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THE IMPACT OF MERCOSUR ON THE AUTOMOBILE INDUSTRY

Thomas A. O'Keefe and Jerry Haar

The Southern Common Market (MERCOSUR) automobile industry constitutes an important underpinning for the efforts to achieve economic integration of South America's Southern Cone region. Worldwide, the automotive sector has been a vitally important source of employment, revenue generation, and manufacturing growth. This paper analyzes the factors that have contributed to the transformation of the automotive industry of MERCOSUR, including national and regional policies, industry developments, and global economic forces. Although automobile manufacturers based in the MERCOSUR region have managed to become remarkably more productive during the 1990s, they still have been unable to reduce manufacturing costs to international levels. Much of the explanation for this problem lies in a host of national administrative barriers and inordinately high and regressive local tax rates. Most manufacturers based in the Southern Cone are producing automobiles that are competitively priced only in the protected regional market. The need of many MERCOSUR-based automobile manufacturers to compensate for local overcapacity by seeking out new export markets creates a strong incentive for those manufacturers to pressure Southern Cone governments to implement much-needed reforms.

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Thomas A. O'Keefe and Jerry Haar

 —The Dante B. Fascell—
North-South Center
UNIVERSITY OF MIAMI
1500 Monza Avenue, Coral Gables,
Florida 33146-3027

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Introduction

A transformation of the automotive industry, particularly the segment involved in production of finished vehicles, has taken place in the Southern Common Market (Mercado Común del Sur/Mercado Comum do Sul — MERCOSUR/MERCOSUL) region of South America, at a time when MERCOSUR member states opened their economies to global competition and to participation in an ambitious subregional economic integration project. This Agenda Paper provides an overview of the factors that have contributed to this recent industry transformation. The paper also examines the factors involved in the formal incorporation of the automotive sector into the MERCOSUR project and discusses the impact this development is likely have on the subregional automobile industry.

The main reason for focusing on the MERCOSUR region's automotive sector lies in the fact that the industry "has been the main propulsive manufacturing activity in the development of advanced economies during the twentieth century — including Japan's achievement of advanced-nation status from a position of backwardness. In addition, the motor vehicle industry has been at the nerve center of inter-industry relationships, becoming a major force in the transformation of technologies, markets, and institutions."¹ In the particular case of MERCOSUR, the automotive sector was responsible for about one-third of total intra-regional trade flows during the 1990s, at a time when overall intra-MERCOSUR trade quadrupled. In 1999, when the share of the automotive sector in intra-MERCOSUR trade shrank to one-sixth of total intra-regional trade flows, overall intra-MERCOSUR

trade contracted by nearly 30 percent. Accordingly, the automotive sector constitutes an important underpinning for efforts to achieve economic integration in South America's Southern Cone.

Another reason for focusing on MERCOSUR's automotive sector stems from a 1996 paper by World Bank economist Alexander Yeats, which generated much controversy after it was leaked to the press.² In his paper, Yeats charged that "[r]oad motor vehicles (Standard Industrial Trade Classification 732) played a major role in th[e] overall shift" in the regional orientation of exports toward MERCOSUR, a trend he labeled "perverse" and trade-diversionary away from more efficient sources of imports because "economic theory holds that developing countries, like those in the Mercosur, do not have comparative advantage in capital intensive goods."³ Yeats attributed this "troublesome" trend to "Mercosur's nontariff barriers [that] are also structured along lines that strongly reinforce the trade-distorting effects of the agreement's preferential tariffs."⁴ This Agenda Paper will challenge a conclusion implicit in Yeats's study, namely, that MERCOSUR does not now nor ever will have a comparative advantage in the production of automobiles. In addition, this paper will examine whether MERCOSUR's tariff and nontariff barriers do protect an industry that manufactures products that are technologically obsolete and not competitive on the international market.

This study begins with an overview of the economic changes that swept South America during the 1990s and examines the concurrent restructuring and transformation of the internation-

Thomas A. O'Keefe is President of Mercosur Consulting, Ltd., in Washington, D.C., and an Adjunct Senior Research Associate at The Dante B. Fascell North-South Center at the University of Miami. Jerry Haar is a Senior Research Associate at both the North-South Center and the Center for Human Resources at the Wharton School of the University of Pennsylvania. The authors are particularly grateful for the contribution made to this study by Juan José Amell, who conducted and shared his extensive field research in the State of Paraná, Brazil, between December 1999 and February 2000. The authors also thank Guillermo Devoto of the Argentine Ministry of Foreign Relations for his considerable logistical support in facilitating personal interviews in Argentina; Ralf-Otto Limbach of Volkswagen and Dave Killinger of Ford Motor Company for their generous cooperation; and Roberto Domínguez and Carl Mariano for their invaluable research assistance. Jeffrey Stark, Director of Research and Studies at the North-South Center, also provided excellent comments, suggestions, and editorial advice.

al automobile industry in the face of globalization. The paper then provides a brief historical background on the Southern Cone's automobile industry, so as to put current developments in perspective. The paper's third section looks at what has happened during the 1990s to the automobile manufacturing sector in the Southern Cone at both national and individual company levels. The last section discusses the problems and obstacles in devising a definitive MERCOSUR automobile policy and examines the compromise transitional agreement that has been achieved, as well as its likely impact on the local automobile industry over the next few years. This discussion provides a preview of the issues and dilemmas that are likely to resurface in any negotiations to create a future Free Trade Area of the Americas (FTAA). In this respect, it is interesting to note that Brazil already has indicated that it will treat the automotive industry as a "sensitive sector," meriting special protective treatment in any future FTAA negotiations.⁵

This paper is limited in focus to that part of the automotive sector involved in the production of passenger cars, light commercial vehicles, trucks, and buses. The paper does not give extensive coverage to farm equipment nor to the auto parts and components industry (including chassis manufacturers). Chile, an associate member of MERCOSUR, is included because its substantial trade and investment links to its Southern Cone neighbors make eventual full integration of Chile's automotive sector with the wider MERCOSUR automobile market inevitable.

The research for this paper encompassed a wide variety of secondary sources as well as personal interviews with automobile company executives, licensees, and relevant trade association representatives in Argentina, Brazil, Chile, and Uruguay between December 1999 and August 2000.

The Global Automobile Industry During the 1990s

Automobiles comprise one of the largest sectors of the global economy. Production averaged 50 million units annually during the 1990s, and output was projected to top 60 million in 2000. Nearly 75 percent of global motor vehicle production and sales emanated from the United States, Canada, Japan, and Western Europe; however,

future growth is expected to come from Asia, Latin America, and Eastern Europe.⁶

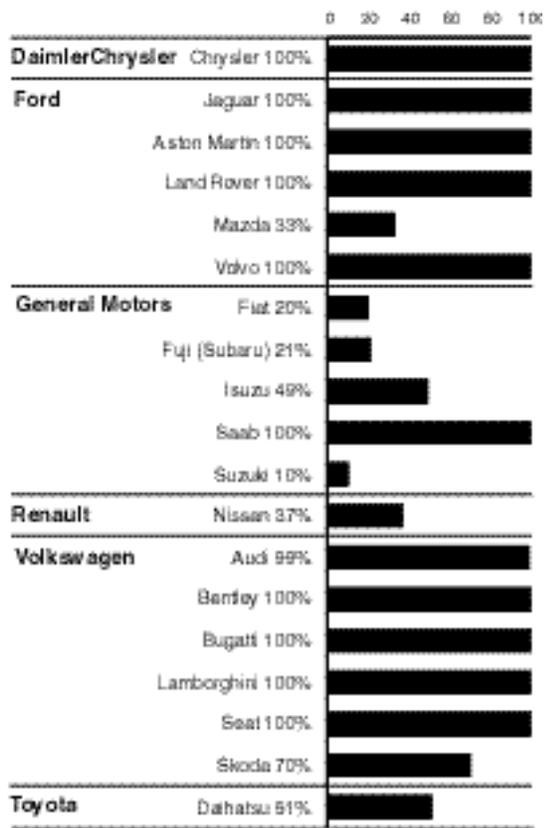
The most important trends in the industry are the intensification of competition and globalization. With domestic competitive pressures increasing, manufacturers have no choice but to leverage their brands, engineering, development, and production costs by penetrating and competing in overseas markets. As more and more producers do so, global competition increases worldwide.⁷ This competition is heightened by the Internet, faster communication, lower trade barriers, and rising income. The resulting globalization of the automobile industry has boosted product quality, hastened product development, lowered costs, and increased rationalization and efficiency.

Within this competitive milieu and despite the diversification of automobile manufacturing, more than 50 percent of global business is handled by five companies (GM, Ford, DaimlerChrysler, Volkswagen, and Toyota). Restructuring and consolidation, begun in the early 1990s, continue unabated.⁸ Traditional large-scale vertical integration within a single nation has waned in favor of a flexible horizontal diffusion of operations that cross geographic and national borders — another result of the changing patterns of demand and the emergence of new offshore competitors.⁹

With most future growth coming from Asia, Eastern Europe, Russia, and Latin America, automakers seeking to sustain global market share will have to build cars appropriate for nontraditional markets — markets in which transportation infrastructure is poorly developed, per capita income is lower, and gasoline prices are much higher than in the United States.¹⁰ The emergence of new competitors and capacity offshore also is impacting the global automobile industry. Many countries are expanding their automotive sectors (via investment, tax, and regulatory incentives), since the automobile industry is a major driver of economic growth, high-wage employment, and technology transfer. However, capacity is exceeding local demand, and this overcapacity is intensifying competition for market shares in both domestic and export markets.

As part of the globalization of the automobile industry, mergers, acquisitions, and alliances have dramatically decreased the number of independent automakers. Moreover, international acquisitions and investment alliances are blurring the industry's national boundaries (see Figure 1). Beginning in 1998 with the Daimler-Benz AG and Chrysler

Figure 1.
Ownership and Stakes Held
by Major Automobile Companies



Source: *New York Times*, March 23, 2000.

Corporation merger, cross-border activity intensified significantly. GM, the world's largest automaker, increased its ownership interest in Isuzu Motors Ltd. and Suzuki Motor Corp.; acquired the remaining 50 percent of Saab Automobile AB for US\$125 million; and announced plans to take a 20-percent equity stake in Fuji Heavy Industries, the maker of Subaru vehicles, and a 20-percent stake in Fiat. Ford, the world's second-largest carmaker, acquired Volvo's automobile business in 1999 for \$6.45 billion and announced plans to buy Land Rover PLC from BMW. DaimlerChrysler agreed to a controlling 34-percent stake in Mitsubishi Motors, and Renault purchased 37 percent of Nissan Motors as part of its strategy to boost its presence in Asia, particularly in Japan and South Korea. Figure 1 presents a picture of the merger activities of the global power players in the automobile industry.

Consolidation in the global auto industry is being driven by three major trends: the increasing

importance of strong brands, manufacturers' need to enter difficult markets, and the rising cost of technology. Ford and Volkswagen have aimed at acquisition of internationally known brands, especially "up market" brands, such as Jaguar, Audi, and Land Rover. Renault has pursued an Asia entry strategy, and GM has aimed to acquire new technology and parts more cheaply, as illustrated by its increased stake in Fiat (a leader in efficient and highly automated engine factories) and its sourcing of low-pollution/low-cost V-6 engines from Honda.¹¹ Ford's CEO, Jacques Nasser, asserts that consolidation is inevitable: "It isn't about getting bigger... [but] being better and quicker and making sure that what we're doing fits into an overall strategy and makes sense."¹² However, as the Daimler-Benz/Chrysler merger illustrates, consolidation often produces conflict as a result of two companies' strong and distinctive heritages, different corporate cultures, and ill-conceived and poorly executed post-merger integration plans.¹³ Consequently, corporate performance can be affected negatively, leading to a decline in equity value of the new enterprise.

