

A White Elephant in Asphalt: The United States and Transport Policy in Bolivia, 1941-1951

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In July 1946, a popular uprising deposed the military government headed by Major Gualberto Villarroel and ended the first regime in which the *Movimiento Nacionalista Revolucionario* (MNR) played a major role in attempting to reconstruct the political economy of Bolivia. Five years and eight months later, the MNR led another popular uprising which deposed another despised military government and ushered in a far more radical process of reconstruction. The Bolivian National Revolution of 1952 was such an important event, not only in the history of the country but in the history of Spanish America as a whole, that the historiography of the intervening period, the *sexenio*, has focused on the route to that revolution. As conflicts became increasingly intense and violent in the mines, the cities, and the countryside, the ruling body was inevitably defined as a traditional, oligarchic, and reactionary regime, a mere instrument of the tin oligarchy of the large mining companies and their allies, known as the *rosca*,

Quite apart from class conflict, the four Presidents of the *sexenio* found themselves constrained by several factors, some inherited from before World War II: a defaulted external debt, a system of resource transfers through multiple exchange rates, and a weak administrative apparatus; others that emerged in the immediate aftermath of the war: declining mineral production, chronic balance of payments deficits, and a branch of American administration prepared to engage in tough bargaining about the terms on which it would continue to buy Bolivian tin concentrates. They also inherited a further feature that emerged during the war, the keen interest of another branch of the American administration in

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placing Bolivia on a sound foundation. The only policy option that would secure economic progress, at least in the medium term, was the completion of a transport network that would knit all the regions of the country together. Since the Americans were prepared to provide both financial and technical assistance, the governments of the *sexenio* made transport a major part of their economic plans. This paper will examine the way in which that policy was implemented and will demonstrate how some of the problems facing these governments operated without any connection to class politics.

The Transport Problem in Bolivia

The development of a modern mining industry in silver, tin, and copper at the end of the 19th century provided the impetus to build the first railroads in Bolivia. During the period from 1888 to 1917, a comprehensive network was put in place. The first stage saw the mining district centered on Oruro and the new capital of La Paz connected to different ports on the Pacific coast; the second stage saw an extension to the old mining centre of Potosí, a link from La Paz to Oruro and the first railroad across the eastern cordillera of the Andes which linked Oruro to Cochabamba.² While the mining industry could then flourish, binding the major centres of production and consumption to the exterior weakened many internal economic linkages.³

The problem of economic disarticulation inevitably fed the claims from the now marginalized regions for incorporation into this new network. From 1911 to 1916 Congress authorized four major railroad projects: Atocha-Villazón, Potosí-Sucre, La Paz-Rurrenabaque, and Cochabamba-Santa Cruz. While they were supported by dedicated taxes, their completion would depend on substantial foreign financing. The Villazón line was designed to alleviate dependency on the Pacific ports by linking the main line to the Argentine frontier and thence to the Atlantic. The Sucre line was a palliative to powerful regional interests anxious to prevent the old capital from suffering further decline.

The lines running east from La Paz and Cochabamba had an explicit developmental objective. The regions that were to be connected had enormous economic potential in cattle, sugar, cotton, timber, and oil, but were quite undeveloped with an extremely low population density.⁴ Rurrenabaque was the head of commercial navigation on the Río Beni in the northeast and the line would run through the rich agricultural district of the Yungas. It would replace the existing route of 750 kilometres which took at least 17 days to traverse. Santa Cruz was a much more important centre of the east and the line to Cochabamba would replace the existing route of 450 kilometres which took around 14 days.⁵

Railroads were the ultimate symbol of progress and further construction became an indispensable condition for political survival.⁶ That was a major factor in the decision of the Saavedra government, which had seized power in 1920, to negotiate a loan with New York bankers in 1922. The Atocha-Villazón line could then be opened in time to join the celebrations of Bolivia's centenary in 1925. With the proceeds from this and three similar loans made between 1924 and 1928, progress was made on each of the extensions towards the east.

The commitment to rail represented by these loans came under increasing scrutiny. Although roads lacked the glamour of rail, it was evident to many that they would be a cheaper and faster solution to the problem of connecting the north and centre to the east.⁷ Regardless of the outcome of the debate about the respective merits of rail and road, Bolivia was reaching the limits of her ability to raise external funds. Concern about maintaining external credit resulted in a reduction of the loan for the Cochabamba-Santa Cruz line to cover only the first section of 125 kilometres to Vila-Vila.⁸ Any attempt to define the limits of debt service capacity became redundant with the fall in tin prices which forced Bolivia to suspend payment on her foreign debt in 1931. The 1930s therefore began without any clear sense of how the transport problem would be solved.⁹

Towards the end of the decade, the problem took on a new dimension and urgency. Oil was one of the major attractions of the east and, in 1922, Standard Oil of New Jersey had acquired a large concession. Three wells were brought into production, but the company found itself embroiled in the politics of the Chaco war and in 1937 its assets were simply confiscated and transferred to a parastatal, Yacimientos Fiscales Petroleros Bolivianos (YPFB), which was not in a strong position. The oilfield needed considerable investment and the internal market for petroleum products was limited. Bolivia therefore turned first to Brazil in 1938 and then to Argentina in 1941. They had each decided to extend their own railroad systems to the Bolivian frontier and were prepared to both finance and manage the construction of railroads to Santa Cruz. The major part of the cost of these extensions would be covered by oil exports. Brazil was also prepared to invest in further exploration of a large section of the region.¹⁰

With these commitments in place, linking the east with the system based in the west became even more imperative. Without it, Santa Cruz would be drawn ever more into the economic ambit of Bolivia's more powerful neighbors. Two rail connections were actively promoted. One was the old link between Cochabamba and Santa Cruz; the other was a new link between Sucre and the line being constructed by Argentina. The connection would be made at Boyuibe, just south of Camiri, the centre of the oilfield.¹¹ Oil would be an important source of traffic on both routes, the former serving the centre and north of Bolivia, the latter serving the south.

