

Varig Airlines of Brazil: An Enterprising German Investment

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Assimilated almost unto invisibility into the feijoada of Brazilian society today is the important trans-Atlantic transfer of advanced technology and education, of innovation and financing by Germans. Development of Brazilian airlines, especially early route expansion is so "interwoven with foreign interests" that the perspective is badly skewed without reference to their entrepreneurial promotion of commercial aviation [7, p. 353]. From their beginnings in Brazil, Germans sought the niche, the unfilled needs. They viewed the need for transportation both as a sinew of modernization and as a means of linking and opening vast isolated areas, of building air bridges (Ponte Aérea) between major cities.

Germans built and/or operated coastal shipping, railroads, and roads. However, their most eminent, lasting, and profitable example is Brazil's flag air carrier Varig, largest airline in Latin America and one of the most highly capitalized corporations in Brazil. At least three groups contributed; Germans resident in Brazil, concentrated in the three southern states of Santa Catarina, Paraná, and Rio Grande do Sul, trans-Atlantic transfer agents, and German-based companies.

Germans who migrated to Brazil from the 1870s to the 1920s transported modernized skills and enterprising attitudes crucial to the development of the Urwald and urban areas they entered. Too often overlooked, these Teuto-Brazilians influenced education, philosophy and culture; distinguished the areas they settled economically from the rest of Brazil. In distinction to the large fazendas producing sugar and coffee, or the cattle ranching of the pampas, they established subsistence farming and small businesses.

As outsiders to the dominant Luso-Brazilian milieu, they functioned as innovative entrepreneurs. Outsiders or newcomers--the Germans were both in Brazil--had more to gain and less to lose than established citizens. As a result, they sought opportunities through fresh and different outlooks, and

¹A longer version of this paper is available from the author on request (Graduate School of Business, Fordham University, 113 W. 60th St., New York 10023).

often functioned as agents of change. Essentially they updated "old means to novel ends" [25, p. 351].

In small businesses, niche industries, and agriculture Germans contributed disproportionate to their numbers. They analyzed what was lacking and produced it. Their role was crucial to the development of food, beverages, paper, small industries such as woodworking and tanning, foundries and textiles, furniture making and metallurgy. In agriculture, Germans initiated poly-culture and technical improvements such as the plow, harrow, and four-wheeled cart; introduced products such as sugar cane and tobacco to the South. But the Germans' most profitable and continuing role was in transportation.

Since their economic ascendance in Brazil during the nineteenth century, Germans have realized that progress comes upon the sinews of transportation--first coastal shipping, then an internal network of roads and railroads linking previously isolated cysts of settlements, but most eminently airlines. Varig, Brazil's internationally respected airline, was founded in 1927 primarily by Teuto-Brazilians in Porto Alegre, Rio Grande do Sul. The impetus came from four sources: Santos Dumont, advances in aviation during World War I in Germany, Rio Grande do Sul's milieu, and its trans-Atlantic ties.

While Germans transformed advanced technology and market opportunity into a highly profitable airline, Brazil claims "priority in the invention of a heavier-than-air flying machine" [23]. through a Paulista of French heritage. On September 13, 1906, Santos Dumont flew 700 feet in 21 seconds. In the 1920s he demonstrated the feasibility of trans-Atlantic flights using a German monoplane.

As a youth on his father's coffee fazenda near São Paulo, Dumont's dreams reflected his French heritage--he realized the prophetic tales of Jules Verne. And his Portuguese ambience. Following Camões, he wanted to navigate "through seas never before navigated." Like so many early aviators, he succumbed to the romance of flight. He envisioned planes as "Birds of Progress", a means of union, a New World antidote to Old World enmities. He envisioned planes as the only way to protect long, vulnerable New World coastlines. Planes could further commercial and political relations between nations, link capitals of the Western Hemisphere--Pan Americanism on the wing. Airlines in South America, Dumont reasoned, would overcome obstacles geographic and political. Later, Varig proved the profitability of linking the vast interior of Brazil.

