Labour costs and the decline of the MZA railway in Spain, 1912–1935

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Labour costs on Spanish railways have been insufficiently studied in the literature, which is surprising considering that railway companies were the largest employers in Spain. Most studies are concerned with company organisation, plant, capital issues or the contribution of railways to economic growth before 1913. Labour policy tends to be overlooked or, when it appears, the emphasis is on railway workers' role in the various political or labour conflicts of the early twentieth century. This article studies operating labour costs in Spain between 1914 and 1935. The company studied is the Madrid Zaragoza & Alicante Railway (MZA), the tenth largest company in Europe and the second largest private company in Spain at the time.[1] (The largest Spanish undertaking was also a railway company, the Compañía de los Caminos de Hierro del Norte de España.)[2] The period analysed looks at the years in which the viability of Spanish railways as private companies came into question.

The main conclusion is that the decline of the railway companies cannot be principally attributed to labour costs. This conclusion was also reached by Tedde and confirmed by Ortúñez.[3] A policy of wage moderation combined with lower welfare expenditure would undoubtedly have lessened the operating difficulties of the MZA, but it would not have enabled the company to survive in the long term, given the degree of economic development of the country and the financial situation inherited from the past. The company was struggling on many fronts – labour costs were only one of them.

I

Railways underwent a profound crisis as a consequence of the First World War.[4] In combatant countries whose railways were under private or mixed ownership, such as Britain or France, the State intervened to guarantee the transport of troops, arms and provisions. The destruction caused by the war and the need to use railways intensively had serious consequences: the network and the rolling stock suffered, operating costs increased, and governments took over management to the detriment of private capital. This sowed the seeds of the nationalisations that took place in the 1940s.[5] Besides all this, the war was a turning point in the history of labour markets.[6]

Until 1914 the French State had taken a leading role in the development of the railway network: it regulated the building of lines and took an interest in the concessions awarded to private companies. Once the war had started, the French War Ministry assumed responsibility for transport by railway, and was granted full powers over the network.[7] Operating costs exceeded revenue, resulting in a fall in net income. According to Giuntini, much the same thing happened in Italy, where the network had been nationalised in 1905 to address the technical and financial problems that private companies had been unable to solve.[8] In Britain the government, making use of legislation passed in 1871, took control of the networks, although the companies retained autonomy over their administration. Gourvish has drawn attention to the increasingly regulatory role that British governments took before the First World War.[9] In Britain, as in Italy and France, operating costs rose and intensive use resulted in widespread deterioration of the infrastructure.

When the Treaty of Versailles was signed in 1919 railway networks were everywhere in a sorry physical state, company finances were poor and labour conditions had worsened. States reacted by increasing their control over the running of the networks. Urgent solutions were implemented and these went beyond fare increases. In France the State agreed in June 1921 to take over all expenses and debts that had been incurred during the First World War. French railway companies were to keep their own administrative structure, but lost autonomy under new arrangements. A new era of financial solidarity between the networks was ushered in with the setting up of a central fund underwritten by the State; the companies were to pay a high price for their indebtedness.[10] The limitations of the new system were soon to become apparent under the inflationary pressures of the 1920s and the world economic crisis of the 1930s. The failure of the post-war system led to the creation in 1937 of the Société nationale des chemins de fer (SNCF). The post-war period was particularly difficult for railway companies in Italy and Germany.[11] Governments in both countries made great efforts to curtail expenditure by dismissing workers. This resulted in an improvement in the finances of the companies but not to any improvement in the system. In Britain the government declined to nationalise the network in 1918 but passed the Railways Act of 1921 in order to improve its efficiency and introduce a more rational system that reduced rivalry between companies.[12] Under the 1921 Act, over 100 companies were merged to form four large networks.[13] Company ownership did not change, but the State took an interventionist role. The Act did not solve the problems, however: companies lost market share, their financial situation became complicated and they were dissatisfied with the regulatory system.[14] The sorry state of British railways' assets after the Second World War facilitated nationalisation in 1947.

Although Spain did not take part in the First World War, it experienced the same problems as other European countries, and with similar results.[15] And the end of the process was also the nationalisation of the network. This occurred four years later than in France and six years earlier than in Britain. Both the State and the railway companies knew full well what was going on in other countries, particularly in France and Britain, and that the experience of those two countries was a source of inspiration for Spanish policy decisions. However, the greater instability of the Spanish political framework accounts for the delays and lack of resolution in addressing the problems. Between 1913 and 1941 Spain underwent the end of the Restoration system (1913–23), then the Primo de Rivera dictatorship (1923–30), then the Civil War (1936–39) and finally the Franco dictatorship (1939–75).