The United States, Bolivia, and World War II

The outbreak of war in 1939 forced the United States to turn to Bolivia as a major source of several strategic resources, especially tin, tungsten, quinine, and rubber. Unfortunately, the aftermath of the Chaco war had left Bolivian politics extraordinarily polarized and the ensuing controversy over the terms of the mineral contracts undermined the legitimacy of the government.¹² American policy now began to take shape. Placing a friendly regime on a more secure basis was both politically and economically imperative and that, in turn, required a commitment to a comprehensive programme of economic development.

Specific focus on transport emerged in the aftermath of the meeting of Ministers of Foreign Affairs at Havana in July 1940, which passed a resolution supporting the completion of the Cochabamba-Santa Cruz railroad as the last link in a line that would cross the continent from Santos on the Atlantic to Arica on the Pacific. The United States then sent two members of its Army Corps of Engineers to undertake a feasibility study. After two months, they made two critical estimates: \$29 million for construction; \$635,000 for annual operating profits. Since the profits could not service the debt, the railroad would place an undue burden on the overall economy. In its place, they recommended that a first rate asphalt road be built from the railhead at Vila-Vila (now renamed Villa Eufonio Viscarra) to Santa Cruz, estimated at a cost of nearly \$7 million.¹³ The Export-Import Bank (Ex-Im)¹⁴ would be the primary source of the finance required, but that could not be arranged as long as the outstanding claims of Standard Oil remained unsettled.

The next step was to send an Economic Mission to undertake further feasibility studies which would serve as a basis for a comprehensive programme. Its mere announcement raised expectations of a substantial infusion of American investment. Rather than await the results of the mission, the Bolivian Cabinet drew up its own plans, which included the railroad, for which it expected endorsement. As these plans became public, the government became vulnerable to further criticism regarding its negotiating ability. In order to provide greater credibility, the American Chargé d'Affaires in La Paz recommended that the Mission not only endorse the construction and financing of the highway as soon as it arrived, but that it be "pushed through quickly" to "convince the Bolivians that the Economic Mission signifies economic cooperation."¹⁵ While the highway had its own economic rationale, it would serve more urgent political purposes in stabilizing the government and enhancing American prestige.

The Economic Mission was headed by a commercial attaché, Merwin Bohan,¹⁶ but it did not have the time required to develop a fully comprehensive and integrated development plan. America's entry into the war made it imperative

to define the program of economic cooperation “as rapidly as possible” and Bohan was instructed to complete his survey “with the utmost despatch.”¹⁷ The report could only sketch out in rather general terms the nature and amount of investments required. It naturally focused on the potential of the east to provide oil, rice, sugar, lumber, and cattle whose development would support the Cochabamba-Santa Cruz highway. The whole programme would cost \$88 million. Of the initial phase costing \$26 million, \$15.5 million would come from Ex-Im and the remainder from the foreign exchange that wartime mineral prices had placed in the hands of the Bolivian government. It would be administered through a new agency, *Corporación Boliviana de Fomento* (CBF), with equal American and Bolivian representation.¹⁸ One major modification was made to the highway proposal. It would run from Cochabamba rather than from the railhead, and the estimate rose to \$10 million.

While it was far too controversial to incorporate into any formal agreement, Bohan saw the highway in much more ambitious terms than simply a link between west and east. It would serve as a demonstration project and the equipment would then be used to solve all other transport problems. Suspension of work on existing railroad projects would allow concentration of resources on the highway, whose completion would signal the end of the railroad era as far as Bolivia was concerned. The considerable experience that Bolivian engineers had accumulated in building railroads was to be discarded in favour of a project that could only be completed by Americans.

A conference of Latin American Chancellors was convened at Rio de Janeiro in January 1942 to consider the overall implications of hemisphere security and defense and that provided the opportunity to establish a framework agreement along the lines proposed by Bohan. The obstacle posed by the confiscation of the assets of Standard Oil was settled.¹⁹ By September, the CBF was formally created, but it took another four months before Bolivian legislation was modified to conform to Ex-Im’s requirements. By December, the CBF was in a position to receive the funds required to begin an extremely ambitious programme.²⁰

Building the Highway: Phase I

In 1943 a start was made on the highway with two contracts. One was with the Public Roads Administration of the United States to undertake the survey; the second was with a Bolivian firm, Christiani & Nielsen, for a short demonstration section. At the end of that year, the Peñaranda government was overthrown in a coup led by Villarroel. Although the forces behind this coup were those that had been systematically denouncing Peñaranda for his subservience to the United

States, the new regime was not interested in changing the terms of the programme he had negotiated. It was too aware of the problem that would face Bolivia when the wartime mineral bonanza was over and the imperative to develop the east would be even greater. Unfortunately, in spite of its formal protestations of support for the war, the United States was not prepared to overlook its evident Nazi origins and sympathies.²¹ Recognition, and with it financial commitments, were suspended until their most obvious manifestation, the MNR, had been purged from the Cabinet.

When full diplomatic relations were restored in June 1944, the Americans could again give their attention to the highway. Their hopes and fears were summarized:

In Bolivia, the highways are being looked upon as the first concrete example, illustrating for the benefit of the country, American methods and standards of highway development. Besides showing the people of Bolivia the most modern concepts of highway engineering...one must not lose sight of the fact that unless the highways are built economically enough to serve as a measure of cost for probable further road projects, the demonstration value attempted by this program will only reveal the luxury of expending funds for which the country is neither prepared nor capable of doing.²²

At this stage the project was not going well. Christiani & Nielsen had only managed to complete six kilometres in 12 months and since neither the company nor CBF was giving the necessary attention to subcontractors, much of their work had to be redone.²³ Cochabamba naturally saw this as grounds on which to press for abandonment of the highway and diversion of funds back to the railroad.²⁴

From the perspective of the State Department, the project was even more urgent than it had been in 1941. In Washington, pressure was brought on the Foreign Economic Administration for priority clearances of the equipment that would be needed because of its "utmost importance."²⁵ When the War Production Board refused on the grounds that it should be deferred until after the war, the Embassy restated the political cost, especially to the reputation of both the United States and its creation, CBF.²⁶

Although it was clear that the project had to be taken over by an American contractor, it was not until late 1944 that CBF was in a position to call for tenders. Several firms expressed interest but most were skeptical about CBF estimates of both cost and completion time. They estimated that the project would cost around \$18 million and take around 4 years to complete. Two firms, Warren Brothers and F. H. McGraw, submitted a joint proposal which came within 5 per cent of

the CBF cost estimate of \$10 million and promised a three-year timetable. They had some experience in highway construction elsewhere in Latin America, but the overriding consideration was the fact that they supported the CBF estimates. Since these estimates were also challenged by a US Military Attaché,²⁷ this decision was ominous.