Two other trends worth noting pertain to the performance of automobile manufacturing in the United States and developments in Latin American markets. In the first instance, the U.S. auto sector is gaining significantly on Japanese firms in efficiency. The Ford Taurus plant in Atlanta was considered the most efficient in North America in 1999, and while Ford is ranked the most efficient automaker in the United States, GM experienced the largest increase in efficiency in 1999. Due to better management and organization — including dramatically better labor relations — the "Big Three" U.S. automakers have narrowed the productivity gap between their plants and those of Japanese competitors.¹⁴ Clearly, improved research and development (R&D); robotics; lean production systems; and manufacturing, quality, and ergonomic improvement in vehicles also have given a big boost to U.S. auto manufacturers. Moreover, foreign automakers producing in the United States also have benefited from the revitalization and advancements in the automotive sector. Now, more than 58 percent of passenger cars sold in the United States are produced by the Big Three, with the balance (42 percent) being sold under foreign nameplates; however, most of those foreign vehicles are produced in "transplant" facilities, foreign-owned plants (mainly Toyota, Honda, and Nissan) located in North America.¹⁵

Still another trend is the up-and-down course of automobile manufacturing and sales in the Latin American market. The region still is recovering from the adverse effects of currency fluctuations, brought on in part by the Asian crisis and the January 1999 devaluation of the Brazilian real. Currency depreciation has lowered the value of investments in the region, and, along with recessions in the Andean countries and the Southern Cone, this decline has dampened consumer demand. The fact that operating expenses, such as labor and raw materials, are lower in dollar terms has helped cushion the severity of the downturn. Latin American automotive demand fell in 1999 from 1.6 million to 1 million units.¹⁶ All the major car companies suffered losses, and only after the second quarter of 2000 did consumer demand begin its rebound. As an example, Brazilian automobile output increased to 168,000 units in April 2001, up 24.1 percent from April 2000.¹⁷

The one bright spot in the Latin American automobile market is Mexico, where production has tripled in the last 12 years to manufacture more than 1.4 million autos in 1999, exporting more than 80 percent of its output to the north. Although labor costs have provided a large advantage for Mexico, according to Thomas Varig, director of communication and government relations for Volkswagen in Mexico, "Quality and productivity [are] going to be even more important for the competitiveness of the Mexican auto industry."¹⁸

Unquestionably, the Latin American automobile industry is undergoing transformation. The structure of the industry has been changing for more than a decade, as policymakers abandon the import-substitution model in favor of market liberalization, regional integration, and export production. Additionally, models of organization and industrial relations in the automotive industry have been reformed through work practices associated with flexible production, and governmental institutions and political parties also have elevated automobile manufacturing and assembly (and the unions representing workers in this sector) to an important role in economic development.¹⁹

The global trends in the automobile industry, cited above, appear to be leading toward a "universal market," in which trade restrictions, local preferences, and cultural differences are offset by common aspirations.²⁰ Analysis of the interplay of competitive forces and economic factors in the MERCOSUR region provides a vivid case example of the extent to which global trends in the auto-

mobile industry affect Brazil, the Southern Cone, and MERCOSUR's "imperfect" customs union itself.

A Historical Overview of the Southern Cone Automobile Industry

The automotive industry in South America has its historical roots in a small factory set up in Buenos Aires at the beginning of the twentieth century by an Argentine entrepreneur named Horacio Anasagasti, who began assembling simple vehicles using imported Bleriot auto parts from France.²¹ In 1916, Ford set up its first South American assembly plant in Argentina, which was followed by new assembly facilities in Chile (1924); Brazil (1925, 1926, and 1927); and Mexico (1926). During the late 1920s and early 1930s, the other major U.S. automobile companies, General Motors and Chrysler, began building factories in Latin America as well.

The initial efforts by the U.S. "Big Three" to set up assembly plants in Latin America were undertaken primarily because of the savings that could be obtained through shipping semi-knocked-down (SKD) or completely knocked-down (CKD) kits as opposed to exporting completely built-up (CBU) vehicles to the region.²² Accordingly, the initial investment in assembly plants was made prior to the granting of any tariff advantages for local assembly, motivated primarily by a wish to avoid high transport costs.²³

During the inter-war period (1918-1940), the Latin American automobile industry came to be completely dominated by U.S. companies.²⁴ In addition, the Latin American market became extremely important for U.S. manufacturers because "these Latin American countries could be used to extend the production runs of parts and components made in the United States, whereas the highly protected European markets could not."²⁵ The importance of the Latin American market is underscored by the fact that after Canada, Argentina was the largest foreign market for the U.S. automobile industry between 1925 and 1929.²⁶ Perhaps not surprisingly, by 1930, Argentina "had one of the highest vehicle densities in the world, higher than that of most European countries."²⁷

World War II and the period immediately after 1945 saw new automobile production in Latin America drop sharply, as raw materials were redirected to support the war effort and new vehicles and spare parts could not be imported from

abroad. Interestingly, this situation led to the growth of a substantial Latin American spare parts industry, needed in order to keep the existing fleet of vehicles operating.²⁸ These suppliers began as small workshops, operating virtually as a cottage industry, but they provided a basis upon which a local auto parts industry later could be developed.²⁹

By the mid-1950s, as the pent-up demand for automobiles following the end of World War II had been satisfied in the United States and Europe, U.S. and European firms began placing a greater emphasis on expansion overseas, including Latin America, through exports, expansion of already existing subsidiaries, or creation of new ones.³⁰ This renewed interest in the Latin American market came at a time when governments throughout the region were attempting to encourage industrial development through import substitution policies. Given the key role played by the motor vehicle industry in the successful post-war recovery of the U.S. and European economies, the automobile industry was assigned a major role in the development strategies of countries such as Argentina, Brazil, and Mexico during the 1950s and 1960s.³¹

In order to force foreign manufacturers to produce vehicles locally, many Latin American governments in the 1950s began to impose very high import duties on finished automobiles, and they increased local content requirements for vehicles manufactured locally. For example, by 1960, import duties for imported passenger cars ranged from 400 percent to 500 percent in Argentina and from 30 percent to 150 percent in Mexico, with Chile in an intermediate position.³² These protectionist policies soon were accompanied by outright prohibition of imported vehicles, as was eventually the case in Argentina and Chile.

During the 1960s and 1970s, two different patterns of automobile production existed in Latin America. One involved integrated vehicle factories that included all the major operations — stamping, casting, forging, machining, and assembly — which typified the major producers in Brazil and Argentina from the 1960s onward. The other pattern, typical of Chile, Colombia, Peru, Uruguay, and Venezuela, consisted of simple assembly plants that imported most of the needed parts and components but also purchased a few from local suppliers.³³

One significant characteristic of the post-World War II Latin American automobile industry in

sharp contrast to the import substitution model employed in Japan, for example, was the heavy Latin American reliance on using transnational corporations to promote vehicle manufacturing instead of building up indigenous vehicle producers.³⁴ Among the negative consequences of this policy were the restrictions included by the multinational automobile corporations in their technology transfer contracts with their Latin American subsidiaries or licensees, which often prohibited export sales.³⁵ This limitation led to underutilization of existing capacity and made it impossible to achieve efficient scales of production, which, along with tying purchases of intermediate and capital goods and overpricing inputs, contributed to the high cost of the end product in Latin America.³⁶

In an attempt to counteract the effects of a weak domestic market, the Argentine government in the mid-1960s made the first efforts to promote automotive exports to other countries participating in the Latin American Free Trade Association (Asociación Latinoamericana de Libre Comercio — ALALC). These managed trade arrangements allowed Argentina to increase duty-free finished vehicle exports to other ALALC countries in exchange for importing certain component parts from them.³⁷ This new development was very beneficial for the multinational automobile corporations, as it allowed increased integration of their Latin American subsidiaries.³⁸

During the mid-1970s, the Argentine government made an even more concerted effort to promote exports, again mostly to other ALALC member states — particularly Brazil, Chile, Paraguay, Peru, Uruguay, and Venezuela. The total number of vehicles exported went from just under 2,000 in 1971 to approximately 15,500 units in 1974.³⁹ Interestingly, while the ALALC countries dominated 89.7 percent of Argentine vehicle exports in 1973, another 3.5 percent of exports went to the United States and Europe, and 7.8 percent went to Central America (including Cuba), Asia, and Africa.⁴⁰ This successful and rapid entry into the world market was largely the result of strong government fiscal and financial incentives that allowed the multinational automobile producers to compensate for high domestic production costs and thereby become more internationally competitive.

By the early 1980s, in part as a response to a local recession, an increasing regional integration of production appeared to occur among affiliates

located in the countries of the former ALALC (now called the Latin American Integration Association [Asociación Latinoamericana de Integración — ALADI]), particularly among Argentina, Brazil, and Uruguay.⁴¹ Within the international intra-firm division of labor during this period, Argentina was generally assigned (particularly in the trade with Brazil and the developed countries) the export of components 1) requiring a substantial labor input, especially of skilled labor, when there was a relative cost advantage; 2) enjoying relatively minimum-efficient-output scales (as in a number of castings and forgings); and/or 3) being gradually phased out of developed country sales, but for which a local demand still existed. In addition, CKD units and major subassemblies (such as engines and gearboxes) were exported from Argentina primarily to Uruguay, Colombia, and Venezuela.⁴²

Although some export incentives were introduced in the late 1960s, export promotion for the automotive sector in Brazil gathered particular steam in the early 1970s under the Special Fiscal Benefits for Exports (Benefícios Fiscais a Programas Especiais de Exportação — BEFIEIX) program. The government was motivated primarily by its desire to generate foreign-exchange earnings rather than by broader concerns of industrial policy and attaining of economies of scale through exports.⁴³ By the late 1970s and early 1980s, however, Brazilian-based firms themselves increasingly looked to exports as an alternative to a weak local market. The fact that Brazil had the lowest production costs in Latin America also allowed Brazilian-based automobile manufacturers to gain important export markets in Latin America and Africa, beating out Argentine affiliates.⁴⁴ The end result was that the automotive sector as a whole, including the auto parts industry, became responsible for the largest share of Brazil's manufactured exports during much of the decade of the 1980s.⁴⁵

By 1980, Brazil emerged as an important export base to supply components and/or finished vehicles not just for South America, but for the entire international automobile industry.⁴⁶ Brazil at the time represented obvious advantages over Argentina as a strategic location in South America, given its larger internal market with greater potential for expansion, lower wages, less-active labor unions, and very attractive and stable export-incentive scheme, backed by a military government sympathetic to multinational investment (in contrast with the policies of the Argentine govern-

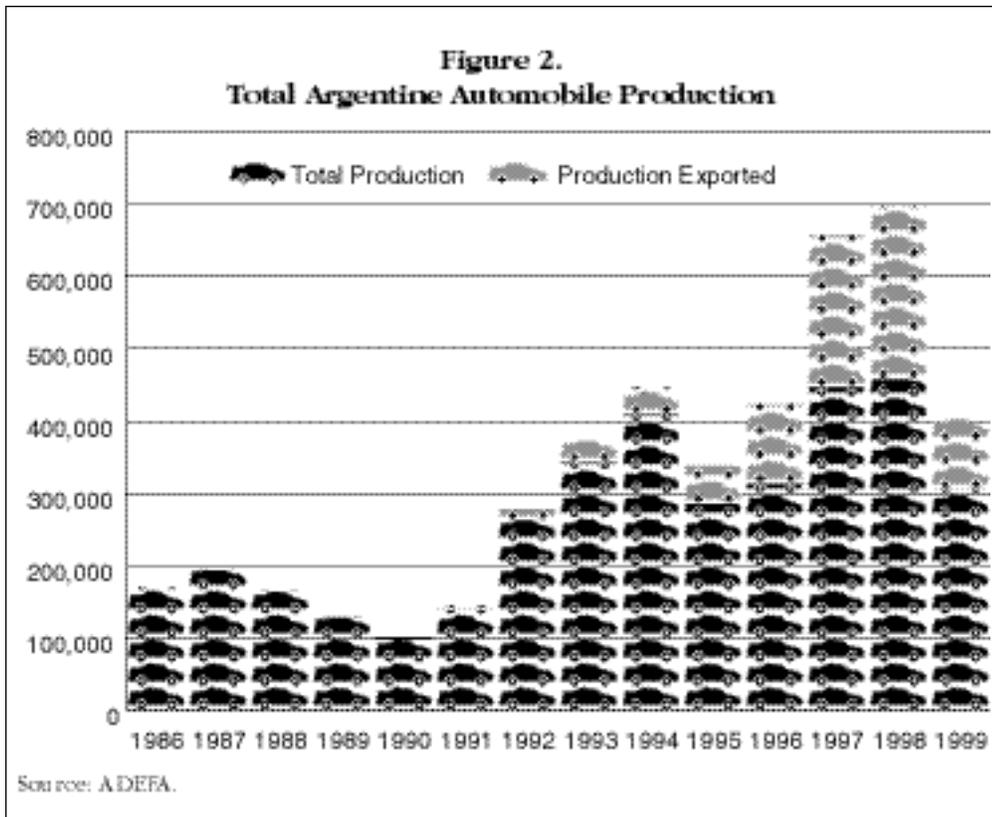
ment at the time).⁴⁷ During this period, Brazil also was more successful than Argentina in keeping the rate of increase of wage costs below the increase in productivity.⁴⁸ Exports as a share of passenger car production in Brazil peaked at 41 percent in 1987 and, as the economy improved and internal demand increased markedly, settled at 18 percent in 1990.⁴⁹ One important result of this growth in exports was that within less than a decade, the Brazilian motor industry had gone from being a drain on foreign exchange earnings in the early 1970s to being a net contributor by the 1980s.⁵⁰

The Southern Cone Automobile Manufacturing Industry during the 1990s

The 1990s marked a decade of dramatic growth, development, and change in the Southern Cone. The widening and deepening of neoliberal economic reform policies begun in the 1980s — the launching of MERCOSUR and increased commercial development and competition — positively impacted Southern Cone manufacturing. Nevertheless, economic slowdowns in Argentina and Brazil, exacerbated by the Mexican peso crisis of 1994 and the devaluation of the Brazilian real in January 1999, caused a setback for the automobile industry — one from which the Southern Cone has yet to recover.

