Helen Shapiro

Determinants of Firm Entry into the Brazilian Automobile Manufacturing Industry, 1956–1968

This article examines the negotiating process between the Brazilian state and transnational auto companies. It argues against dichotomous frameworks that emphasize either economic or political variables in shaping foreign direct investment and in favor of a more complicated bargaining framework that takes into account the strategic objectives of state policy as well as the form and timing of firm investment. Using archival evidence and interviews, the article documents the implantation of the industry; it concludes that the process of firm entry into Brazil must be understood in light of the policies and institutions that made the threat of market closure and the deadlines credible and made it costly for firms not to participate on schedule.

In 1956 Brazil instituted a path-breaking program to install an automotive industry. The plan restricted imports and forced transnational automotive companies to choose between abandoning the lucrative Brazilian market and, with the help of financial incentives, producing vehicles with 90–95 percent Brazilian-made content within only five years. The context for beginning domestic manufacture of the prevailing symbol of industrial maturity did not appear propitious. Virtually all vehicles were imported as completely or semi–knocked-down kits (CKDs or SKDs) and assembled locally by foreign-owned subsidiaries or licensed domestic

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firms. Although the domestic supplier industry provided parts comprising up to 30 percent of these vehicles' content, they were mostly "hang on" parts, such as batteries and spark plugs, that did not require the technological sophistication and investment levels associated with metal stamping or engine production, and for which there was a large replacement market. Brazil's overall industrial structure was relatively primitive. Steel production had begun only nine years earlier, and coffee still constituted more than 50 percent of the country's exports. The domestic market had potential for rapid growth, but from a small base. Not surprisingly, previous attempts to convince transnational automobile firms to shift from assembly to full manufacture had been met with resistance. In 1952 Ford representatives called the idea "mere utopia."

These protests notwithstanding, most of the major players in the international automotive industry participated in the Brazilian program. Of the eleven firms that initiated vehicle production, three (Willys-Overland, Vemag, and the National Motor Factory) were controlled by Brazilian capital; two (Mercedes Benz and Simca) were fifty-fifty joint ventures; and six (Ford, General Motors, International Harvester, Scania Vabis, Volkswagen, and Toyota) were controlled by or were wholly owned subsidiaries of foreign firms. US$156 million of imported manufacturing equipment was invested in the industry by 1961, in addition to investment in local currency.[1] In that year, vehicle production reached 145,000 units, with an average domestic content share of 93 percent by weight and 87 percent by value.[2]

Given foreign firms' initial resistance to local manufacture, how can one account for this turnabout? Various explanations for firm entry into the Brazilian market have been suggested, mirroring more general academic debates on the determinants of foreign direct investment. These frameworks can be categorized by their relative emphasis on economic versus political variables or on forces internal or external to Brazil. On one side are those that emphasize the role of government policies and institutional innovation in attracting foreign investment. On the other are those that portray firm entry and market fragmentation as resulting from the

[1] For a detailed account of foreign investment, see Helen Shapiro, *Engines of Growth: The State and Transnational Auto Companies in Brazil* (Cambridge and New York, forthcoming).

[2] ANFAVEA, *Indústria automobilística brasileira* (São Paulo, various years); and IBGE, *Anuário Estatístico do Brasil* (various years).

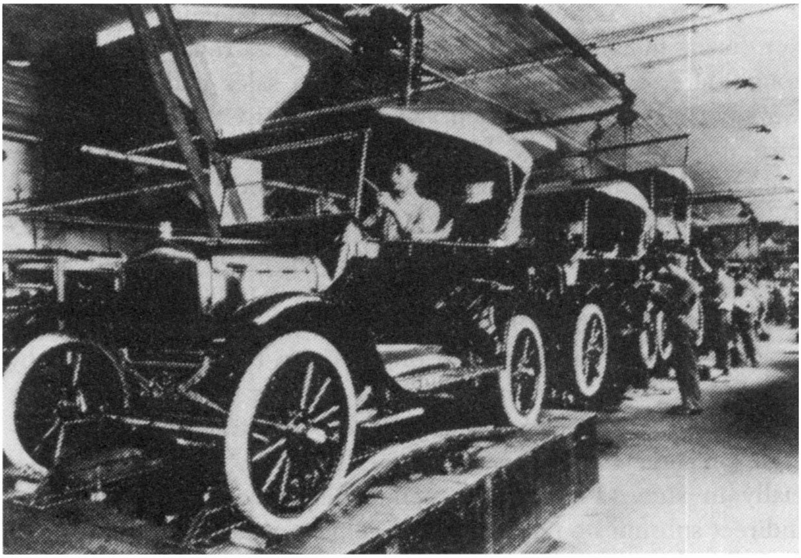
oligopolistically competitive strategies of foreign firms. Except for impending market closure, government policies are seen as of secondary importance.

This article will argue that the underlying model behind these approaches is misspecified. Because both the state and the foreign firms had strategic objectives beyond the investment itself, the *form* and *timing* of entry, which these approaches neither consider nor explain, were as fundamental as entry itself. Moreover, the *credibility* of impending market closure was fundamental. To account for these crucial aspects of the entry process and to analyze appropriately the interaction between the Brazilian state and foreign automobile firms, the article will present a more complicated bargaining framework, which takes into account the strategic objectives of state policy and expands the bargaining parameters to include not only whether a firm invests but the form and timing of that investment as well. It concludes that in order to understand the process of firm entry into Brazil, one must look to the government policies and institutions that made the threat of market closure and deadlines credible, on the one hand, and that made it costly for firms not to participate on schedule, on the other.

The article briefly describes the history of the Brazilian automotive industry and the international and domestic context in which president Juscelino Kubitschek announced the manufacturing plan in 1956. Next, it analyzes the logic of the plan itself. It then documents the general process of firm entry into the industry, providing more detailed accounts of Volkswagen and Ford strategies. Finally, it presents its concluding arguments within the context of conventional explanations of the Brazilian experience.

Brazil '56

At the end of the Second World War, Brazilians went on an international spending spree. The pent-up demand for both industrial and consumer goods was enormous. In the immediate postwar years, a surprising item appeared at the top of the import bill: from 1946 to 1948, motor vehicles and parts surpassed even the traditionally dominant imports of petroleum and wheat. Brazil's vehicle stock had suffered severely when imports were cut off during the war. From 1942 to 1945, virtually no passenger cars, and only a trickle of commercial vehicles, came in. Although cars and



An Early Ford Assembly Line • Ford had an assembly plant in Brazil as early as 1919, but the company resisted the idea of full domestic manufacture. (Reproduced from *Autolatina*—a publicity brochure from the company of that name, a union of Volkswagen and Ford in Brazil and Argentina formed in 1986 [São Paulo, 1988], p. 47.)

trucks had been assembled in Brazil since 1919—when Ford was the first to set up an assembly plant, followed by General Motors (GM) in 1925—the industry remained completely dependent on imported kits, primarily from Detroit.[3]

The import bonanza was ultimately cut short by balance of trade deficits that reappeared by mid-1947. The problem lay not simply in the import boom. Exchange reserves and trade surpluses had largely come in inconvertible European currencies, whereas U.S. dollars were required for most imports. As a result of the dollar scarcity and foreign exchange rationing, European imports gained a foothold in the market. Although absolute sales did not fluctuate greatly, their relative market share did increase at the expense of U.S. imports, which varied with the availability of dollars.[4]

[3] For more on this early period, see José Almeida, *A implantação da indústria automobilística no Brasil* (Rio de Janeiro, 1972); and Ramiz Gattás, *A indústria automobilística e a segunda revolução industrial no Brasil: origens e perspectivas* (São Paulo, 1981).

[4] Eduardo Augusto Guimarães, "Industry, Market Structure, and the Growth of the Firm in the Brazilian Economy" (Ph.D. diss., University of London, 1980).

As seen in Table 1, the United States still dominated the market during most of these years; American cars remained the most sought-after and had the most extensive sales and service networks. The United Kingdom and Germany were the main European exporters to Brazil. This reflected a global pattern, whereby the dollar shortage and Germany's slow recovery boosted the United Kingdom to the position of largest exporter by 1950. By 1956 German exports surpassed the British (in part because of Australian import restrictions), and Germany remained the world's largest exporter until 1973.[5]

The increase in European imports also reflected pressure by the firms' home governments to export as much as possible, despite unmet domestic demand. These countries, too, faced foreign exchange constraints and domestic supply bottlenecks, especially in steel. French auto companies, for example, received indirect subsidies on unassembled vehicle exports until mid-1957. In Italy, the government refunded 5 percent of a vehicle's export price as relief on the turnover tax, as well as 3d. per pound of weight as relief from duty on imported raw materials. Germany provided a 3.85 percent tax rebate on exports until the end of 1955.[6] In that year, exports represented 45 percent of domestic production in Germany, 41 percent in the United Kingdom, 30 percent in Italy, and 24 percent in France. In contrast, the U.S. industry, which was not dependent on imported raw materials and which supplied European markets primarily from local subsidiaries, exported only 3 percent of domestic production.[7]

The emphasis on exports also reflected new patterns of inter-

[5] George Maxcy and Aubrey Silberston, *The Motor Industry* (London, 1959), 16–18. The aggregate import figures by country of origin mask firm nationality and hence exaggerate the inroads made by European-owned companies. Ford, unable to source its assembly plants with imports from the United States, shifted its export base to its European subsidiaries. The large increase in British imports in the late 1940s came in large part from the Ford subsidiary at Dagenham, which began exporting to Brazil in 1946. Later, French and Canadian subsidiaries were also used, depending on foreign exchange availability. Ford also engaged in barter deals, exporting Brazilian raw materials for imported vehicles (Manager's Monthly Letters, Ford Motor Company-Brazil, 1 March 1946, 1 March 1948, and 28 Jan. 1953, ID CF Storage B-38 119A, Wilkins Personal File). It should be noted that some European currencies became fully convertible only in 1959. For historical treatments of the industry, see also Gerald Bloomfield, *The World Automotive Industry* (Newton Abbot, 1978); and Daniel Roos and Alan Altshuler, co-directors, *The Future of the Automobile* (Cambridge, Mass., 1984).

[6] Maxcy and Silberston, *The Motor Industry*, 144n3.

[7] Eduardo Augusto Guimarães, *Acumulação e crescimento da firma* (Rio de Janeiro, 1987), 136.

Table 1
Brazilian Motor Vehicle Imports by Exporting Countries, 1946–1959
(percent)

	Passenger Cars					Commercial Vehicles					Jeeps	
Year	*United States*	*Germany*	*United Kingdom*	*France*	*Total (units)*	*United States*	*Germany*	*United Kingdom*	*Italy*	*Total (units)*	*United States*	*Total (units)*
1946	89.5	—	6.2	2.7	9,637	92.8	—	4.7	0.2	18,732	—	—
1947	76.3	—	8.6	11.0	28,794	93.8	—	3.1	0.3	37,035	—	—
1948	59.0	—	23.0	13.9	31,751	95.1	—	3.0	0.3	36,148	—	—
1949	43.8	—	41.6	8.5	21,390	87.3	—	7.8	2.0	19,503	—	—
1950	27.1	2.5	55.1	6.8	15,717	81.2	3.0	11.7	1.9	33,010	—	—
1951	63.5	5.1	22.1	5.1	47,274	82.4	7.2	5.9	2.0	62,228	—	—
1952	59.4	6.5	28.0	4.2	30,494	77.4	10.2	5.8	2.4	49,625	86.8	5,755
1953	50.1	32.8	5.1	8.6	6,363	74.3	7.6	—	—	6,719	99.6	3,823
1954	34.1	49.8	0.0	7.3	4,226	75.9	11.8	—	0.0	26,312	98.9	6,236
1955	65.8	16.9	1.5	8.3	1,536	50.0	12.8	9.6	23.2	9,313	80.8	1,744
1956	54.8	7.8	0.5	0.3	997	52.5	17.0	3.3	21.9	15,152	91.4	2,394
1957	61.1	23.4	0.6	2.1	2,617	56.1	29.7	1.0	11.1	31,853	97.3	9,292
1958	29.9	65.2	0.2	0.8	8,580	61.6	27.9	0.1	8.3	28,996	89.9	10,447
1959	20.4	68.1	0.1	10.9	27,087	74.2	18.0	—	6.3	53,926	71.2	10,870

Source: Eduardo Augusto Guimarães, "Industry, Market Structure, and the Growth of the Firm in the Brazilian Economy" (Ph.D. diss., University of London, 1980).

national competition among large auto manufacturers. In the late 1940s and early 1950s, both U.S. and European companies faced sellers' markets at home as a result of the repressed demand that had accumulated during the war. In the mid-1950s, however, when most of this demand had been satisfied, particularly in the United States, domestic and international competition intensified. As various countries began erecting tariff barriers to auto imports, countries such as the United Kingdom were also losing the benefits of imperial preference.

Profits on domestic operations fell. Firms in the United States and Europe placed greater emphasis on overseas expansion, either through increasing exports, expanding existing subsidiaries, or creating new ones. In the United States, changing market conditions bankrupted the independents, leaving GM, Ford, and Chrysler controlling 95 percent of the car market by 1955.[8] In Europe, the creation of the European Economic Community (EEC) and the gradual reduction of tariffs on imported vehicles created additional pressures; the volume of intraregional trade in motor vehicles nearly quadrupled between 1958 and 1965. Although national markets still remained remarkably segmented, with imports accounting for a small share of total sales, this period witnessed the first cross-penetration of producer-country markets; before the war, most exports had gone to nonproducing countries.[9] The protected, relatively faster growing European market also became more significant for U.S. firms, which had first invested in local manufacturing capacity in the 1920s and 1930s, when European countries established tariffs to protect their national automotive industries. Ford and GM had particularly aggressive expansion plans. European firms were therefore confronting new types of competition but were also becoming larger and more efficient as a

[8] Rhys Owen Jenkins, *Transnational Corporations and the Latin American Automobile Industry* (Pittsburgh, Pa., 1987), 29.

[9] Tariffs on passenger cars had fallen slightly after the war, but still averaged over 30 percent in 1960 except in Germany, where they were 13–16 percent. By 1968, tariffs within the EEC were eliminated, and they had fallen to 17.6 percent in the United Kingdom. Vehicle trade among the major auto-producing countries in Europe was 6 percent of production in 1950, 7 percent in 1960, and 12.3 percent in 1970. Trade within Western Europe as a whole was 18.1, 18.8, and 25.8 percent of production for those same years (Roos and Altshuler, co-directors, *The Future of the Automobile*, 17 and 22). European companies had not penetrated each others' markets prior to this time, but the American firms—particularly Ford and GM—had done so through direct investment.

result of domestic market growth, exports, and the promotion of mergers and national champions by home governments.

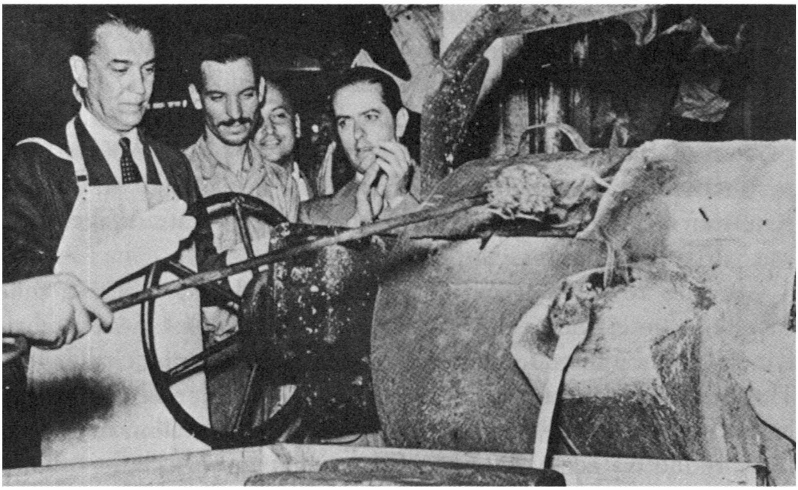
The recovery of the European industry also led to increased competition in the U.S. market. Imports jumped from less than 1 percent of sales in 1955 to 10 percent in 1959 because of reduced productivity differentials and European firms' ability to fill the small-car market niche vacated by the independents. Volkswagen was particularly aggressive in this regard.[10]

Brazil's restrictions on auto imports in the early 1950s thus came at a time when competition for foreign markets was intensifying and when the dominance of U.S. firms was being challenged. The Brazilian market was the largest in Latin America, accounting for 25 percent of the 2.7 million vehicles in circulation in 1955.[11] Initially motivated by balance of payments concerns, the country implemented various policies to reduce auto imports. The first was Advisory 288, issued by the Bank of Brazil's Import and Export Bureau (CEXIM) on 19 August 1952. This decree prohibited the importation of 104 groups of automotive parts that were produced domestically.[12] Advisory 311, issued on 28 April 1953 by the Bank of Brazil's new Foreign Trade Bureau (CACEX), went a step farther by prohibiting the importation of assembled cars, effective 1 July 1953. As of 1 January 1954, this restriction was tightened so that only CKDs stripped of those parts for which a domestically produced counterpart existed and which therefore came under Advisory 288 could be imported. In 1952 president Getúlio Vargas also established a Subcommission on Jeep, Tractor, Truck, and

[10] Ibid., 25. Europe's import share declined when the Big Three introduced their own compact models in the early 1960s, but it bounced back to 10 percent by 1970.

[11] Guimarães, "Industry, Market Structure, and the Growth of the Firm in the Brazilian Economy," 173. The next-largest countries—Argentina, Mexico, and Venezuela—each had only 200,000 vehicles in circulation.

[12] The domestic parts sector prospered during the war in response to the demand for replacement parts. Facing extinction after the war with the resumption of imports, makers lobbied vigorously for protection. For the industrial promoters, the fact that the sector's existence could be used as proof of Advisory 288's viability was more important than its lobbying efforts, particularly given its small size. They understood that the tiny sector would have short-run difficulties supplying even the items listed, but it nevertheless provided a springboard from which to begin. This characterization of the parts sector as still dependent on the state's tutelage and initiative, despite its growing organizational strength and participation in state decision making, concurs with that of Luciano Martins, *Pouvoir et developpement économique: formation et évolution des structures politiques au brésil* (Paris, 1976). For an alternative view of the role of private capital, see M. Antonieta P. Leopoldi, "Industrial Associations and Politics in Contemporary Brazil" (Ph.D. diss., Oxford University, 1984).



Domestic Production of Major Auto Parts, December 1955 • President-elect Juscelino Kubitschek presides at the inauguration of Brazil's first industrial-scale foundry for diesel motor blocks. The company, SOFUNGE, produced the engine blocks for Mercedes Benz trucks. (Reproduced from Ramiz Gattás, *A indústria automobilística e a segunda revolução industrial no Brasil: origens e perspectivas* [São Paulo, 1981], following p. 175.)