Without much thought as to the long-term financial and administrative implications, in June 1945 the Villarroel government signed the necessary contracts to start construction. The total budget was to be \$13 million, of which \$10 million would be supplied by Ex-Im, but only after the CBF had spent Bolivia's remaining \$3 million.²⁸ Construction was in the hands of McGraw-Warren, who would work on the basis of a cost-plus contract. It would follow a route and design specified by engineers seconded from the US Public Roads Administration. In addition to securing the domestic funds required, the CBF was to be responsible for importing the necessary equipment. The project could only succeed if these three organizations could be effectively coordinated. None, of course, had any experience with a project of this magnitude in Bolivia. For precisely that reason, each was anxious to take as much credit for its success as possible. While the highway may have had a cost advantage over rail, it operated within a far more complicated administrative and political structure.²⁹

Building the Highway: Phase II

At the end of 1947, the construction contract was canceled thanks to the mutual antipathy between CBF and McGraw-Warren. Over the preceding two years the project had encountered every possible difficulty.

In 1943 the Public Roads Administration had sent a team of six engineers headed by Cottrell. By April 1946 it had managed to develop specifications for only 46 kilometres.³⁰ The slow rate of progress reduced the morale of the rest of the team to the point where four felt compelled to resign. Part of the problem was the failure of Cottrell to establish a working relationship with Bolivian authorities; one of the departing engineers recommended that his successor be appointed from the Bolivian Public Roads Department to eliminate "petty jealousies, tale-bearing and inter-office politics."³¹ Both the State Department and CBF agreed that Cottrell should be relieved of all his responsibilities, but the Public Roads Administration felt that his problem was primarily a result of war time constraints and insisted on sending him back to Bolivia. While progress improved, by April 1947 Cottrell had still only reached kilometre 120, and at that rate he would not be finished for another five years.³²

Cottrell's incompetence was not only political, but it also reflected an inability to recognise the need to reconcile the two principles that governed this project, demonstration of American highway standards at an economically justifiable cost. When McGraw-Warren started to work to Cottrell's specifications, they were considered to be far too high and too expensive. Cottrell's new team was not prepared to accept criticism from either CBF as the immediate source of finance, nor from McGraw-Warren. McGraw-Warren, in turn, was not prepared to accept the authority of CBF. Rivalry between the three organizations brought the project into serious jeopardy.

Compounding this problem was the insistence on the part of CBF on retaining the authority for ordering equipment in the United States. McGraw-Warren had asked for a commission of 3 per cent on such orders and CBF saw an opportunity to save this or divert it into familiar hands.³³ Lack of proper coordination between purchaser and user meant that much equipment arrived late and a high proportion was destined for a warehouse of useless machinery.

Lack of coordination was also a problem in the formation of McGraw-Warren. It was a joint venture between two separate contractors, each of which had a good reputation, but were unable to assemble an effective administrative team in Bolivia.³⁴ Its weaknesses were manifest in several ways. Cochabamba merchants complained first about the lack of clear procedures for bidding on supplies and then about the delays in getting paid. Nor were the staff able to rescue the reputation of their employer, since they had quickly "established an unenviable reputation in Cochabamba for laziness," and were often observed to be under the influence of alcohol. That was a particular weakness of the general manager who was anxious to remove the "only capable bright spot" who could enforce labor discipline. The inevitable result was poor morale and low efficiency on the part of the Bolivian employees.³⁵

As the project became more unwieldy, the government lost interest. It had no confidence in the ability of CBF to grasp Bolivia's needs and had never given up on the prospect of completing the railroad. Construction was continuing on both the Cochabamba-Santa Cruz line and on the line from Sucre to Boyuibe, so the rail option was still very much alive. Increasing resentment of McGraw-Warren in Cochabamba intensified the pressure to abandon the highway altogether. Had it been possible to transfer the funds from Ex-Im, the project would have been reduced to an expensive but instructive learning experience.³⁶

In July 1946 Villarroel was overthrown and his transport/development program was modified in several ways. The press began a campaign which castigated both McGraw-Warren and the CBF.³⁷ Installation of a new Board and General Manager provided no respite. Soon after the Congressional elections

of 1947, the Senate turned its attention to CBF, while the Chamber of Deputies targeted the highway.

By May CBF had taken the initiative and summoned representatives from the head offices of Warren, McGraw, the Public Roads Administration, and Ex-Im, from which the basis of a new contract emerged. It attempted to resolve the three problems of cost, specifications, and control. CBF would relinquish control over purchasing but would be apprised of the details of operations that would force McGraw-Warren to stay within budget, without sacrificing specifications, or lose the contract.³⁸ The cost estimates, however, had to be increased. Where the project had started with an estimate of \$13 million, it was now revised to \$18-20 million.

Not only was the new President, Enrique Hertzog, not prepared to provide a defense for CBF against its Congressional critics, he was also anxious to see a different pattern of development. While he remained a supporter of the highway, he was also anxious to see the completion of the railroad. The role of the highway was further downgraded with the decision to build a pipeline from the oil field to Cochabamba with a branch to Sucre. That was ostensibly designed to strengthen the south by increasing the capacity of the Sucre refinery.³⁹ Regional balance would be maintained by restarting work on the La Paz-Beni railroad.⁴⁰

The Cabinet was deeply divided on both the highway and CBF. Only one person, the Minister of National Economy, considered the highway a main priority; the Minister of Finance wanted to cancel it and divert the resources to the railroad. The Minister of Agriculture sought the dissolution of CBF altogether.⁴¹ Developing a coherent policy was made extraordinarily difficult as a result of a series of constraints. The tin industry was in serious trouble and as the companies attempted to place their properties on an economically sounder basis, they intensified the militancy of the labor movement. Class conflict in the mines was paralleled by more violent uprisings in the countryside. As Hertzog sought to form the political alliances that would enable him to cope with these challenges, Cabinets were reshuffled together with the CBF Board.