Argentina

The Argentine automotive industry experienced a boom throughout most of the 1990s, when national production went from just under 100,000 vehicles in 1990 to a high of about 450,000 units in 1998, primarily in response to a surge in local consumer demand (see Figure 2). The foreign multinationals attempted to capture this increased demand by investing some \$4.5 billion dollars in the country's automotive sector between 1995 and 1998. By 1999, however, the Argentine automobile industry experienced a sharp downturn in output as a result of a domestic recession that had already begun to engulf the country by the end of 1998 and was soon exacerbated by the Brazilian maxi-devaluation of the real in January 1999. With the maxi-devaluation of the real, exports to Brazil plummeted as production costs in Argentina suddenly became about 30 percent more expensive. Prior to the devaluation, some 90 percent of



Argentine automotive-sector exports had gone to Brazil alone. For all of 1999, Argentina was able to export only about 100,000 vehicles (down from the 238,000 units exported the year before).

In reality, the maxi-devaluation of the real only exacerbated a problem that was becoming increasingly apparent throughout the 1990s, namely, Argentina's higher production costs over those in Brazil. This explains why truck and bus production in Argentina had been falling steadily since 1994 despite increases in local demand and why entire production lines of heavy commercial vehicles and farm equipment were being shifted to Brazil. Following the maxi-devaluation of the real in January 1999, production costs in Argentina increased 12 percent by the end of 2000.⁵¹

Argentina's automotive industry today is heavily concentrated in the production of passenger cars and, to a lesser extent, of light commercial vehicles. The entire industry is responsible for about 3 percent of the country's gross domestic product (GDP) and 14 percent of its overall industrial production. In 1999, Argentine-based manufacturers were able to produce just over 300,000 vehicles. For the year 2000, Argentine-based automobile manufacturers aimed to reach a total output of 320,000 units. Had it not been for the three

phases of the Plan Canje, first introduced in May 1999, which created a financial incentive for trading in older vehicles for newer models, most of that output would have sat unwanted on dealer lots.⁵²

Unlike the simple assembly plants that exist in Chile and Uruguay, the 10 automobile producers left in Argentina (as with those in Brazil) are engaged in full-scale manufacturing activities.⁵³ Although Argentine terminals, or production centers, have a capacity to produce about 700,000 vehicles per year (that is, double the current production), that amounts to only one-quarter of Brazil's manufacturing

potential. Production in Argentina tends to be limited to a few, higher-quality models that are sold domestically or exported mostly to Brazil in exchange for a wider variety of models, often made by the same firm's Brazilian subsidiary. Most of the high-end, luxury-type vehicles sold in Argentina, however, are imported from Asia, Europe or North America and are limited by quotas that until recently were based on an Argentine subsidiary's export performance.

Despite its higher overall production costs, Argentina still is said to enjoy a number of competitive advantages over Brazil in vehicle production. For one thing, Argentine-based producers claim that the Argentine workforce is better educated and presumably more productive and better able to use newer technologies than its counterpart in Brazil. Moreover, it is reportedly easier to find higher qualified and less costly managers in Argentina than in Brazil. The costs of logistics also are said to be lower in Argentina than Brazil, given the country's longer experience with privatized ports and better internal transportation infrastructure system. In addition, economic policy-making predictability supposedly is greater in Argentina than in Brazil, and the legal regime for foreign direct investment is reputed to be more transparent.

Brazil

Despite periodic downturns, the 1990s can be characterized for the most part as a decade of dynamic growth and development for Brazil's automobile industry (see Figure 3). The Brazilian automotive market more than doubled from 1990 to 1997 (from 663,084 vehicles to 1,677,858).⁵⁴ However, from 1998 until the first half of 2000, the auto industry fell into a slump. The Asian financial crisis in late 1997, the January 1999 devaluation of the real, and the continuing and severe economic recession in neighboring Argentina, Brazil's principal trading partner, hampered Brazilian auto sales. Nevertheless, a turnaround is in sight, although the previously forecast production goal of 2.5 million units by year-end 2001 will not be achieved.

Brazilian automotive output expanded by more than 24 percent during the first half of 2000, as compared to the same period in 1999. Investments are expected to increase by \$8.8 billion in the coming three years, with the goal of increasing production capacity by 30 percent.⁵⁵ Table 1

graphically portrays new automobile plants in Brazil from 1997 to 2000.

Brazil's automotive sector, the tenth-largest in the world, is a significant contributor to the Brazilian economy, accounting for nearly 12 percent of GDP. According to the National Association of Automotive Vehicle Manufacturers (Associação Nacional dos Fabricantes de Veículos Automotores — Anfavea), the Brazilian automotive industry generated \$25 billion in annual sales, produced 1,585,630 vehicles, and generated more than 93,135 direct jobs in 1998. From 1991 to 1998, vehicle production in Brazil increased by 62 percent, and domestic car sales expanded by 65 percent. The tremendous expansion in the Brazilian vehicle-manufacturing base is in response to two primary market trends: 1) the significant pent-up demand for vehicles in the Brazilian market and 2) Brazil's increased position as a global sourcing location for world model vehicles. Nevertheless, the vehicle-per-capita ratio in Brazil still is low, with one car for every 9.4 inhabitants. It will take years for local production

Table 1. New Automobile Plants in Brazil, 1997-2000

Manufacturer	Location	Model(s)	Production Capacity (per year)	Investment (US\$ million)
BMW/Rover	S. Bernardo Campos/SP	Defender	5,000	148
Chrysler/BMW	Campo Largo/PR	Motors	400,000	500
Chrysler	Campo Largo/PR	Dakota	15,000	120
Fiat	Belo Horizonte/MG	Pickup	100,000	200
Fiat	Betim/MG	Motors	500,000	500
Ford	Camacari/BA	Amazon	250,000	1,700
GM	Santa Catarina	Mini-cars	200,000	500
	Gravatai/RS	Motors	100,000	600
Iveco	Sete Lagoas/MG	Daily/Ducato	20,000	300
Mercedes	Juiz de Fora/MG	Classe A	80,000	820
Mitsubishi	Catalão/GO	L200	8,000	35
Navistar	Caxias do Sul/RS	Trucks	5,000	120
Peugeot-Citroën	Porto Real/RJ	Citroën Xsara		
		Peugeot 205	100,000	600
Renault	S. José dos Pinhais/PR	Mégane/Scénic		
		Clio	240,000	1,000
Toyota	Indaiatuba/SP	Corolla	15,000	150
Volkswagen/Audi	S. José dos Pinhais/PR	Audi A3		
		Volkswagen Golf	170,000	700

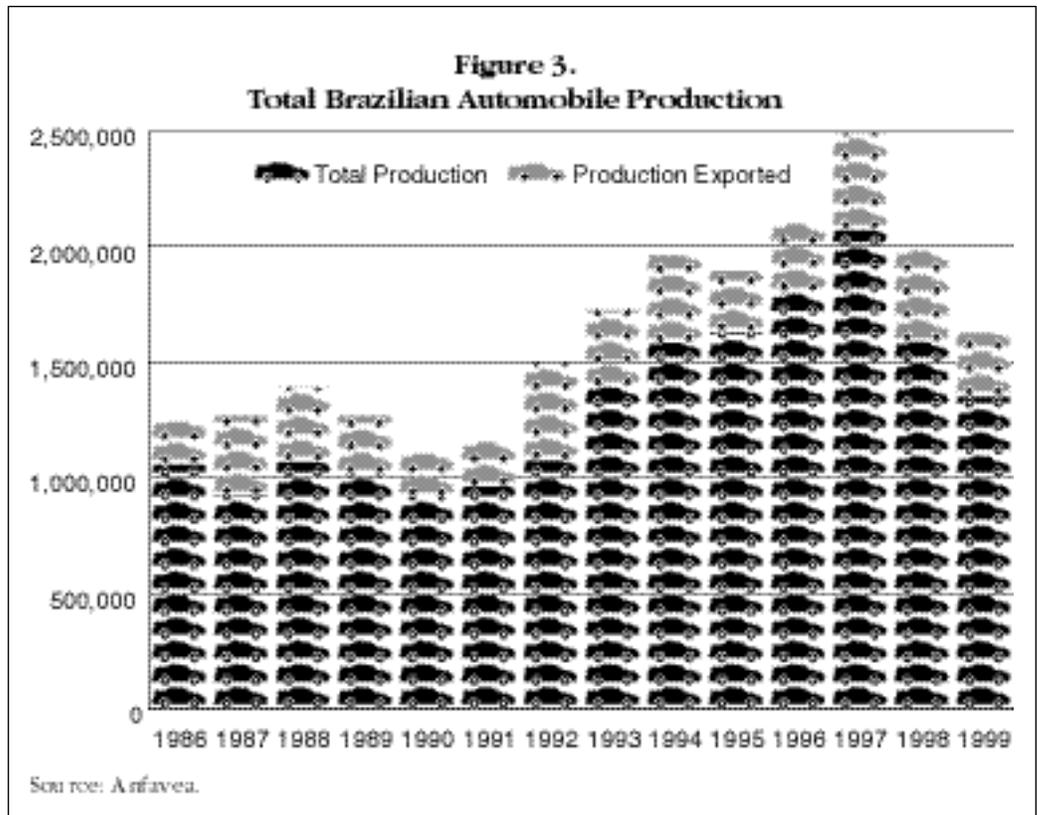
Source: SINDIMETAL and SEBRAE/PR 1997-2000.

and imports to meet this repressed demand.

Brazil's automobile industry during the last decade and a half has followed an erratic course (with fits and starts from protectionism to liberalization and periodic reversals). From the late 1980s until the present time, however, market-opening policies have been the rule for the most part. Economic opening was one of the planks of the campaign platform of President Fernando Collor de Mello. Upon assuming the presidency, he reduced domestic content requirements in the auto industry from 90 percent to 70 percent and loosened regulations

for protecting suppliers. Tariff reduction schedules also were hastened. In addition, the government also embarked upon tax reduction policies and incentive mechanisms to produce popular model automobiles. The result was a surge in demand for popular cars and a 69-percent increase in exports to Argentina. However, the implementation of the Real Plan tightened credit and caused a decline in auto production and sales.⁵⁶ The 1994 Mexican peso crisis subsequently caused a contagion effect in Brazil, much as the Asian financial crisis did three years later. President Fernando Henrique Cardoso unilaterally increased tariffs (by as much as 70 per cent in the auto sector) as a temporary measure to protect Brazil from negative financial impact of the external crisis. In March 1997, an automotive regime was approved that regulated the importation of cars, capital goods, and components; this regulation links imports with regional and export incentives.⁵⁷

The successful economic stabilization plan initiated in June 1994, the Real Plan, has allowed an estimated 13 million new consumers to enter the domestic market. According to the Instituto de Pesquisa Econômica Aplicada (IPEA), a Brazilian government economic research institute, 80 percent of poor families saw their incomes rise dur-



ing the first year of the Real Plan, as did 55 percent of non-poor families. The impact of these new consumers on the market has been dramatic. Vehicle sales increased 12 percent, from 1.4 million in 1995 to 1.5 million in 1996 alone. An estimate from the dealers' association is that today 60 percent of their clients have an annual income of \$24,000, including a new tier of clients who previously had never purchased a car. Vehicle producers are responding to this expanding consumer base and now offer 30 brands and 400 vehicle models produced locally, compared with only four brands and 80 models 10 years ago. For the first time, consumers also have access to financing for vehicle purchases. Today, around 85 percent of the vehicles sold in Brazil are financed, generally on terms of one to three years with an interest rate of about 3 percent a month. In contrast, 70 percent of vehicle sales during the 1980s were paid in cash.