Car Manufacture, whose assigned task was to formulate an industrialization strategy for motor vehicles. When Brazil prohibited the importation of built-up vehicles in 1953, Volkswagen and Mercedes, along with Willys-Overland, established assembly plants, which joined the long-established facilities of Ford and GM.[13]

Nevertheless, despite these changing global conditions, despite chronic foreign exchange shortages that provoked tighter and tighter regulation of auto imports, and despite government blueprints for a domestic industry, no firm was "stealing a march" on its competitors and plunging voluntarily into full-scale local production. The threat of complete market closure was not taken seriously. Although highly profitable, the Brazilian market was still too small to accommodate the industry's perceived economies of scale.

For example, Ford, the first auto company to assemble in Brazil, had no intention to produce motor vehicles in the country. Before the Second World War, the company dominated Brazilian

[13] Willys-Overland had been a successful jeep and small truck producer in the United States and merged with Kaiser-Frazer in 1953 after establishing an assembly plant in Brazil.

passenger car sales; between 1935 and 1940, annual exports from Ford-U.S. and Canada averaged 42 percent of wholesale deliveries into Brazil.[14] Because of Ford's historic contribution to the automotive sector and its market dominance, the Brazilians went out of their way to elicit the company's cooperation. Ford's local management had also tried to impress on Dearborn the seriousness of Brazilian intentions. The Manager's Monthly Report of 19 April 1951 mentioned that, in an address to the Federation of Industries, a top official of the Bank of Brazil made it clear that companies that insisted on importing would soon be out of business. At the same time, the government asked Ford-Brazil for a report on how Brazil might develop a local industry, and Humberto Monteiro, then assistant manager, complied.

Ford-Dearborn adopted an intransigent position from which it scarcely deviated in coming years. According to Monteiro, he was heavily criticized for supplying the report to the Brazilian government without prior authorization, and he was told: "We are not going to lead; we are going to be led."[15] Whereas Chrysler and GM began local manufacture of truck bodies and cabs even before the 1956 plan, Ford took the lead in attempting to thwart Brazil's manufacturing ambitions. The company took credit for preventing the Vargas subcommission from rushing directly into full-scale manufacture in 1951 and for convincing it to start by assembling CKDs with increasing amounts of domestic content.[16]

In February 1953, Lúcio Meira, then director of President Vargas's subcommission on motor vehicles, led a Brazilian delegation to Ford's facilities in Dearborn, Michigan, at the company's invitation. On their arrival, Ford did everything possible to convince them that producing trucks in Brazil made no sense because of the country's small market and lack of infrastructure. Arthur D. Wieland, vice-president of Ford International in New York, who organized the Brazilians' trip, wrote to his colleagues in Dearborn requesting their "help and cooperation in giving them a good

[14] Memo from G. K. Howard to Appropriations Committee, Ford Motor Company, 3 Feb. 1950, Acc. 106, box 26, Wilkins Personal File.

[15] Mira Wilkins interview with Humberto Monteiro, 8 Nov. 1961, Wilkins Personal File. According to Branco Ribeiro, this phrase was often repeated by Walter McKee, Ford's vice-president for Latin America, as well. Ford-Brazil had to convince Dearborn that there was no alternative to manufacturing, which Dearborn thought was not financially viable. Interview with Ribeiro, 4 Aug. 1988, São Paulo.

[16] Executive Communication to Henry Ford II et al. from Arthur J. Wieland, vice-president, Ford International, 23 Jan. 1953, Acc. AR-67-6, box 2, Ford Industrial Archives, Redford, Michigan.

indoctrination of the problems of automotive manufacture." In a separate communication, he also suggested that "[w]hen making such arrangements, it is suggested that some of our largest suppliers, from the point of view of physical facilities, be included to impress on the Committee the importance of the outside supplier to our business."[17] At the time, the company had plans to increase marginally domestic content levels but had no intention of moving to completely integrated manufacturing. Meira returned to Brazil disappointed but undeterred.[18]

Volkswagen (VW) conceivably could have built on the market niche created through exports after the Second World War and seized on Brazil as an opportunity to capture a market previously dominated by U.S. firms. Although VW predated the war, full-scale production at its facilities in Wolfsburg began only after peace returned. The German government promoted auto exports, and the company itself engaged in an aggressive export strategy to gain footholds in new markets and to realize scale economies. VW began to export in 1948; in 1951, it was exporting one-third, and by 1960, one-half of its output, mostly to Europe and North America.[19] When Brazil banned the importation of assembled cars in 1953, VW turned to Brasmotor, a Brazilian company, to assemble its knocked-down vehicles.

In an approved news bulletin in July 1953, VW announced its plans to build a manufacturing plant in Brazil that would go beyond simple assembly. The company expressed high hopes for the future Brazilian market and planned to use the country as an export base to the rest of South and Central America. At the time, VW had not yet invested in any foreign assembly or manufacturing operation. However, the *Aufsichtsrat*, VW's supervisory board, had approved funds only for assembly, and a year later the company clarified that it would build an assembly rather than a full manufacturing facility. Further production plans would be contingent on long-term economic and political developments in Brazil. Thus, in 1956 VW still had no plans to move beyond building its

[17] Arthur J. Wieland, vice-president, Ford International, Executive Communication to Henry Ford II et al., 23 Jan. 1953; and Executive Communication to I. A. Duffy, 26 Jan. 1953, Acc. AR-67-6, box 2, Ford Industrial Archives. Ford International moved from New York to Dearborn in 1956.

[18] Interview with Lúcio Meira, April 1985, Rio de Janeiro.

[19] Steven Tolliday, "Rethinking the German Miracle: Volkswagen in Prosperity and Crisis, 1939–1992," paper presented at the Business History Seminar, Harvard Business School, 4 Nov. 1991.

own assembly plant. Concentrating on expanding capacity in Germany, the firm was reluctant to go into vehicle production at that time, although when dealing with Brazilian authorities, VW tried to emphasize that the manufacturing project was only on hold and not canceled.[20]

Like their counterparts in Dearborn, VW executives in Wolfsburg were nervous about moving too quickly in Brazil. As was also the case with Ford, the VW personnel on site in Brazil pushed for more aggressive plans.[21] The strongest advocate of an integrated manufacturing facility was Olavo de Souza Aranha. As vice-president of VW do Brasil, he represented the Monteiro-Aranha holding company's 20 percent share of VW do Brasil. In a series of letters in the mid-1950s, he pushed Wolfsburg to go ahead with the manufacturing plan.[22] VW president Heinrich Nordhoff and others repeatedly warned Aranha that they did not share his optimism about Brazil and that the company had no immediate intention of going beyond assembly.[23]

VW's personnel in Brazil pushed Wolfsburg to commit itself to build a factory in Brazil after the Monetary Authority (SUMOC) issued Instructions 127 and 128 in March 1956, shortly after president Juscelino Kubitschek took office. These instructions required

[20] VWD Frankfurt a. Main, nr. 171, "Director Nordhoff Concerning the VW Factory in Brazil," 27 July 1953, Volkswagen Archives, Wolfsburg. As of July 1954, the *Aufsichtsrat* had approved DM5 million for only assembly and machining equipment in Brazil. (Letter from the head of the *Aufsichtsrat* to VW, 4 July 1954.) According to a report on the minutes of an *Aufsichtsrat* meeting on 27 Aug. 1954, the board clarified that the payment to VW do Brasil was for the sole objective of starting an assembly plant, not a manufacturing facility. Nordhoff informed Aranha of the supervisory board's decision in a letter dated 30 Aug. 1954, adding that building a complete factory would be put on hold to await further developments in Brazil. On convincing the Brazilians that the project had not been canceled, letter from Heinrich Nordhoff to F. W. Schultz-Wenk, 30 Oct. 1954, Volkswagen Archives.

[21] Personal correspondence, F. W. Schultz-Wenk to Heinrich Nordhoff, 27 May 1954; official correspondence, Heinrich Nordhoff to F. W. Schultz-Wenk, 22 June 1954; letter from Schultz-Wenk to Nordhoff, 19 Nov. 1954, Volkswagen Archives.

[22] Letter from O. E. de Souza Aranha to Heinrich Nordhoff, 27 Sept. 1954; letter from F. W. Schultz-Wenk to Nordhoff, 29 Nov. 1954, relating Aranha's position; letter from Aranha to directors of VW-Wolfsburg, 26 April 1955, Volkswagen Archives.

[23] Letters from Nordhoff to Aranha, 12 Oct. and 13 Dec. 1954. In a 24 May 1955 letter to Aranha, Nordhoff explained that Wolfsburg did not share Aranha's optimism about Brazil, that they planned to wait until the next elections before moving ahead, and that future manufacturing plans would be contingent on how things went with the assembly plant. In a 26 May 1955 letter to Schultz-Wenk, Nordhoff repeated that, in contrast to Aranha, people outside Brazil did not judge the situation to be very good and that VW would begin with an assembly plant, which could later be transformed into a car body shop if necessary. Volkswagen Archives.

firms to increase domestic content levels in return for favorable exchange rates for imported parts, putting firms that did not move toward integrated manufacturing at a competitive disadvantage. VW do Brasil executives also noted that Kubitschek intended to define his own auto program, as indicated by the formation of his Working Group for the Automotive Industry in April. Nevertheless, in April and May 1956, shortly before the passage of Kubitschek's first automotive decrees in June and July, Nordhoff warned Friedrich W. Schultz-Wenk, the local subsidiary's director, not to spread unrealistic expectations about VW's plans for Brazil. He emphasized that agreement had been reached in the company only about the *future possibility* of producing cars in Brazil, and that no decision had yet been made about moving ahead with engine production. The supervisory board had shown no willingness to go ahead with such plans.[24] Nordhoff insisted that the timing of VW's investment and production decisions would be determined by VW and not by Brazil. Moreover, since the company, unlike the Brazilian government, would not go back on a promise, the project had to be thoroughly researched. He cautioned his colleague not to confuse optimistic newspaper articles and political promises with Brazilian economic reality.[25]

The Brazilian planners' skepticism about transnational corporations' (TNCs) interest in the plan, and the TNCs' preference for extending production runs at existing facilities and exporting seemed borne out. After years of fruitless negotiations, Brazilian planners concluded that TNC cooperation would not be forthcoming unless firms were given no alternative. As Lúcio Meira, then director of Vargas's subcommission, complained,

> We always had the consideration to question the firms' representatives about their plans, about what incentives they needed from the Government in order to launch the automotive industry in Brazil. We made it a point to emphasize that the government's objective was to install this industry or launch it and questioned what kind of collaboration we could expect from these firms. The answers were the same: almost none. I have the impression that no foreign automobile company has an interest in producing 100% in our country and only will do so when compelled.[26]

[24] Letter from Nordhoff to Schultz-Wenk, 20 April 1956, Volkswagen Archives.

[25] Ibid., 30 April 1956, Volkswagen Archives.

[26] Lúcio Meira, as quoted in Wellington Moreira Franco, "A nacionalização de veículos no Brasil" (MA Thesis, University of São Paulo, n.d.), Appendix No. 1, "Sinopse das Atas de Reunião da Subcomissão de Jeeps, Tratores, Caminhões e Automóveis da

The automotive plan, issued soon after president Juscelino Kubitschek took office in 1956, was designed to provide that necessary compulsion.[27]

The Plan

The plan's general guidelines were revealed in various executive decrees.[28] The basic approach was effectively to close the market to imports through pricing and rationing of foreign exchange for automotive products. Those firms that fulfilled domestic content requirements would be entitled to a standard set of financial incentives.

Overseeing the plan was the Executive Group for the Automotive Industry, or GEIA. GEIA came to be seen as the primary institutional innovation of Kubitschek's Target Plan, a state-sponsored industrialization program in which auto was an impor-

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Comissão de Desenvolvimento Industrial, May 14–15, 1952." (Unless otherwise indicated, all translations from Portuguese are mine.) Despite some interest shown by Mercedes Benz and General Motors in the early 1950s in gradually beginning domestic manufacture, no major investments had come through. In an Executive Communication, Arthur J. Wieland suggested that GM retreated in response to Vargas's 1952 restrictions on profit remittances. Executive Communication to Henry Ford II et al. from Arthur J. Wieland, vice-president, Ford International, 23 Jan. 1953.

[27] Building an industry on the basis of a "national champion" was not considered a viable alternative to foreign direct investment. The Brazilian private sector was considered too weak to satisfy the capital and technological requirements of automobile manufacturing. Auto parts producers had made it clear to Vargas's subcommission that they were unable to support such an undertaking, even if the government were to provide the original financing. The lack of a strong capital market in Brazil made it impossible to tap financial sources outside the sector. Furthermore, capital goods would have to be imported and the technology licensed, if possible, both of which would necessitate large foreign exchange expenditures. State ownership was also ruled out as an alternative strategy, partly because the Brazilian state's fiscal capacity was extremely limited. More important, the role of the state under Kubitschek was limited to the coordination and subsidization of private investment. State enterprise was restricted to infrastructure and some basic industries. The National Motor Factory (FNM), established under the Lend-Lease program to produce airplane motors for the U.S. war effort, was controlled by the military and produced trucks under license after the war. Its plant was obsolete, and even when Vargas's subcommission was still discussing state involvement as an option, the firm was never considered a serious contender.

[28] Decree No. 39.412, 16 June 1956, establishing the overall plan and GEIA; Decree No. 39.568, 12 July 1956, for trucks; Decree No. 39.569, 12 July 1956, for jeeps; Decree No. 39.676, 30 July 1956, for utility vehicles; and Decree No. 41.018, 26 Feb. 1957, for passenger cars.

tant sector.[29] Later generalized to other targeted sectors, this institutional reform was an attempt both to streamline bureaucratic decision making and to insulate the plan's administration from clientelistic pressures.

Represented in GEIA were all of the agencies whose policy jurisdictions would necessarily involve them in the plan.[30] By joining the directors in one unit, GEIA could make decisions without members having to report back to their respective agencies, whose bureaucratic tangle and redundant technical studies inevitably caused delays. All directors would have responsibility for ensuring that their agencies would follow through as necessary. This approach was also intended to bypass intra-agency jurisdictional disputes and to avoid the need to lobby each group. Granted the power of executive decree, GEIA could implement its program independent of the fragmented policy-making authority dispersed among the agencies involved. Furthermore, location in the executive branch meant that GEIA's decision-making process was, at least in theory, insulated from congressional politicking. Thus, the technocrats would have a degree of autonomy that they had lacked in previous administrations. GEIA was responsible for fixing nationalization and production targets, accepting individual investment projects, and monitoring their progress.

The plan's most important financial incentives involved subsidies on foreign exchange transactions. During this period, Brazil allocated foreign exchange quotas to five categories of diminishing importance, with the final exchange rate in each determined by auction. Therefore, a hybrid system—partly market-determined, partly quota-driven—was created. The difference between the import and export rates accrued to the state, so foreign exchange operations became a major instrument of state finance. Foreign auto firms were eligible for the benefits provided by Instruction 113, a policy instrument issued by the Monetary Authority in 1955

[29] In fact, a similar institution was approved by President Vargas in June 1954, only to be aborted after his suicide in August of that year.

[30] These included the minister of transportation and public works, who acted as president, the directors of the *Carteira de Câmbio* ("Foreign Exchange Bureau") and Foreign Trade Bureau (CACEX) of the Bank of Brazil, the executive director of the Monetary Authority (SUMOC), and the director-superintendent of the National Bank for Economic Development (BNDE). Representatives of the following institutions were included subsequently: the War Ministry in mid-1957; the newly formed Council on Tariff Policy in August 1957; and the Agricultural Ministry in December 1959. It is noteworthy that representatives of the auto industry itself, though frequently consulted, were not included.

that allowed all equipment entering the country as direct foreign investment to be imported without exchange cover. Firms could thereby bypass the auction system and avoid the implicit tax involved in exchange transactions. The subsidy was the difference between the higher, third-category cruzeiro/dollar exchange rate at which capital goods would otherwise be imported and the free rate, at which the investment was valued and on which profit remittances were calculated (see Table 2).[31] Foreign equipment not imported as direct investment but requiring foreign financing could be paid for at a favorable "cost of exchange" if the terms of the loan met certain conditions. Quotas of foreign exchange were reserved for the importation of parts not yet produced locally; they were also offered at subsidized rates that varied by vehicle type. Auto-related imports were exempt from various import duties and sales taxes. Finally, automotive firms were eligible for credits and financial guarantees from the state's Bank for National Economic Development (BNDE).[32]

In exchange for these subsidies, firms had to meet an exceptionally ambitious domestic content schedule. The mandatory percentage of a vehicle's weight purchased domestically increased annually, and by 1 July 1960, trucks and utility vehicles were to contain 90 percent domestic content and jeeps and cars, 95 percent. The method by which domestic content levels were increased was left to each firm's discretion, but detailed plans had to be submitted and approved. To encourage rapid domestic production of the motor, considered the technological heart of the vehicle, imported parts for trucks and jeeps were more heavily subsidized once 60 percent of the motor was locally produced.

[31] Although Instruction 113 was issued before Kubitschek took office, it came to be a widely used policy instrument only during his administration. Its benefits were not exclusive to the automotive firms, but the automotive industry as a whole (including the parts sector) was responsible for almost half of all investment entering Brazil under Instruction 113 during the Kubitschek administration: US$200.7 million of the US$419 million total. Instruction 113 discriminated against Brazilian investors, because they were unlikely to be able to take advantage of it. Foreign investors had access to foreign currency and could import equipment directly without relying on Brazil's foreign exchange holdings; Brazilians required foreign exchange cover to import equipment. The discriminatory treatment was justified by the scarcity of foreign exchange. Brazilian investors were compensated by the special exchange rates available for financing imports.

[32] With the exception of separate exchange quotas for imported auto parts, none of these incentives was issued exclusively for or only available to the auto industry. The decrees made the industry eligible for them. For a fuller discussion of the financial subsidies, see Shapiro, *Engines of Growth*.

Table 2
Exchange Rates[a]

	1956	*1957 Jan./Aug.*	*1957 Sept./Dec.*	*1958*	*1959*	*1960*	*1961*
Category							
I	73.76	58.29					
II	81.29	74.51					
III	103.15	100.60					
IV	115.46	138.03					
V	222.36	299.07					
General Import Rate			80.29	148.45	199.45	223	
Cost of Exchange (Custo de Cambio)	43.82	43.82	43.82	54.84	78.49	100	200
Free Rate	73.60	75.67	75.67	103.06	156.60	190	255
Bergsman's "Free Trade Rate"	71.00	81.00	81.00	95.00	160.00	210	350

[a] Rates equal to Official Rate (1956/1958: 18.82; 1959/61: 18.92) plus agio.
Source: All from SUMOC *Relatórios*, except "Cost of Exchange": 1957, Albert Fishlow, "Foreign Trade Regimes and Economic Development: Brazil," MS, n.d.; 1958–61, José Almeida, "A indústria automobilística brasileira," unpub. MS (Rio de Janeiro, Fundação Getúlio Vargas, 1969); and Joel Bergsman, *Brazil: Industrialization and Trade Policies* (London, 1970).