But Dumont's Birds of Progress soon became Birds of Prey, destruction quickly replaced hope. In 1906, no one had flown; by 1914 hundreds of machines existed [23, p. 260]. Instead of "a highway to pacific glories", they led to death. During World War I, planes were improved in size, some were made entirely of steel, and equipped with aircraft guns. Still, Dumont hoped that if an "airplane showed itself so useful in wartime" it could be even more important in peacetime [23, pp. 184-189].

In a tribute to Dumont, the Brazilian Minister to London said: he "navigated a flying ship and straightened its course against and across the wind. He thought he saw before him a flock which would join in and show

that the future conquest of the air had already been predicted by this solitary swallow." [23, p. 260]. Dumont--in his ethnic heritage, his frequent trips to Europe, mostly France, and the encouragement, offered him there--was a forerunner, albeit a romantic one, to the German ventures.

At the outbreak of war in 1914 "the airplane was still a toy, though potentially a deadly one [14]. By 1915, Germany had 1,200 combat planes; for several months that year, "thanks to Anthony Fokker's ingenuity", Germans dominated the air. That spurred enemies and allies alike to innovation and increased production [14]. By war's end, the fabled German ace, Manfred von Richthofen, aka the Red Baron, seaplanes, flying boats, land-based fighters, such as the Fokker D-7, probably the war's best fighter, captured imaginations, military, individual and commercial. Although revolutionary advances, such as the all metal Junker monoplane, were being made in Europe, the United States and certainly Brazil, lagged badly [14].

Even though "giant strides were made in aviation," the men not the machines were remembered vividly, even romantically [14]. But soon war heroes were unemployed; their warplanes, ill-suited for civilian use, were consigned to surplus and dumped on the market. Rather than connoting the heroic and glamorous, "grim associations of violence and death clung" to airplanes [14]. Men, skills, and equipment were obviously seeking new opportunities in new lands.

In an irony that would have greatly entertained Sir John Maynard Keynes, the highly impractical and unrealistic Versailles Peace Treaty that he thought would painfully demolish any hope of European prosperity, actually forced ingenuity within Germany, forced it to spread its entrepreneurial seeds most eminently in the United States and Brazil. Before the war, German prosperity enjoyed three supports: thriving overseas trade, ever larger and more diversified foreign investments, and aggressive promotion of high-quality, reasonably priced manufactured goods. To Keynes the Versailles Peace conference in its wickedness and folly "cunningly devised" a settlement "to injure German overseas trade." [16, pp. 19-21].

The Versailles Treaty severely curtailed any German activity--industrial, military training, even advocacy-- which could abet resurgence of Germany's power. Such stringency and reparations only worsened the natural aftermath of war--shortage of funds for any development, in this case, of better airplanes. When military aviation was blocked, commercial opportunities--freight and passengers--surged. Covertiness was key.

When the Treaty "forbade Germany to have an air force and banned [any] aircraft construction, the Junker factory was moved to Danzig." When construction of civil aircraft was allowed, wartime manufacturers--Heinkel, Dornier, Focke-Wulf and the Junkers were ready. Young designers such as Willy Messerschmitt built civilian planes that later evolved into fighters. In 1926, Deutsche Lufthansa, a civil airline, was founded as a state monopoly.

Through all the restrictions and geographic dispersion, the Old Comrades, associations of ex-air crews, kept in touch, sometimes overtly, sometimes covertly, to study other air forces, and the "new problems increasing speed, range and firepower would bring to aerial warfare" [9].

Journals such as *Die Luftwacht* and *Deutsche Wehr* carried original articles on all aspects of flying, but also translations detailing important developments in aviation world-wide. Of high priority was "the possibility of quickly converting commercial planes for military use" [9].

Not only planes, but also pilots who flew commercial were easily converted to the military. Secret training of air crews was conducted in Russia until the advent of Hitler, then with Italy. "Lufthansa pilots on extended leaves or young men mad about flying" often trained covertly for important military duties they would assume later. This dispersion and deception ended in March 1935, when Hitler tore up the Versailles Treaty and military training began openly [9].

German inventors were making important technological breakthroughs (all metal planes, with smooth metal surfaces, to reduce the high drag of corrugated metal used previously). This introduced the modern "stressed-skin concept," enhancing the wing's strength and load-bearing capacity. The Junkers and Anthony Fokker put the monoplane in serious competition with bi-planes [32, p. 131].