The new CBF President was General Bilbao Rioja, who had held the Public Works and Communications portfolios in an interim military government in 1930-31. He had spent the war years in London and completed a degree in industrial engineering there.⁴² Under his leadership, CBF took a more aggressive position with both the Public Roads Administration and McGraw-Warren. A Bolivian engineer, Knautt, considered the specifications far too rigid and was anxious to see the whole project turned over to CBF and the elimination of any further American involvement.⁴³

CBF was not in a strong financial position to back up its assertiveness. The Banco Central was unable to make available the foreign exchange required under

the agreement with Ex-Im and was dilatory in providing *bolivianos* so that even payrolls were missed.⁴⁴ The problem of foreign exchange was accentuated by the need for an additional \$6 million to cover the increase in costs. Although a potential solution was the subject of negotiations between the State Department with Ex-Im, no firm commitments were yet in place.

By the end of 1947, CBF was under considerable political pressure to re-negotiate the contract with McGraw-Warren. For the company, the prospects of establishing an effective working relationship with an uncooperative agency without secure financing were bleak. Before McGraw-Warren decided to break this deadlock, CBF announced that the contract would not be renewed.

Building the Highway: Phase III

CBF now took direct responsibility for construction and Bilbao took considerable credit for a substantial reduction in costs. A comparison between the first quarter of 1948 and that of 1947 showed labour costs cut by over half. Although 28 per cent less material was excavated, the unit costs were down by 33 per cent. By September costs were even lower.⁴⁵ McGraw-Warren was now exposed not only as a bad administrator, unable to prevent extensive pilferage, but also as technically incompetent since the asphalt was beginning to crack up because the base course had not been properly laid.

By late 1948 the survey was completed and the question now became one of how the rest of the highway would be built. Although it recognised that McGraw-Warren and the Public Roads Administration bore primary responsibility for the technical failure of the project, Ex-Im was not sanguine about the prospects of its ultimate success. It had “reached about the end of its patience with the Bolivian government and the corporation.”⁴⁶

Even if it had more confidence in its Bolivian partners, Ex-Im was now very skeptical about the value of the project. The Public Roads Administration estimated that another \$26 million would be needed, bringing the total to \$40 million, or over five times the figure proposed by Bohan. Amortizing this debt over 20 years would result in an annual cost of \$2.63 million. Within that period traffic would rise to 112,500 tonnes, resulting in capital costs of 4.7 cents per tonne/kilometre. When the estimated 2.2 cents were added to cover transport and maintenance, the result would be nearly 40 per cent higher than the current 5 cents.⁴⁷ Bolivia simply could not afford to service a debt of this magnitude.⁴⁸ The grounds on which the railroad had been rejected in 1942 now applied to the highway. However, too much American prestige was invested in the highway

for Ex-Im to firmly close the door on further participation. It was left slightly ajar, as Ex-Im waited for a proposal it could support

The Hertzog government decided one way to overcome its financial constraints was to restore Bolivia's external creditworthiness and that would require a settlement with the holders of the debt defaulted in 1931.⁴⁹ Negotiations resulted in a preliminary agreement, but Ex-Im wanted the assurance provided by Congressional endorsement. Since the government could not control Congress and that remained a site of continued "political bickering," the debt service agreement was neglected along with even more pressing budgetary and fiscal proposals.⁵⁰

The impasse was intensified in two ways. In La Paz, the Embassy was so upset at the "utter disregard that the Bolivian Congress has for honoring any of Bolivia's financial obligations abroad," that "something should be done to bring home to Bolivia that it cannot go on in this way."⁵¹ Fiscal reform was to begin by imposing a further tax on the tin industry, new taxes on the profitable financial sector, and diverting resources from the railroads.⁵² In Washington, the Securities and Exchange Commission put pressure on Ex-Im to refuse any loan until firm arrangements were in place to deal with the defaulted debt, with the result that the "Cochabamba project and the financial standing of Bolivia were held in such low esteem" that it was a "waste of time to discuss an application."⁵³

By 1948, the focus of Ex-Im had shifted away from Latin America towards the more urgent task of contributing to European reconstruction. Its disinterest in Bolivia was manifest in its unwillingness to appoint representatives to the Board of CBF, and its response to any queries on the highway issue was to "drag its feet, indulging in negotiations, interminable delays, indecisions, half studies."⁵⁴

1949 saw the most serious economic and political crisis of the *sexenio*. It began with a strike in the largest tin mining complex in March which escalated into a brief but intense civil war in September. The government was fortunate in that the MNR was only able to take some of the provincial cities. When the rebellion was quashed, Hertzog formally turned over the Presidency to his Vice-President, Mamerto Urriolagoitia, who was determined to take a much more aggressive response to any signs of subversion.

Just as the political crisis passed, the economic problem was compounded by the devaluation of sterling. That resulted in an immediate drop in the dollar price of tin and it would continue to fall until the outbreak of the Korean war. The State Department was now forced to take a closer interest in Bolivian affairs and intervened with Ex-Im to set aside the objections raised on account of the defaulted debt. In October the Ex-Im Board took a special decision and increased its credit to \$16 million. In return, Bolivia would add a further \$8 million to the \$8 million already expended.⁵⁵

With these financial arrangements in place, the way was cleared for negotiations with a new contractor. It was taken out of the hands of CBF and placed in those of the Bolivian Ambassador in Washington, Ricardo Martínez Vargas.⁵⁶ Several proposals were received and considered with a view to finding a company that was in a position to make a firm commitment. In August 1950, it was announced that a joint venture between Macco and Pan-Pacific had secured the contract, guaranteed by their head offices, and with a substantial penalty clause.⁵⁷ As it was being settled, the Korean war presaged a further increase in costs and Martínez used his contacts with Chemical Bank to secure another \$6 million in contingent supplementary credits.⁵⁸ From that point onwards, construction proceeded reasonably smoothly and the highway was opened, albeit twelve months behind schedule, in September 1954. Completion was naturally a cause for celebration and redounded both to the credit of the new revolutionary regime⁵⁹ and to that of Villarroel.⁶⁰