Just as each firm's conduct in Brazil must be understood as part of its international strategy, the auto plan must be viewed within the prism of the state's larger objectives and context. The program's fast pace was at once a method to achieve these general goals and a response to political and economic constraints faced by Kubitschek. GEIA personnel typically explained the five-year time frame as a reflection of Kubitschek's political ambition and of the pressure he faced to end his five-year term with a Brazilian automobile on the road. He had taken office amid a polarized elite and military, and he succeeded an administration that had been economically liberal. In fact, the debate over whether Brazil would further industrialize or continue to finance much of its manufactured needs through coffee exports was still unresolved. Lacking full congressional support, Kubitschek implemented his Target Plan through the power of executive decree. The uncertain policy direction of the next administration and potential efforts by TNCs to delay their investments in the hopes of a policy switch made it necessary to develop the industry to "the point of no return."[33] Once massive foreign investment had been made and a network of Brazilian suppliers had been created, the industry would be a fact of life, economically and politically difficult to dismantle.

The strategic implications of the auto industry, which went beyond the sector itself, were the most important reasons behind this race against time. The industry was expected to play the role of leading sector through its ability to attract foreign capital and technology and to generate production linkages. Therefore, delaying its starting date would have had serious implications for the development of the manufacturing sector as a whole.[34] The basis of Kubitschek's political power and coalition was fast growth. Under the campaign slogan of "50 years [of development] in 5," he unified those associated with international capital and the mobilized urban masses into a populist alliance. Furthermore, GEIA expected the foreign exchange constraint to become increasingly binding. In the short run, the industry required foreign currency to import components and to finance capital equipment that did not enter under Instruction 113, but in five years the industry was expected to become self-sufficient. GEIA was skeptical about whether the strategy would be feasible, economically or politically, over the long run.[35]

[33] Interview with Lúcio Meira, Minister of Transportation and Public Works and president of GEIA, April 1985, Rio de Janeiro. Sydney Latini, a secretary of GEIA, also used this term: "We have no time to lose. We must reach the target in the fixed time period. We must get beyond the 'point of no returning.' Afterwards, we will have the rest of our lives to discuss." Sydney Latini, *SUMA Automobilística* (Rio de Janeiro, 1984), 13.

[34] Brazilian policymakers wanted to take advantage of the country's being a Gerschenkronian "latecomer" and move immediately into capital-intensive, high technology sectors like auto. Rather than repeat the developmental stages of the more industrialized countries, they hoped to assimilate their technological legacy through foreign direct investment. The industry would then impel technological improvements in steel and other related sectors. Brazil's automotive program was therefore qualitatively different from those used in Europe as early as the 1920s and 1930s to protect and promote national industries in the face of U.S. competition. Although these programs all set up protectionist barriers to imports, Europe—which had given birth to automobile production—was starting from a very different base. Brazil was reversing the sequence of industrialization by using the auto sector to generate backward linkages, rather than to build on existing ones.

[35] Brazil was not unique in its concern with speed. Mexican policymakers also attempted to install the industry during the course of one presidential term, or the *sex-*

Although classified as a "basic industry," the automotive industry was the only consumer good in the Target Plan. All others were related to power generation, other forms of transportation, and similar types of infrastructural investment. But the automobile, the pinnacle of technological maturity, was a potent symbol of development. More than any other sector, it would become the barometer of the Target Plan's success for the general public. For Kubitschek, it was most critical that the auto production target be reached.

When speed is included as one of the plan's primary objectives, the significance and logic of the incentive structure become clear. Policies were designed to ensure that the TNCs made large, up-front commitments to the project, rather than incremental investments. Having to reach 90–95 percent domestic content levels in five years, for example, meant that the major investments required for metal stamping or engine blocks could not be postponed. Furthermore, policies had to be devised that made it costly not to participate on schedule. By offering the financial incentives for only a limited time, the plan would put laggardly entrants at a competitive disadvantage. An investment commitment in 1956 was worth much more than one five years later. Whether or not firms would have entered the market on their own in ten years, as they indicated—an argument that others have used to minimize the importance of GEIA and government subsidies—was irrelevant.

This strategy involved trade-offs. Attracting numerous firms into a small domestic market that could not technically support even one plant operating at full capacity was bound to create short-run efficiency problems. To minimize diseconomies of scale, the preferable strategy might have been to start with lower domestic content requirements that gradually increased as the market grew. But gradualism did not appear to be a viable option, given the uncertainty about future presidential administrations, chronic foreign exchange constraints, and the strategies of foreign firms. Because of the economies of scale in the industry and the discrete, long-run nature of investment, firms preferred to export from existing facilities. If government policies could force firms to invest, it was unlikely that these investments would simply be

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enio. See Douglas C. Bennett and Kenneth E. Sharpe, *Transnational Corporations versus the State: The Political Economy of the Mexican Auto Industry* (Princeton, N.J., 1985), 128–29.

viewed as sunk costs that a firm would easily write off. The alternative to an industry that would be inefficient in the short run appeared to be no industry at all.

However, policies alone were not sufficient. To induce the desired investment behavior, the threat that foreign exchange would be withheld from those firms that failed to meet the domestic content schedules, as well as the commitment to end subsidies after a certain date, had to be credible. That the Brazilian authorities would display the will or the means to implement this plan was by no means obvious. There was also enormous uncertainty about how firms would respond. As the first in Latin America to attempt domestic production, Brazil could not benefit from the experience of neighboring countries. The threat of market closure was less credible than it would later be in Argentina and Mexico, which followed Brazil's example.[36] Moreover, there was little precedent in Brazil or the region for negotiating with transnationals in any manufacturing activity. Previous foreign investment had been concentrated in public utilities, railroads, and raw materials.

Furthermore, in the mid-1950s, Brazil was not a country in which systematic rules generally applied. A great deal of arbitrariness prevailed, and political connections could often be relied on to gain exceptional treatment. The planning and administrative capacity of the state, with its unwieldy bureaucracy and discordant government branches, was also dubious.

The creation of GEIA, with its legal norms and centralized decision making, was meant to revise these expectations and to signal the seriousness of Kubitschek's intentions. Convinced of the industry's long-run profitability, GEIA attributed firms' reticence to invest to the insecure environment and the fear of discriminatory treatment. GEIA's effectiveness would be necessary not only to coordinate and enhance the credibility of the program, but also to reduce the risk for those firms that did participate.

[36] For example, Ford's behavior was markedly different in Argentina and Mexico, where it took the lead in beginning domestic manufacture (Mira Wilkins interview with J. Sundelson, 11 May 1960, Wilkins Personal File). See also Douglas C. Bennett and Kenneth E. Sharpe, "The World Automobile Industry and its Implications," in *Profits, Progress and Poverty*, ed. R. Newfarmer (Notre Dame, Ind., 1985), 214.

The Entry Process

Eighteen firms submitted projects to GEIA. All were accepted, but only eleven implemented their plans. As seen in Table 3, most firms manufactured more than one type of vehicle; six firms produced trucks, three produced utility vehicles, three produced jeeps, and five produced passenger cars. A total vehicle market predicted to reach 130,000 by 1962 clearly could not technically support so many manufacturers for some time. In the 1950s and 1960s, estimates for the optimum scale of an integrated auto plant, or the point at which additional cost savings from increased production tapered off, ranged from 300,000 to 500,000 units a year. The optimum varied among processes, with the largest economies of scale in stamping metal exteriors (which therefore set the optimum for an integrated plant), followed by forging and machining engines.[37] In itself, this degree of fragmentation seems to lend credence to the claim that the nature of firm entry was a response to oligopolistic competition. The bunched investments appear as defensive maneuvers rather than as a response to short-term profits and, therefore, to financial incentives or subsidies.

Although the competitive strategies of oligopolistic firms clearly form a large part of the story, they are not the entire story. These general figures mask the underlying dynamic of the entry process. A disaggregated portrayal reveals different forms of firm entry, which reflected variations in firm strategy and policy

[37] Relevant estimates for optimum plant size vary. Bain estimated 300,000 (Joseph Bain, *Industrial Organization* [New York, 1968], 284–87). Baranson showed production costs per unit leveling off at 120,000 for assembly, 240,000 for engines and other power train parts, and 600,000 for body stampings (Jack Baranson, *Automotive Industries in Developing Countries*, World Bank Occasional Staff Papers, no. 8. [Washington, D.C., 1969]). Maxcy and Silberston estimated optimum capacity at 100,000 for assembly, 100,000 for casting, 400,000 for machining engines, and up to one million for body pressings, even though the rate of cost savings decreased as volumes grew. The economies of scale available to an individual firm differ from those for an individual plant. A firm can spread pre-production costs across plants and products, and a multiproduct mix allows some interchange of components. Measurement is difficult because of the nonhomogeneity of product and the variety of cost allocations used by firms. Maxcy and Silberston estimated that technical economies were exhausted at a million units, and that most of the substantive gains were made at the 400,000 mark (Maxcy and Silberston, *The Motor Industry*, 75–98). Optimum production for the industry as a whole would take into account the economies of scale available to suppliers as overall auto production increases. These estimates are all related to automobile production of the 1950s and 1960s. As a result of technological and organizational innovations, similar calculations for the industry in the 1990s would differ.

Table 3
Motor Vehicle Projects Approved by the Executive Group for the Automotive Industry (GEIA), 1956–1957

1. General Motors do Brasil S.A.
   Trucks: HD-6.503 (medium) and Chevrolet 3.104 (light)
2. Ford Motor Co. Exports, Inc.
   Trucks: F-600 and F-350 (medium) and F-100 (light)
3. Mercedes Benz do Brasil S.A.
   Trucks: L-312 and LP-312 (medium), LP-315 (heavy), Bus 0-321-4
   Passenger Cars: 180 D and B. (Cars were never produced.)
4. Toyota do Brasil S.A. Indústria e Comércio
   Toyota Jeep
5. Volkswagen do Brasil, Indústria e Comércio de Automóveis, S.A.
   Kombi (utility vehicle) and Luxury Sedan 113 (passenger car)
6. Vemag, S.A.—Veículos e Máquinas Agrícolas
   DKW Vemaguet (utility vehicle), Candango (jeep), DKW Belcar (passenger car).
7. Scania Vabis do Brasil, S.A.
   Scania Vabis (heavy truck). Originally produced by Vemag. The firm became an independent company in July 1960.
8. Fábrica Nacional de Motores (FNM)
   FNM (heavy truck) and Alfa Romeo J.K. (passenger car). The automobile project was originally to be implemented by Fabral, S.A., an association of Brazilian capital and Alfa Romeo.
9. International Harvester Máquinas S.A.
   S-184 (heavy truck)
10. Willys Overland do Brasil S.A.
    Willys Jeep, Willys Rural and Military Small Truck (utility vehicle), Dauphine and Aero-Willys (passenger cars). The automobile was originally a project of Chrysler-Willys do Brasil S.A.
11. S.A. Industrial de Motores, Caminhões e Automóveis, Simca do Brasil
    Vedette (passenger car)

Approved but Aborted Projects

12. Rover do Brasil, S.A. Indústria e Comércio
    L. Rover Jeep
13. Fabral S.A.—Fábrica Brasileira de Automóveis Alfa
    AR/103/B (passenger car). This project was later implemented by the FNM.
14. Máquinas Agricolas Romi, S.A.
    Romi BMW (passenger car)
    The firm later produced the passenger car Romi-Iseta outside GEIA auspices.
15. N.S.U.-Brasileira S.A., Indústria e Comércio de Veículos Motorizados
    Prinz (passenger car)
16. Indústria Nacional de Locomotivas (INL)
    Krupp Truck
17. Borgward do Brasil S.A.
    Isabella (passenger car)
18. Chrysler-Willys do Brasil S.A.
    Plymouth Savoy-1956 (passenger car)
    Later became the Willys project, Aero-Willys.

Source: Helen Shapiro, "State Intervention and Industrialization: The Origins of the Brazilian Automotive Industry" (Ph.D. diss., Yale University, 1988).

impact.[38] Variations between U.S. and European firms are especially noteworthy. Moreover, GEIA had a much harder time eliciting proposals for cars than it did for trucks; market closure was not sufficient to attract an acceptable car project from any of Detroit's Big Three. Finally, the program was not entirely insulated from political pressures, which firms tried to use to their advantage; they did not passively accept market closure and the new rules of the game.

General Guidelines • The formulators of Brazil's automotive program were familiar with the U.S. and European industries and were aware of the scale economies inherent in motor vehicle production. They assumed that the Brazilian industry would ultimately take on an oligopolistic structure as the U.S. industry had, a process they viewed as fundamental to reach cost-efficient levels of production. The *Relatório*, the planning document for the sector, and the executive decrees establishing the industry's guidelines explicitly stipulated that, although any company was theoretically acceptable, those that duplicated installed capacity would be less desirable. The planners reasoned that favoring those firms already producing in Brazil was warranted, since it would take advantage of existing installations and networks of commercial agents and technical assistance.

Despite this vague guideline, GEIA was not empowered to take more directive steps to limit the number of entrants. It perceived its role as restricted to selecting firms according to standardized criteria and verifying that the plan's guidelines, especially those concerning domestic content, were met. It expected an industrial shakeout to reduce the number of firms, as had occurred in the U.S. automobile industry. Rather than arbitrarily picking the "winners" of this competitive struggle at the outset, GEIA hoped to fabricate neutral market conditions in which the transnational firms would fight it out. It assumed that in this way, the transnationals would bear all the risks and costs associated with making large investments in a relatively small market.

GEIA also presumed that limiting entry from the outset would promote monopolistic pricing. It realized that a certain degree of concentration was inevitable but hoped to lessen its extent and to mitigate its impact. As Eros Orosco, GEIA's first secretary, stated

[38] For a similar attempt to identify the impact of firm-specific variables in host country-transnational firm bargaining at a later stage of the Brazilian auto industry, see Barbara C. Samuels II, *Managing Risk in Developing Countries* (Princeton, N.J., 1990).

in a GEIA meeting, "I think the only realistic price control is that which emerges from competition with equal bases."[39] Discussing the Toyota jeep proposal, José Fernandes de Luna, the director of the Foreign Exchange Bureau, concurred: "The Foreign Exchange Bureau is always in favor of increasing the number of projects with the object of lowering the price of the vehicle."[40] These statements reveal strong implicit assumptions about the nature of competition in the industry. GEIA expected that price competition would prevail over other forms of oligopolistic competition, even in a protected market with rationed foreign exchange.

In addition, GEIA's preference for particular companies made it impossible for it to accept proposals simply on a first come, first served basis until market predictions were satisfied. It sought the participation of the large, well-known firms that had already been serving the Brazilian market. This was especially true for automobiles (as opposed to commercial vehicles). Orosco stated this orientation clearly with respect to Ford:

> The fact that Ford is one of the most well-known motor vehicle producers in the world (along with GM) would make it very difficult for the Brazilian Government to deny approval of its project if Ford were to be late relative to other interested, lesser-known parties. . . .
>
> There would not be a way to reject other projects even if the estimated Brazilian market was saturated by projects presented earlier. Thus, if Ford presents itself, the alternative would be either to approve its project, with obvious over-saturation of the market or to reject it, which would be hard to carry out when facing the name Ford.[41]

Finally, it was important that GEIA not appear to favor any individual firm or nationality or to seem partial to foreign capital. The approval of a jeep project by Vemag, a Brazilian-owned company whose production was licensed by Germany's Auto-Union, is an example of the tendency to accept proposals submitted by firms with substantial or majority Brazilian participation. Willys' planned jeep production could have supplied the estimated market demand on its own. Nevertheless, GEIA approved Vemag and

[39] Minutes from GEIA meeting, 4 Dec. 1956, GEIA Archives, Conselho de Desenvolvimento, Ministério de Indústria e Comércio, Rio de Janeiro.

[40] Minutes from GEIA meeting, 26 Dec. 1956, GEIA Archives.

[41] Internal memo from Eros Orosco, 8 Feb. 1957, attached to Ford truck project proposal, GEIA Resolution 16, file no. 217, GEIA Archives.

Land Rover, both dominated by Brazilian capital, so that Willys would not have a monopoly.[42]

Commercial Vehicles • For about a year after its inception in June 1956, therefore, GEIA's operating principle was to accept any project that met the general requirements outlined in the decrees. Although it did try to estimate future demand and weigh each project relative to existing ones, it felt that the market would be large enough to accommodate many projects in the medium run. GEIA personnel also assumed that the resultant competition could have only positive consequences. Since most equipment was imported without exchange cover, the additional investment required no foreign exchange expenditures. Therefore, in their view, Brazil could costlessly accommodate the different objectives listed above without sacrificing any one in particular.

In its second year of operation, however, GEIA's attitude toward the number of firms began to change. Once again, the foreign exchange situation helped sound the alarm. The country's overall balance of payments position was worse than expected, but, more important, GEIA's approved projects had cost more foreign exchange than anticipated. José Fernandes de Luna, the Foreign Exchange Bureau's representative to GEIA, noted that although they had planned to spend US$35 million in the first year of operation, they had actually spent close to US$70 million, without including investment financing.[43] These cost overruns appear to have been due to the greater number of projects implemented than originally planned; the subsequent higher production levels required more spare parts imports. Also, the value (as opposed to the weight) estimates for these imported parts were higher than anticipated.

In addition, the projects of General Motors, Ford, Mercedes Benz, and the FNM (National Motor Factory) already approved could satisfy the predicted demand for trucks. Nevertheless, Krupp, Borgward do Brasil S/A, Rio Motores do Brasil S/A, Scania

[42] Minutes from GEIA meeting, 4 June 1957, GEIA Archives; and interview with Lúcio Meira, April 1985, Rio de Janeiro. Vemag was originally solely owned by Grupo Fìnanceiro Nôvo Mundo, a banking and importing organization that had imported vehicles since 1945. In 1955, Vemag entered a licensing arrangement with Germany's Auto Union to produce their models. The next year, the company took in Auto Union, Frits Mueller Pressefabrik, and August Laepple as minority shareholders, but retained 87 percent of Vemag's equity capital; Vivianne Ventura Dias, "The Motor Vehicle Industry in Brazil: A Case of Sectoral Planning" (MA Thesis, University of California, Berkeley, 1975), 43–44.

[43] Minutes from GEIA meeting, 6 Sept. 1957, GEIA Archives.

Inauguration of the Mercedes Benz Factory, 1956 • President Juscelino Kubitschek is shown on 28 September 1956, driving the first Brazilian-made truck to contain a locally produced engine. (Reproduced from Gattás, *A indústria automobilística*, following p. 175.)

Vabis-Vemag S/A, International Harvester, and Mercedes Benz had new projects pending; Volvo, Berliet, Saurer, and Isuzu were considering submitting truck proposals.[44] GEIA began to fear that additional installed capacity would more than saturate the market.