Brazil attracted many European Germans either weary of the war or fearing an encore. Many headed for the states in the Brazilian South when German was then the *lingua franca*. Varig's home state Rio Grande do Sul, actually a tri-cultural state--Portuguese, German, and Italian with a spicing of the neighboring Spanish countries--is distinguished by its frontier mentality and militaristic traditions. The ever vigilant guardian of the national boundaries, the state safeguarded Brazil's expansion and was imbued with the bandeirante spirit. Although speaking of language, Moyses Vellinho's conclusion can apply equally to the state's economic innovation: it "does not keep its windows closed to the renovating breeze of time and environment" [14, p. 18].

In this state traditional German interest in transportation coalesced with cutting edge aviation technology, overseas German technicians and financiers with Teuto-Brazilians, savvy in turning unsatisfied niche needs into profit, and invention with needs for uniting a huge country, plagued since its establishment with unconnected archipelagoes of peoples and a narrow coastal settlement.

Transport had been the spine and pride of German development in Brazil. Blumenau, considered the Mecca of Germanism, from its founding in 1848 until 1919 applied 63 percent of its total revenues to roads and bridges [22]. Germans from Russia organized wagon transport and operated it as a monopoly on the Paraná plateau to the coast. In Petropolis Germans played a similar role in carrying merchandise and passengers between Rio de Janeiro and Juiz de Fora [13]. By 1926, the year before Varig was founded, German colonies in the South had the finest natural surface roads in Brazil [22]. Even where Germans were few or their colonies nonexistent, they pioneered road construction. As they would later in national aviation, Germans assumed managerial roles in important sometimes risky ventures. Daniel Pedro Mueller, in 1820 appointed general supervisor of traffic on São Paulo roads, directed a road project of great economic potential--hacking out a direct, albeit serpentine, line of communication and transportation between São

Paulo and its port of Santos [11, p. 241]. As coffee fazendeiros in the São Paulo hinterland began to produce for export, the port facilities of Santos loomed ever more financially important.

While German financiers, both those resident in Brazil and in Europe, were interested in backing roads, shipping and airlines, they seldom invested in railroads. That was British turf. But German engineers and technicians often constructed stretches of track. They so encouraged these links between settlements that Gilberto Freyre wrote: the railroad was the iron embrace of the four southern provinces [11, p. 241]. But vast distances, forbidding terrain, thin populations, plus transportation, fragmented and geared to an export economy (radiating out from ports) could serve only local purposes, not internal cohesion. The link, the prod, the revolution in social behavior came from airlines. "The economic stimulants which changed frustrating stagnation into dynamic growth" were largely airlines "which provided the vital nerve systems". Germans were a key [7, p. 333].

Railroads, steamships and planes all indicate German entrepreneurs were practicing bottom-up innovation and creative destruction long before Joseph Schumpeter preached his eclectic economic ideas. He documented what late nineteenth century Germans were doing--sweeping out old products, old enterprises, and old organizational forms by introducing new ones [22]. In my journal written in Blumenau on October 27, 1973, the author observed Schumpeter's "oxymoronic metaphor" of "creative destruction." "Leaving Blumenau, we paralleled the railroad tracks down the Itajaí River. The tracks are abandoned, overgrown with weeds and small bushes. To think how men struggled to lay them, how much they meant to the colonists and to commerce...and now nothing. Men's struggles are often for naught and forgotten, superseded by better more profitable technology in another generation."

Steamship lines not only transported immigrants to Brazil at great profit, but they encouraged a constant trans-Atlantic flow of people, ideas, and money. In the Brazilian coastal cities Germans saw need to link Rio Grande with São Paulo and Rio de Janeiro, and so they built the first boats. They also established profitable import-export businesses, organized trade and maritime transport with Germany, and despite such obstacles as high export duties--15 percent on Dutch and Portuguese products, 24 percent on German-competed successfully [24, pp. 236, 449].

As in the fatherland, Teuto-Brazilians were quick to sense the opportunities, organize, and experiment. Brazil so large, lacking any aviation expertise of its own, save the heritage of Dumont, and later astride the developing air routes to Argentina, then the continent's wealthiest nation, was a catnip of opportunity [7, p. 352]. Ventures, international and domestic, began blooming.