The political aspects of this period were first analysed by Artola in 1978.[16] Until 1914 the Spanish State had limited itself to regulating the railway network in order to ensure that the licensed private companies offered the best possible service to users. Tedde studied the economic trajectory and financial problems of the two large Franco-Spanish companies: the Norte and the MZA. Financial problems reduced profitability and led to the final crisis.[17] Both Artola and Tedde concluded, albeit on different grounds, that railways ceased to be viable as privately owned businesses because of the acute structural problems they faced. Labour relations, the strength of trade union membership and social conflict were studied later by Juez.[18] Ballesteros and Martínez Vara traced the evolution of permanent employment in the railway service during the period 1893–1935.[19] The only monograph to deal with these matters during this particular period is a recent one by Ortúñez, which studies the reasons for the collapse of the railways during the First World War and analyses the continuing increases in operating costs thereafter.[20] He concluded, very much in line with Artola and Tedde, that the expansionary process generated by the war revealed the various contradictions and failures to adjust that had remained latent in the railway industry.

As was the case in other countries, the problems the Spanish railway companies faced were not solved by the end of the war. Railway companies found themselves without resources and immersed in the deepest crisis. What, at the time, was described as 'the Railway Problem' was simply an imbalance between revenue and expenditure. In Spain the State, in order to guarantee the continuation of an essential service, had no choice but to allow fare increases and, if that was not enough, to temporarily subsidise railway companies. This was duly done. A 15 per cent fare increase was authorised in 1918; in 1920 money was lent to companies in what was described as 'returnable advances'; and in 1926 the government invested directly in railway infrastructure. Only in this way were companies capable of addressing labour costs, renewing plant and improving the infrastructure. The other side of the balance was greater State involvement in the running of private companies. This interfered with their management and meant a redefinition of the institutional framework.[21]

The 1930s were as gloomy for the railway companies as for the rest of the Spanish economy. They found themselves in no position to invest in plant and suspended investment. The problems became overwhelming and, according to Tedde and Ortúñez, the crisis deepened with the fall in income resulting from the international economic crisis and with road competition. Hernández Marco adds that operating cost increases were less to blame.[22]

Comín *et al*. argue that the damage inflicted by the Civil War made nationalisation unavoidable in 1941, since the railway companies had long been technically bankrupt.[23] Railway managers, including the managers of the MZA, were aware of the factors behind the crisis but emphasised cost increases, particularly increases in wages and salaries.[24] They considered that concessions to workers had gone too far, in particular as far as two trade union demands were concerned: the calls for salary increases, justified in terms of rises in the cost of living brought about by wartime inflation, and the strict implementation of the eight-hour working day. Managers also complained about other social welfare benefits the cost of which fell on the companies. Thus it was argued that the crisis had two consequences: the birth of a privileged segment in the labour force, and an exceptional increase in labour costs. This increase in labour costs, it was further argued, could not be accommodated given that the companies were not generating enough income from operations. This will be explored in what follows, using original sources from the MZA.[25]

II

The MZA company started well in the nineteenth century and finances were booming. In 1899 it took over the Catalan network, which resulted in an increase in revenue that has been estimated as more than 35 per cent from 1901 to 1914. Operating costs remained low and under control during this period, although with a slight tendency to increase. But increased income did not result in increased profits. This was due to the heavy burden of financial charges, further aggravated by the devaluation of the Spanish peseta against the French franc, which reached 23 per cent in the 1890s.[26] About 72.4 per cent of the capital of the MZA was in the form of fixed-interest bonds issued on the French market.[27] Bond dividends had to be paid in francs, and bonds had to be redeemed in francs. With the new century the stabilisation policies of the Minister of the Treasury, Fernández Villaverde, succeeded in controlling this problem, which was no longer important by the onset of the First World War.[28] Financial costs remained above operating costs until 1908. After that date they continued to be high but were of lesser magnitude than operating costs. Nevertheless, financial costs had an important bearing on the crisis of the company.

The First World War changed things drastically. Revenue increased 42 per cent between 1913 and 1918. This was due to an increase in traffic: the number of persons per kilometre increased by 29.7 per cent and the number of tonnes per kilometre by 33.9 per cent. Destinations also changed. But the most important change was the increase in operating costs at 117.7 per cent. Inflation reduced the share of total expenditure accounted for by financial charges. Financial charges did not decline, but, with the increase in other costs, their share of the total became smaller.