Finally, GEIA was growing skeptical about the positive correlation between the number of firms and vehicle price. Pressure was mounting in Congress in response to the high price of Brazilian motor vehicles. Partly to address this criticism, GEIA commissioned the Economic Commission on Latin America (ECLA) to undertake a study of price formation in the industry in conjunction with the Development Council. In September 1957, during the commission's investigation, one of its participants told GEIA that the advantages from generating internal competition had already

[44] Minutes from GEIA meeting, 28 Aug. 1957, GEIA Archives.

been attained.[45] In his view, low capacity utilization for the industry as whole (67 percent as of May 1957) was one of the major factors behind high industrial costs and, therefore, prices; entry by new firms would only exacerbate the problem.

According to the minutes of GEIA meetings, a long debate ensued about limiting the number of truck proposals. In the meantime, project approval was held up as GEIA tried to determine whether the exchange situation allowed further expansion and, if so, according to what criteria. In September 1957, GEIA issued its policy change—Resolution 41—to automotive companies.[46] The group enumerated the new criteria that any future truck proposal would have to fulfill and elaborated the reasons for them. The new conditions included limitations on foreign exchange requirements, already having productive capacity in Brazil (that is, assembly lines), and not duplicating previously approved vehicle types. GEIA acknowledged that the four approved truck programs had not been subject to these criteria but argued that new circumstances justified the change.

This attempt to establish new criteria marked a turning point for GEIA. It signified a change of the rules midstream. Although impelled by unforeseen circumstances, GEIA was nevertheless reneging on its commitment to treat all applicants alike, one of its touted virtues. Its actions also demonstrated flexibility, however, in the face of the realization that the decrees' guidelines were insufficient.

Judging from the projects that were later approved, Resolution 41 apparently had little effect.[47] Four of the projects that were then under consideration—those of Mercedes Benz, Scania-Vabis, International Harvester, and Krupp (considered separately)—were ultimately approved, even if they did not meet all the new criteria. GEIA does appear to have stopped the submission of further truck proposals.

The inability to limit the number of firms reflects GEIA's inherent contradiction: the claim of impartiality and limited intervention versus the need to establish guidelines to fulfill stated objectives. These conflicting tendencies could not be reconciled within GEIA's narrowly defined purpose and administrative pur-

[45] Stefan Podgorski, Minutes from GEIA meeting, 4 Sept. 1957, GEIA Archives.
[46] Minutes from GEIA meeting, 28 Aug. 1957, GEIA Archives.
[47] Minutes from later GEIA meetings were not available.

view. As the plan progressed, GEIA's guarantee of equal treatment to any project that met the decrees' requirements became a noose around its neck.

GEIA was in the difficult position of having a minimal number of policy instruments for achieving a diverse array of targets. As a purely administrative body with little discretionary power—fiscal or otherwise—it did not have the means to intervene directly, to choose between competing projects, or to establish priorities if goals conflicted. No new policy instruments were devised, and GEIA had to rely on the indirect policy incentives, primarily related to the foreign trade sector, that were available to its constituent agencies. Direct price control, for example, was not an alternative tool to limit monopoly pricing.

The personnel in GEIA understood this dilemma and perceived their sphere of action as circumscribed. In an early discussion on limiting truck projects, it was pointed out that applicants always used the decrees in their defense. Members discussed pointing to the scarcity of foreign exchange for importing spare parts as a reason for limiting the number of projects, thus placing the blame on the Foreign Exchange Bureau. In response, the director of that agency complained, "The Foreign Exchange Bureau will be stuck with the unsympathetic role." The secretary of GEIA, Sydney Latini, responded, "Does GEIA itself have the prerogative to refuse?"[48]

GEIA was also a captive of and a participant in the free market rhetoric of the Kubitschek era. Planning was legitimate, but the extent of state intervention was limited by ideological disposition and budget constraints. Great efforts were being made to attract foreign direct investment in general to Brazil. GEIA personnel often characterized their activity as creating market conditions as much as possible. As Latini explained years later:

> Therefore, in a regime of free enterprise it seemed that we should authorize all the producers that, through the projects submitted to GEIA, fulfilled the minimum requirements. In principle, we admitted that by definition, these manufacturers should know the market better than we did, should know more about automobiles and should take care with the money that they were going to invest because it was theirs.[49]

[48] Minutes from GEIA meeting, 4 June 1957, GEIA Archives.

[49] Sydney Latini, Testimony before the Parliamentary Inquest Commission for the Verification of the Cost of the National Vehicle, 26 Oct. 1967, GEIA Archives.

The following commercial vehicle projects were approved and implemented: Ford and GM in light trucks; Ford, GM, and Mercedes Benz in medium trucks; Mercedes, Scania Vabis, FNM, and International Harvester in heavy trucks; Mercedes in buses; Volkswagen, Vemag, and Willys-Overland in utility vehicles; and Toyota, Vemag, and Willys in jeeps.

Passenger Cars • GEIA's inherent contradictions and their consequences are starkly revealed in the experience with passenger cars. From the start, the automobile program was much more subject than that for commercial vehicles to political forces beyond GEIA's control. It became the most controversial aspect of the plan.

Commercial vehicles were GEIA's top priority, given the high share of cargo transported by truck in Brazil. Even though truck production was more complex than that of other durables produced in the country in the 1950s, GEIA viewed trucks as less problematic than automobiles. Scale economies were not as stringent, and the market was also more defined and secure. Therefore, GEIA personnel expected that TNCs would be less reticent about investing in truck production. Although car production was to be the final stage of the plan, it could not be postponed indefinitely. Passenger cars, not trucks, were the true symbol of advanced industrialization; any motor vehicle program without them would appear second-rate.

The car decree was issued last, on 26 February 1957, seven months after that for trucks. Its high domestic content requirements were expected to force firms to produce many of their components in-house. This would necessitate large initial investments and delay production. Postponing automobile production was expected to build up repressed demand so that, in the short run, the industry would face a larger market than it would have otherwise. The delay would also reduce pressure on the balance of payments. Meanwhile, approved projects and construction activities, though not yet in operation, could be ceremoniously displayed to the public as tangible progress toward domestic automobile production.

Unfortunately, the car projects originally submitted were all problematic. To be eligible for the financial incentives, proposals had to be presented to GEIA by December 1957. By the summer of that year, only one auto plan—a relatively small one by Vemag—had been approved; two others were under consider-

The Willys-Overland Plant, 1958 • Shown here at the plant's inauguration on 7 March 1958, president Juscelino Kubitschek stands in the back of a jeep, accompanied by Cardinal Dom Carlos Carmelo de Vasconcelos Mota and Deputy Antônio Sílvio da Cunha Bueno. (Reproduced from Gattás, *A indústria automobilística*, following p. 334.)

ation. Fabral, a joint effort between Alfa Romeo and Matarazzo, its Brazilian partner and one of the country's original, family-owned conglomerates, proposed to build relatively expensive Alfa Romeos. Simca presented a project that did not meet general guidelines.

The major European and American companies, however, were not actively pursuing car production.[50] Some European firms did submit project proposals but tried to negotiate better terms. Volkswagen, for example, tried to bend the rules of the BNDE and sought exemptions from domestic content guidelines, arguing that its car had special engineering characteristics.[51] As late as September 1957, GEIA feared that VW would limit itself to producing vans. Mercedes and Borgward held their car projects hostage to pending truck proposals (which may explain why their truck plans were approved even after the change in guidelines).[52]

More important, the Americans were not expressing any interest in producing automobiles. Before the Second World War, it would have been difficult to find a European car on the streets of Brazil. Large-engined, long-bodied Fords were the vehicles of choice. Although GEIA did not want to promote the production of large cars in Brazil, it was convinced of American engineering superiority and ability to produce cost efficiently in Brazil. Yet, it appeared that Ford and GM would produce only trucks; Chrysler and American Motors were having difficulties in the United States. As a representative of Chrysler told Meira, "How can we invest in Brazil when our own house is on fire?"[53]

Thus, in September 1957, with the December deadline fast approaching, what was to be the showpiece of Kubitschek's program was not even off the ground. Only substandard projects were on line. From a public relations point of view, the absence of Ford and GM was a disaster.

Kubitschek let his concern be known, and GEIA was pressured to approve questionable projects. Over GEIA's initial objections, the Alfa Romeo was accepted. GEIA thought smaller economy cars more appropriate for Brazil and criticized the project's large requirements of foreign and domestic financing. In a heated GEIA meeting, Meira defended the project on public relations grounds: "It [Fabral] is not ideal because they are going

[50] Japanese firms also stayed out of Brazil's passenger car market. At the time of Brazil's automotive decrees, Japan was producing fewer than 200,000 cars a year and exporting very few. See Michael Cusumano, *The Japanese Automobile Industry* (Cambridge, Mass., 1985), 4. Toyota submitted a small investment project to produce jeeps, which was accepted and implemented.

[51] Memos attached to VW's auto project proposal, GEIA Resolution 63, file 39. GEIA Archives.

[52] Minutes from GEIA meetings. The car plans of Mercedes and Borgward were ultimately accepted but never implemented. It is not clear whether Borgward's truck proposal was rejected or withdrawn.

[53] Interview with Lúcio Meira, April 1985, Rio de Janeiro.

to make a vehicle that perhaps is not the most suitable for Brazil. We may need a more modest vehicle. At least, that is how we economists think. The general public does not think that way. The Brazilian is a bit of an exhibitionist." Asked how he could justify BNDE funding for Alfa Romeo when the bank was denying financial support to priority vehicles like trucks, Meira responded that they already had enough truck projects. "But in the case of the automobile, we have no one. We have to establish the incentive and it can be financing, be it in foreign or national currency."[54] Also in response to questions about price and quality, Latini referred to GEIA's limited jurisdiction: "We must accept any project that fits the Decree. There is an aspect not mentioned in the Decree—the question of price."[55]

Although the Fabral plan was approved, Matarazzo, the Brazilian partner, backed out in 1958. Alfa Romeo then approached the state-controlled National Motor Factory, in which it held a minority interest. The FNM produced only heavy trucks, and its directors were split on the advisability of producing expensive automobiles. Given the prestige of the name, and substantial pressure from Kubitschek, the plan was ultimately accepted (and the car was christened the "JK" in his honor).

Simca • Simca's interest in Brazil predated GEIA and was personally generated by Kubitschek. Between the presidential elections in October 1955 and the inauguration in January 1956, Kubitschek traveled to Europe. While in France, he toured the new Simca plant on a visit arranged by the president of Brazil's National Steel Company, a general whose daughter was married to one of the plant's engineers. Impressed by what he saw, Kubitschek invited Simca to participate in his automotive program and jokingly suggested that they locate the plant in his home state of Minas Gerais. Immediately after Kubitschek took office, Simca followed through on this initial encounter with a letter stating its intent to produce not only in Brazil but in Minas. On a visit there soon after, Kubitschek publicly announced that the state was to be the proud home of Brazil's first automobile plant.

In the meantime, GEIA was formed. Kubitschek passed on Simca's letter of intent to Lúcio Meira. Simca balked at GEIA's request for a complete project proposal as required by the decrees. The firm claimed that, since its proposal predated GEIA

[54] Minutes from GEIA meeting, 17 May 1957, GEIA Archives.
[55] Minutes from GEIA meeting, 4 June 1957, GEIA Archives.

Lúcio Meira, November 1958 • As Minister of Transportation and Public Works under Kubitschek, Meira served as president of GEIA. Here, he is addressing a conference of the National Association of Motor Vehicle Manufacturers (ANFAVEA). Sydney Latini is seated at his right. (Reproduced from Gattás, *A indústria automobilística*, following p. 334.)

and had the president's word, it fell outside GEIA's jurisdiction. Representatives of the National Steel Company and a national bank, both Brazilian participants in the project, lobbied Orosco, Meira, and Kubitschek to exempt Simca from the normal requirements. They trusted their connection to the president as a guarantee of getting around GEIA.

Simca also took its campaign directly to Minas. The plan was politically popular there, and the state legislature had quickly offered various incentives. In the press and elsewhere, Simca pointed to GEIA as the sole obstacle to construction. According to Latini, Kubitschek could not visit his home state without being harassed about GEIA's delay in approving Simca's project. Kubitschek urged GEIA to move quickly on the Simca proposal, since it was becoming a political problem. GEIA insisted that Simca had to present a project like everyone else. Simca finally did present a weak project proposal, which was accepted with seventeen contingencies.[56]

[56] Interview with Sydney Latini, December 1984, Rio de Janeiro. Simca rented an old factory in São Paulo to start assembly and to fulfill the domestic content guidelines. Although it did not meet the domestic content requirements of the program's second stage, Simca assumed that GEIA would still allow it to import spare parts. GEIA refused to release its foreign exchange allocation, and production was halted for six

According to a Ford observer, GEIA's consideration of Simca's project provoked Orosco's resignation as secretary:

> An interesting sidelight is the fact that the Simca proposal seems to have been the main factor behind Orosco's resignation from GEIA. Simca has some very strong backing from influential Brazilians (for instance, the head of the Volta Redonda Steel Works) who have brought considerable pressure to bear on GEIA to reduce deletion percentages to match the Simca proposal. Supposedly, Mr. Orosco was the main stumbling block in this maneuver because he continually insisted that the decree percentages remain as originally fixed. He apparently resigned because he felt he was not getting support from Minister Meira and also to dramatize the fact that consideration was being given to a "special" deal for Simca.[57]

Bilac Pinto's Congressional Challenge • Increased political pressure heightened the sense of urgency in these deliberations. Congress was mounting its own attack on the auto program. Led by deputy Bilac Pinto, Kubitschek's political opposition was anxious to capitalize on the scarce supply of automobiles and the inflationary impact of high prices.

Even before the formation of GEIA, Congress had begun debating legislation introduced by Pinto that would have allowed cars to be imported at the free exchange rate, with tariffs reduced in proportion to the vehicle's domestic content level.[58] The primary rationale for the legislation was to stop illegal imports coming in through "Operation Immigrant": since immigrants and tourists were allowed to bring cars into Brazil, an illegal market was established whereby individuals paid foreigners to enter Brazil with an automobile. How widespread this practice was is obviously unknown, but the Congress's Economic Commission was informed, according to Pinto, that the number of illegally imported cars surpassed the number of legal ones. Stopping the

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months. The firm ultimately had to scrounge for Brazilian-made parts and earned a reputation for poor quality. Simca sent a high-level executive from France to reactivate the plant. Despite its original promises, the firm never did relocate from São Paulo to Minas Gerais. At one point, when it appeared that Simca would not be able to implement its project, Latini himself went to Turin to try to convince FIAT to substitute for Simca. Apparently, the families of the presidents of FIAT and Simca were related through marriage (Latini, Testimony before the Parliamentary Commission on Vehicle Cost, 26 Oct. 1967, GEIA Archives).

[57] Memo from D. B. Kitterman on Simca's Brazilian Car Proposal to Walter McKee, 2 May 1957, Acc. AR-67-6, box 2, Ford Industrial Archives.

[58] Project 997-A, introduced by Bilac Pinto, 58th session of Congress, 12 June 1956.

drain on foreign exchange and the criminal profiteering involved, the bill's supporters argued, would also make cars cheaper for the consumer and would allow the Treasury to get its share via import duties.[59]

Pinto and his allies waged a clever campaign against the motor vehicle program by presenting themselves as the protectors of Brazilian consumers against greedy TNCs who charged exorbitant prices after receiving government favors and protection. They accused the TNCs of making huge monopoly profits and forced GEIA to commission the Development Council study of the industry's cost structure. They also tried to distinguish GEIA from the politically popular president, implying that the executive group was not acting on Kubitschek's request.

The original Bilac Pinto bill did not pass the Senate, but Pinto ultimately was successful in adding a proviso to the General Tariff Reform of 1957. Known as Article 59, it extended import duty exemptions and provided stable exchange rates to components and parts not produced in Brazil. Previously, these exemptions had been restricted to capital goods. Most important, Article 59 created a special foreign exchange auction to be held for two years for passenger car imports. US$20 million was allocated to this auction: US$12 million the first year, US$8 million the second. In order to discourage luxury car imports, only vehicles weighing no more than 1,600 kilos and costing under US$2,300 FOB were permitted.[60] Only 15 percent domestic content was required in order to participate, so even assemblers of CKDs were eligible. Import duties on the imported components were reduced in proportion to domestic content levels, however, and profits were controlled.

Article 59 provided breathing space for those manufacturers involved in the auto program by delaying domestic production and increasing imports in the short run. Ten passenger car projects had been approved, six of which were implemented. These included cars produced by VW, Vemag, FNM, Simca, and Willys. Only firms with approved GEIA projects had access to the foreign exchange auctions, and all except Vemag imported under this system.

Though it is an exaggeration to say, as Orosco did, that Article

[59] Anais da Câmara dos Deputados (Congressional Record).

[60] In 1957, the average factory list price for a standard-equipped U.S. automobile was US$2,749. The average price for a four-door sedan was US$2,644, and for a two-door sedan, US$2,046. *Ward's Automotive Report*, 18 Feb. 1957.

59 derailed GEIA's plan for automobiles, it did change the rules of the game.[61] Congress succeeded in creating uncertainty, which made firms wary. On the one hand, it reduced the requirements for auto production in the short run by changing the domestic content target; on the other hand, it made market closure appear less certain. On the eve of the bill's passage, Vemag representatives told GEIA of the increased difficulty they were having in securing foreign financial assistance for their jeep plan: "With the Bilac Pinto Law, what confidence can these foreign firms have in our firm and in the automotive industry in general?" They asked what would prevent the importation of jeeps at the same exchange rate as agricultural equipment or with an *ad valorem* rate of 4 percent like tractors, which would make their product uncompetitive.[62] In fact, Pinto was attacking the high price of jeeps at this time. He argued that high prices made jeeps prohibitive for the agricultural sector that depended on them and tried to exempt jeeps and trucks from consumption taxes.[63] Complaints from Vemag and other firms may have been simply a foil, but Article 59 gave them space to pressure GEIA and to procrastinate with their investment plans. Although GEIA was successful in mitigating the impact of the bill by limiting the auction to two years, this challenge to its authority, as well as other problems revealed in the following cases, raise questions about GEIA's effectiveness.

Volkswagen and the BNDE

In 1956, VW had no manufacturing facilities outside Germany and was financially constrained. Although as a special property of the German government it was forbidden to raise capital through public shares until 1959, it was also the recipient of various forms of state support.[64] The company was the market leader at home and was seeking new markets abroad—VW of America, Inc., was founded in 1956 to distribute cars in the United States. In Brazil,

[61] Eros Orosco, *A indústria automobilística brasileira* (Rio de Janeiro, 1961), 14.

[62] Minutes from GEIA meeting, 14 June 1957, GEIA Archives.

[63] Minutes of Congress, 2 and 12 July 1957.