Aviator Jorge Henrique Möller joined Jose Bernardino Bormann to found a Brazilian Air Club in 1911. It became the principle source of training pilots and encouraging aviation. Even the 1915 crash of Ricardo Kirk, also German despite his name, did not diminish the Club's ardour. They dreamed, as had Dumont, of the expanding and positive aspects of flight. Flights would foster national unity, would change previously inhibiting concepts of time and

distance. Starting with mail flights, planes could explore interior areas still remote and unknown. Planes would be the base; without them Brazil would not progress [7, pp. 454-460].

Throughout Varig's early history, as well as that of Avianca and other South American airlines fostered by Germans, ties across the Atlantic--planes, pilots, managers and funds--were crucial. Only after World War II did Boeing and Lockheed replace Junkers and Focke-Wulfs.

The first solid manifestation of this trend came on May 5, 1924 when the Condor Syndikat was organized in Berlin for the exclusive purpose of promoting sales of German commercial aircraft overseas. Condor was sponsored by Deutscher Aero Lloyd, A.G. a leading German airline and ancestor of Lufthansa, Schlubach Theimer, a Hamburg trading company, and Peter Paul von Bauer, an Austrian emigrant to Colombia [7, p. 338].

On November 19, 1926, the first commercial aircraft to fly a revenue-earning service in Brazil arrived in Rio Grande. The Dornier Wal "Atlântico," shipped from Hamburg at the expense of Deutsche Lufthansa, was flown by Fritz Hammer, Max Sauer and Herman Teegan. To mark not only the occasion, but to demonstrate its safety and reliability, the former chancellor of Germany, Dr. Hans Luther, was a passenger. On New Year's Day 1927, the "Atlântico" made a demonstration flight from Rio to Florianopolis, captained by Rudolf Cramer von Clausbruck, newly arrived from Germany, where he had flown the Baltic region for both Deutscher Aero Lloyd and Deutsche Lufthansa. Also aboard was Dr. Victor Kondor, then Brazil's transportation minister. Later the same year, Linha da Lagôa inaugurated service between Rio Grande, Pelotas and Porto Alegre [7, p. 340]. The groundwork was laid for a major project--Varig.

Like earlier German ventures, the inspiration sprang from need. A German World War I pilot, Otto Ernst Meyer was working for Lundgren Brothers, a Recife textile company with subsidiaries and associates throughout Brazil. He "was greatly inconvenienced" traveling extensively on the "uncoordinated and incomplete railway system" and by ship from Recife to Rio, where he lived briefly. He soon identified the need for an airline. He and his colleagues, Hans Joesting and Hans Cronau, attempted to establish air transport companies in 1921 and 1924, unsuccessfully. Acting on his resolve, Meyer moved to Rio Grande do Sul to seek practical and financial support from its large German population. Through Alberto Bins, then president of Porto Alegre's Chamber of Commerce, Meyer obtained state financial support.

Bins, even more than Meyer, exemplifies innovation, the important role of German-Brazilians in the economic life of Rio Grande and crucial ties with Germany. Born in Porto Alegre in 1869, Bins, son of an immigrant tailor turned merchant, typically, received some of his schooling in Germany. Joining a metal works firm MPA in Porto Alegre, he became its manager in 1904 and quickly expanded the range of its products. Diversification and new ventures attracted him as it did many Germans in Brazil. He entered rice farming, soon becoming president of Porto Alegre's Commercial Association, then organized a rice growers syndicate. Bins' success as businessman and organizer cannot be attributed only to administrative and entrepreneurial

pro prowess, but also to his connections as a government official. He served on the municipal council from 1890 to 1913, as a state assemblyman until 1928, when he became Porto Alegre intendant for ten years [18].

In 1926, Meyer "naturally went to the German commercial aircraft industry," then "producing the world's most advanced load-carrying airplanes." On November 1926 he signed an agreement with the Condor Syndikat in Hamburg "to allocate 21 percent of Varig's shares to Condor" in return for an airplane and necessary technical support. Mutual opportunity sealed the deal. While Meyer introduced Condor to Brazil, "it recognized the entrée as a golden opportunity and seized upon it with "calculated efficiency", thus providing " a new impetus to the commercial air transport industry in Brazil." "A successful airline depends on good finance, good management, good aircraft and good routes." Varig eventually enjoyed them all [7, p. 339].