Assessing the Highway

The most comprehensive assessment of the economic value of this project was undertaken in 1956 when George Eder headed a mission designed to rescue the revolutionary regime from the inflationary spiral that threatened its survival. By that point it was clear that the whole transport strategy was based on a mistaken assessment of how the development of oil in the East would support a new network. Neither of the lines to Santa Cruz from Brazil and Argentina could generate the traffic required to pay for their construction costs.⁶¹ Had more sober judgements prevailed, Bolivia would have had more time in which to reflect on the best way to diversify her economy and the kind of transport infrastructure required to sustain it. It was a far more complicated task than could be encompassed within the report produced by a small team of foreign advisors under limited conditions.

Just as the two railroad lines were considered to be white elephants, so was the highway. By 1956 the total construction cost was estimated at \$50 million,⁶² or \$100,000 per kilometre. The debt to Ex-Im required annual payments of \$3.8 million in interest and \$4.9 million in amortization, while the CBF had to find another \$500,000 to \$1 million for maintenance. The volume of traffic in that year was around 20,000 trucks carrying 78,000 tons of merchandise, much of which was devoted to repairs on the highway itself. At that rate, the costs to Bolivia were \$460 per journey, or 24 cents tonne/kilometre. If amortization were suspended, these figures remain at the very high level of \$215 per journey and 11 cents tonne/kilometre and make no provision for the costs incurred in *boli-*

vianos.⁶³ Not only was the project uneconomic, but it was eventually replaced by another road between Cochabamba and Santa Cruz.⁶⁴ From this perspective, the judgement of Ex-Im was correct, it should never have been started in the first place.

If a strictly economic perspective had prevailed, then the most sensible option was the one proposed by the US Army Corps of Engineers in 1942, a highway from the railhead. Had this been simply an all-weather road built to the modest specifications that prevailed in the rest of the country, the project would still have been difficult, but manageable. Experience would have demonstrated whether the long-term solution lay in converting the railbed to a highway or vice versa. It would also have allowed for balanced growth, as the development of eastern resources generated the traffic which could pay for communication improvements. It may also have changed the course of Bolivian history. While the forces making for the return of the MNR to power were far too powerful to be blocked by Urriolagoitia and his military successor, the beginning of an effective programme of diversification in 1947 would have placed the economy on a much stronger basis with which to absorb the shock created by the 1952 revolution which brought it to a premature demise.

The Highway, Bolivia, and her relationship with the United States

In looking for an explanation of what allowed this project of undeniable political and economic significance to be dismissed as a white elephant, attention should be given to structural flaws in the relationship between the United States and Bolivia. The State Department view of Bolivia was framed by two principles. On the one hand, there was genuine sympathy with the miserable conditions under which most Bolivians lived and died and a desire to contribute to their amelioration. On the other, there were a series of negative experiences, with shady operators who took advantage of American investments in wartime mineral projects, with the brutality of the Villarroel regime, especially as it continued to spill over into the murder of American mining engineers, above all with Bolivian politicians and public servants.⁶⁵ Such a view was expressed quite frankly:

The whole matter of this insistence by Bolivians upon the immediate construction of a railroad to Beni reflects their devotion to the theoretical and their inability to seize the practical. They have a beautiful idea of the wonders the railroad will effect and turn a deaf ear to arguments showing the practical difficulties involved

in its construction and the advantages of a road. This also shows a certain perversity and inferiority complex in them, especially as it pertains to the advice of experienced foreign engineers.⁶⁶

Just as Bolivians were considered technically incompetent, they were also fiscally irresponsible. Public finances were chaotic as a result of a very complicated taxation system and budgets were always in deficit.

These principles were then reflected in a perverse superiority complex. American expertise in both design and construction were considered sufficient to ensure that a highway built through very difficult and unpopulated terrain would become a demonstration project of the wonders that could be wrought throughout the whole of the country. This flew in the face of the actual experience of construction of other highways in Latin America supported by American finance which revealed endemic corruption and incompetence.⁶⁷ Without any thought about the domestic administrative framework required to ensure that such expertise was suitably adapted to the specific problem at hand, the State Department promoted a new agency, CBF, and bypassed Bolivia's own Public Roads Department.

Without such adaptation there was no mechanism to ensure that both the specifications and their execution were kept within the budgetary constraints; worse, there was no basis on which the experience could be reviewed and revised to formulate a realistic budget. It is therefore hardly surprising that the final cost proved to be around five times the original estimate.

The asymmetry in foreign expertise and domestic requirements was reflected in a profound ambiguity about the status of the project. On some occasions the Americans defined the project as in the vital interests of the United States; on others it appeared as more of a benevolent gesture towards a friendly regime. Even where it was considered vital, it was unclear whether this was mainly because of the impact on the impression held by Bolivians of the United States and its representatives. That ambiguity was mirrored on the Bolivian side. It was the major transport project for which the government bore direct financial responsibility, but it was never defined as vital to the point where the railroad alternative was abandoned.⁶⁸ It was often treated as an American project from which Bolivia would benefit, rather than primarily as a Bolivian one with American assistance.

The financial arrangements also reflected this ambiguity. Ex-Im was not a development bank and it was only because Americans had primary responsibility for design and execution that it could provide financial support. That support came with the standard commercial terms on interest and amortization. Not only was Bolivia obligated to a repayment schedule that bore no relationship to

the economic viability of the project, but she was also forced to cover a budget over which she had little control. In short, Americans got most of the contracts while Bolivia assumed all the risks.

Under normal circumstances the project should have taken 60 months; instead, 141 months elapsed between January 1943, when the basic administrative structure was in place, and its completion in September 1954. During this time progress was only made on the ground for 78 months and the remaining gap covers two extensive periods, 30 months during the war, and 33 months from the termination of the McGraw-Warren contract to the signing of the one with Macco-Pan-Pacific. Each reveals a distinctive set of problems in the relationship between Bolivia and the United States.