[64] The company was partially privatized in 1961, when 60 percent of its shares were sold to the public and the rest divided equally between state and federal governments. For more on VW's history, see Simon Reich, *The Fruits of Fascism* (Ithaca, N.Y., 1990); for a more anecdotal account, see Henry Nelson, *Small Wonder* (Boston, Mass., 1965).

the company was in the process of building an assembly plant when the GEIA decrees for utility vehicles were issued in July 1956.

Some VW managers were already concerned about responding to SUMOC Instructions 127 and 128 even before GEIA was formed. Olavo de Souza Aranha, a vice-president of VW do Brasil who represented VW's Brazilian shareholder, thought that the firm would be better positioned with Kubitschek's administration if it already had a project accepted by SUMOC.[65] Wolfsburg was reluctant to commit itself. VW president Heinrich Nordhoff doubted whether the Brazilian government could guarantee the importation of necessary components. From his experience, he was not convinced that anyone in Brazil could give such assurance; even the president could not be counted on.[66]

Ultimately, the potential loss of market access prompted VW to manufacture vans in Brazil. Yet it was concerned about the implications of a new Brazilian facility for production levels in Wolfsburg. In August 1956, VW submitted a proposal for a Brazilian van factory to the German Economic Ministry. This proposal was formulated prior to GEIA's July decrees and was designed to respond to the slightly less rigorous domestic content conditions of SUMOC's Instructions 127 and 128. In this proposal, the firm addressed concerns that German production would be negatively affected by such a move. It pointed out how Brazilian import restrictions were currently limiting VW's total annual exports to about 1,500 vehicles, whereas demand in a free market could reach 25,000. Brazilian domestic content levels were to reach 80 percent by July 1959 (as compared to GEIA's requirement of 90 percent by July 1960), so 20 percent of each vehicle would still be imported. VW argued that at initial annual production rates of 5,000 vehicles, German production for the Brazilian market would therefore be at least equivalent to the 1,000 cars built and exported from Germany, and, during the transition period, the import content would be even higher.[67]

When GEIA accepted VW's van proposal in November 1956, the firm had not yet submitted a proposal for passenger cars.

[65] Letter from O. E. de Souza Aranha to O. W. Jensen, 21 April 1956, Volkswagen Archives.

[66] Internal communication from Heinrich Nordhoff to O. W. Jensen, 15 June 1956, Volkswagen Archives.

[67] Memorandum of the Planned Completion of VW Transporter in Brazil, submitted to the German Economic Ministry, August 1956, Volkswagen Archives.

Kubitschek and GEIA personnel started soliciting car projects from VW even before GEIA's car decree was issued in February 1957. While Heinz Maria Oeftering, the chair of the *Aufsichtsrat*, was visiting Brazil, Kubitschek surprised him by asking, "Without further ado, without putting any plans before me, will the VW passenger car be built or not? The VW is the ideal car for Brazilian streets." When Oeftering responded that they were going to start with the Kombi, as the van was called in Brazil, Kubitschek answered, "That's fine. But the Kombi doesn't interest me like the passenger car. Why can't you clarify at what point VW will begin with its production of cars? Does it [the delay] have to do with financial matters? That should be no obstacle. I need your car."[68] Oeftering, along with the local VW management, was under the impression that VW would indeed produce cars in Brazil. But they were persuaded otherwise by Nordhoff's surprising response to a draft of Oeftering's letter to Kubitschek, which predicted that VW would produce cars during his presidency. In his response, Nordhoff insisted that producing cars in Brazil was out of the question in the foreseeable future, and Oeftering's final letter to Kubitschek contained a much more conditional and tentative statement about cars.[69]

Nordhoff continued to remind his personnel in Brazil that cars were not under discussion, although he was not always successful in stifling unauthorized initiatives.[70] He remained cautious even after the passenger car decree was passed in February 1957. In April, he wrote to Schultz-Wenk that developments in Brazil did not look good. In his view, it was becoming clear that the government wanted a car company for political reasons and that VW was

[68] Letter from F. W. Schultz-Wenk to Heinrich Nordhoff, 8 Oct. 1956, Volkswagen Archives. (All translations from German courtesy of Laura Hastings.)

[69] Draft of letter to Kubitschek from Oeftering, attached to letter from Oeftering to Nordhoff, 28 Sept. 1956; telegram from Nordhoff to Oeftering, 10 Oct. 1956; letter from Schultz-Wenk to Nordhoff expressing surprise over his reaction to car production, 11 Oct. 1956; letter from Oeftering to Kubitschek, 13 Dec. 1956, all Volkswagen Archives.

[70] Letter from Nordhoff to Schultz-Wenk reiterating that cars were not under consideration, 22 Oct. 1956. In a letter to O. W. Jensen in Wolfsburg, Aranha wrote that VW do Brasil had requested BNDE financing for its car project, which in principle had been approved by management. He mentioned that he was told that Kubitschek personally advised the BNDE to help VW with its car financing. At the top of the letter is an annotation written by Nordhoff, in which he expresses shock that a financing project was being discussed on VW do Brasil letterhead for something (that is, cars) that had not yet been approved. Letter from O. E. de Souza Aranha to O. W. Jensen, 3 Dec. 1956, Volkswagen Archives.

VW's Kombi Van • This, the first Volkswagen vehicle manufactured in Brazil, rolled off the assembly line on 2 September 1957. Fifty percent of its content was domestic. (Reproduced from "This is Volkswagen do Brasil," a public relations packet prepared by the company, 1983.)

its favorite because, with few exceptions, all other companies were holding back. He added that his own reservations about the Brazilian government had increased, since it was exacting obligations from others without taking any on itself and was doing little to resolve inflation. As long as the Kombi continued to be plagued with problems and profits were not being transferred, he thought it irrelevant even to consider passenger cars.[71]

Despite Nordhoff's skepticism, VW did submit a proposal for the Beetle in October 1957. Implementation of the project was not

[71] Letter from Nordhoff to Schultz-Wenk, 12 April 1957.

guaranteed, however, as complications arose regarding financing. After receiving GEIA's approval for its car project in December, Volkswagen applied to the BNDE for a guarantee on a foreign loan. The firm had already received a Cr$150 million loan from the bank to produce the Kombi.

The new BNDE request differed from the first in three significant ways. First, it was for automobiles rather than for utility vehicles, which GEIA had deemed more significant for development. The BNDE had already resolved this issue in theory. Since automobiles had been included in the Target Plan as a basic industry and granted the same financial incentives as trucks, car projects were eligible for bank assistance. In practice, however, few car projects had yet been submitted and approved. Vemag's request for cruzeiro funding, which must have been under consideration when VW submitted its proposal, was approved shortly thereafter in January 1958.

Second, the request was not for cruzeiro financing but for an aval (cosignature) on a foreign loan of DM10.8 million. By assumption, transnational firms were expected to have better access to foreign capital.

Third, the new proposal was not submitted by Volkswagen do Brasil, under whose name GEIA had approved the project, but by its Brazilian minority partner, Monteiro-Aranha, a multifaceted holding company. In order to maintain its 20 percent share in the company (the other 80 percent was held by Volkswagen GmbH), Monteiro-Aranha was required to supply 20 percent of total financing and, of that, 20 percent of the cost in foreign exchange corresponding to the DM50.4 million (US$12 million) to be invested as foreign equipment under Instruction 113. The Brazilian firm was negotiating with European banks for the loan but needed the guarantee of the BNDE. Originally, VW had planned to import all the necessary equipment under Instruction 113.[72] GEIA approved the switch to Monteiro-Aranha, but the BNDE had reservations. It was worried about duplicating investment with the Kombi project and about whether the required domestic content levels for the van's motors would be reached. It was willing to leave these technical doubts to GEIA but was still left with unresolved legal and financial questions about the project.

[72] VW had sent an earlier request for funding in its own name along with its van proposal in November 1956. Cruzeiro financing was provided for van construction; the car project was not pursued at that time.

The legal question concerned whether Monteiro-Aranha could negotiate with the bank in its own name. Technically, the firm was neither a manufacturer of motor vehicle parts nor a subcontractor of a company whose project had been approved by GEIA and that produced parts for motor vehicles. This was how the decree had defined manufacturers eligible for benefits.

Moreover, in the opinion of the BNDE, VW was overvaluing its foreign investment by using an incorrect exchange rate. In 1958, for example, VW valued the deutsche mark at 71.48 cruzeiros. According to bank calculations, with a base of DM4.20 to the U.S. dollar, that cruzeiro–deutsche mark exchange rate corresponded to Cr$300 to the dollar, which was much higher than official exchange rates and higher even than Joel Bergsman's calculated shadow price or "free trade rate" of 95 cruzeiros to the dollar.[73] This overvaluation in turn inflated the amount that Monteiro-Aranha had to provide to maintain its percentage share.

The BNDE argued that since the funding was basically required to maintain Monteiro-Aranha's financial position in Volkswagen do Brasil and therefore resembled commercial credit, it fell outside the purview of an investment bank. The bank's guidelines forbade it from making loans that simply allowed a shareholder to increase its share of social capital in a firm implementing an industrial project. This loan did not even increase Brazilian participation and could not be rationalized on the basis of preventing a foreign takeover. The BNDE also noted that the conversion at the high rate of exchange for deutsche marks only favored the Germans. To the bank's technocrats, the scheme implied using foreign credit to maintain the German firm's position. Also, they would be losing the opportunity to obtain foreign capital, since VW previously showed its willingness to import everything under Instruction 113. VW could have wanted the aval only to gain further credit. Furthermore, accepting the proposition meant implicitly accepting VW's valuation of the imported equipment.

The BNDE technocrats also wondered why Monteiro-Aranha could not maintain its investment share with cruzeiros, or why the German partner could not finance the Brazilians without the bank's interference. They surmised that VW wanted the bank to be connected to the project because the company was pessimistic

[73] Joel Bergsman, *Brazil: Industrialization and Trade Policies* (London, 1970), 45. The deutsche mark did not reach full convertibility until 1959, which probably fostered the ambiguity surrounding the exchange rate.

about Monteiro-Aranha's financial standing. The bank's cosignature then could be used to justify future credit solicitations.

VW's motives in this case are ambiguous. Given the bank's predilection for assisting domestic firms, or only those foreign-controlled firms with domestic participation, VW may have assumed that its chances would increase if a well-connected firm like Monteiro-Aranha made the request in its own name.[74] The argument for maintaining a constant domestic participation rate seemed to jibe with the bank's objectives. Especially since it had originally planned to import all the equipment directly under Instruction 113, VW may have judged to be slim its chances of getting BNDE financial assistance on its own. This assessment seems to have been correct, judging from internal BNDE memos. Moreover, VW was financially weak and experiencing foreign exchange constraints at the time. The BNDE aval may in fact have given them better access to foreign finance, as the BNDE surmised.

It is likely that events unrelated to VW also influenced the BNDE's thinking.[75] The most noteworthy was Brazil's foreign exchange constraint, which began to tighten in 1958. Coffee export revenues fell drastically, and the sector had to be subsidized. Short-term foreign debts were coming due. The threat of a cutoff in foreign credits forced Kubitschek to initiate discussions with the IMF. A Letter of Intent was signed in 1958, but Kubitschek broke with the Fund in mid-1959. The bank's access to credit from international agencies was cut off and its resources were reduced. This also affected its capacity to grant avals.

According to Eliza Willis, in 1958 the BNDE "virtually excluded firms with majority foreign ownership from enjoying the benefits of Bank credit."[76] Exceptions were made only for firms producing goods deemed critical to national development or with the personal blessing of Kubitschek. Motor vehicles certainly were considered critical to development, and in the face of no car

[74] O. E. de Souza Aranha no doubt helped raise expectations that the Brazilian government would be sympathetic to VW's requests. He wrote O. W. Jensen of Volkswagen-Wolfsburg on 16 April 1956 that one of his best friends, Lúcio Meira, has been appointed minister of transportation. Volkswagen Archives.

[75] Considerations external to the case's particular merits were not mentioned in the internal files to which I had access. GEDOC, Processos de Financiamento, BNDES Archives on Volkswagen Funding Requests, files R 641, F-171/56 and 172/56, Rio de Janeiro.

[76] Eliza Willis, "The State as Banker: The Expansion of the Public Sector in Brazil" (Ph.D. diss., University of Texas at Austin, 1986), 256.

projects, Kubitschek had been pressuring GEIA, if not the BNDE, to expedite project approval and implementation. Nevertheless, VW was requesting an aval at a time when foreign exchange was scarce, and the bank judged that its assistance was not fundamental to the plan's survival.

Furthermore, internal tensions were rising within the BNDE in general and with respect to foreign capital in particular. The compromise that had been established between the more nationalistic technocrats, found primarily in the technical staff, and the more internationalistic management, epitomized by the bank's president, Roberto Campos, began to unravel. This was partly a result of the "Roboré affair," in which concessions were granted for petroleum exploration in Bolivia to private firms tied to foreign capital, and of the handling of SANBRA, an Argentine food product company. That firm had applied for assistance in 1957 and received the personal support of Kubitschek. Despite the bank's internal review rejecting the request, which was accepted throughout the hierarchy, Campos argued in its favor, and it was passed by the directorate in a split decision.[77] Finally, Campos's central role in the IMF negotiations also helped exacerbate ideological differences within the bank.[78] How these internal divisions affected the VW loan is unclear, but they certainly burdened the decision with political implications.

VW's request was not resolved until early 1959. In May Monteiro-Aranha informed the BNDE that VW in Germany had provided the necessary DM2.4 million in financing to be applied to 20 percent of the imported equipment. The company proceeded with its plans to produce the Kombi and the Beetle.

Ford, *O Cidadão Industrial* ("The Industrial Citizen")

Ford was the first auto company to assemble in Brazil, and it dominated passenger car sales.[79] Why did Ford not go in to protect its car market, which Francisco Salles Cesar, who headed sales in

[77] Ibid., 289–93.

[78] Kubitschek dismissed Campos in June 1959 after breaking off negotiations with the IMF.

[79] John Goulden, general director of Ford, referred to Ford in this way in Testimony before the Parliamentary Commission on Vehicle Cost, 10 Oct. 1967, GEIA Archives.

Inaugurating the Volkswagen Passenger Car Factory, 18 November 1959 • The group includes, from left: Friedrich Schultz-Wenk, president of Volkswagen do Brasil, S.A.; president Juscelino Kubitschek; Heinrich Nordhoff, president of Volkswagen GmbH; and Carlos Alberto Carvalho Pinto, governor of the state of São Paulo. (Reproduced from Gattás, *A indústria automobilística*, following p. 334.)

Porto Alegre for twenty years, called "the basis of the business"?[80]

It was not because the business was unprofitable. To the contrary, based on the original investment, Ford's assembly operations had been enormously remunerative. As of 31 December 1955, the Brazilian company's net worth was US$14.1 million, "developed from an original investment which amounted only to the cost of two or three hundred vehicles shipped to Brazil in the early 1920s." Over that time, profit remittances to the United States totaled US$27.8 million.[81]

It was by no means self-evident to Ford executives, however, that the company should even manufacture trucks in Brazil. In response to previous government policy initiatives toward the industry, the company planned to increase the domestic content

[80] Mira Wilkins interview with Francisco Salles Cesar, 16 Nov. 1961, Wilkins Personal File.

[81] In addition to profits earned locally in Brazil, from 1947 to 1955 the accounted profits earned by Ford-U.S. on exported units were estimated at US$18,541,000, and the economic profits at US$36,518,000; cited in background materials in the Presentation on the Brazil Truck Manufacturing Program made to the Executive Committee of Ford Motor Company, 30 Oct. 1956, Acc. AR-67-6, box 2, Ford Industrial Archives.

levels of its trucks to 30 percent but had no plans to move into integrated manufacturing. When the truck decree was issued on 12 July 1956, Ford executives were not convinced that they should stay in the market. Their first response was to try to figure out how to appear to be in compliance with the decree while investing as little as possible.[82] Predictions about profits were optimistic, but the foreign exchange constraint made Ford worry about future repatriation controls.[83] Ford surveyed its operations in search of old, amortized equipment that could be shipped to Brazil and tried to convince its suppliers to invest. It also investigated alternative financing strategies.[84]

Ford also made its participation in the truck program completely contingent on GM's. In its presentation to the Executive Committee in October 1956, Ford's International Division recommended:

> In our judgement, the issuance of automotive industry decrees by the Brazilian Government would not of itself make Ford International recommend that Ford Motor Company necessarily participate in a vehicle manufacturing program in Brazil at this time, although it is our opinion that market and profit opportunities will

[82] In a 3 Oct. 1956 letter to chairman Ernest R. Breech, A. J. Wieland, vice-president of Ford International wrote:

> We wanted the (Executive) Committee to know the problem and the steps we were taking to try to keep our place in Brazil without following Government edicts which would have involved large sums of capital investment. . . . we must make some gestures to indicate to the Brazilian Government that we are interested in their problem and in their future growth. The plan that will be presented at the Executive Committee encompasses a probable investment of around $22,000,000, of which $14,000,000 would be in dollars and the balance in Brazilian currency. Obviously, we have no intention of recommending that we walk into Brazil with $14,000,000 as there are still a great many factors . . . that must be worked out.

Acc. AR-67-6, box 2, Ford Industrial Archives.

[83] Letter from J. S. Andrews, regional director for Latin America and the Orient, Ford International, to Tom Lilley, assistant general manager, Ford International, 30 March 1956. In anticipation of GEIA's automotive decrees, Andrews wrote, "In short, it would appear that the investment of dollar capital in Brazilian industry could well result in far more than an adequate return in cruzeiros, but that the outlook for remitting adequate return on the investment in dollars to the U.S. is limited and perhaps obscure." Acc. AR-67-6, box 2, Ford Industrial Archives.

[84] In a 24 Oct. 1956 memo to T. O. Yntema, Tom Lilley discussed various ways to reduce Ford's direct investment, which included getting financing from the Export-Import Bank and the BNDE. "Our conversations in Brazil, however, have indicated that no such concessions will be granted and that to require them would be a way of rejecting the Brazilian plan." Acc. AR-67-6, box 2, Ford Industrial Archives.

> make it desirable for us to do so in the future. However, G.M.'s expressed intention to manufacture trucks, with an engine program which could also comfortably support future passenger car manufacturing plans, makes it, in our opinion, important that Ford Motor Company maintain its competitive position in a market with Brazil's potential.[85]

Ford International's recommendation to go ahead with a truck program was subject to confirmation of GM's implementation of its own plan.

In the view of Ford International, Brazil's entire truck plan was not viable without the participation of a major company like GM. "If GM proceeds, it is reasonable to assume that the Brazilians can carry out their restrictions and succeed in barring imports from non-participants. Without the support of GM or other major U.S. producers, Brazil still plans to proceed with its program but the chances of success over the next several years will be significantly reduced."[86] A GM decision to go ahead with truck production would substantially increase the costs to Ford of not participating, as well as the possibility that it would not be allowed to enter the market on its own timetable in the future.