The First World War spelt the end for the two pillars that supported the success of Spanish railways: low operating costs and a demand for railway

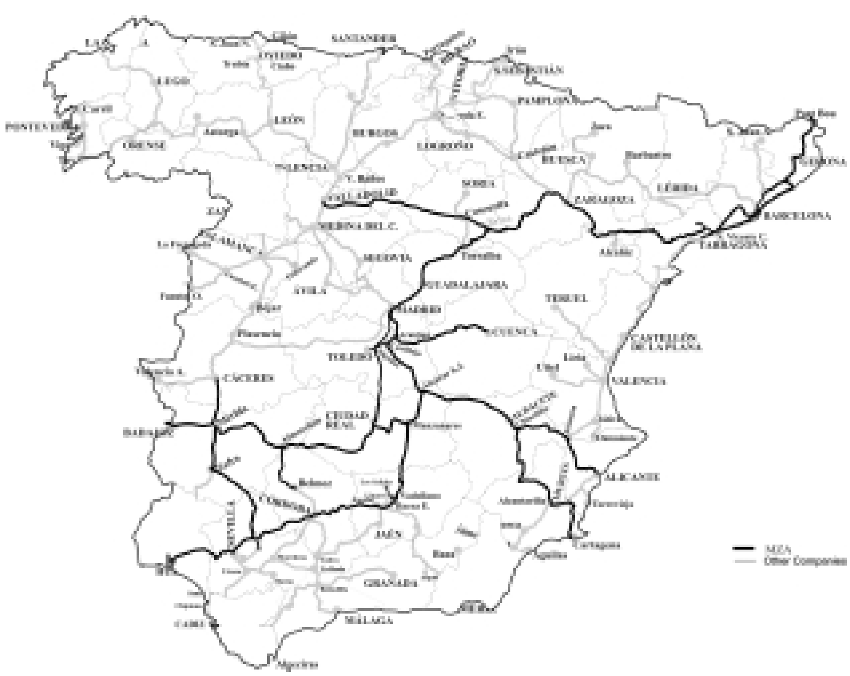

Figure 1 Standard-gauge railway companies in Spain, 1913

services reflecting a low level of economic development.[29] But the components of operating cost did not all increase at the same rate, and this altered the cost structure inherited from earlier times. Between 1915 and 1918 the price of coal rose over 50 per cent. The war meant that coal could not be imported at the very time when demand for railway services increased. Between 1914 and 1918 MZA coal consumption increased by 40.7 per cent, and the average price the company had to pay rose by a factor of 3.4.[30] The quality of coal also deteriorated, resulting in higher consumption per unit carried. As a result, the share of coal in total operating costs increased from 20.66 per cent in 1913 to 47.04 per cent in 1918. The share of coal in total operating cost fell after the war, but not for long, and not by a very large amount, since coal consumption remained high and prices decreased less than had been hoped. In fact coal prices after the war remained at double their pre-war level. This was due to the protectionist attitude of the Spanish government, that forced companies to buy Spanish coal, which was both more expensive and of lower quality than imported coal. High consumption and nationalism explain the high level of expenditure under this item until the end of the period.

The price of raw materials used in rolling stock also increased by 20 per cent during the years of hostilities. Moreover peace did not bring a decrease in this item, and the company, facing an increase in claims for compensation owing to damage and delays, was forced to invest on a large scale. It had to increase and renew rolling stock, plant and premises, since the large increases in goods traffic from the end of 1914 and in passenger traffic from 1915 had revealed their unsuitability and poor condition. The company was able to carry out such investment thanks to advance payments from the State which were redeemable with interest. These payments intended for the purchase of rolling stock started in October 1920.[31] The loans solved some managerial problems, but had an impact on financial costs, the increase in which can be traced to this time. Plant shortages were particularly pronounced in passenger traffic, and the number of coaches in use declined, not regaining its pre-war level until 1928. This suggests a minimalist replacement policy. Goods carried also increased, but so did the number of goods wagons. Table 1 shows indices for passengers per kilometre for coaches and tonnes for goods wagons; clearly assets were well utilised until the crisis after 1930.