Another significant trend affecting the Brazilian automotive sector is Brazil's increasing position as a global sourcing location. Brazil's market liberalization and participation in MERCOSUR is encouraging vehicle manufacturers to adjust their strategy from focusing on the formally protected domestic market to manufacturing vehicles that compete in an open local market as well as in export markets

such as South America, Asia, and Europe. The Brazilian government has contributed to the fueling of this manufacturing growth by establishing a “new automotive regime” that gives fiscal preferences to vehicle assemblers and auto parts producers with manufacturing operations in Brazil.

Given the size of its internal market, export potential, and geographic location, Brazil is a priority locale for all automakers. The Brazilian market is dominated by four major manufacturers, listed by market share: Volkswagen, Fiat, General Motors, and Ford. These firms account for 95 percent of the market. Brazil is attracting more new automotive investment than any other country in MERCOSUR, approaching \$18.3 billion to be invested through the year 2000 and involving almost all international vehicle assemblers.⁵⁸ Southern Brazil (mainly São Paulo, Paraná, and Rio Grande do Sul) is the dominant locale for automobile production.

Despite the ongoing recession in the MERCOSUR automobile industry (Brazil’s auto sector is operating at less than 60-percent capacity), automakers are maintaining a long-term perspective. Volkswagen plans on spending \$650 million to upgrade its plants, Fiat will inject \$1.5 billion into its three facilities, Ford has invested \$3.5 billion to date, and GM has plans to invest \$3 billion.⁵⁹ New automobile factories under construction in Brazil, such as the \$600-million General Motors facility in Gravataí, Rio Grande do Sul, and Ford’s \$1.9-billion plant in Camaçari, Bahia, aim to meet headquarters’ goal of producing a “world car” — a model for manufacturing that utilizes innovative production processes, such as modular assembly and lean manufacturing, and clusters suppliers close to the production facility (*con-domínio industrial*).⁶⁰

Brazil’s relatively well-developed technological base has spurred automakers to invest in research and development in-country. Fiat’s Palio subcompact was developed jointly by Brazilian and Italian engineers. Taking into consideration Brazil’s tropical climate and rough road conditions, the engineers successfully designed shock absorbers, customized dust filters, and added other features that now are standard in Palios worldwide. Additionally, automakers continue to invest heavily in education, grooming local talent, and promoting local engineers and managers. German automakers lead the way in workforce development, sending 100 Brazilian engineers per year to Germany to

observe production processes and interact closely with their counterparts.⁶¹

As to the sales outlook for automakers in Brazil, companies aimed to break even by the end of 2000. According to data compiled from Anfavea, sales in the first nine months of the year 2000 rose 9.4 percent from the same period in 1999, to 1.08 million units, and production was up 23 percent, to nearly 1.3 million vehicles. Approximately 75 percent of all cars sold in Brazil are inexpensive, one-liter vehicles like Volkswagen’s Gol, a “people’s car” produced 20 years ago (the least expensive model sells for about \$7,500). Again, growth potential is huge: Brazil has only 112 cars for every 1,000 people; in the United States, the figure is 918 cars per 1,000 people.⁶²

Foreign markets will remain vitally important to automakers in Brazil. Exports are expected to grow by 280 percent in 2001, and most automakers are investing in production lines aimed at export markets. Tritec, a joint venture between DaimlerChrysler and BMW, will target the United Kingdom and the United States exclusively. Ford’s Brazilian subsidiary will supply motors for the Focus and Ikon, produced in Argentina and Mexico.⁶³ Nevertheless, exports will not be able to make up for the fall in the domestic market, when Brazil already accounts for 6 of every 10 cars sold in South America and Mexico. While Fiat Brazil has had success in selling its Palio Weekend in Italy and General Motors in exporting pickup trucks and compacts to the Middle East and Chevy Blazer assembly kits to China, automakers will not be able to get into the black until the domestic market recovers.⁶⁴ Clearly, economic recovery in neighboring Argentina, continued economic growth in the United States, and greater acceleration of consumer demand in Europe would lead to significantly revitalized growth and strong demand in Brazil’s home market.

The automotive sector has been highly attractive for investors, in light of Brazil’s increasing economic role in South America and the size of its economy. New investments in the Brazilian automotive industry demonstrate a strong trend in favor of regional decentralization. As the industrial pole of São Paulo becomes congested, transnational automobile manufacturers look to other states in Brazil. One of the primary recipients of these new investments has been the state of Paraná. In 2000, Paraná was expected to receive one-third of the total investment directed to the Brazilian automotive sector and to have the ca-

capacity to produce a total of 235,000 vehicles per year, or almost 10 percent of the total production capacity in Brazil. In addition, these investments were expected to generate revenue of roughly \$7 billion by the year 2000.⁶⁵ The case of Paraná is presented below to illustrate the decentralization trend within the Brazilian automobile industry.

Decentralization of Production: The Case of Paraná

New investments in Paraná are primarily the result of decisions made by three automobile manufacturers: Audi/Volkswagen, DaimlerChrysler, and Renault.⁶⁶ These manufacturers have joined Volvo, which has been producing vehicles in Paraná since the late 1970s. As a result of these investments, Paraná is now the second-largest automotive center in Brazil, after the state of São Paulo. The decision to invest in Paraná was the result of a number of factors, including an aggressive state government program begun in 1995 to attract foreign direct investment by postponing payment of the state-imposed ICMS value-added tax and by embarking on major transportation infrastructure improvements. In addition, the port of Paranaguá, which serves the entire state of Paraná, was one of the earliest in Brazil to be privatized, thereby contributing to a sharp drop in the handling costs for containers and other port services. Car company production in Paraná has been dramatic, as shown by the table below.

Table 2.
Automobile Manufacturers in Paraná

Automobile Manufacturer	Product	Production Capacity by 2000
Audi/Volkswagen	A3, Golf	110,000
DaimlerChrysler	Dakota	15,000
Renault	Megane Scenic, Clio	100,000
Volvo	Trucks and Buses	10,000

Source: SINDIMETAL and SEBRAE/PR 1999.

Audi/Volkswagen

The new plant in Paraná represents a greater emphasis by the VW Group on obtaining higher aggregate value by focusing on the production of vehicles with greater luxury and sophistication. The Audi/VW plant in Paraná produces Audi's A3 and VW's new Golf. The production of these two

vehicles under one roof represents a new relationship within the VW Group.⁶⁷

Planned to be one of the 10 most productive plants in the world, the VW Group's investment in Paraná equals \$700 million and has the capacity to produce between 160,00 and 170,000 vehicles per year. Although the primary focus of the Paraná factory is to serve the Brazilian and South American markets, the VW Group emphasizes that it also has other export markets in mind, namely Europe and North America.

DaimlerChrysler

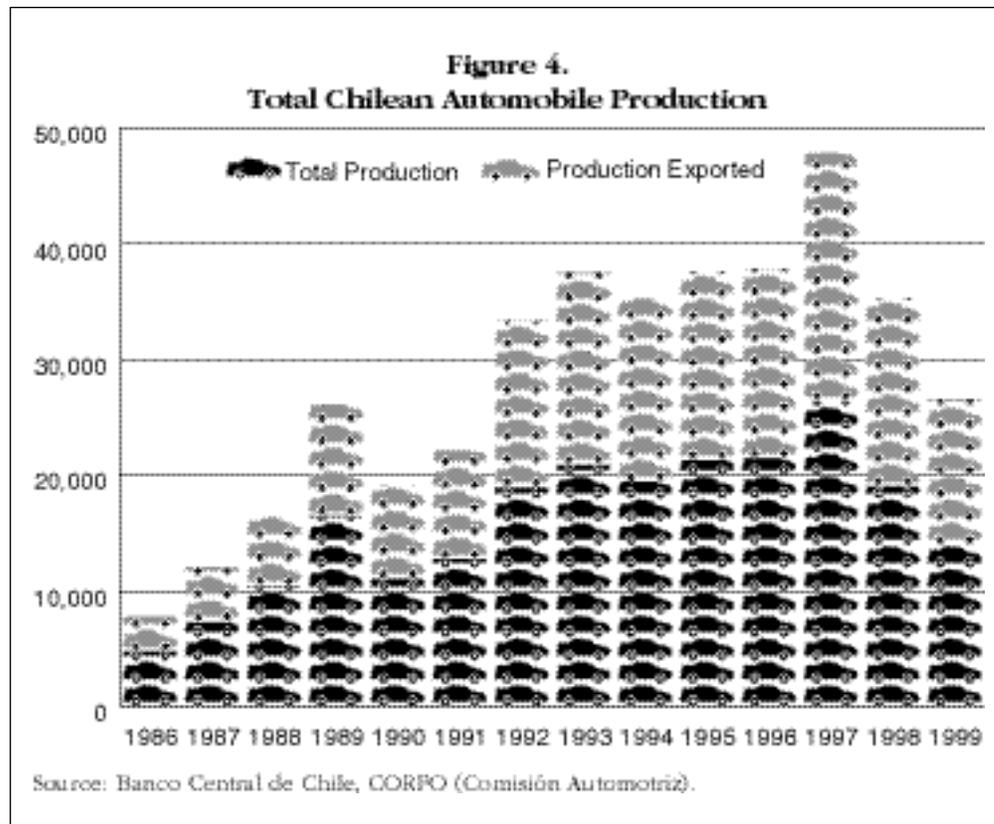
In June 1998, Chrysler inaugurated a new plant in Campo Largo, Paraná, to build the firm's Dakota pickup truck model. The new facility incorporated the company's new production and logistics philosophy, called the "Chrysler Operations Systems," a version of Toyota's "Production System." The new philosophy more closely integrates suppliers into the production process by ensuring that they are located on site and available to supply needed auto parts or components within a short time. For example, Chrysler's traditional chassis supplier, Dana, also has a facility in Campo Largo. Chrysler is therefore able to inform Dana via computer of the type of chassis needed as the upper portion of the vehicle leaves the painting section. As a result of this system, Chrysler is able to keep production costs at Campo Largo to a minimum and can respond quickly to market demand without keeping large stocks of vehicles on hand in storage lots.

Renault

Renault was the first of the new automobile manufacturers to confirm the installation of a new factory in Paraná. The \$1 billion plant, named Ayrton Senna, was inaugurated in December 1998 and is the company's largest and most modern facility in the world, with a potential capacity to produce 120,000 vehicles per year.⁶⁸ After operating in Brazil for a little over one year, Renault already has become the fifth-largest producer in the country, following VW, Fiat, GM, and Ford, all of which have a longer tradition of manufacturing in the country.⁶⁹

After one year in operation in Paraná, Renault inaugurated the first stage of its \$220 million project called Mecânica Mercosul, a motor factory at Ayrton Senna that builds motors for the Megane

Scenic and Clio models. The new motor factory will have the capacity to produce 280,000 motors per year when it comes into full operation. The motors will be used locally and be exported to all of Renault's plants in South America. In addition, beginning in 2001, Renault's Paraná factory will produce engines for the Peugeot 206 model, which will be produced at PSA Peugeot-Citröen's new plant in Resende, in the state of Rio de Janeiro.⁷⁰ The second stage of the Mecânica Mercosul project, due to come on-line in 2001, involves making components that are currently imported from Renault's plants in France and Spain.⁷¹



Chile

At one time during the 1960s, Chile had 20 automobile companies assembling vehicles primarily for the domestic market. In fact, by the early 1970s, almost all passenger cars sold in Chile were produced locally.⁷² Beginning in 1976, the military dictatorship of General Augusto Pinochet adopted free market-oriented economic policies that opened the local automotive sector to intense outside competition. Chilean auto production has decreased dramatically (see Figure 4). Today only two automobile assemblers remain in Chile. One of those companies is General Motors, which produces the LUV pickup truck in northern Arica under license for Isuzu. The other assembler is PSA Peugeot-Citröen, based in Los Andes (about one hour north of Santiago and on the main road to Argentina). Although GM traditionally has sold about 60 percent of its LUV vehicles in Chile, the vast majority of Peugeot's output is exported to Mexico and the Andean countries. The fact that Peugeot is still producing anything in Chile is a testament to the niche opportunities that Chile's free trade agreements have produced for Chilean-based manufacturers over the past decade. The Peugeot case also provides evidence that an auto-

motive industry can continue to survive in a country despite an otherwise very liberal import regime and no overt government subsidy program. The Chilean import duty on small- and medium-sized passenger cars is currently 9 percent and will be reduced gradually to 6 percent by 2003.

Executives at both GM and Peugeot are anxious to see Chile reach an agreement with MERCOSUR that would speed up the current tariff reduction schedule for the automotive sector under Chile's free trade agreement with MERCOSUR. Under the current agreement, the tariff reduction schedule does not come into effect until 2006. That means that as of January 1, 2001, Chilean-made cars were subject to a 35-percent duty when imported into MERCOSUR. GM and PSA Peugeot-Citröen also want to see the adoption of more liberal rule-of-origin requirements than the current 60-percent regional content requirement found in the Chile-MERCOSUR free trade agreement.