Nevertheless, the Executive Committee was still not convinced by Ford International's formal presentation in October 1956 about the wisdom of investing in Brazil, no matter what GM planned to do. In his report on the presentation to Humberto Monteiro, the general manager of Ford-Brazil, J. S. Andrews wrote: "The projected return on assets employed is low when compared to returns received on investments here in the United States, and the risks are considered to be much higher in Brazil."[87] The proposed truck program would have involved an equity investment of US$16.4 million and local expenditures of US$9.6 million in cruzeiros. The Executive Committee instructed Ford International to investigate all possible ways to increase local purchases in order to reduce investment in fixed assets, especially in stamping, and to try to get more BNDE financing. The company continued to scan Ford's global operations for surplus or obsolete equipment and even considered the joint use of facilities with GM

[85] Proposal for Truck Manufacturing Program, draft version, n.d., p. 25, Acc. AR-67-6, box 2, Ford Industrial Archives.

[86] Memo from Tom Lilley to T. O. Yntema, 24 Oct. 1956.

[87] Confidential letter to Humberto Monteiro, general manager, Ford Motor Company, Exports, Inc., Brazil, from J. S. Andrews, 31 Oct. 1956, Acc. AR-67-6, box 2, Ford Industrial Archives.

and Chrysler. Toward this end, the Executive Committee agreed to help arrange meetings with GM, Chrysler, and International Harvester to explore areas of cooperation.[88] By December, the Executive Committee had still not approved the program, and Ford cabled Meira on 10 December promising that it would submit a truck proposal to ensure that GEIA would allocate enough foreign exchange for Ford's import needs in the coming year.

Ford may have assumed that GEIA could not afford its absence from the auto program and would therefore accept the company's conditions of entry. This expectation was no doubt bolstered by the visit of Brazilian vice-president Jão Goulart to Dearborn in May 1956, when he promised concessions in exchange for Ford's participation. As chronicled by Tom Lilley of Ford International, Goulart

> stated that, speaking officially for his Government, he was in a position to promise that if Ford made a concrete proposal [for truck manufacture], we would be granted every possible accommodation and advantage. . . . With regard to timing, Mr. Goulart mentioned the various propositions which are being made to Brazil by European competitors, including Renault and the various German manufacturers. He indicated that he and his associates would clearly prefer to do business with Ford and they would be happy to make important concessions to get Ford in the program. He was quite candid regarding the political advantage to his Government of obtaining a Ford program for Brazil. He was also candid regarding the political difficulty of turning down various deals proposed by competitive manufacturers based on the hope, but not the certainty, that Ford would eventually submit a proposal.[89]

By late December, however, impatient with Ford's procrastination, the Brazilian authorities were no longer responding as charitably to the company. Nor were they obliged to. GM and Mercedes, among others, had submitted proposals for truck production, reducing GEIA's dependence on Ford. Ford's personnel in Brazil, who were not involved in formulating or presenting the truck proposal, tried to make Dearborn realize that the Brazilian negotiating position had hardened. In a 21 December 1956 letter

[88] Notes from 16 Jan. 1957 meeting at which Ford's International Division presented a revised truck proposal to Ford's Executive Committee; provided by J. C. Goulden to Mira Wilkins, Wilkins Personal File.

[89] Memo from Tom Lilley to J. S. Andrews on Goulart's visit, 14 May 1956, Acc. AR-67-6, box 2, Ford Industrial Archives.

to J. S. Andrews, the regional director for Latin America and the Orient at Ford International, Humberto Monteiro of Ford-Brazil, wrote:

> We must at this time advise you that we feel very strongly that unless the presentation [to GEIA] is patterned almost exactly after the requirements indicated for submitting a manufacturing plan that we will have practically no chance of securing approval of the plan. The chances that we can expect any concessions at this time are obviously minimized by the fact that the plans of our principal competitor [GM] have already been submitted and approved. . . . We can safely state that everyone in the Government and the public in general have been deeply disappointed with Ford's retarded action in connection with the presentation of a manufacturing program. Minister Meira has repeatedly told friends of ours that his great hope was that Ford would come in before GM. The truth of the matter is that, while we hope to regain some of the sympathy and prestige which we have lost, our attitude in presenting the program must be faced realistically.

Monteiro was particularly concerned that, if Ford did not present a proposal in January, its chances of getting sufficient foreign exchange allocations for 1957 would be remote.[90]

GEIA's resistance, strengthened by the tightening foreign exchange constraint and GM's entry into the Brazilian truck market, did force Ford to submit a truck proposal that met GEIA's requirements. The Executive Committee, followed by GEIA on 8 February 1957, approved a project to produce light (F-100) and medium (F-600 and F-350) trucks. According to an Executive Communication by J. S. Bugas, head of the International Division, the program involved an equity investment of US$13 million and local currency expenditures of US$7 million, plus an open credit account for eighteen months. From 1957 through 1960, the company earned additional profits of US$31 million after taxes in the form of profit and service fee remittances, interest income, and economic profit on components. "Thus we have recovered almost double our equity investment for this program . . . ," Bugas wrote.[91]

[90] Letter from Humberto Monteiro, general manager, Ford Motor Company, Exports, Brazil, to J. S. Andrews, regional director, Latin America and the Orient, Ford International, 21 Dec. 1956, Acc. AR-67-6, box 2, Ford Industrial Archives.

[91] Executive Communication from J. S. Bugas to Board of Directors, Subject: Brazil-Proposed Passenger Car Manufacturing and Facility Expansion Program, 14 Dec. 1960, Acc. AR-67-14, box 2, Ford Industrial Archives.

Ford's Car Proposals • GEIA issued its decree for passenger cars on 26 February 1957, soon after it had approved Ford's truck plan. Although Ford did not begin to produce automobiles in Brazil until 1967, it submitted car proposals from 1958 until the end of Kubitschek's administration. GEIA rejected them all. As with trucks, Ford tried to minimize its investment and to evade GEIA's requirements. GEIA was powerful enough to keep Ford from entering the market on Ford's terms, but, in the absence of GM or Chrysler, was not strong enough to get Ford in on its own.

Ford initially expressed concern with matching the investments only of its competitors from the United States and not from Europe. At this time, Ford was not worried about Volkswagen and was not sure that it had a small car with which to compete in VW's market niche.[92] A potential Chrysler program did raise some concern, however. According to Walter McKee, regional director for Latin America, it motivated a Ford executive to approach Henry Ford II about investing US$10 million in a Brazilian car project. Ford replied that he did not think they wanted to make this additional commitment to Brazil, and the issue was closed.[93] In the meantime, Ford closely monitored the auto plan. Virtually every firm was having trouble meeting the domestic content requirements. Yet the cheap imported components available under Article 59, along with the seller's market, generated profits for many of them.

Nevertheless, as locally manufactured European cars were about to appear on Brazilian roads, Ford's concern grew about preserving both dealer loyalty and its option to enter the car market at a later date. On 16 December 1958, assuming that the company was powerful enough to evade GEIA's domestic content requirements, the Executive Committee agreed to submit an interim car manufacturing program that would begin with 30 percent local content and reach 73 percent by 1962. Ford planned to use some of the foreign exchange allocated for its truck program to import the necessary components. The vehicle to be produced was the 1959 Ford Custom 300, a mid-sized passenger car. This model

[92] In 1950, Ford and GM had also decided not to compete with VW's Beetle in Germany but to compete with each other for the mid-size car market. Mira Wilkins and Frank Hill, *American Business Abroad: Ford on Six Continents* (Detroit, Mich., 1964), 391.

[93] Mira Wilkins interview with Walter McKee, 29 May 1962, Wilkins Personal File. According to McKee, the Chrysler board rejected the car program and fired all of the people involved.

was chosen because it used the engine and many of the components of Ford's Brazilian-made trucks, thus reducing new investment requirements. GEIA rejected the proposal and insisted that production begin with 50 percent domestic content and reach 95 percent by 1 January 1961.[94]

In February 1959 the Executive Committee approved a revised proposal to manufacture the same vehicle. This time, Ford proposed to start manufacturing with 50 percent domestic content in 1960 and to indicate its "intention to reach 95% local content in 1961 under certain conditions only and with no obligation to do so or penalty for failure to accomplish this phase of the program."[95] The project involved an expenditure of US$375,000 in dollars and the equivalent of US$167,000 in cruzeiros for facilities and tooling. Ford doubted that the Brazilian government would approve its terms but considered it "essential to set forth the conditions clearly both for policy reasons and because of possible legal liability." The proposed program would "[p]rovide Ford of Brazil with a further opportunity to try to persuade the Government to permit them to produce at less than 95% local content," and "[p]ermit Ford of Brazil to keep 'foot-in-door' with respect to recognition as a car manufacturer and might facilitate our entry as a full scale small car manufacturer later on."[96]

According to Monteiro's communications from Brazil, he felt confident that GEIA would support Ford's proposal, but he warned that the timing could not be worse in terms of the country's foreign exchange position.[97] As had occurred with VW's loan

[94] It is interesting to note that at this point, VW and other competitors assumed that Ford, and possibly GM, would enter the car market. In December 1958, VW's Schultz-Wenk reported to Wolfsburg that Mercedes Benz had given up on passenger cars for the moment, and that he thought this was because Mercedes feared competition from Ford and Chevrolet. He also wrote about the opening of Ford's factory and how Ford planned to use its V-8 engines for passenger cars as well as trucks. November Report on VW do Brasil from Schultz-Wenk to Nordhoff, 3 Dec. 1958, Volkswagen Archives.

[95] According to the proposal, reaching domestic content levels of 50 percent by March 1960 would be feasible without major new investments, because the car used many of the same components as Ford's small truck produced in Brazil. Reaching 95 percent domestic content by 1961 would be more complicated, because of the inability to use existing sheet metal dies. Executive Communication from Tom Lilley to members of the Executive Committee, Subject: Brazil—Proposed Manufacturing Program of 1959 Model Ford Car, 18 Feb. 1959, Acc. AR-75-63-430, box 29, Ford Industrial Archives.

[96] Ibid.

[97] Confidential telex from Monteiro to McKee, 26 March 1959, Acc. AR-75-63-430, box 29, Ford Industrial Archives.

guarantee request, the macroeconomic environment was influencing auto sector policies. At the time of Ford's proposal, Brazil's economic team, headed by finance minister Lucas Lopes, was in the midst of difficult negotiations with the IMF and facing growing domestic opposition to its economic stabilization program.[98] Meira advised that it would be impossible to obtain approval after 8 April and suggested that Ford's position with Lopes would be strengthened if it included a five-year swap to cover dollar requirements for sheet steel. Ford agreed to include a swap arrangement in its proposal, and GEIA accepted Ford's conditions in principle. Meira remained pessimistic about Lopes but agreed to "use all his influence to push [the] matter."[99]

Brazilian policymakers relied on the standard trump card to strengthen their bargaining position: the foreign exchange constraint. In fact, they were upping the ante by raising the entry requirements for any acceptable Ford auto project. The recently approved Mercedes Benz passenger car proposal also strengthened Brazil's hand.[100] Ford responded to these pressures and included mechanisms to cover its foreign exchange requirements in its next proposal.

The next car proposal, presented to the Executive Committee in April 1959, committed Ford to produce the Ford Custom 300 with 95 percent domestic content by 1961. This required significantly greater investments than previous proposals. Initial investments were estimated at US$4 million in dollars and $2.5 million in cruzeiros.[101] In addition, Ford agreed to purchase US$7.8 mil-

[98] The economic stabilization program had been drafted by Finance Minister Lopes (who had served as Kubitschek's first director of the BNDE) and Roberto Campos, then director of the BNDE, in consultation with the IMF. Kubitschek broke off negotiations with the IMF in June 1959 and both Lopes and Campos were replaced soon after. For more on Brazil's break with the Fund, see Thomas E. Skidmore, *Politics in Brazil, 1930–1964* (New York, 1967), 174–82; and Economic Commission on Latin America [Carlos Lessa], "Fifteen Years of Economic Policy in Brazil," *Economic Bulletin for Latin America* 9, 2 (1964).

[99] LT Interford Memo from Monteiro to McKee, 1 April 1959, Acc. AR-75-63-430, box 29, Ford Industrial Archives.

[100] The project was never implemented; Mercedes produced only trucks and buses in Brazil.

[101] The proposal noted that 50 percent of the dollar investment could be utilized in production of a car other than the proposed model. After March 1960, Ford expected that imported equipment would become subject to import duties. Ford estimated that by using its US$4 million import license, it would save at least US$2 million on a future car program. On the initial production of 10,000 units, it was expected that Ford-U.S. would earn economic profits of US$1 million; profits to Ford of Brazil could be as high as US$10 million if the car had a retail price of US$8,500. Executive Communication

lion worth of Brazilian iron ore from 1959 to 1964; to extend the terms on an open exchange account for truck and car components; and/or to extend a swap loan of US$5 million for five years.[102] Ford officials were evidently becoming increasingly worried that GEIA would soon close the market to new projects.[103]

Lopes's first reaction to the new proposal was again negative: "He insisted, that rather than accept new car programs, GEIA should reduce the present ones." Lopes also insisted that Ford purchase iron ore and asked if it could buy even more than originally planned.[104] In the face of this resistance and, most important, of Brazil's ongoing negotiations with the IMF, Ford's Executive Committee withdrew its car proposal.[105]

Ford continued to float car proposals at least until 1961.[106] For a variety of reasons, they continued to be for mid-sized rather than small-sized models. In part, this had to do with economies of scale and scope. The firm had investigated the feasibility of introducing smaller, European-designed models into the Brazilian market.[107] By September 1959, however, Ford had rejected the idea, and all its subsequent proposals were for mid-sized cars. As explained to Walter McKee by Andrew Masset of Ford-Brazil, "We have discarded the possibility of manufacturing the Falcon or any European car simply because the burden of the additional investment required would be too onerous to bear, and would most probably

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from Tom Lilley to members of the Executive Committee, Subject: Brazil—Proposed Manufacturing Program of 1959 Model Ford Car, 1 April 1959.

[102] Ford would use only about 60 percent and sell 40 percent to other ore users.

[103] Executive Communication from Tom Lilley to members of the Executive Committee, Subject: Brazil—Proposed Manufacturing Program of 1959 Model Ford Car, 1 April 1959.

[104] Memorandum from Walter McKee to J. S. Bugas et al., 1 May 1959, Acc. AR-65-71, box 27, PR archives, accession no. 742, Ford Industrial Archives.

[105] Telex from McKee to Monteiro, 7 May 1959, Acc. AR-75-63-430, box 29, Ford Industrial Archives.

[106] No record of later Ford projects was found among Brazilian archives and sources. Ford denied clearance to all archival materials pertaining to any aspect of its Brazilian operations after 1961. According to Ford archives until 1961, the Custom 300 was still being proposed in September 1959, but it had been replaced with the 1959 Ford Galaxie by August 1960. According to Brazilian records, the last proposal to be considered, and the most publicized and contentious, was for the 1959 Ford Fairlane.

[107] Possible alternatives included German class D cars, such as the 17M and its successor, the H or N XPD, with 1.5-liter engines, and the Ford Falcon, a Class E car with a 2.5-liter engine. Both were smaller than the Ford Custom 300, but neither would have competed directly with the smaller Class C cars produced by Volkswagen. Letter from Walter McKee to Humberto Monteiro, 15 July 1959, Acc. AR-75-63-430, box 29, Ford Industrial Archives.

result in a vehicle cost greater than that of the larger Custom 300 passenger car." The high degree of complementarity between Ford's locally produced trucks and the Custom 300 significantly reduced initial investment costs. Most important, a new engine plant would have had to be built to supply the Ford Falcon, whereas the Custom 300 used the engine that Ford was already producing in Brazil. The estimated investment for the Custom 300 was US$10.5 million, of which US$5.5 million was in dollars. The Falcon program would have required a dollar investment of US$31 million and cruzeiro expenditures of US$25 million. Masset doubted that GEIA would approve a program that required such large investments "to produce a vehicle which would compete directly with vehicles already approved for production in Brazil."[108]

Ford also concluded that large cars, which were not yet being made in Brazil, had a better chance of approval, since GEIA would protect the market niche of existing producers. As Masset wrote, "Finally, as long as there is GEIA or some governmental control, we would have a very slim chance of getting a Falcon program approved on top of the similar package programs [Vedette and Aero-Willys] under way."[109]

Ford's initial unwillingness to commit additional investments in Brazil and its subsequent late entry into the Brazilian car market precluded its entrance into the small-car market segment, even if it believed that " . . . a smaller car will ultimately be needed to penetrate the developing mass market in Brazil."[110] The sequential nature of the investment process made each decision contingent on previous moves. Ford's strategy to start with light trucks, in combination with GEIA's high domestic content requirements for cars, determined the type of car Ford would try to get approved, regardless of market requirements. By the time Ford was prepared to make larger investments, small cars remained problematic because the start-up time was longer as a result of the lack of complementarity with trucks, and GEIA was much less inclined to approve.

Timing was becoming a critical issue. Ford grew increasingly

[108] Letter from Andrew Masset, Ford Motor do Brasil, to Walter McKee, Ford International, 11 Sept. 1959, Acc. AR-75-63-430, box 29, Ford Industrial Archives.

[109] Ibid.

[110] Executive Communication from J. S. Bugas to Board of Directors, Subject: Brazil—Proposed Passenger Car Manufacturing and Facility Expansion Program, 14 Dec. 1960, Acc. AR-67-14, box 2, Ford Industrial Archives.

anxious about further delaying entry as its competitors' cars were about to roll off production lines.[111] Ford also wanted to use its duty-free import credits by 1960, when they were expected to expire. Ford assumed that it would become harder to win GEIA's approval as time passed and existing projects came on-stream. In 1960, Ford also began to hear worrisome rumors that its U.S. competitors were considering car production. GM was studying a car program that used GM truck engines, and American Motors, after its Rambler proposal was refused, was discussing partnership with existing manufacturers. Ford feared that its negotiating position would be weakened if GEIA had already approved a car project from either of the other firms before considering another Ford proposal.[112]

The fact that Kubitschek's administration was going to be replaced in 1961 put an additional premium on time. As a Ford official noted, "Certain members of GEIA who might be helpful in obtaining import licenses for car tooling and components may not be in office after the end of 1960 or January 1961 which would favor a date of approval here on or before Dec. 1, 1960."[113] Ford was particularly concerned about securing government approval to import car tooling as an equity investment without exchange cover, since this had a significant effect on any project's financial feasibility. If such approval were not forthcoming, alternative methods of importing the equipment would be required, or the project would have to be resubmitted to the next government.[114]

[111] "There is no doubt that we will be facing a new crisis in our already difficult dealer situation as soon as competitors' cars appear in a volume on the market." Letter from Andrew Masset to W. L. McKee, Ford International, 11 Sept. 1959.

[112] Memorandum on Brazil Car Manufacturing and Capacity Expansion Programs, 26 Oct. 1960, Acc. AR-67-14, box 2; and Executive Communication from J. S. Bugas to Board of Directors, Subject: Brazil—Proposed Passenger Car Manufacturing and Facility Expansion Program, 14 Dec. 1960.