The Second World War brought the United States and Bolivia together in a "limited partnership." The two partners had a common interest in political stability. Preserving it provided the assurance of a reliable source of raw materials for the United States; creating it required development of the Bolivian East. The highway project was therefore always invested with symbolic significance, one that confirmed American commitment to the partnership. It was therefore always urgent during this period. That sense of urgency not only truncated the planning process, but it prevented the delays caused by the war from being used to determine the crucial technical details of the project. Without them, it was easy to fall into the trap of a low-bid construction contract.

In the immediate postwar period, limitations to that partnership became ever more apparent. One manifestation is the long, drawn out and often acrimonious negotiations over the price for concentrates shipped to the Texas tin smelter. While Bolivia sought higher prices as the only immediate relief from a serious depression, the Reconstruction Finance Corporation saw them as an obstacle to a smooth adjustment on the part of the American economy. Although Bolivian negotiators could make modest gains, the overall economic situation remained very bleak.

The real value of the external income generated by the tin industry, the income terms of trade, over the period from 1947 to 1950, were 63 per cent of the level reached during 1940-1944. They were about the same level reached over the period from 1925 to 1929, but in the interim a major shift in the internal functioning of the economy had occurred. Foreign exchange receipts were controlled and the system of multiple exchange rates put in place was used to provide subsidies to imported food and raw materials. Urban consumption and much of urban employment, especially in La Paz, became dependent on these subsidies and it is not surprising that with this artificial support the urban sector grew at a fast rate.

The economy was therefore caught in a fundamental contradiction. Development of the East was required to reduce dependence on foreign exchange to meet consumption needs, but the current claims on that exchange were so strong that they limited the amounts available for productive investment. Those claims were expressed politically. The *Cámara Nacional de Comercio* and the *Cámara Nacional de Industrias* were both powerful lobby groups defending the status quo and deferring any revision of the basic exchange rate. In the background was the urban population that could be mobilized by the MNR. Inflation was already worrisome and it would only be compounded by any change in the structure of the economy.

Overlaying this fundamental problem were other endemic features. One was the regionalism which resulted in the dissipation and waste of the available investment resources. The second was political instability. That had two sources. The MNR was not prepared to accept its defeat in 1946 and was constantly plotting a return to power. While that should have provided the incentive required for the established political forces to find a basis of cooperation, the experience of the *sexenio* revealed the limitations of liberal democratic politics.

In 1947 elections were held for both the Presidency and the two houses of Congress. The political complexion of both is broadly similar to the results of the elections of 1940 which brought Peñaranda to the Presidency. Over the 1,334 days of the Peñaranda Presidency, there were six separate Cabinets in which 32 individuals served, for a median period of 294 days. By contrast, the Hertzog/Urriolagoitia Presidency lasted for somewhat longer at 1,538 days, but there were 12 separate Cabinets in which 74 individuals served, for a median period of 172 days.⁶⁹ In part, this much greater level of instability reflected Hertzog's desire to circulate office holding,⁷⁰ but, in large measure, it was a result of fruitless attempts to find an effective governing coalition. It is, therefore, hardly surprising that the government lacked the administrative capacity to find a way of negotiating a solution to the problem of completion of the highway and that it took the crisis of 1949 to force the Americans to overcome their own dilemmas about how to deal with the country.⁷¹

Characterizing the governments of the *sexenio* as reactionary and tools of the mining oligarchy reflects the success of the propaganda associated with the MNR and other leftwing nationalist political currents. There is only one important area where such a charge has any currency and that is in their failure to address another major constraint on Bolivian development, the system of land tenure and its archaic technologies. Otherwise, they were creations of the postwar period. Ideologically, they were committed to development and saw the state as its crucial instrument. Where they failed was less in their commitments than in their capacity to deliver on them.⁷²

As the new MNR regime attempted to deliver on the commitment to develop the East, it found itself constrained by a different pattern of destructive internal politics which unleashed a far greater economic crisis. It was sufficiently severe that the long standing American objective of securing political stability could only be secured by slicing the Gordian knot with a massive infusion of aid. With that, the elements that would lead to a successful completion of the development process were put in place, though they continued to carry with them their own sources of instability. Defining the problem of Bolivia prior to the 1952 revolution as one created by the vested interests of the mining oligarchy misses many of its central and continuing features. Administration, politics, and the relationship with the United States are critical factors, all of which are revealed by the difficulty of building a single highway.

NOTES

- 1 This article is published posthumously. We are grateful to Prof. Hillman's widow and family for submitting the article for publication in EIAL, and greatly appreciate their help in revising the text.
- 2 The Oruro-Cochabamba line was extremely expensive to build and constant landslides during the rainy season made routine maintenance similarly costly, Michael Jacobs, *Ghost Train Through the Andes* (London: John Murray, 2006), Ch 6.
- 3 Gustavo Rodríguez Ostría, *Poder Central y proyecto regional, Cochabamba y Santa Cruz en los siglos XIX y XX* (La Paz: ILDIS, 1993), 48. Santa Cruz began to decline with the completion of the Madera-Mamoré railroad in 1912, built to facilitate rubber exports, 86.
- 4 While the three eastern provinces of Beni, Pando, and Santa Cruz made up 55 per cent of the national territory (excluding the Chaco) they only had 15% of the population with a density of .68 inhabitants per square kilometre in 1918. Santa Cruz was the largest city with a population of 20,000.
- 5 W. L. Schurz, *Bolivia. A Commercial and Industrial Handbook* (Washington: GPO, 1921), 94, 84. In the 1930s a trail was built over 525 kilometres which reduced the journey time to 6 days in the dry season, 3 weeks in the rainy one, Ulrich Reye, *Política de desarrollo regional en el Oriente Boliviano* (Bilbao: Duesto, 1970), 44. The railroad route finally chosen by Congress in 1925 was neither the shortest nor the cheapest, Rodríguez, 53.
- 6 Manuel Contreras, "Debt, Taxes, and War: The Political Economy of Bolivia, c. 1920-1935," *Journal of Latin American Studies*, 21, 2 (May 1990).
- 7 Margaret Marsh, *Bankers in Bolivia* (New York: Vanguard Press, 1928), 86.
- 8 This was a concern of the blue ribbon Comisión Financiera, rather than of the bankers, Guillermo Alborta Velasco, *El flagelo de inflación monetaria en Bolivia* (Madrid: Románica, 1963), 221-224.
- 9 The Potosí-Sucre line was almost complete and was eventually finished in 1936, Harold Blakemore, *From the Pacific to La Paz* (London: Lester Crook, 1990), 182-183.