Uruguay

As recently as the early 1980s, Uruguay was home to at least seven small car assembly plants. Today only two major plants are still

assembling vehicles in Montevideo.⁷³ One facility is owned by Oferol, which has the license to assemble Peugeot passenger cars and a Citroën delivery van in Uruguay, while the second company is Nordex, which assembles automobiles under license for Renault. Assembly operations in Uruguay are quite small — the industry directly employs only about 650 people — and about 90 percent of what is made in Uruguay today is exported to Argentina and Brazil. The government does not offer and is, in fact, unable to offer any special fiscal incentives for the industry. In addition, the ability of the Uruguayan assembly industry to grow significantly is limited by an annual cap of approximately 30,000 vehicles that Argentina and Brazil together currently impose on imports from Uruguay in an attempt to prevent the country from becoming a major regional assembly center for Asian manufacturers.⁷⁴

In 1997, Uruguay produced a total of 5,645 vehicles, which increased to 13,000 in 1998, but then dropped to about 11,000 units in 1999. The Uruguayan assemblers survive by focusing on the production of just-in-time specialized models with extra features that require a high level of qualified manual labor. The country's lower labor costs, especially in comparison with neighboring Argentina, make this type of niche production regionally competitive. The import duty in Uruguay for finished vehicles is currently 23 percent, but CKD kits and auto parts enter the country upon payment of only a 2-percent duty. Despite the tariff preference that domestically assembled vehicles may enjoy, little local demand exists for Uruguayan-made cars at this time. The reason is that Uruguayan tastes in automobiles are said to be very simple and highly sensitive to price, so that the type of specialized, high-end vehicle produced in the country is unaffordable for most local consumers. Accordingly, were it not for the market opening provided by otherwise highly protected markets in neighboring Argentina and Brazil, the Uruguayan automotive sector could not survive.

The most distinctive characteristic of the Southern Cone automobile industry during the 1990s is the extent to which external economic forces, country-specific macroeconomic policies, the microeconomics of production, and domestic market characteristics interact to shape the organization and operation of individual car companies. Each MERCOSUR member has inherent strengths and weaknesses that determine the competitive-

ness of automobile firms and product lines. Argentina has high production costs and limited production scale compared with Brazil; in contrast, Argentina has a better educated workforce and higher levels of productivity. Neither Chile nor Uruguay has an internal market sufficiently large to justify in-country manufacturing operations, yet both have special strengths (for example, highly qualified workers and just-in-time assembly system for specialized models) and strong niches — via their export focus. This is especially advantageous to Chile, a nation that has numerous free trade agreements in the hemisphere.

Table 3 provides country-by-country highlights of the operations of the leading automobile companies in the MERCOSUR countries.

Devising a Common MERCOSUR Automobile Regime

The 1991 Treaty of Asunción, which established the guidelines for gradual achievement of a subregional free trade area among Argentina, Brazil, Paraguay, and Uruguay, excluded the entire automotive sector. The importation of foreign-made vehicles and auto parts was left to the domestic law of each MERCOSUR member state. Intra-MERCOSUR trade in automobiles and auto parts produced in the subregion remained subject to a managed trade program implemented in 1991 by Argentina and Brazil under the 1986 Argentine-Brazilian Program for Cooperation and Integration (Programa de Integración y Cooperación Argentino-Brasileño — PICAB) and even earlier Argentine-Uruguayan and Brazilian-Uruguayan bilateral accords.

In December 1994, the Common Market Council (MERCOSUR's highest institutional body) issued Decision 29/94, which called for the implementation of a common automobile regime among the four MERCOSUR countries no later than January 1, 2000. The new regime would, at a minimum, permit complete intra-regional free trade for all products in the automotive sector, establish a common external tariff (CET) with respect to similar products imported from outside the subregion, and eliminate all types of national incentives that might distort genuine free trade competition. A special technical committee (No. 9: Automotive Sector) [the MERCOSUR automotive committee] also was created under the auspices of the MERCOSUR Trade Commission. The technical

Table 3. Highlights of Auto Firm Operations in MERCOSUR Countries

	Argentina	Brazil	Chile	Uruguay
DaimlerChrysler	<ul style="list-style-type: none"> Chrysler and Mercedes Benz merged in June 2000. Córdoba plant that produced Jeep Cherokee and Grand Cherokee shut down in 2001. 60% of production exported, mainly to Brazil. Luxury models imported from Germany. Neon, M Glass, non-Cherokee SUVs imported from the United States. 	<ul style="list-style-type: none"> Recent history in this country. Invested \$815 million in 1998-2000 to build a new plant and entered into a joint venture with BMW to produce engines. Increased local content from 50% in 1999 to 70% in 2000. Six plants in MERCOSUR; needs to harmonize two disparate production strategies (Chrysler, Daimler Benz) and eliminate excess capacity. 		
Fiat	<ul style="list-style-type: none"> The firm most affected by the Brazilian devaluation. Shifting production to Brazil: gearboxes and engines. Production decisions/coordination moved to Brazil. Siena and Palio models are leaders in environmental standards. 	<ul style="list-style-type: none"> Investment has grown rapidly in recent years. \$240 million truck plant in Minas Gerais opened in November 2000, with production exported to Latin America and Europe. Closed factory in Venezuela choosing to export there from Brazil. Transfer of production of Córdoba plant (Argentina) to Betim, Minas Gerais, will result in an increase from 1,950 cars per day to 1,780. 		
Ford	<ul style="list-style-type: none"> Strong brand loyalty; long history in this country. After real devaluation of the "real," boosted exports to Bolivia, Chile, Paraguay, Peru, Uruguay, and Middle East. MERCOSUR integrated operations: imports some models (Ka, Fiesta) from Brazil and exports Ranger pick-up, Escort, and one truck model. Exports Ranger and Escort to Central America. 	<ul style="list-style-type: none"> First auto firm to assemble in Brazil. Economic pressures triggered continuous effort to boost competitiveness. Workforce reductions and reorganization of distribution network to cut costs. Plans to open \$1.2-billion plant in Bahia in 2002, creating 5,000 jobs and sourcing of products from 300 new suppliers. 		

Table 3. Highlights of Auto Firm Operations in MERCOSUR Countries — *continued*

	Argentina	Brazil	Chile	Uruguay
General Motors	<ul style="list-style-type: none"> • \$450 million state-of-the-art plant in Rosario; only GM facility worldwide with just-in-time line manufacturing. • Manufactures Chevrolet Corsa for sale within and outside MERCOSUR. • Company anxious for MERCOSUR or bilateral auto agreement with Chile and Mexico to increase exports. • Encourages local parts suppliers to set up shop close to plant. 	<ul style="list-style-type: none"> • Began operations in 1925. • Large industrial complexes in São Caetano do Sul and São José dos Campos, and a \$560-million modular assembly facility opened in September 2000 in Gravataí, Rio Grande do Sul. • Innovative selling: 55% of Chevrolet Celta (compact car) are sold via the Web. • Expects to invest \$1.6 billion in Brazil through 2003. 	<ul style="list-style-type: none"> • Manufactures pick-up trucks in remote zone of Arica (fiscal incentives). • Assembles CKD kits of pick-up trucks from Japan. • Exports 55% of output to Colombia and Venezuela (due to FTA). 	
PSA Peugeot-Citroën	<ul style="list-style-type: none"> • \$300 million upgrade of Palomar factory. • Produces 206, 306, 405 model cars plus SUVs and pick-ups. • Aims by 2002 to sell full line of models manufactured in MERCOSUR. • Due to Argentine recession, company is increasing exports of SUVs and other models to Europe to keep their in-country operations afloat. 	<ul style="list-style-type: none"> • Built first Brazilian factory in 1990s (Rezende, Rio de Janeiro State). • Most technologically advanced plant in the world, soon to produce Citroën's luxury Xsara Picasso and the economy-sized Peugeot 206; Xsara Picasso will be exported throughout MERCOSUR. • Other models will continue to be imported from Argentina and Uruguay. • 50% of inputs sourced domestically from existing suppliers; by 2003 company expects to source 75%. 	<ul style="list-style-type: none"> • Manufactures gearboxes for operations in Argentina, Brazil, Colombia, and Uruguay. • Assembles Peugeot 204 and 406 models from CKD kits imported from France. • Auto parts sourced from France, Colombia, or Mexico. • High-end models imported from France. • Chile-made vehicles exported: Mexico (65%), Colombia (30%), Venezuela (5%). 	<ul style="list-style-type: none"> • Assembly operations since 1962. • OFEROL licensee produces 1,650 cars yearly, 73% exported to Brazil, 18% to Argentina. • Firm aims to export 10,000 vehicles per year. • Auto parts imported from France, Argentina, and Brazil.
Renault	<ul style="list-style-type: none"> • Auto firm with the most extensive/integrated production in Southern Cone. • Strategic move to export global operations to LDCs to compensate for stagnant markets in Europe. • Aims to make MERCOSUR its second biggest market after Europe, for both domestic and export sales. • Produces small cars and SUVs • Harmed by tariffs on the re-export of non-MERCOSUR inputs within MERCOSUR. 	<ul style="list-style-type: none"> • Major commitment to Brazil in 1996, new plant in São José dos Pinhais. • Strategy aimed at producing <i>carros populares</i> intended for mass consumption. • 20% of total production to be exported to other countries in South America. • Recent Renault-Nissan partnership is bearing fruit, sharing technology, joint production, purchasing sales, and administration. • Renault will export engines from its Curitiba plant to a Nissan plant in Mexico, and Nissan will produce Frontier pick-up trucks in Curitiba. 		<ul style="list-style-type: none"> • NORDEX licensee assembled 10,000 vehicles and imported French CKD kits. • 75% of exports go to Argentina, 23% to Brazil, and 2% to Paraguay. • Less than 10% of vehicles are sold within Uruguay.

Table 3. Highlights of Auto Firm Operations in MERCOSUR Countries — continued

	Argentina	Brazil	Chile	Uruguay
Toyota	<ul style="list-style-type: none"> • \$150-million factory in Zárate builds Hi-Lux, best-selling pick-up in Argentina. • Uses locally produced auto parts whenever possible; otherwise uses sources from Japan. (Auto parts from Brazil not viable: high shipping costs, slow customs clearance.) • High production costs relative to Brazil; less competitive in Brazilian and non-MERCOSUR markets. • Critical of proposed new MERCOSUR auto regime: content requirements considered too high. 	<ul style="list-style-type: none"> • Light commercial trucks, 95% of total production; focuses on both domestic and export markets. • Corolla selling well; may begin to produce its sub-compact Yaris. • Plans to invest \$300 million in its plant in Indaiatuba, São Paulo. • Aims to increase domestic content from 60% to 80%. 		
Volkswagen	<ul style="list-style-type: none"> • Arrived in 1980 with purchase of Chrysler Córdoba plant. • Gol is top-selling passenger car. • Manufactures gearboxes for export to Mexico, Brazil, South Africa, and Spain. • Licensee of Spanish-based SEAT for the Córdoba car and Inca pick-up. • Late 2001 will produce transmission for export for VW, Audi, SEAT, and Skoda. • New, \$200-million plant in Córdoba underway. 	<ul style="list-style-type: none"> • Began activities in 1953; maintains four factories. • Largest market share in Brazil. • Aims to upgrade its export capability to the United States, Mexico, and Canada. • Exported 110,000 vehicles in 2000. • Mexico imported 70,000 units of Golf, Parati, Saveiro, and Kombi models — 63% of total exports. 		

committee was given the task of devising definitive rules on regional content, environmental regulations on emissions and standard safety requirements, and a special transition program that would run from December 31, 1997, until January 1, 2000. Decision 29/94 also mandated that the four MERCOSUR states not adopt unilateral restrictive measures, instead encouraging them to liberalize their existing bilateral automobile agreements in order to increase trade flows from June 1, 1995, forward.

Following the issuance of Decision 29/94, Argentina and Brazil entered into a new bilateral managed trade arrangement, wherein the quotas on duty-free imports of finished vehicles originally established under the 1986 PICAB were increased. Duty-free importation of Brazilian auto parts into Argentina also was limited to an amount that could not exceed the total amount of auto parts that Argentina had exported globally. Brazilian replacement parts, however, could enter Argentina duty-free in unlimited numbers. In addition, Argentina agreed to recognize Brazilian auto parts as Argentine products in calculating its 60-percent domestic content requirement. Brazil, for its part, agreed to import Argentine auto parts duty-free at a level not to exceed its own global exports of the same products and would recognize Argentine auto parts as Brazilian in terms of meeting Brazilian content requirements for cars intended for mass consumption (the so-called *carros populares*). In addition, Argentine-made vehicles that met the technical specifications of a Brazilian *carro popular* would be granted the same favorable domestic tax treatment within Brazil as was accorded to domestic manufacturers. Furthermore, intracompany trade of finished cars, buses, and trucks between Argentina and Brazil would be free of all tariff and quota restrictions.