It was easy, then, to convince Dr. Victor Kondor, a German from Santa Catarina, when minister of transportation, of the importance of air. He had studied German pilots, who in 1926 had formed the Condor Syndicate and flown the first experimental flights in South America. They demonstrated the feasibility of airlines. A group of ten underwriters was formed, who would later become the incorporators of the new company: Bins, José Bertaso, Charles Fraeb, Arthur Bromberg, Rodolpho Ahrens, Adroaldo Mesquita da Costa, Emilio Gertum, Waldemar Bromberg, Jorge Pfeiffer and Ernesto Rotermond. With their backing Meyer went to Germany shopping at major companies and industries for crew members and aircraft.

As a result, Varig (Viação Aérea Rio-Grandense), was formed on May 7, 1927 in Porto Alegre on Meyer's advice and inspiration. He became the managing director, Captain Van Clausbruck, technical director, and engineer Captain Fritz Hammer, deputy director. One of Meyer's first hires, a secretary, Reuhen Berta, became his successor as Varig president in 1941. The 550 shareholders represented Porto Alegre, Pelotas, São Leopoldo, Rio Grande, Novo Hamburgo and Cachoeiró do Sul. Varig inaugurated Brazil's first regular air service between the cities of Rio Grande and Porto Alegre. The airline flew Junkers, Messerschmitts and Foche-Wulfs leased from Condor [7, p. 404]. Not until 1933 did a Brazilian--Severiano Primo da Fonseca Lins--pilot a Varig flight [7, p. 405].

In 1934, the Condor Syndicate, in cooperation with German pilots and technicians, founded a second airline VASP (Viação Aérea São Paulo), patterned after the Reich's Lufthansa. Using Junkers obtained through Theodore Wille and Company, a German importing firm, and led by Luis Weber, Vasp directly linked São Paulo, with its developing industrial contacts and with Rio. Its Rio-São Paulo flights inaugurated the air bridge (or shuttle) concept between major cities. Eventually, Vasp developed lines into the interior of São Paulo State, to Goiás, and even to the Mato Grosso border city, Corumbá.

Some observers saw Vasp retracing the steps of entrepreneurial Bandeirantes, who pioneered the opening of the São Paulo plateau. R.E.G. Davies, historian of Latin American airlines, sees the tie as so close and important, he entitled one of his chapters, "Bandeirates of the Air". Like airlines, these Sixteenth Century entrepreneurs sought wealth in Brazil's

interior, thereby revolutionizing Brazil's economy. Germans pushed into the interior first in *Urwald* settlements; later in airlinks, for example, to Corumbá, Cuiaba and Campo Grande, Mato Grosso [7, pp. 380-1]. In 1990, Vasp was privatized [7, pp. 457-8].

All airlines under German influence in Brazil courted serious future difficulties by following old patterns with entrepreneurial zeal. Early German-speaking settlers sought opportunities by pushing into the extremities of the *Urwald* and seeking the market niches in need of products and services, Sindicato Condor was following this familiar pattern--establishing bases and route segments at the furthest extremity of a trunk route, opening virgin areas, then filling the gaps [7, p. 347]. This is demonstrated technologically with mail routes and zeppelins as well geographically. Instead of carrying mail purely by surface ships, Germans introduced a sea-air combination, using zeppelins.

The "Graf Zeppelin" transported mail from Friedrichshafen to Recife, then connecting with Rio. From there Condor distributed the mail to German communities in the south. Even though Zeppelins made regular runs between Friedrichshafen and Recife, they were soon supplanted by faster aircraft. Unfortunately the Hindenburg tragedy in the United States demonstrated the dangers. Germany also trained pilots who would extend Germany's air reach in South America. They experimented with catapulted craft. In 1934, the German-Brazilian partnership gathered momentum when Deutsche Lufthansa was permitted to fly within Brazil. The zenith of passenger and mail service between Europe and South America was reached the following year when sixteen round trips, carrying 1,006 passengers, were completed [7].