- 10 Peter Smith, "Bolivian Oil and Brazilian Economic Nationalism," *Journal of Interamerican Studies and World Affairs*, 13, 2 (April 1971).
- 11 This link was to be included in the arrangements made with Argentina.
- 12 Augusto Céspedes, *El Presidente Colgado* (Buenos Aires: Jorge Alvarez, 1966), 35. Criticism was based on the mistaken assumption that the war placed Bolivia in a position to demand much better terms.
- 13 *Foreign Relations of the United States (FRUS)*, 1940, Vol. V, 553-557, US Embassy, La Paz to Washington, January 6, 1941. Mario Arrieta Abdalla cites another version of the report with higher estimates of costs and operating profits, *Estación Bolivia* (La Paz: ILDIS, 1998), 67-68. The recommendation to build only to the railhead was designed to allow the government to recoup some of its lost investment.
- 14 The role of Latin America in transforming the Bank from its original mandate of financing American foreign trade to the provision of long-term investment is discussed in Frederick Adams, *Economic Diplomacy. The Export-Import Bank and American Foreign Policy, 1934-1939* (Columbia: University of Missouri Press, 1976), Chs 5 & 7; and William H. Becker, *The Market, the State and the Export-Import Bank of the United States. 1934-2000* (Cambridge: Cambridge University Press, 2003), Chs 1 & 2.
- 15 *FRUS*, 1941, Vol. VI, 45, La Paz to Washington, November 17, 1941.
- 16 Bohan had made a preliminary report following a visit in 1937. For an appreciation of his skill and sensitivity, see René Ballivián Calderón, *Hombres de buena voluntad* (La Paz: Artística, 1945), 44.
- 17 *FRUS*, 1941, Vol. VI, 452, Hull (Secretary of State) to La Paz, December 15, 1941.
- 18 CBF had three quite separate roles: 1) The passive conduit of external funds transferred to other agencies, YPFB, Banco Minero, and Banco Agrícola; 2) active investment of internal funds in agricultural projects; 3) oversight of the expenditure of internal and external funds on the Cochabamba-Santa Cruz highway.
- 19 In March 1941 the Bolivian Government removed the obstacle to American assistance by confirming its willingness to negotiate a settlement with Standard Oil. At Rio, those negotiations resulted in a payment of \$1.5 million, plus interest from the date of nationalisation, to the company which then withdrew any further claims. This too was denounced as treachery, Céspedes, 87.
- 20 *FRUS*, 1942, Vol. V, 613, Guachalla to State Department, December 22, 1942.
- 21 Skepticism about the latter is provided by Kenneth Lehman, *Bolivia and the United States. A Limited Partnership* (Athens: University of Georgia Press, 1999), 82; confirmation of the former is provided by Uki Goñi, *Perón y los alemanes: la verdad sobre el espionaje nazi y los fugitivos del Reich* (Buenos Aires: Editorial Sudamericana, 1998), 22-23.
- 22 National Archives and Records Administration, College Park, Maryland, RG84, Department of State, La Paz Post Confidential files (LPC), 815.4, Memo, July 25, 1944.
- 23 RG84, La Paz General files (LPG), 815.4, Memo, July 29, 1944.
- 24 RG59, Department of State, Central Decimal files (SDCDF) 824.154, Consular report, November 10, 1944.
- 25 SDCDF 824.154, Hull to Crowley, September 27, 1944.
- 26 SDCDF 824.154, December 20, 1944.
- 27 His estimates were \$16 million and 5 years, SDCDF 824.154, report, February 9, 1945.

- 28 *FRUS*, 1945, Vol. IX, 590, Washington to La Paz, July 23, 1945. Villarroel also committed the Banco Central to providing an additional \$2 million to cover any cost overruns. Víctor Paz Estenssoro was then confident that this essential element in the development plan was financed in its totality, *Dos años de labor revolucionaria en Bolivia* (La Paz, 1946), 10.
- 29 By 1944, Bolivia had considerable experience with different forms of railway construction, by its own government, by foreign governments, by mixed commissions and by various contractors. It was in a much better position to work out an appropriate framework to finish the railway than to embark on an entirely new venture.
- 30 LPC 851A, Cochabamba to La Paz, April 25, 1946.
- 31 RG84, Cochabamba Consular files, 850. Fomento, July 10, 1945.
- 32 SDCDF 824.124, Memo, April 3, 1947.
- 33 The purchasing agent in the United States was a relation of a CBF manager.
- 34 LPC 851A, Memo, October 17, 1946.
- 35 LPC 851A, Cochabamba report, February 19, 1946.
- 36 LPG 877, La Paz to Washington, January 4, March 20, 1946.
- 37 Led by the Cochabamba paper, *Los Tiempos*, September 10, October 11, 1946.
- 38 *FRUS*, 1947, Vol. VIII, 347-8, La Paz to Washington, May 28, 1947.
- 39 This was a complete waste of resources and considered a monument to the administrative irresponsibility of the Hertzog government, Enrique Mariaca Bilbao, *Mito y Realidad del Petróleo Boliviano* (La Paz: Los Amigos del Libro, 1966), 111.
- 40 The case for the project was made by Alberto Paladins, *El Ferrocarril La Paz-Beni* (La Paz: Renacimiento, 1946). The preface to this pamphlet was written by Luis Fernando Guachalla, who became Foreign Minister in 1947.
- 41 SDCDF 824.154, La Paz to Washington, August 7, 1947.
- 42 Aquiles Vergara Vicuña, *Bernardino Bilbao Rioja, vida y hechos* (La Paz: Unidas, 1948), 167, 626. Bilbao was a Chaco war hero and regarded as the true heir to President Busch, especially by the veterans' association. He presented himself as a candidate for the Presidency in the election of 1940 but his position as head of the army did not prevent him from being summarily arrested and exiled. He subsequently became the Presidential candidate of the Falange Socialista Boliviana in the elections of 1951 and 1965. His career suggests a much more complex pattern of political alliances than is captured by the conventional clichés which polarize them into traditional/oligarchic and progressive/nationalist.
- 43 SDCDF 824.154, Vice-Consulate, Cochabamba to La Paz, November 25, 1947.
- 44 SDCDF 824.154, La Paz to Washington, October 22, 1947.
- 45 SDCDF 824.154, Bilbao to Hertzog, May 20, September 27, 1948 in La Paz to Washington.
- 46 SDCDF 824.154, Memo February 13, 1948.
- 47 LPC 501.8, Memo, August 23, 1949.
- 48 SDCDF 824.154, Memo, February 13, 1948.
- 49 Hans Huber Abendroth, "La deuda pública externa y sus renegociaciones entre 1875 y el arreglo *ad referendum* of 1948" in Hans Huber Abendroth, et al., *La deuda externa de Bolivia: 125 años de renegociaciones* (La Paz: CEDLA, 2001), 143-157.