In terms of Argentina and Uruguay, both countries agreed in December 1994 to continue to be bound by the export quotas established in the CAUCE (that is, the ALADI economic complementation agreement signed by the two countries in 1974). Some minor modifications were made, however, which increased to 20,000 the number of vehicles Uruguayans could export annually to Argentina and expanded the 50-percent national content requirement to include regional MERCOSUR-sourced inputs. For their part, Brazil and Uruguay agreed in 1994 to expand the automobile quotas established in their 1975 trade agreement (the *Protocolo de Expansión Comercial de*

Uruguay con Brasil — PEC). Beginning in 1995, up to 10,000 Uruguayan automobiles could enter Brazil duty-free, while Uruguay would give 3,000 Brazilian cars similar treatment in its market. These quotas would increase gradually on an annual basis thereafter. In addition, new rules of origin were established, which decreased the national content requirement to 55 percent (as opposed to 60 percent). There would also be complete bilateral free trade in auto parts made in either country (except for a number of products Uruguay placed on a list of exceptions, such as tires, glass windshields, batteries, radiators, floor mats, axles, and seat belts).

On January 22, 1996, Argentina and Brazil signed a new temporary automobile agreement that was expected to remain in effect through the end of 1999. Under this new agreement, vehicles made in either Argentina or Brazil could be exported to the other country duty-free as long as the amount exported did not exceed each country's respective global vehicle exports (regardless of destination). In recognition of the fact that Argentina had fallen short in meeting its past export quotas to Brazil, the Argentines were allowed to exceed the strict import-to-export ratio for a two-year period (subsequently extended to three years). Argentina and Brazil also agreed to a 60-percent national content requirement, which could be sourced in either country, for purposes of determining what vehicles qualified for duty-free treatment, although Argentina measured this national content requirement in a different way from Brazil. For new models, the national content requirement would only be 50 percent for a three-year period. Each country permitted the duty-free importation of auto parts from the other in an amount that did not exceed each country's global exports of auto parts (regardless of destination). Finally, both Argentina and Brazil agreed not to make unilateral changes to their domestic automobile regimes before 1999 that might provide an unfair competitive advantage in attracting foreign direct investment.

The squabbles that erupted between Argentina and Brazil over unilateral Brazilian measures issued in the late 1990s to encourage new foreign investment in Brazil's automotive sector hindered the efforts of the special MERCOSUR technical committee to devise a transitional regime effective January 1, 1998, through December 31, 1999. As a result, the Common Market Council issued Decision 21/97, which extended the deadline for

achieving a transitional automotive regime until April 30, 1998. Unfortunately, this delay did nothing to resolve the impasse, and, by the end of 1998, Argentina and Brazil agreed to postpone implementation of a definitive common MERCOSUR automobile regime until at least 2004. Reasons for the postponement included the Brazilian federal government's offer to Ford to provide fiscal incentives good through 2010 to entice the company to invest in the region of Bahia, as well as the federal government's inability (or unwillingness) to curb fiscal incentives being offered by state and municipal governments to transnational automobile manufacturers.

Although the 2000 deadline for achieving a common MERCOSUR automobile policy was pushed back by four years, the individual MERCOSUR countries were still under an obligation to implement the Trade Related Investment Measures (TRIMs) of the World Trade Organization (WTO) no later than January 1, 2000. TRIMs prohibit the use of investment incentives tied to export performance requirements, restricting imports to the level of exports within a specific sector or industry, and/or setting minimal content requirements for the production of goods. Accordingly, compliance with TRIMs mandated that Argentina and Brazil replace their national automobile regimes by January 1, 2000, or be found in violation of their commitments to the WTO.⁷⁵

The January 1999 maxi-devaluation of the Brazilian real had a particularly negative impact on Argentine-Brazilian negotiations to come up with a WTO-consistent automobile regime to replace their national automobile policies. While government negotiators sought to iron out a bilateral automobile pact, firms with plants in both Argentina and Brazil began shifting whole production lines to Brazil. The actions of the terminals were followed by auto parts suppliers such as Delphi, which began closing plants in Argentina and shifting production to Brazil.⁷⁶ As 1999 drew to a close and the January 1, 2000, deadline for TRIMs compliance was fast approaching with no agreement in sight, the Argentine negotiators suggested to their Brazilian counterparts that their current national auto regimes and bilateral trading arrangements be respectively extended for another 60 days. The big fear among manufacturers in both countries was that absent such an extension, their intra-regional exports would be levied the standard high import duties charged by Argentina and Brazil on foreign vehicles or auto parts. The

Brazilians acceded to this request (although they dropped their standard import duty on automobiles to 35 percent effective January 1, 2000), as well as to a number of subsequent postponements.

On March 23, 2000, Argentine and Brazilian negotiators announced that they had finally reached agreement on a transitional "common MERCOSUR automobile policy" that would remain in effect through December 31, 2005. One major problem with this announcement, however, was that Paraguay and Uruguay had not participated in the negotiations, and there was no guarantee that both those countries would ratify it. Within days, the Paraguayans and the Uruguayans made their objections to the proposed "common MERCOSUR automobile policy" manifestly clear. Both countries rejected the proposed 35-percent CET on imported cars, trucks, and buses as too high. Uruguay also continued to express opposition to raising the regional content requirement to 60 percent from the 50-percent rule found in the older bilateral CAUCE and PEC trade agreements it had with Argentina and Brazil, respectively. In Paraguay, a country with no automobile industry, the import duty on new vehicles was only 12 percent, and the government wanted to retain the right to import used cars from outside the MERCOSUR region (something that the new agreement would not permit). The proposed Argentine-Brazilian agreement also would undermine a 1998 Paraguayan law designed to encourage new auto assembly plants in Paraguay; the law offered 10-year exemptions from the payment of import duties on capital goods, raw materials, and auto parts, plus a 50-percent tariff preference on vehicles imported by companies with a local production presence.

Strong opposition to the Argentine-Brazilian agreement from Paraguay and Uruguay eventually scuttled plans to have the March 23 accord take effect on July 1, 2000, as originally agreed. Efforts by Argentina and Brazil to secure the acquiescence of the two smaller MERCOSUR countries continued without success throughout the month of July. Finally, on August 1, 2000, Argentina proceeded to issue Executive Decree No. 660, which contained the new Argentine-Brazilian bilateral agreement for the automotive sector. Brazil declared the bilateral agreement suspended, however, when government officials in Brasilia read that the Argentine implementing decree calculated the regional content requirement differently from

the way Brazil interpreted it. Automobile manufacturers based in Argentina, who argued that the Argentine government's interpretation would lead to huge cost overruns and/or compromises on quality, also opposed the Argentine interpretation.

MERCOSUR's New Transitional Uniform Automobile Regime

At the meeting of the MERCOSUR Common Market Council in Florianópolis, Brazil, on December 14-15, 2000, three of the four MERCOSUR countries finally agreed to enact a transitional uniform MERCOSUR automobile regime. The one holdout was Paraguay, which continued to reject the proposed MERCOSUR CET on automobiles as too high, although it did commit to continue negotiating its eventual inclusion. The new regime entered into effect on January 1, 2001, and it governs the trade of new vehicles and auto parts traded among Argentina, Brazil, and Uruguay and imported from outside the MERCOSUR region through 2006. After that time, a definitive common automotive regime is supposed to come into effect that presumably will permit complete duty-free trade of vehicles and auto parts originating within MERCOSUR.⁷⁷

The new MERCOSUR automotive regime is most notable for retaining a managed trade program similar in spirit to the old PICAB agreement through February 1, 2006. Under the new agreement, the value amount of every vehicle or auto part exported from Argentina to Brazil must be compensated with a similar value amount imported from Brazil, or vice versa, if it is to enjoy duty-free treatment.⁷⁸ The two countries are allowed to digress from this strict export-import balance ratio by 5 percent in 2000, 7.5 percent in 2002, and 10 percent in 2003. In 2004, the newly created MERCOSUR Automotive Committee is supposed to set the new percentage rates for the last two years; these cannot, in any case, be lower than 10 percent. Any vehicles exported beyond the permitted annual digressions will be subjected to payments of 70 percent of the import duty prevailing at the time in either Argentina or Brazil on non-MERCOSUR products. Those who export auto parts in excess of the agreed-upon levels will have to pay 75 percent of whatever the relevant import duty is on auto parts originating from outside MERCOSUR.

In the specific case of Uruguayan-assembled passenger vehicles, an annual quota is set at 18,000 vehicles for duty-free export to Argentina

in 2001, increasing to 20,000 vehicles thereafter through December 31, 2006. The annual quota of Uruguayan-assembled vehicles for duty-free export to Brazil is set at 16,000 units in 2001; 17,000 in 2002; 18,000 in 2003; and then 20,000 thereafter through December 31, 2006. An annual quota of 800 Uruguayan-made trucks was set by both Argentina and Brazil. Argentina and Brazil also impose a value-amount quota on the number of auto parts Uruguay can export to them duty-free every year. For its part, Uruguay imposes a quota on passenger vehicles that can be imported duty-free annually from either Argentina or Brazil. In the case of Argentine cars, the quota begins at 6,000 units in 2001 and reaches 8,000 vehicles by 2006; while for Brazil the cap begins at 4,000 units in 2001 and reaches 6,500 cars by 2006. Interestingly, the Uruguayans also imposed an annual 800-unit ceiling on the number of Argentine-made trucks that could be imported duty-free every year but placed no such limits on Brazilian-made trucks or buses.

In order for vehicles and auto parts to be traded between Argentina and Brazil duty-free, they must comply with certain rule-of-origin requirements. The MERCOSUR automotive agreement calls for a 60-percent regional content requirement for passenger cars, trucks, trailers, and buses.⁷⁹ In the specific case of auto parts, the regional content is calculated according to MERCOSUR's general rule-of-origin requirements. In addition, new models have to comply with only a 40-percent regional content during the first year the vehicle is on the market, rising to 50 percent in the second year, and culminating at 60 percent in the third year. The Argentines managed to secure an important concession from Brazil in that at least half of the 60-percent regional content for passenger vehicles produced within Argentina has to originate within Argentina. The Brazilians eventually also acquiesced to the Argentine interpretation that the local content requirement could be calculated based on the value of each input or subcomponent in an auto part and not just on its value as a finished product (which would permit a higher non-Argentine content). Accordingly, use of this method of calculation means that the local content requirement can reach a maximum of 44 percent. For all other vehicles, including trucks and buses, at least 25 percent of the content of an Argentine-produced vehicle has to be sourced within Argentina, or 37 percent if the content is based on the value of each input or subcomponent in an auto part.

In order to respond to the complaints of Argentine-based automobile manufacturers that its “super-local” content requirement would drive up costs and reduce quality, the Argentine government agreed to allow local producers of passenger cars up to two years to develop a program of gradual compliance with the new content requirements and to allow up to three years for other vehicle manufacturers. In addition, cross-border trade in passenger cars and light commercial vehicles among related companies has until July 31, 2003, to comply fully with the Argentine “super-local” content requirement.⁸⁰

Vehicles assembled in Uruguay need comply with only a 50-percent regional content requirement. New models have an even more liberal regional content requirement, set at 33 percent in the first year, 42 percent in the second, and 50 percent by the third year.

In the case of vehicles and auto parts imported from outside MERCOSUR, the new MERCOSUR automobile regime calls for a 35-percent CET on all imported passenger cars and small commercial vehicles, buses, trucks, and trailers, as well as a 14-percent CET on imported tractors and other farm equipment and on certain highway construction machinery. In the specific case of buses and non-passenger vehicles weighing less than five tons, the Argentines agreed to a convergence schedule that will result in a gradual increase in their national duty rate, from 26.7 percent in 2001 to the 35-percent MERCOSUR CET rate by 2006. The import duty on those same types of vehicles in excess of five tons will increase gradually from 20.8 percent in 2001 to the 35-percent CET by 2006. The Uruguayans retained their 23-percent import duty on passenger cars through December 31, 2006. With other vehicles, for which the Uruguayan import duties were considerably lower than those in either Argentina or Brazil, the Uruguayans are under an obligation to raise them gradually to 20 percent by 2006 (18 percent in the specific case of trailers).