[113] Memorandum on Discussion of Factors, Problems, etc., in Connection with Brazil Car Manufacturing and Capacity Expansion Programs, 26 Oct. 1960, Acc. AR-67-14, box 2, Ford Industrial Archives.

[114] Letter from J. C. Goulden, finance manager, Ford Motor do Brasil, to W. L. McKee, regional director, Latin American Operations, Ford International, 17 Aug. 1960, discussing the 1959 Ford Galaxie proposal to be submitted to the Executive Committee. Ford assumed that it would be allowed to import US$3 million of equipment duty-free and without exchange cover, so that the value of imported equipment would be carried on the books as capital investment. Ford predicted that the return on total added assets employed for car production would be 35 percent per year after taxes and that the additional fixed investment would be paid for within three years. In his 14 Dec. 1960 Executive Communication to the Board of Directors on Brazil—Proposed Passenger Car Manufacturing and Facility Expansion Program, J. S. Bugas provided

With these proposals, which met the domestic content requirements, Ford put GEIA in a difficult position. The pioneers of the auto program clearly had Ford in mind. Ford had set up the first assembly line in Brazil, its name was well known, and mechanics and machine shops had long been familiar with its vehicles. Ford's participation in the automobile program would have brought GEIA credibility and support. The Volkswagen Beetle was still a suspicious novelty, and the program was lacking quality mid-size cars. Again, GEIA was caught in a contradictory position: Ford would have been an asset to the plan, but granting subsidies would have broken GEIA's pledge of consistency. If Ford was given special consideration one day, others would be on GEIA's doorstep the next.

A debate ensued within GEIA over Ford's proposal to produce the 1959 Fairlane, which was submitted in December 1960, right before Kubitschek was to leave office. Ford requested permission to import US$3.6 million in equipment without exchange cover. In accordance with both the 26 February 1957 decree that established the guidelines for passenger car production and the tariff reform of 1957, all car proposals had to be submitted for consideration by 31 December 1957. Those against Ford's proposal argued that it would be unfair to firms that had come in under these guidelines to grant latecomers like Ford the same import benefits. They also argued that allowing Ford to import equipment without foreign exchange cover discriminated against national capital. Ford planned to import used equipment, which normally was not permitted if similar products could be domestically produced. These imports, allowed only under Instruction 113, would hurt the development of the domestic metal-working industry. A national firm that did not want to associate with foreign capital could not import this type of equipment. Those opposed to Ford argued that granting foreign firms these foreign exchange benefits made sense when the industry was in its infancy and when GEIA imposed performance criteria (that is, domestic content requirements) on firms. Since the industry was past the installation phase and was now consolidating, new norms were required, and foreign firms' equipment imports should be subject to exchange cover.

Ford campaigned for its project on several fronts. It argued

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somewhat higher investment figures for the Galaxie, but also assumed that all equipment would be imported duty-free and without exchange cover.

that Brazil was denying entry, which technically was not the case. Ford insisted that it could not invest without financial incentives. It applied external pressure through officials at multilateral agencies.[115] Inside Brazil, its campaign strategy was to blame GEIA for forcing Brazilians to drive second-rate cars like the VW Beetle when they could be driving Fords. It also solicited and won the support of SINDIPECAS, the association of the automotive parts producers, which lobbied on Ford's behalf.

Kubitschek's successor, Jânio Quadros, asked GEIA personnel for a summary of their negotiations with Ford, and Lúcio Meira complied in July 1961. Meira presented the arguments already outlined for and against the project and said that GEIA itself was divided. In his opinion, the Fairlane should have been approved, if Ford had incorporated itself as an independent subsidiary, rather than remaining a branch plant, and had proved that the imported equipment could not be locally procured. He would not have allowed Ford to import equipment without exchange cover, and he would have forced the firm to increase the level of Brazilian equity participation by the same amount as the new investment.[116]

Inexplicably, in August 1961 Quadros had Meira's report reprinted in the *Diário Oficial*, the daily record of government proceedings. Subsequent intra-government correspondence indicates that the company continued to apply pressure. Meira held firm, however, saying that GM would certainly follow, which would lead to the "entire denationalization of the sector."[117] Ford finally succeeded with the military regime that took over in 1964, which had a more accommodating position toward foreign capital. Ford presented a new proposal to produce the 1966 Galaxie, which was accepted.

Ford gambled that it would eventually be allowed into the Brazilian market on its own terms. It correctly bet that the Brazilians would be forced to accept a company with Ford's international stature and power. It is likely, however, that the firm underestimated both how long approval would take and the costs of the delay.

[115] Interview with Lucas Lopes, May 1985, Rio de Janeiro.

[116] Parecer do GEIA, 28 July 1961, published in its entirety in the *Diário Oficial*, 7 Aug. 1961.

[117] Letter from Lúcio Meira to the Minister of Industry and Commerce, 31 Jan. 1963, GEIA Archives.

The Volkswagen Beetle in Brazil • President Juscelino Kubitschek waves to the crowd from the back of a Brazilian-made VW Beetle. Brazilian manufacture of the model began in 1959, and the one-millionth domestic Beetle was produced in March 1972. (Reproduced from *Autolatina*, p. 46.)

Rather than "stealing a march" on its competitors and obtaining whatever monopoly profits would accrue to being first, Ford initially would not comply with GEIA demands, and it let VW test the Brazilian market. In so doing, Ford may have made a strategic error. Its absence from the Brazilian market in these years allowed VW to redefine and capture the Brazilian car market. In pre-GEIA Brazil, Ford had been synonymous with automobiles. At first, Brazilians were forced to drive Beetles and other compact-sized European cars by the lack of alternatives, but they came to do so by preference. In 1968, VW's share of car sales was almost 80 percent; in 1975 (by which time new models had been introduced), it was still high at 62 percent and in 1980 held at 50 percent.[118]

Subsequent interviews with Ford managers of the period indi-

[118] Ford and GM did not benefit from VW's loss of market share. Their respective shares of production in 1975 were 16 and 19 percent, and in 1980, 13 and 20 percent. FIAT entered the Brazilian car market in 1976, and by 1980 had 16 percent of total production, although a larger relative share went to export.

cate that some viewed Ford's late entry as a mistake.[119] In retrospect, they offer various explanations for Ford's absence from this market segment.[120] Some attribute it to Dearborn's lack of knowledge or interest in international affairs. Ford International, located in New York until 1956, was still somewhat of a stepchild in the organization. Ford was not manufacturing in any less developed country (LDC) at that time, and had recently sold its interests in Spain and liquidated in India rather than comply with the local capital requirements of those countries' automotive programs.[121] Ford-Brazil, though profitable, had been relatively marginal to Ford's total operation. Ford had brought virtually no new capital into the country since it had begun assembling there thirty-seven years before.

Others blame Ford's late entry on the firm's short time horizon. Whereas VW had to buy into the market and was willing to earn a low return per car, Ford was worried about a quick return on investment. Ford's early entry into Argentina and Mexico indicates a possible awareness of this miscalculation.[122]

Consolidation and Concentration

One of GEIA's rationales for allowing so many firms to enter the market was the expectation that some would not survive, and the

[119] It could be argued that VW gained and maintained such a high market share because it had a more appropriate vehicle for Brazil. In countries such as Argentina and Mexico, however, no one firm dominated the domestic car market to the extent that VW did in Brazil.

[120] Guimarães suggests that a possible explanation for the late entry of Ford and GM was the shortage of managerial capacity in the 1950s, when the two companies were busy expanding in Europe. He also points out that the early and mid-1960s were profitable years for Ford and GM, and that the growth rate of the European market was slowing down; "Industry, Market Structure, and the Growth of the Firm in the Brazilian Economy," 190.

[121] According to Wilkins and Hill, an important reason for abandoning these markets was that local capital had to have a controlling interest in any project; Wilkins and Hill, *American Business Abroad: Ford on Six Continents*, 402.

[122] Bennett and Sharpe also note that Ford was the first to indicate a willingness to begin domestic production in Argentina and Mexico. However, referring to the dynamics of defensive investment, which require that one firm take the lead while the others follow, they claim that Ford has traditionally made the first move in Latin America. In the case of Brazil, Ford was one of the most intransigent before the creation of GEIA; discussions had gone further with both GM and VW toward setting up domestic manufacture. With respect to cars in Brazil, Ford was not a leader but a follower. See Bennett and Sharpe, "The World Automobile Industry and its Implications," 214.

industry would consolidate. There was in fact a competitive shake-out in the industry in the mid-1960s, but it did not occur in the way GEIA had predicted.

The smaller firms were able to survive until the early 1960s because of protection, repressed demand, and rationed market shares. The market was not the competitive one GEIA had in mind; even when the industry took a downturn in 1962 and 1963, prices did not respond. Moreover, the Brazilian market was still in formation and therefore did not possess the characteristics of a more mature one. Initially, firms faced pent-up demand after years of import controls. Once this pre-existing demand was met, future sales depended on replacement demand and on new demand based on income growth and on the incorporation of lower income groups into the market through price reduction or credit facilities. As estimated by Alfredo Baumgarten, demand for automobiles was elastic not with respect to price, but with respect to income.[123]

The industry went through a difficult period in the early and mid-1960s. Even before the severe recession partially induced by the military in 1964, the auto sector was plagued by overcapacity. Firms had built ahead of demand. This can be attributed in part to the technical discontinuities of auto production: investment came in discrete steps, such as engine or stamping plants, each with high scale economies. It can also be traced in part to the "bunched" nature of investment patterns under import substitution, as Albert Fishlow has pointed out.[124] The investment that was initiated under GEIA was coming on-stream. Building extra capacity may also have been an oligopolistic strategy to block entry by competitors and to strengthen a firm's position in the market.[125] Trucks were affected more than cars as economic activity began to decline in 1963 and 1964. (Truck demand is tied to general economic performance; cars, especially during rapid inflation, may be viewed as investment goods.) Inflation in those years nevertheless made it possible to pass along higher costs to consumers.

The expected demand did not materialize in the short run, however. Rather, the market disintegrated when the military

[123] Alfredo Luiz Baumgarten, Jr., "Demanda de automóveis no Brasil," *Revista Brasileira de Economia* 26 (1972): 203–97.

[124] Albert Fishlow, "Some Reflections on Post-1964 Brazilian Economic Policy," in *Authoritarian Brazil*, ed. Alfred Stepan (New Haven, Conn., 1973), 104–5.

[125] See Guimarães, "Industry, Market Structure, and the Growth of the Firm in the Brazilian Economy," 195.

implemented an austerity program after a coup in 1964. Only after two to three years of enormous drops in demand did prices begin to soften. The industry finally demonstrated price responsiveness, but only in the face of plummeting demand and, more important, of government-imposed price controls, which started in 1965. The trade-off between idle capacity and price reduction was significant. Not until 1967 did the industry really rebound.[126]

The weaker firms did not survive these difficult years. By 1968 the original eleven firms had shrunk to eight. As Meira had feared, only those controlled by transnational capital remained. Already a minority shareholder, in 1966 Chrysler bought 92 percent of Simca in France, gaining control of Simca in Brazil, which had originally been 50 percent Brazilian-owned; Chrysler also purchased International Harvester's truck facility. Volkswagen took over Vemag, which had been controlled by Brazilian capital, first through its acquisition of Auto Union, a minority holder, and then through purchase of the remaining shares.[127] In 1967 Ford gained control of Willys, another firm that had been predominantly Brazilian-owned, through its purchase of a controlling interest in Kaiser, and Alfa Romeo took over the previously state-owned firm FNM. It was at this time of consolidation that Ford and General Motors entered the passenger car market by investing in new production facilities and absorbing existing firms. Replacing Willys and Vemag, they became the second and third largest automobile producers after Volkswagen.[128] (For statistics on the share of the

[126] Price rigidity in the face of falling demand is not unique to the Brazilian auto sector, but it has been demonstrated in other national auto industries and in oligopolized industries in general. Within Brazil, this pricing behavior was also characteristic of many other sectors, supporting the structuralists' arguments about the presence of market power and mark-up pricing.

[127] Vemag's president cited the firm's difficulty in raising capital as the primary reason for selling out. Vemag had tried selling stock but could not compete with other financial assets being offered. Another reason given was "that the authorities were not just stimulating but even pressuring the companies to accomplish mergers"; Ventura Dias, "The Motor Vehicle Industry in Brazil: A Case of Sectoral Planning," 45.

[128] This process of concentration appeared to have the government's blessing. Secretary of planning Roberto Campos encouraged mergers. According to a *Visão* interview, he viewed concentration as "an inevitable international tendency" that would reduce industrial costs and propagate competitive pricing. The denationalization of the motor vehicle industry occurred in other Latin American countries as well. Bennett and Sharpe claim that the speed of the Mexican program unintentionally may have been responsible. The TNCs were in a position to establish themselves more quickly since they had better access to resources and know-how. Moreover, they had ready suppliers for parts in the United States. This was particularly important in Mexico, which instituted only a 60 percent domestic content requirement. This was less critical under

Table 4
Shares of Brazilian Motor Vehicle Market, 1960–1969
(percent)

Year	*Volkswagen*	*Willys*	*GM*	*Ford*	*Total*
1960	21.3	29.3	13.7	14.4	78.7
1961	32.5	29.4	9.4	9.6	80.8
1962	28.1	32.1	9.9	11.4	81.5
1963	33.7	29.6	7.0	10.3	80.5
1964	36.2	28.3	7.5	8.8	80.9
1965	40.5	26.2	5.9	9.2	81.9
1966	42.4	24.5	7.1	10.3	84.2
1967	51.4	20.1	7.6	7.4	86.5
1968	55.4	—	8.9	24.8	89.1
1969	50.4	—	14.9	25.1	90.4

Source: Shapiro, "State Intervention and Industrialization."

total Brazilian motor vehicle industry of these four producers, see Table 4.)

The industry of 1968 resembled that anticipated in GEIA's original blueprint. But the most efficient of the original competitors were not necessarily the ones that survived. Instead, the American giants of the industry let other firms test the market and the sustainability of market closure. Once Brazilian growth potential was assured, they committed themselves to car production.

The newly structured industry led the so-called economic miracle from 1968 to 1973, growing at rates of 20 percent a year (see Table 5).[129] Demand boomed in response to income concentration and new consumer credit instruments; wage compression and the repression of trade unions reduced labor costs. To ensure some price discipline over the increasingly concentrated oligopoly, the military could resort to the instrument that GEIA had lacked—price controls.

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the 90 percent domestic content regime in Brazil, although foreign firms typically forced their major suppliers to accompany them; Bennett and Sharpe, *Transnational Corporations versus the State*, 128.

[129] The industry continued to expand throughout the 1970s, and by 1978 total vehicle production topped the "magic million" mark. An export promotion program was introduced in the early 1970s, and exports as a share of production increased, particularly in the 1980s when the domestic market stagnated.

Table 5
Brazilian Motor Vehicle Production and Exports

Year	*Total Vehicle Prod. (units)*	*Vehicle Exports (units)*	*Vehicle Exports as % of Production (%)*	*Passenger Car Prod. (units)*	*Passenger Car Exports (units)*	*Passenger Car Exports as % of Production (%)*
1957	30,542			1,166		
1958	60,983			3,831		
1959	96,114			14,495		
1960	113,041			42,619		
1961	145,584	380	0.3	60,205		
1962	191,194	170	0.1	83,876		
1963	174,191	—	0.0	94,764		
1964	183,707	57	0.0	104,710		
1965	185,187	129	0.1	113,772		
1966	224,609	210	0.1	128,821		
1967	225,487	35	0.0	139,260		
1968	279,715	9	0.0	165,045		
1969	353,700	25	0.0	244,379		
1970	416,089	409	0.1	306,915	52	0.0
1971	516,964	1,652	0.3	399,863	656	0.2
1972	622,171	13,528	2.2	471,055	6,611	1.4
1973	750,376	24,506	3.3	564,002	13,891	2.5
1974	905,920	64,678	7.1	691,310	47,591	6.9
1975	930,235	73,101	7.9	712,526	52,629	7.4
1976	986,611	80,407	8.1	765,291	62,079	8.1
1977	921,193	70,026	7.6	732,360	56,636	7.7
1978	1,064,014	96,172	9.0	871,170	77,388	8.9
1979	1,127,966	105,648	9.4	912,018	76,486	8.4
1980	1,165,174	157,085	13.5	933,152	115,482	12.4
1981	780,883	212,686	27.2	585,834	157,228	26.8
1982	859,304	173,351	20.2	672,589	120,305	17.9
1983	896,462	168,674	18.8	748,371	132,804	17.7
1984	864,653	196,515	22.7	679,386	151,962	22.4
1985	966,708	207,640	21.5	759,141	160,626	21.2
1986	1,056,332	183,279	17.4	815,152	138,241	17.0
1987	920,071	345,555	37.6	683,380	279,530	40.9
1988	1,056,332	320,476	30.3	782,441	226,360	28.9
1989	1,013,252	253,720	25.0	731,992	164,885	22.5
1990	914,671	187,314	20.5	663,084	120,377	18.2

Source: ANFAVEA

The Determinants of Firm Entry

Explanations for the specific evolution of the Brazilian automotive industry echo the more general debate on the relative importance of underlying economic variables and structures and of state policy and institutional innovation in shaping economic development. A large literature on foreign direct investment explains the entrance of transnational firms into countries like Brazil and the ultimate structure of industries such as auto by the behavioral characteristics of international industries. Essentially, this literature looks at foreign investment as part of the growth and competitive process of a firm in an oligopolized industry characterized by economies of scale, barriers to entry, and so forth. As the industry becomes more concentrated in the home market through technological change and mass production, which drives out weaker firms, the move to external markets becomes critical to a firm's growth strategy. Firms go abroad in order to garner relatively larger rents on the advantages derived from imperfectly competitive market positions.[130]

The number of entrants is also explained by the nature of oligopolistic interdependence. If firms are knowingly interdependent but cannot collude, one firm's option to invest in a particular market will induce a "bandwagon effect." It is this form of competition, rather than expected rates of return, that explains the observed phenomenon of bunched entry in relatively concentrated industries.[131] Therefore, the competitive logic of international capital determines foreign investment and industrial structure in LDCs.

These works on the multinational firm have deepened our understanding of international capital flows and the global strategies of oligopolistic industries. In their emphasis on industrial organization, however, they ignore or discount the importance of state policy in determining investment behavior.[132] In contrast, some analysts of the Brazilian auto industry have adopted a more state-centric approach.[133] In this framework, correct policy and the

[130] See Richard E. Caves, *Multinational Enterprise and Economic Analysis* (New York, 1982) for a general discussion, and Stephen H. Hymer, *The International Operation of National Firms: A Study of Direct Foreign Investment* (Cambridge, Mass., 1976) on the impetus behind direct foreign investment.

[131] Frederick T. Knickerbocker, *Oligopolistic Reaction and Multinational Enterprise* (Boston, Mass., 1973).