- 50 SDCDF 824.154, Memo, January 6, 1949. Legislative authority for a settlement was secured in 1950, Mario Napoleón Pacheco Torrico, “La deuda pública externa Boliviana entre 1950 y 1970” in Hans Huber Abendroth, et al., 228-230.
- 51 LPC 501.8, Memo, January 3, 1949.
- 52 LPC 501.8, Memo, December 16, 1948. Of these measures, only the 1% tax on tin was implemented by Supreme Decree of March 9, 1949.
- 53 LPC 501.8, Memo, February 25, 1949.
- 54 LPC 501.8, Memo, September 19, 1949.
- 55 *FRUS*, 1949, Vol. II, 543, Memo, October 25, 1949.
- 56 Martínez had played a key role in several financial negotiations in the 1920s and was a member of the Commission that reduced the loan to develop the railroad. In the interim he served Patiño Mines and represented Bolivia on the International Tin Committee. A tribute to his integrity and competence as Bolivian Ambassador came from a political opponent, José Antonio Arze, *Aspectos de la política diplomática de Bolivia* (Cochabamba: Imprenta Universitaria, 1949), 16.
- 57 SDCDF 824.2612, La Paz to Washington, August 25, 1950.
- 58 Juan Peñaranda Minchin, *Memorias. 1902-1957. Una crónica vivida de Bolivia* (La Paz: Centro Boliviano-Americano, 2000), 295.
- 59 Robert Alexander, *The Bolivian National Revolution* (New Brunswick: Rutgers University Press, 1958), 172-173.
- 60 Magdalena Cajías de la Vega, *Así fue la Revolución: cincuentenario de la Revolución del 9 de abril de 1952* (La Paz: Fundación Cultural Huáscar, 2002), 180.
- 61 George Jackson Eder, *Inflation and Development in Latin America. A Case History of Inflation and Stabilization in Bolivia* (Ann Arbor: University of Michigan, 1968), 66-68. Although the lines were financed by Brazil and Argentina, Bolivia was still expected to amortize the cost with interest.
- 62 Eder, 598. This is consistent with the more precise estimate of \$41.92 million from Ex-Im and Bs 7.5 billion from the Bolivian Government, Víctor Paz Estenssoro, *Mensaje del Presidente de la República Dr Víctor Paz Estenssoro al H. Congreso Nacional* (La Paz, 1956), 72.
- 63 Eder, 650-651. In 1963, 77,500 trucks used the road which would reduce the cost to around \$120 per journey, Reye, 45.
- 64 Hans Huber Abendroth, “La carretera Chimoré-Yapacaní y la excesiva generación de deuda externa,” *Revista de Humanidades y Ciencias Sociales*, 8, 1-2 (2002). Huber focuses on the middle section of 151 kilometres, but notes that the other sections were poorly constructed and maintained. The cost of the middle section (\$1.11 million per kilometre, 81 per cent financed externally) justified the epithet “carretera de la estafa” (highway of swindles), pp. 178, 185-186.
- 65 This assessment was stressed by another North American mission headed by Hugh Keenleyside, *Informe de la Misión de Asistencia Técnica de las Naciones Unidas a Bolivia* (New York: United Nations, 1951), 13.
- 66 LPG 815.4, La Paz to Washington, June 18, 1947.
- 67 Carleton Beals, *Lands of the Dawning Morrow; The Awakening from Rio Grande to Cape Horn* (Indianapolis: Bobbs-Merrill, 1948), 16, 132.

- 68 At the Fourth Conference of Latin American Chancellors convened in March 1951, the Bolivian delegation again tried to get the support of their colleagues in recommending that the railroad be considered an integral part of hemispheric defense as the final link between Arica and Santos, José Romero Loza, *Temas económicos de actualidad* (La Paz: Universo, 1952), 345-346. In 1966, Brazilians were even expressing an interest in financing the line, Reye, 116.
- 69 Carlos Mesa Gisbert, *Presidentes de Bolivia: entre urnas y fusiles* (La Paz: Gisbert, 1990), Table 33.
- 70 Porfirio Díaz Machicao, *Ingovernables: historia de estos últimos tiempos* (Cochabamba: América, 1951), 4.
- 71 Developing a coherent position on Bolivia was complicated by Truman's decision to reward a contributor to his 1948 election campaign with the Ambassadorship. As an inventor and Broadway impresario, Irving Florman was a colourful character who finished his dispatches with Shakespearean quotations. However, his appointment made effective diplomatic representation and cooperation even more difficult.
- 72 Editorials in the paper owned by one of the tin magnates, Carlos Víctor Aramayo, *La Razón*, and the most respected among the Bolivian elite, provided almost daily acerbic reminders of this incompetence. They are one source with which to refute any suggestion that the regime was subservient to the interests of the mine-owners.

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