An important provision included in the new MERCOSUR transitional automobile regime requires that any product made by a company that received any type of investment incentive from a federal, state, provincial, and/or municipal government entity after January 1, 2001, would be deemed to be non-MERCOSUR in origin and therefore subject to the corresponding CET if traded within the subregion. This provision does not affect automobile manufacturers that received

such benefits before the cutoff date and continued to use them afterward (a significant Argentine concession to Brazil). The new agreement also contains specific prohibitions (with an exception for Uruguay) on the use of tax exemptions or rebates to encourage intra-MERCOSUR automotive exports, and it abolishes temporary admission and duty-drawback programs on inputs used in automotive products that are eventually traded within MERCOSUR.

MERCOSUR's new transitional automobile regime has been criticized because it represents a retreat from the original promise of complete free trade in the automotive sector within MERCOSUR by January 1, 2000. It is important to recognize, however, that the new regime provides an important political boost to the MERCOSUR project at a time when many have questioned its continued viability. By acceding to the continuation of a managed trade regime through 2006, Brazil made an important concession to Argentina. By not insisting on complete free trade in the automotive sector, something that would undoubtedly be in Brazil's favor, given its current comparative advantages as an export platform for the entire Southern Cone, Brazil avoided putting the whole MERCOSUR project at risk. Insistence on complete free trade by Brazil would have meant — under present conditions — an even more serious contraction of the Argentine automobile industry. If this were to occur, Brazil could find itself isolated and without any support for the relatively high 35-percent MERCOSUR CET on imported automobiles.

From the Argentine perspective, the continuation of a managed trade regime in the automobile sector is designed to reinforce the complementary nature of the regional automobile industry, whereby more specialized niche vehicles are manufactured in Argentina while mass-consumption models are produced in Brazil.⁸¹ This also should buy additional time for the MERCOSUR member states to set up a system for coordinating macroeconomic policies, so that the current conflicting monetary policies pursued by each country do not negatively impact on their ability to attract and retain new foreign investment in the automotive sector. In contrast, more cynical observers argue that by continuing the managed trade regime, an otherwise obsolete Argentine industrial sector that cannot compete internationally, particularly under the country's current monetary policies, has been granted a six-year reprieve. Except for some auto parts such as tires, which can take advantage of

Argentina's much cheaper energy and petrochemical costs, these critics claim that it does not make sense to perpetuate an industrial sector that every day employs fewer people and forces Argentine consumers to pay unnecessarily high prices for cars.⁸²

Despite the last-minute changes made to accommodate their concerns, many Argentine-based automobile manufacturers are still unhappy that the new automotive regime requires that at least one-half of the regional content of Argentine-made cars must be sourced domestically. Auto executives argue that this measure, although designed to save Argentina's struggling auto parts producers, will drive vehicle production costs up and may eventually force manufacturers out of Argentina as well. By placating one sector of the automobile industry, they insist that the Argentine government now runs the risk of losing the country's entire automotive sector.

Conclusion

Between 1995 and 2000, multinational automobile companies invested an estimated \$15 billion in the MERCOSUR region. This massive influx of capital transformed the automotive sector in South America's Southern Cone "from an obsolete and inefficient production base — surviving on outmoded model lines with a poor reputation for quality and competitiveness — into a modern production base, manufacturing contemporary models and, in a growing number of cases, world-quality products."⁸³ In Argentina, local consumers in 1991 had only 21 different models to choose from, among them 30-year-old models; by 1997, they could choose from 60 distinct products, including the most modern cars sold on the world market.⁸⁴

The variety of vehicles now available to consumers in the Southern Cone responds to the growth of the local market throughout most of the 1990s as a result of the adoption of liberal, market-oriented policies;⁸⁵ the competitive need of foreign automobile companies (particularly European firms) to find new emerging markets to compensate for stagnant home markets; and the selective use by national governments of higher tariffs to promote new investment. For example, by doubling import duties on vehicles produced by companies with no presence in the country in 1995, Brazil was able to induce almost all the world's major automobile manufacturers to set up a Brazilian factory in order to respond to the

surge in domestic consumer demand for new automobiles. Intense competition at the time to sell automobiles within the MERCOSUR region also forced these manufacturers to offer a wide range of their highest quality vehicles, whether produced within the region or imported from abroad. Accordingly, the fear expressed by World Bank economist Alexander Yeats in 1996, that MERCOSUR was creating a protective cocoon for automobile manufacturers producing technologically obsolete vehicles, proved to be groundless. Ironically, the same protectionist tariffs that Yeats condemned (albeit erroneously ascribing them to MERCOSUR when, in reality, they responded to national policies) forced the multinational automobile manufacturers to build new, state-of-the-art factories in the Southern Cone.

Although automobile manufacturers based in the MERCOSUR region have managed to become remarkably more productive during the 1990s, they still have not been able to reduce manufacturing costs to international levels.⁸⁶ Much of the explanation for this phenomenon lies in a host of national administrative barriers and inordinately high and regressive local tax rates. Argentina's current monetary policy, which ties its currency one-to-one with the U.S. dollar, is also partially to blame for that country's high production costs. Accordingly, most manufacturers based in the Southern Cone are producing automobiles that are competitively priced only in the protected regional market. Some notable exceptions are to be found, however, particularly among Brazilian-based manufacturers such as Fiat and Volkswagen, which export locally made cars back to Europe and North America. Certain auto parts manufactured in Argentina and Brazil also remain competitive in the international market.

The current inability of many multinational automobile companies to use the MERCOSUR region as an export platform for global sales has meant that most plants in Argentina and Brazil are operating at less than optimal capacity, in view of current stagnant economic conditions gripping the region. This overcapacity may soon lead to a shakeout in the industry that may result in mergers, joint production agreements, the elimination of duplicative factories, and/or some manufacturers' being driven completely out of the market. As a result of its managed trade features, the new transitional MERCOSUR automobile accord ensures that — at least through 2006 — any plant closures will not be confined to Argentina. However, high

local-content requirements under that same agreement also endanger Argentina's automobile industry by preventing it from becoming truly competitive in the regional as well as the international arena. Accordingly, when and if the MERCOSUR automobile industry ever becomes subject to complete intra-regional free trade, Argentina could well see many of its plants shut down. The Chilean and Uruguayan examples give some hope, however, that the Argentine auto industry will never entirely disappear and that it can carve out certain competitive niches for itself.

The additional lesson that the Chilean and Uruguayan examples provide is that some level of tariff protection still is needed in markets where countries must export the bulk of their production to compete successfully while selling domestically. The tariff that MERCOSUR countries (except Paraguay) have chosen in order to provide this protective environment for their automotive industry is 35 percent for passenger cars, trucks, and buses. Although it hurts the pocketbooks of local consumers, it should be emphasized that this CET is quite low compared with historical tariffs charged by South American countries on imported automobiles. The burden to consumers also may be outweighed by the incentive provided for automobile companies to keep producing in the region, thereby maintaining thousands of well-paid jobs in an industry that has extensive back-

ward linkages as well. In any event, the tariff could prove to be a short-lived measure if the negotiations for a Free Trade Area of the Americas are concluded successfully by 2005 and if a European Union-MERCOSUR free trade agreement is ever signed.

One positive change that could result from the current slowdown in regional automobile sales is that MERCOSUR-based manufacturers now may pressure governments to eliminate administrative barriers and high taxes that increase local production costs. The need of many MERCOSUR-based automobile manufacturers to compensate for local overcapacity by seeking out new export markets creates a strong incentive for them to pressure Southern Cone governments to implement these much needed reforms. Federal governments (particularly the Brazilian government) also have a strong incentive to respond to these entreaties, given the large "investment" they have made in the sector by granting generous fiscal incentives. If reforms are not forthcoming, the danger is that the automobile manufacturers that survive the coming shake-out could simply revert to the policies pursued by the industry in the 1980s, when no new investment took place and the remaining companies tried to squeeze out profits by producing the same, increasingly obsolete models for a protected local MERCOSUR market.

NOTES

1. María Beatriz Nofal, 1989, *Absentee Entrepreneurship and the Dynamics of the Motor Vehicle Industry in Argentina* (New York: Praeger Publishers), 13.
2. See, for example, *Wall Street Journal*, 1996, "South American Trade Pact Is under Fire," October 26; *Journal of Commerce*, 1996, "MERCOSUR under Siege," October 30.
3. Alexander J. Yeats, 1996, "Does Mercosur's Trade Performance Justify Concerns about the Global Welfare-Reducing Effects of Regional Trading Arrangement? Yes!" (unpublished manuscript, World Bank, Washington, D.C.), 13, 15.
4. Yeats 1996, 25.
5. Paulo Paiva, 2000, "El Cronograma del ALCA Avanza a Buen Ritmo," *Gaceta Mercantil Latinoamericana*, November 6-12.
6. *Encyclopedia of Global Industries: Motor Vehicles*, SIC 37111, 2000 [cited in July], available at <<http://www.onesource.com>>.
7. Efraim Levy, 2000, "Autos & Auto Parts," *Standard and Poor's Industry Surveys*, June 1.
8. Levy 2000.
9. Council on Competitiveness, 1998, *Going Global: The New Shape of American Innovation* (Washington, D.C.: Council on Competitiveness), 127.
10. Council on Global Competitiveness 1998, 27.
11. Keith Bradsher, 2000b, "Gentlemen, Merge Your Manufacturers," *New York Times* March 23; John Tagliabue, 2000, "Renault Pins Its Survival on Global Gamble," *New York Times* July 2. GM and Fiat also have reached an agreement with Daewoo Motor Company of South Korea and its creditors to negotiate the acquisition of the passenger vehicle operations of the insolvent carmaker. See Michael Schulman, 2000, "GM, Fiat Agree to Set Up Talks with Daewoo for Acquisition," *Wall Street Journal*, October 9.
12. Bradsher 2000b, 25.
13. *Economist*, 2000, "Merger Brief: The DaimlerChrysler Emulsion," July 20; Jeffrey Ball and Scott Miller, 2000, "How DaimlerChrysler Misfired," *Wall Street Journal*, July 26.
14. Keith Bradsher, 2000a, "Efficiency on Wheels," *New York Times* June 16.
15. Also noteworthy is Canada's booming auto industry. Spurred by low production costs, rising productivity, and major new investments, Canadian vehicle production soared 18.7 percent last year, more than double the U.S. rate. Proportionate to population, Canada is the world's leading vehicle production locale. DaimlerChrysler, GM, and Toyota all are increasing their investments in production and automotive research in Canada. See Mark Heinzl and Joel Baglole, 2000, "Canada Vehicle Production Increased 18.6% Last Year," *Wall Street Journal*, October 9.
16. Levy 2000, 4.
17. *Weekly Report* 2001, "Brazil Focus," May 5-11.
18. *Bloomberg Latin America*, 2000, "Automakers Invest More in Eastern Europe at Expense of Latam," June 6. Investments from European carmakers in Latin America could slow as automakers such as Volkswagen focus on plant building in Eastern Europe, where salaries are lower and production is closer to home. Poland, the Czech Republic, and Hungary are attracting auto plants because qualified workers can be hired at half the wages of Mexican workers.
19. John P. Tuman and John T. Morris, eds., 1998, *Transforming the Latin American Automobile Industry* (Armonk, N.Y.: M.E. Sharpe).
20. Micheline Maynard, 1998, *The Global Manufacturing Vanguard: New Rules from the Industry Elite* (New York: John Wiley & Sons), 205.
21. Rhys Owen Jenkins, 1977, *Dependent Industrialization in Latin America: The Automotive Sector in Argentina, Chile, and Mexico* (New York: Praeger Publishers), 48.
22. Rhys Owen Jenkins, 1987, *Transnational Corporations and the Latin American Automobile Industry* (Pittsburgh, Pa.: University of Pittsburgh Press), 18.
23. Jenkins 1987, 18.
24. Jenkins 1987, 49.
25. Jenkins 1987, 19.
26. Nofal 1989, 9. By 1923, the assets of Ford's Buenos Aires plant were valued at \$8.8 million, making it the company's second most important plant outside North America (Jenkins 1987, 19).
27. Nofal 1989, 9.