[132] The state is relatively absent in the work of Hymer and completely absent from Knickerbocker. Knickerbocker is less concerned with the reasons behind a first mover's entry than with why so many follow. However, in the Brazilian case, market closure and a brief window of investment opportunity affected all firms.

[133] In contrast to more market-oriented approaches to economic development, state-centric theorists argue that market forces alone will not lead to successful economic outcomes. Many have drawn their conclusions from the experience of Japan and

institutional means by which to implement it are the keys to a successful development strategy. Effective state policy is typically seen as requiring a state sufficiently autonomous to guarantee the insulation of its technocratic core from clientelistic politics. These authors emphasize the relative autonomy of Kubitschek's executive branch as a critical ingredient in the auto program's success.[134] They argue that the creation of executive groups like GEIA allowed technical rationality to dominate key development decisions. Had it not been for this administrative reform, either the investment climate in Brazil would not have been stable enough to attract foreign capital, or penalties would not have been severe enough to force that investment. The Brazilian automobile industry is thus characterized as an example of effective state intervention.

In its focus on institutions, this literature downplays the degree to which structural economic conditions impose boundaries on state intervention. Not only changes in the nature of international oligopolistic competition, but also domestic market conditions played a role in determining the shape of the Brazilian industry. The potential market size in a country of over 60 million, whose GNP was growing at annual rates of 6–7 percent, made the high domestic content more feasible than in smaller markets, and the loss of market access more costly than in smaller economies.[135]

East Asian newly industrialized countries such as South Korea. See Chalmers Johnson, *MITI and the Japanese Miracle* (Palo Alto, Calif., 1982); Alice Amsden, *Asia's Next Giant: South Korea and Late Industrialization* (New York, 1989); Stephan Haggard, *Pathways from the Periphery: The Politics of Growth in the Newly Industrializing Countries* (Ithaca, N.Y., 1990); and Robert Wade, *Governing the Market: Economic Theory and the Role of Government in East Asian Industrialization* (Princeton, N.J., 1990).

[134] See Barbara Geddes, "Building State Autonomy in Brazil, 1930–1964," *Comparative Politics* 22, 2 (Jan. 1990): 217–34; and Celso Lafer, "The Planning Process and the Political System in Brazil: A Study of Kubitschek's Target Plan, 1956–1961" (Ph.D. diss., Cornell University, 1970), on executive groups in general; see Moreira Franco, "A nacionalização de veículos no Brasil," on GEIA on particular.

[135] Mexico's underlying economic conditions made it more difficult to require such high domestic-content levels. With a smaller population and per capita income level, Mexico did not possess the market potential of Brazil. The country's long border with the United States presented the country with different constraints. Unlike Brazil, Mexico's import-substitution process took place in the context of macroeconomic stability and of a fixed and unified exchange rate regime. Its auto program required that only 60 percent of a car's value (based on direct cost and including the engine) be manufactured in Mexico. By setting domestic content levels at 90–95 percent of a vehicle's weight, Brazil had ensured that body stamping would be done in the country. In general, the Mexicans were more concerned about relative costs and inflation, and there were large

Recognizing that the independent dynamics of foreign capital are critical but not completely determinant in shaping the pattern of foreign investment, recent bargaining literature has investigated how states can influence the structure, conduct, and performance of transnational industries. It has expanded on work by economists such as Charles Kindleberger; he modeled the relationship between the state and the transnational firm as a bilateral monopoly in which each party bargains over the distribution of monopoly rents, but he did not incorporate any explicit theory on the nature of the peripheral state. This literature has opened up the state itself for analysis, much as industrial organization opened up the black box of the firm, in order to understand the determinants of its bargaining strength.[136] Like the firm in an oligopolized industry, the state is portrayed as having unique behavioral rules. The state is no longer defined as representing the "national interest" or even a clearly identifiable group of interests. An attempt is made to clarify the domestic political and economic bases of the state and their implications for policy formation and implementation.

Those who have applied a bargaining framework to explain the implantation of domestic automotive industries in Latin America have successfully moved beyond the standard state-market dichotomy.[137] They acknowledge that in countries like Brazil, where the state unilaterally mandated local automobile production, the literature that explains firm entry by the behavioral characteristics of the international auto industry must be modified to incorporate the state and its institutions. But they also rightly emphasize how the coincidence of state policies with increased competition between U.S. and European firms in both home and third markets helped attract foreign investment. Clearly, if Brazil's efforts had not coincided with the industry's foray into new forms of global

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economies of scale in the stamping process. Also, with so much contact with the United States, Mexican consumers were exposed to the trends set by Detroit. A domestic content level of 60 percent allowed for body stampings to be imported and facilitated frequent model changes.

[136] See Peter Evans, Dietrich Rueschemeyer, and Theda Skocpol, eds., *Bringing the State Back In* (New York, 1985). For case studies on various international industries in Latin America, see Newfarmer, ed., *Profits, Progress and Poverty*.

[137] See Bennett and Sharpe, *Transnational Corporations versus the State*; Guimarães, "Industry, Market Structure and the Growth of the Firm in the Brazilian Economy"; Jenkins, *Transnational Corporations and the Latin American Automobile Industry*; and Kenneth S. Mericle, "The Political Economy of the Brazilian Motor Vehicle Industry," in *The Political Economy of the Latin American Motor Vehicle Industry*, ed. Rich Kronish and Kenneth S. Mericle (Cambridge, Mass., 1984).

competition, they could not have precipitated the same outcome; ten years earlier, they would not have evoked a similar response. The GEIA plan—more by luck than by design—coincided with the return of private capital flows to Latin America in general and with the internationalization of motor vehicle production in particular.

In the absence of change in the international industry, there is little doubt that market closure, financial incentives, and administrative reform would have been insufficient to attract investment into the Brazilian auto industry. Indeed, the emergence of European competitors in the 1950s loosened the relatively tight oligopoly of the U.S. firms that prevailed before the Second World War, and a new international configuration was not yet consolidated. Brazil's room for maneuver increased as a result.

Nevertheless, this study suggests that the bargaining literature's approach to the Brazilian auto industry is incomplete in several respects. First, it exaggerates the coincidence of interests between the state and the firms, as well as the degree to which oligopolistic competition explains the pattern of investment. Second, and more important, the objective function of the state must be expanded to include the installation of auto manufacturing capacity not only as an end in itself but as a means to rapid industrialization and the maintenance of political support. The firms, in contrast, aimed to limit their initial commitment to make it easier to recoup their investments and to reduce potential exit costs. Therefore, the timing and form of investment must be included as key elements in the bargaining process.

Douglas Bennett and Kenneth Sharpe argue, for example, "that no matter how contentious or conflictive the actual bargaining may become, it rests upon a foundation of shared or convergent interests."[138] Given firms faced with saturating markets in Europe and the United States, and the challenge of realizing full scale economies while producing a wider and changing array of models, one such convergence became "transnational automobile firms looking to promote sales and secure toeholds in LDC markets and LDC governments looking to promote domestic industrialization. . . . "[139] Kenneth Mericle characterizes the relationship between the state and the transnational firms as supportive, and

[138] Bennett and Sharpe, "The World Automobile Industry and its Implications," 222.

[139] Ibid., 208.

says that there is no evidence to suggest that firms were hostile to the principle of establishing domestic manufacture, although they would have preferred lower domestic content levels.[140]

If by convergent interests it is meant that firms would have proceeded in the same way in the absence of state action, the evidence suggests otherwise. Only when faced with market closure did firms respond to GEIA's call. Eduardo Guimarães and Rhys Jenkins concluded that market closure was the single policy variable that attracted and set the timing of foreign investment. Subsequent interviews and testimony in which the automotive companies in Brazil credit market closure as the most important incentive support this contention.[141] Without this compulsion, the firms were not inclined to invest. As J. Wilner Sundelson of Ford International put it, the Brazilians put "a pistol to our head."[142]

Although it is true that the auto companies were not hostile to domestic manufacturing in principle, but at lower domestic content levels, it was precisely the level of domestic content, which in fact defined the degree of manufacturing capacity, that was the main issue of contention. High domestic content levels meant that firms were forced to produce the technological heart of their vehicles in Brazil, which they did not want to do. Having to build engine and stamping plants, and even foundries, in a short period also made it impossible to invest incrementally.

This is not to imply that state policy was sufficient; Ford had shown that it was prepared to pull out of markets when investment conditions were unfavorable. It also followed closely the strategy of its primary rival, GM. Moreover, it is important to distinguish between the initial decision to invest and subsequent decisions, and to understand the relationship between the state and firms once the industry was established. Once the industry was installed, government policies were supportive in that they created conditions under which vehicle demand grew and labor costs were compressed. Negotiations between the firms and the state revolved around price controls, which were set on a cost-plus basis

[140] Mericle, "The Political Economy of the Brazilian Motor Vehicle Industry," 2 and 6.

[141] See Lincoln Gordon and Engelbert L. Grommers, *U.S. Manufacturing Investment in Brazil: The Impact of Brazilian Government Policies, 1946–1960* (Cambridge, Mass., 1962); and John C. Goulden, general director of Ford do Brasil, Testimony before the Parliamentary Inquest Commission for the Verification of the Cost of the National Vehicle, 10 Oct. 1967, GEIA Archives.

[142] Mira Wilkins interview with J. Sundelson, 11 May 1960, Wilkins Personal File.

and, starting in the 1970s, around exports. Despite the increased concentration of the industry, the relatively small market was still too fragmented to allow any one firm to reach optimum levels of production in the short to medium run. By influencing factor costs, maintaining protection, and limiting new entry, the government ensured that high costs did not necessarily translate into low profits.[143]

Once Brazil decided to close its markets to imports, the logic of international investment capital began to take precedence in most bargaining accounts. A degree of automaticity is implied regarding the number of firms that entered; market fragmentation was the result of oligopolistic competition. Unless Brazil's political-economic profile had been radically altered, the argument goes, GEIA could not have prevented market fragmentation, nor was it responsible for it. Also, since expected profits were not the determinant attraction, the incentive structure was insignificant. Finally, even without the government's program, the industry would eventually have located in Brazil. As stated by Guimarães:

> In this context [of internationalization], the first implication which foreign producers could derive from the announced Brazilian government policy was that being absent from the emerging industry meant being excluded from the Brazilian market entirely, since effective protection for new national production should be expected. From this point of view, Brazilian government policy was a decisive inducement in engaging foreign firms to take up manufacturing activities in the country. On the other hand, it can be argued that, due to the very growth dynamics of the international industry, a foreign producer would be induced, sooner or later, to steal a march on their competitors by starting to manufacture in Brazil, independent of any prior government incentive, counting

[143] Many of the cited authors who have emphasized convergent interests were implicitly or explicitly responding to simpler bargaining models that assumed completely distinct interests and agendas on the part of states and foreign firms. These less sophisticated frameworks assumed that the state represented a vaguely defined national interest. To their credit, these scholars have identified competing interests in the peripheral state and society, some of which may not be distinct from those of the transnational firms. I would like to thank an anonymous reviewer for reminding me of this point.

> only upon future restriction on CBU and CKD imports. This government policy would have only realized, or at most anticipated an existing trend.[144]

The history of the Brazilian industry shows that this approach, with its emphasis on market closure alone, is insufficient. It both disregards and cannot account for the form and timing of investment, which, along with firm risk, were highly related and significant factors. For strategic reasons, Brazil wanted fast and large investment projects. Firms could have invested incrementally, reducing their degree of exposure, but the state would not have met its larger developmental objectives.

The incentive structure must therefore be included in the analysis of firm entry, and the role of these incentives must be understood within the larger context of the international industry and the Brazilian market. The market was potentially large and protected from import competition; years of foreign exchange rationing had created a situation of repressed demand. This market, in combination with the relative price inelasticity of vehicles, made investment more attractive. However, this was only market potential and not a given. By substantially reducing the cost of investment, the financial incentives offered to the industry reduced its risk. Even if the market had not fully materialized, subsidies—in combination with import protection—would have guaranteed a return.[145]

The incentives also changed the time frame of the industry's birth, for which closing the market alone would have been insufficient. Lowering the costs of investment by a significant amount for a prescribed period put late entrants at a competitive disadvantage. (Ford was unwilling to invest in passenger car production without the benefits of Instruction 113.) The firms were all forced to invest within a short time. A more protracted investment schedule would have had different ramifications for Brazilian industrialization. GEIA had the authority to deny subsidies to firms that entered after a certain date, as evidenced by Ford's attempts to win project approval. Very little new investment was made in the

[144] Guimarães, "Industry, Market Structure, and the Growth of the Firm in the Brazilian Economy," 169–70. He cautions that an individual producer would have had difficulty getting an adequate supply of parts in the absence of a government policy for the sector as a whole.

[145] With the exception of BNDE financing, total subsidies on US$418.35 million of imported investment goods and complementary parts came to US$201.45 million, or 48 percent. See Shapiro, *Engines of Growth*.

industry after 1960. Only in 1967-68, when a new growth cycle was beginning and subsidies were reinstated, did a second investment phase begin. The incentives, therefore, increased the barriers to entry for firms that did not invest under the GEIA program and, by compelling large investments in a short period, increased the exit costs as well.

Furthermore, the incentives probably induced a certain degree of excess investment in the auto sector, both for individual firms and for the industry as a whole. By reducing investment costs, they encouraged firms' tendency to build ahead of demand; firms tried to use import licenses and credits before they expired. These subsidies, in combination with fixed market shares, also made survival possible for marginal firms. Closing the market may indeed have been sufficient to attract the financially secure transnationals; they could have covered short-run losses through their international operations and counted on the long-term market potential of Brazil. But resource-poor firms had to rely on current profits for a greater proportion of investment funds. Even companies like Ford were not sufficiently convinced of Brazil's market potential to incur early losses, however, and they were concerned about earning returns on their investments. For example, the incentives and market quotas (based on foreign exchange allocations), which guaranteed a niche in the market, provided the minimum threshold that made investment feasible. In fact, the industry as a whole was characterized by relatively high profits in the early years, when firms faced a buoyant sellers' market and before they reached 100 percent domestic content. According to Eros Orosco, the industry, like Ford, was largely self-financed after the initial foreign investments were made.[146] Furthermore, it was precisely the weaker firms that did not survive the crisis of the mid-1960s, when this cushion disappeared. Therefore, although the nature of oligopolistic competition explains why more firms entered than would be expected in an industry with a less concentrated, more competitive market structure, characteristics of the Brazilian market in combination with incentives meant that more firms may have entered than would otherwise have been the case.

In addition, the threats of market closure and subsidy deadlines would have produced no response had they not been *credible*, particularly since Brazil was setting a precedent in the region.

[146] Orosco, *A indústria automobilística brasileira*, 111.

In this respect, those who focus on the Brazilian state's administrative capacity have a strong point. To expand on the metaphor of Ford's Sundelson: Brazil had to prove that the pistol was indeed loaded. As evidenced by Ford's intransigence and VW's manipulations, the transnational firms themselves did not take the government's pronouncements at face value. They continually tested the government's resolve.

GEIA's performance was not as stellar as is generally portrayed. It was not immune to pressure from Kubitschek, as shown in the cases of Simca and VW, and its representative agencies did not always coordinate their efforts, as shown by the BNDE's investigation of VW. GEIA did not always have the political mandate or the administrative flexibility to respond to the unforeseen events, such as foreign exchange crises or the 1964 coup, that affected the plan. Stochastic elements introduced by the general political and economic context affected the sector in ways that neither GEIA nor the firms could have predicted.

The transnational firms were more adept than GEIA at manipulating public opinion and Congress. In interviews, several GEIA personnel voiced the suspicion that TNCs supported Bilac Pinto in his attempt to circumvent GEIA's auto plan. The auto firms were attuned to divisions in the state apparatus and to Kubitschek's political need for cars. Whether or not they initiated Article 59, they were poised to take full advantage of it.

Moreover, the fact that GEIA was not able to entice Ford and GM, the two largest car producers with the most international experience, into the market raises questions about the sufficiency of state policy *or* market closure (and the "bandwagon effect") to guarantee firm entry. Within the overall pattern of international competition, firm response varied. GEIA could not persuade the most powerful TNCs to invest in cars when it wanted them to, nor was it empowered to keep them out indefinitely.

Nevertheless, GEIA was able to initiate automobile production on its own time schedule. Overall, it successfully resisted attempts to sabotage the plan. It enforced domestic content requirements by withholding foreign exchange allocations from those firms that were not in compliance.[147] It prevented Ford from

[147] For example, GEIA withheld Simca's foreign exchange allotment when the firm failed to meet domestic content requirements, halting production for six months. Ford

entering the car market on Ford's terms. In effect, it proved that the pistol was "loaded enough" and that the plan would proceed with or without the full participation of Ford and GM, whose executives probably underestimated GEIA's commitment. The two U.S. giants also underestimated the challenge posed by VW. As known entities in the Brazilian market, Ford and GM may have presumed that they could afford to delay car production; a newcomer like VW had to carve out a new market. Even though these two firms ultimately were allowed to invest in passenger cars, they had to confront an existing industry that was shaped in their absence and to reclaim market share.

Finally, a primary objective of the plan was to kickstart industrial development. From that standpoint, the debate on whether firms would have invested later in the absence of incentives is irrelevant. Kubitschek's automotive program may well have "anticipated an existing trend." But the extent to which Brazil was successful in accelerating the process produced vastly different consequences for the country's industrialization.[148]

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also saw its import quotas slashed; letter from Aranha to Volkswagen explaining the potential consequences of delaying or abandoning local engine production, 3 Feb. 1959, Volkswagen Archives.

[148] Since the focus of this paper has been the bargaining process in the implantation phase of the industry, other performance indicators have not been addressed. The evidence shows that the state's initial subsidies did not generate ongoing resource transfers to the sector. Rather, the state successfully taxed away an increasing share of the oligopolistic rents accruing to the industry. Brazil was also successful in generating the production externalities associated with the industry, which it would have sacrificed had it continued to import; the industry had relatively high linkage effects. Moreover, the industry's cost curve fell. In light truck production, Baranson found that the ex-factory costs net of taxes were 1.28 times those of the United States. In 1983, a World Bank study also concluded that Brazil's auto industry was a successful case of infant-industry development: World Bank, *Brazil: Industrial Policies and Manufactured Exports. A World Bank Country Study* (Washington, D.C., 1983), 116. These results were attributable to Brazil's sectoral policy, the nature of the market, the macroeconomic environment, and characteristics of the industry. They did not derive simply from Brazil's large-country advantage. Preliminary research indicates that neither Argentina nor Mexico achieved the same results with respect to rent redistribution or consolidation. For more on these issues, see Shapiro, *Engines of Growth*, and Shapiro, "Rent-seeking or Rent-redistribution? Automobile Firms and the Brazilian State, 1956-1968," in *Developing Economies in Transition*, ed. F. Desmond McCarthy (Washington, D.C., 1990).