currency (Brazilian Cruzeiro, etc.); however, the Hoechst reports offer exchange rates (to DM) as well. There were very different exchange rate systems in the individual countries and some devaluations within the year in some cases; as a consequence, the figures were converted into DM on the basis of these exchange rates. However, they can only provide an approximate value and should be used with caution. Química Hoechst Argentina 1987/88 incl. Sudamfos.