28. Jenkins 1977, 49.
29. Jenkins 1977, 49.
30. Helen Shapiro, 1994, *Engines For Growth: The State and Transnational Auto Companies in Brazil* (New York: Cambridge University Press), 75.
31. Nofal 1989, 13.
32. Jenkins 1977, 227.
33. Jenkins 1987, 71.
34. Nofal 1989, 17. Unlike Latin America, Japan relied on indigenous producers, and its government initially banned foreign direct investment to avoid control of the industry by foreign manufacturers. A prime consideration was the acquisition of national technological capacity and the closing of the international technology gap by initially licensing foreign technical know-how, then subsidizing local adaptation and development (Nofal 1989, 202). Through local entrepreneurial searches, the indigenous motor vehicle industry in Japan combined foreign technical specifications with domestic knowledge and inputs and produced multiple creative breakthroughs in product and process technologies as well as in patterns of industrial and work organization (Nofal 1989, 17). The end result was an internationally competitive industry, and export performance was a crucial means to achieve this end (Nofal 1989, 202).
35. Jenkins 1987, 107.
36. Jenkins 1977, 258-259.
37. Nofal 1989, 37.
38. Nofal 1989, 38.
39. Asociación de Fábricas de Automotores (ADEFA), 1999, *Industria Automotriz Argentina: Anuario Estadístico 1998* (Buenos Aires: ADEFA), 24.
40. Nofal 1989, 55.
41. Nofal 1989, 159.
42. Nofal 1989, 183.
43. Shapiro 1994, 223.
44. Nofal 1989, 167.
45. Shapiro 1994, 226.
46. In the mid-1980s, one firm in Brazil found the country internationally competitive in machined castings and forgings because of their high labor content and lower wage rates, which offset productivity differences. It identified Brazil's greatest cost advantages in engines and transmissions (Shapiro 1994, 230).
47. Nofal 1989, 164-165.
48. Jenkins 1987, 92.
49. Shapiro 1994, 226.
50. Jenkins 1987, 216.
51. Abel R. Viglione, 2000, interview by Thomas A. O'Keefe on June 9 in Buenos Aires, Argentina; Viglione is the Senior Economist for the Fundación de Investigaciones Económicas Latinoamericanas (FIEL).
52. Data compiled from the Asociación de Fábricas de Automotores (ADEFA). Phase I of the Plan Canje, in effect for 120 days, allowed Argentine consumers to trade in passenger cars older than 10 years in exchange for brand new models made in Argentina, which could be obtained for a \$4,000 discount over the car's pre-tax sticker price. During the subsequent Phase II, in effect from October 20, 1999, through January 31, 2000, the cash discount was more limited than in Phase I, but older vehicles could be exchanged for new models made anywhere in the MERCOSUR area, not just in Argentina. Finally, under Phase III of the Plan Canje, which came into effect on February 1, 2000, and expired on October 31, 2000, the discount for purchasing a new model made anywhere in MERCOSUR in exchange for trading in a model older than 10 years was limited to 20 percent off the pre-tax value of the new car.
53. Two other Argentine firms, A.y L. Decaroli, S.A., and El Detalle, S.A., also produce urban buses under license for foreign manufacturers, but both have seen their production idled since 1999. Accordingly, the future of both firms is uncertain.
54. Associação Nacional dos Fabricantes de Veículos Automotores (National Association of Automotive Vehicle Manufacturers — Anfavea), 1998, *Anuário Estatístico* (São Paulo: Anfavea).
55. The upside potential in Brazil is huge, given the fact that Brazil has one car per 9 inhabitants, while Mexico has 7 and Argentina has 5.
56. Marcelo Lacombe, 1999, "Partners in Protection: The New Role of States in the Politics of Automotive Sector Policies" (working paper, Institute of Latin American Studies, Columbia University).
57. Among its key features are a 35-percent import-tariff reduction for firms already operating in Brazil and a reduction to zero tariff for capital and intermediary goods used in setting up new plants in the North,

Northeast, and other priority regions in the country. Incentive policies — fiscal, tax, and regulatory — unquestionably have helped decentralize and diversify industrial development. However, at the same time, these policies have resulted in state-versus-state bidding wars (*guerras fiscais*) to attract automotive plants and have produced tax revenue shortfalls among states already under huge strains to balance their books. In the case of Ford's planned car plant in Bahia, federal tax breaks could exceed \$100 million over 10 years, cheap loans were obtained from Brazil's National Development Bank, and the state government of Bahia provided tax breaks and free land and infrastructure. It is arguable, as well, that geographical vicinity and workforce quality are even more important factors in attracting investment. See Adriana Fernandes de Brito and Regis Bonelli, 1996, "Políticas Industriais Decentralizadas: As Experiências Européias e as Iniciativas Subnacionais no Brasil" (paper for discussion, Instituto de Pesquisa Econômica Aplicada — IPEA, No. 492, June).

58. Other investors include Asia Motors, Chrysler, Honda, Hyundai, Iveco, Kia, Mercedes-Benz, Mitsubishi, Peugeot, Renault, Scania, Toyota, and Volvo.

59. Other investments during the last two years include a new Mercedes-Benz plant to produce mid-priced sedans and produce Class C sedans at its existing plant; a pickup truck line by Chrysler; a Toyota Corolla plant; and Honda and Renault vehicles, including compact cars and vans. See *Latin Trade*, 1999, "Seller Beware," May.

60. *Estado de São Paulo*, 2000, "Novas fábricas brasileiras vão servir de modelo mundial para as matrizes," September 27. Consolidation in the auto parts sector, through mergers and acquisitions, has created a multi-tiered system of suppliers. Large firms such as Delphi, Visteon, Lear, Bosch, Denso, Aisin Seiki, and TRW are positioned as "systems" suppliers, providing highly technological content. Smaller suppliers, many now supplying larger ones, are struggling to maintain a niche in the market by reducing internal costs, boosting productivity, and living with smaller revenues and slimmer profit margins. Getting close to the buyer/assembler is paramount in this increasingly competitive environment. The Volkswagen-Audi facility in São José dos Pinhais, Paraná, is supplied by 13 auto parts firms working near or inside the plant. Major supplier Lear has invested \$15 million in a 63,000-square-foot facility employing 120 workers, adjacent to GM's Gravataí Automotive Complex. Lear supplies GM on a "just-in-time" basis for immediate installation in vehicles, and all of the material handling for the GM assembly plant is coordinated by a logistics company also located on-site. See Angela Maria Medeiros Martins Santos and Caio Márcio Avila Pinhão, 1999, *Overview of the Autoparts Sector* (Brasília: Banco Nacional de

Desenvolvimento), May; *Estado de São Paulo*, 1999, "Fabricantes de autopeças lideram a onda de fusões," September 23; Lear Corporation, 2000, "Lear Corporation Inaugurates New Brazilian Plant to Supply General Motors Corp.'s Gravataí Automotive Complex," (company press release), July 20.

61. *Business Week* 2000, "Car Power," October 23.

62. *Bloomberg Latin America*, 2000, "Brazil Carmakers Seek Profits in Land Where Small Cars Reign," October 12.

63. *Estado de São Paulo*, 2000, September 16.

64. *Latin Trade*, 2000, "Seller Beware," May. Brazil exported nearly 400,000 vehicles in 1998, including 273,000 to South America, 23,000 to North America, 75,000 to Europe, and 22,000 to Africa (mainly South Africa and Morocco). If one takes into account engines and components, the dollar amounts equal \$4.3 billion in total, of which products valued at \$2.38 billion went to South America, \$652.5 million to North America, \$900 million to Europe, \$151 million to Africa, and \$108 million to Asia. (See Associação Nacional dos Fabricantes de Veículos Automotores 1998.)

65. Sindicato das Indústrias Metalúrgicas Mecânicas e de Material Elétrico (SINDIMETAL) and Serviço Brasileiro de Apoio às Micro e Pequenas Empresas (SEBRAE/PR), 1997, *Paraná Automotivo: Desafios e Perspectivas* (Curitiba, Paraná, Brazil: SINDIMETAL and SEBRAE/PR), 12.

66. Except for Volkswagen, these manufacturers are new to Brazil. The case of Audi is special because it has no history of producing in Brazil, even though it is part of the VW Group.

67. Sindicato das Indústrias Metalúrgicas Mecânicas e de Material Elétrico (SINDIMETAL) and Serviço Brasileiro de Apoio às Micro e Pequenas Empresas (SEBRAE/PR), 1997, *Paraná Automotivo: Desafios e Perspectivas* (Curitiba, Paraná, Brazil: SINDIMETAL and SEBRAE/PR), 9-10.

68. Ayrton Senna was a famous Brazilian Formula One driver who died in a car race in the 1990s.

69. Sindicato das Indústrias Metalúrgicas Mecânicas e de Material Elétrico (SINDIMETAL) and Serviço Brasileiro de Apoio às Micro e Pequenas Empresas (SEBRAE/PR), 1998, *Paraná Automotivo: Desafios e Perspectivas*, (Curitiba, Paraná, Brazil: SINDIMETAL and SEBRAE/PR), 12.

70. Newton Chagas, 1999, "Renault Scenic tem motor de alta tecnologia," *Indústria e Comércio* 2, Special Edition (December), 6.

71. Chagas 1999, 1.

72. Jenkins 1977, 137. By the early 1970s, about half the commercial vehicles sold in Chile also were produced domestically.

73. A Chinese-Uruguayan joint venture called Ferrolland also has been assembling trucks in Uruguay since 1998, but the level of production has, to date, been insignificant.

74. Under a subsequent revision to the Convenio Argentino Uruguayo de Cooperación Económica (CAUCE), the quantity of vehicles that Uruguay could export to Argentina was limited to an amount that does not exceed 5 percent of Argentine vehicle production for the previous year. In view of the fact that Argentine production fell to about 300,000 units in 1999, the Uruguayan quota for 2000 dropped to approximately 15,000 vehicles.

75. Interestingly, the Argentines were less in a bind than the Brazilians, as the Argentines had reported their domestic automobile regime to the WTO, while the Brazilians failed to report their program. Accordingly, the Argentines conceivably could have sought from the WTO an extension to comply with TRIMs, while the Brazilians had no such option.

76. See J. Goodman, 1999, "Argentine Auto Parts Sector Fears Imports from Brazil Will Mean Closures, Job Losses," *Journal of Commerce*, February 25, 2A. In February 1999, Horacio Larre Orno, the president of the Association of Argentine Component Manufacturers (AFAC) warned that a prolonged currency imbalance with Brazil threatened to close the majority of Argentina's auto parts plants and force mass layoffs. He claimed that the Argentine auto parts industry already had furloughed or laid off more than 10,000 of its 38,000 workers since exports to Brazil began to decline in the second half of 1998.

77. It is important to note that the Common Automobile Policy has no legal effect until it is incorporated into the ALADI framework. However, Argentina and Brazil follow its broad outlines, to a greater or lesser degree, since they adhere to Argentine Decree No. 660/00, which was issued in August 2000 and contains the basic rules later included in the final version of the Common Automobile Policy approved by the Common Market Council in December 2000.

78. The fact that the regime covers all vehicles, including farm equipment and trailers, represented a victory of sorts for the Argentine negotiators, given that the Brazilians wanted to limit the covered vehicles to passenger cars and trucks so that they would not face

restrictions on the number of these other types of vehicles they could export to Argentina.

79. The formula for determining regional content is as follows:

$$\frac{100 \times [1 - (\text{The CIF Value of the Imported Auto Parts})]}{\text{F.O.B. Price of Vehicle Minus Taxes}} > 60\%$$

80. Prior to that time, a certain level of flexibility is permitted. For the first year, beginning retroactively on July 1, 2000, intra-firm trade of vehicles may digress from the Argentine content requirement by up to 9 percentage points; that requirement goes to 6 percentage points in the second year and to 3 percentage points during the third year.

81. J.J. Tacone and U. Nogueira, eds., 1999, *MER - COSUR Report 1998-99*, Vol. 5 (Buenos Aires: BID-INTAL, 1999), 29.

82. The latest statistics indicate that the Argentine terminals currently employ about 21,000 people. One of the interesting trends accompanying the important growth of the automotive sector throughout the Southern Cone during the 1990s is that employment rates in the sector remained static. Through the use of new technologies and organizational techniques, auto manufacturers managed to increase productivity without needing to hire new employees. See P. Bastos Tigre, M. Laplane, G. Lugones, and F. Porta, "Cambio Tecnológico y Modernización en la Industria Automotriz del MERCOSUR," *Integración y Comercio* 7/8 (July-August), 140.

83. *E.I.U. Motor Business International*, 1998, Second Quarter (London: The Economist Intelligence Unit Ltd., 1998), 87.

84. *E.I.U. Motor Business International* 1998, 106.

85. This economic growth, in turn, contributed to a certain level of macroeconomic stability that facilitated the use of new consumer credit and financing arrangements that had long been used in North America and Europe to induce purchases of consumer durables but were alien to the MERCOSUR countries prior to the 1990s.

86. The increases in productivity actually were quite spectacular. Between 1990 and 1997, productivity levels in automobile manufacturing plants grew by 157 percent in Argentina and 127 percent in Brazil. See Bastos Tigre et al. 1999, 140.

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