Table 1 MZA capacity utilisation, 1913–1935 (1913 = 100)

Year	*Goods*	*Passengers*
1913	100.00	100.00
1914	81.31	101.88
1915	87.52	100.24
1916	97.42	112.71
1917	106.61	126.48
1918	111.80	135.98
1919	104.11	160.35
1920	103.63	173.45
1921	98.51	179.23
1922	94.63	196.56
1923	99.93	202.93
1924	103.25	208.83
1925	103.42	195.02
1926	107.28	192.66
1927	107.62	186.51
1928	107.81	183.66
1929	103.34	191.82
1930	96.28	176.61
1931	87.64	159.47
1932	86.76	162.06
1933	88.53	167.48
1934	85.43	161.51
1935	75.25	160.06

Source *Memorias* (1913–35).

III

Staff costs rose less than coal prices, but were longer-lasting. The largest component of personnel expenditure was accounted for by the wages and salaries of permanent staff (see Table 2, column 1). To quantify the changes that took place here it is necessary to know the number of permanent employees – the only group of employees for whom we have reliable figures – and their level of earnings for each year.[32] Payroll employees received many supplements to their basic income: overtime payments, piecework or charitable benefit payments. To this must be added a series, bonuses that the firm implanted in order to motivate workers and compensation payments for a variety of reasons. In the case of permanent staff, the total sum of these payments amounted to between 23 per cent and 27 per cent of basic pay (Table 2, column 2). The evolution of these payments was very similar to that of basic pay.[33]

Table 2 Earnings of *MZA* personnel, 1915–1935 (000s peseta)

Year	*Basic pay*	*Extra pay*	*Pensions*
1915	30,825	7,413	1,155
1916	30,393	7,855	1,308
1917	33,225	8,526	1,435
1918	36,631	9,355	1,536
1919	45,415	9,560	1,639
1920	65,711	13,182	1,706
1921	76,249	17,030	1,818
1922	78,787	18,836	2,003
1923	80,704	20,080	2,242
1924	80,551	20,355	2,586
1925	82,233	20,766	3,146
1926	87,288	21,676	3,770
1927	87,917	22,804	4,204
1928	90,354	23,092	4,660
1929	93,400	23,889	5,052
1930	95,051	24,123	5,557
1931	96,843	24,307	5,974
1932	96,383	23,823	6,433
1933	95,972	25,886	6,867
1934	96,460	25,951	7,318
1935	94,309	25,935	8,151

Source AHF, C/53/33, C/54/34, C/55/45; MZA, *Ventajas diversas disfrutadas por el personal de los diferentes servicios en el ejercicio* (1935).

In 1912, as a direct consequence of the first general railway strike in Spain, the MZA was forced to increase wages, improve working conditions and introduce changes in the pension system.[34] Pension expenditure was by far the most important item under social and charitable expenditure (Table 2, column 3). However, the most significant change during this period took place not in staff wages but in industrial relations, which ceased to be based on a paternalistic and conciliatory model. Until then, the voice of the workers had been divided between the various companies and between the various craft trades. Whereas hitherto workers had not spoken with a single voice on subjects that concerned them all, now a single voice emerged in the era of increasing unionisation.

As can be seen in Table 2, the take-off in employee earnings can be traced to 1916. That was the year when the MZA, in order to compensate workers for price increases and acknowledging their work in 1916, awarded permanent staff an extra month's pay. The payment was based on basic pay only.

Senior staff were excluded from this special payment, since they were already enjoying another one granted earlier. This one-off payment which was to become a permanent feature amounted to a salary increase of 8.3 per cent with respect to 1914 pay rates.[35]

The increase in the amount of goods carried and the longer train journeys forced the company to hire more workers. The company followed a policy of employing temporary or contract workers, since it was cheaper and allowed greater flexibility than employing more permanent staff. This flexible employment strategy explains why traffic and personnel expenditure increased but the size of the permanent work force remained relatively stable. As inflation continued to spiral and real wages continued to fall, leading workers were obliged to campaign more actively for higher nominal wages. The increased labour unrest resulted in wide support for the 1917 general strike, a strike that both companies and government, remembering their success when faced with a similar situation in 1912, tried to suppress. The company was forced to award permanent staff, in 1917 and 1918, two other extra payments on top of the one awarded in 1916. As far as the workers were concerned, this represented an approximate pay rise of 25 per cent on the 1913 level, well below the increase in consumer prices, which was 48.87 per cent.[36] These wage increases coincided with the maximum increase in fuel costs. The net income of the MZA in 1918, however, was only 11.7 per cent of what it had been in 1913. Dividend payments declined from twenty-five pesetas per share in 1913 to five pesetas per share in 1918; the economic situation of the company was becoming worrying.