Nationalism and war were beginning to cloud Varig's operational and financial success. Shadows of warnings became concrete with President Vargas' 1937 decree outlawing any public use of any language except Portuguese--a strike at German, the *lingua franca* in the southern states and other German-Brazilian settlements. Vargas' politics and world turmoil focused fears on the extensive German-Varig ties. Varig initially had financial ties with the Berlin-based Condor Syndicate which initiated commercial aviation in Brazil. Varig's planes and pilots were almost exclusively German; its company officers German-Brazilians. Foreign birth created few problems, when in 1934, Vargas decreed all pilots flying Brazilian registered planes domestically or internationally must be Brazilian nationals. The pilots were simply nationalized. However, the more restrictive 1940 rule that all pilots must be native born, created serious shortages [12, pp. 388-389]. Ironically, a very small number, estimated at five percent, of Germans were even slightly interested in politics or military use. Rather, they were aviation pioneers imbued with the excitement of airline expansion [12, p. 375].

The tensions of the times, particularly concerns about German control of Varig and the Colombian Avianca, with its proximity to the Panama Canal, were best recorded by journalist John Gunther in *Inside Latin America*. In 1940, he wrote that the German or German-dominated airlines in Latin America, "were throbbing arteries of the fifth column." German pilots trained for years over the terrain, "know every inch of strategic territory." They fly "every inch of the exposed Brazilian bulge, penetrate deep inland," go just

where strategic considerations are the most pressing. "Germans do everything they can to maintain their services."

Davis, writing later in 1983 when German hysteria was gone, saw charges of political and military designs very differently. Rather than airlines providing a logistical and technical base for nefarious German expansion or a danger to the Panama Canal, Davies saw simple business opportunities. Developing remote areas of the Northeast and Acre made more profitable business sense than competing in denser populated areas already well served by air. Rather than being feared, Condor was welcomed by local authorities. If some planes had bomber design, that was simply what Germany was producing. Davies concludes,

evidence was circumstantial and hypothetical. While the potential for a spectacular military adventure can be discerned from the map of German airline associates in South America, nothing ever happened to suggest that such an ambitious plot was even contemplated [12, p. 375].

Traditional quests to fill market niches were invested by the temper of the times with sinister plans of conquest. Gunther notes that Sindicato Condor had a "big fleet of Junkers"; most its pilots nationalized Germans. It seemed a sinister, intricate network to Gunther--more than 10,000 miles flown to the Straits of Magellan, west to Bolivia and Peru. He cited a January 1941 *Foreign Affairs* article by Melvin Hall and Walker Peck, "Wings for the Trojan Horse," for a complete account of how the German airlines work. In contrast, the United States had minimal commercial aviation ties with South America [12, pp. 19-20].

As with all German-owned operations in Brazil, when war was declared between the two nations in 1942, Brazil assumed control, firing even Brazilian-born workers. Meyer, feeling his German background could cause Varig problems, resigned. Berta became president. By then, however, Brazil had a "network of air routes which out stripped in pace and imagination" ideas of economic development. Airlines were the "communications nerve system." Every Brazilian state and most cities were served by airlines, connecting them swiftly with mail, freight and passengers, to other Brazilian and international cities [7, pp. 404].

Following World War II transportation received great attention and massive sums. But now the impetus was Brazilian not from overseas. Moving people and the goods to sustain them in a territory of 8.5 million square kilometers, the "marcha para o Oeste," and President Juscelino Kubitschek's dream of opening the interior with a capital in Goias, linked nationally by a road system all dictated the primacy of transportation. The Target Program of the 1960s, recognizing neglected, insufficient transportation as a principal obstacle to economic development, assigned it high economic priority.

Varig played such a major role in developing a widespread modern air network it prompted the late Charles Wagley to say in 1960 that Brazil jumped from the oxcart age to the air age almost overnight. By 1968 airlines

carried over 3 million passengers, 3.5 million kilos of mail, and 37 million kilos of air freight [26].

Although greatly muted, the German heritage remains among some of its senior executives. President Berta was succeeded in 1966 by Erik de Carvalho. In 1979, Harry Schuetz, one of Varig's oldest employees, became president. Helio Smidt greatly expanded both domestic and international routes from 1980 to 1990. Rubel Thomas currently heads Varig. In continuous operation for 65 years, Varig is now one of the world's largest airlines and the only one employee owned [29, 30]. In 1990 it carried 598,027 passengers domestically and internationally, logging 17,383,643 passenger-kilometers. Among the 19 Latin American airlines, Varig ranks first in terms of kilometers and hours flown, cargo transported, passenger-kilometers, route systems and number of employees, 28,500. Compared with the 149 carriers worldwide, Varig ranks twenty-first in hours flown and passenger-kilometers, twenty-seventh in passengers, twelfth in cargo transported, and thirteenth in number of employees. Varig serves 45 international and 75 Brazilian cities with 102 aircraft.

Varig carries more air freight than any other South American airline and ranks thirteenth in the world in scheduled freight ton-kilometers. Cargo ranges from machinery, electronics, and pharmaceutical to horses, cattle, and tropical fish and fruits. Varig's maintenance, reflects the thoroughness of its founders. The program, designed to meet and surpass industry standards, is also used by the Brazilian Government to service its military aircraft. Testing, maintenance and overhaul of engines for military, commercial and passenger aircraft of any size can be completed at Varig's industrial maintenance complex at the Rio de Janeiro International Airport, the largest complex of its kind in South America.

In 1954, to mitigate financial risk, Varig began diversifying with the establishment of SATA, a ground handling company. Rototur Air Charters was added in 1969. To diversify from air transportation services, Varig began Agripec, an agricultural enterprise in the Northeast State of Maranhao in 1973. Half the 45,000-acre complex will be preserved in its natural state, the balance dedicated to farming, cattle and poultry raising.

However, as in the 1940s, events, economics and politics largely external to airline operations are impacting Varig. Its officials hold "mixed views" about Brazilian President Fernando Collor de Mello's liberalization of civil aviation, but are "pursuing advantages of the new environment."

During 1990, Varig weathered difficulties created by the Persian Gulf war, national economic problems, and the death of its President Helio Smidt. In response, Varig reorganized its senior management under Smidt's successor, Rubel Thomas, and decentralized decision-making to facilitate faster responses to an increasingly competitive market. Modest revenue growth was expected in 1991.

One reason for such slow growth is the general Brazilian economy and procedural changes. To eradicate over-regulation, President Collor granted greater flexibility in government approvals to buy aircraft, fares and change routes. Also, Varig's once unique position as Brazil's only international long-haul carrier is gone. Privatization of Vasp, creation of Trans Brazil, and

opening of international routes, primarily to American Airlines, actions taken quickly amid general economic instability, have heightened market competition.

Remarkable business success, however, did not obscure the innovative social heritage of the Teuto-Brazilians, who built their own schools, churches, social clubs and other infrastructure throughout the South. After assuming the presidency from German-born Meyer in 1941, Ruben Berta took steps toward mutual ownership by Varig's employees. Berta established a foundation first to provide shared ownership, then to fund social assistance programs lacking in the public sector--free medical and dental treatment, low-interest loans, subsidized meals and vacation retreats. Berta's guiding precepts were private ownership "and respecting in every man his dignity." Upon his death in 1966, while still president, the foundation was renamed in his honor.

Other examples of trans-Atlantic transfer from Germany to the benefit of Brazil could be cited: the extensive family businesses of H. Stern, international jewelers, poet-businessman Augusto Frederico Schmidt, the Klabin and Lundgren families, who produced powerful industrial conglomerates, even the military-managers such as President General Ernesto Geisel, son of an immigrant Lutheran pastor, who headed Petrobras before becoming president.

Today, Teuto-Brazilian business has melded into the mosaic that typifies Brazil, but western German ties have been spectacular since the 1970s in every area of trade, commerce and investment, according to Jordan Young. More than 900 German companies--including such well known giants as Volkswagen, Siemens, and Mercedes-Benz--operate in Brazil. Joint projects--nuclear research and construction, rocket and space probes, and ship building could, according to Young, not only replace that special U.S.-Brazil relationship, but produce an "interlocking alliance" that reaches well into the future [35].

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