The only solution for the management of the MZA (indeed, the only solution for the management of all Spanish railway companies) was to increase fares. The railways put pressure on the State to allow an increase so as to meet operating costs, financial charges and reward capital 'appropriately'. It was argued that, without fare increases, the company would not have the resources to renew plant. But fare increases were always unpopular. Chambers of commerce, trade associations, agricultural and farmers' unions were all opposed. They wanted a cheaper service, and this view was shared by the government in office, which distrusted the financial statements submitted by the railway companies.[37] Despite all the opposition, however, a maximum increase on existing fares of 15 per cent was authorised. This was far less than the railways had been asking for, but it was enough to avoid a financial crisis and to allow them to grant new wage increases.[38] These took the form of the award, for all permanent staff in 1919, of an extra payment equivalent to two months' wages, to which a bonus pay of between 20 per cent and 35 per cent of wages was added in inverse proportion to their amount, so that lower-paid workers received the highest bonus payments.[39] Workers' demands continued, as wages continued to lag behind prices.

Moreover the 'policy of economising', that railway managers attempted to introduce, met yet another hurdle: the implementation of the eight-hour day in April 1919. (Before that date the working day had been on average ten hours.) The new working day came into effect on 1 October 1919 in certain cases and as from 1920 in the others.[40] The consequence of this change was an increase in hourly wages in those areas where it was implemented and it forced companies to hire more workers and to increase overtime. The change in earnings between 1919 and 1920 that can be observed in Table 2, column 1, can be attributed to wage increases, but in later years to the eight-hour day, as no special wage changes took place from 1919 on. Workers undertook a lot of overtime, but companies delayed acknowledging it and took their time in paying. In 1927, indeed, the State had to intervene by lending money to the railways so that they could honour pay arrears that had accumulated between 1921 and 1927.[41]

Railway companies understood that it was impossible to cover the costs of the new statutory working day and to meet the new claims of the workers with just the 1918 fare increases. This is why the four largest companies, the Norte, the MZA, the Andaluces and the MCP, lobbied the government for a new 35 per cent fare increase starting on 1 January 1920.[42] The request fell on receptive ears, and the government duly submitted to the Cortes (the Spanish parliament) the proposed text of a decree on the subject. While it was being debated, the workers demanded that the companies should decide on the pay scales and benefits that would apply if the decree was to be issued. The MZA resisted as far as it could, but was forced to give way under the joint pressure of the workers and the government.[43] But when the decree stalled in the upper House, the workers could wait no longer. They demanded that the pay benefits that should follow from any hypothetical fare increase should be immediately be implemented. The State solved the problem by advancing money to the companies and the government decided to make the companies an 'advance payment' equal to one month's pay improvements.[44] The government argued that the increase in fares with respect to 1913 was to bring extra cash for the company and that the repayments were to be charged to this extra revenue. With the money advanced by the government, and starting in March 1920, workers were granted a provisional second supplement to the old basic wage. This was additional to the 1919 supplement. The extra month of pay granted earlier, which applied to all workers, was to be upheld, but was to be computed on the basis of the new wages.[45] If all these items are added and compared with 1913, the increases ranged from a maximum of 133 per cent to a minimum of 60 per cent. Having obtained the increases, workers now fought for them to be consolidated as basic income, and as the basis for the calculation of benefits. They achieved their aim in April 1921, and this explains the increase that set in from then on in pension expenditure, multiplying four and a half times between 1921 and 1935. The highest rate of increase in personnel expenditure can be found during the years 1919–21.

The advances were a provisional solution and were accepted reluctantly by the railway companies because they opened the door to State interference in management. The aim was to keep workers satisfied while a solution to the financial problems was found, or an increase in fares was allowed. But the fares Bill never became a decree and no other solution was found. Provisional government advances were renewed month after month until they were suppressed in 1926.[46] Had it not been for these additional payments, the MZA would have made losses between 1920 and 1923. As far as workers were concerned, it was thanks to government advances that they were able to catch up with rises in the cost of living during the war, and even improve on them in subsequent years, as can be seen in Table 3.[47] Maluquer observed similar developments in other industries, such as iron ore extraction and textiles.[48]

Table 3 Real wages of MZA workers and other industries 1913–1933 (1913=100).

Year	*MZA*	*Iron ore mining*	*Textiles*
1913	100.00	100.00	100.00
1914	93.38	93.38	95.25
1915	86.86	86.85	89.45
1916	83.48	89.82	85.73
1917	88.40	96.02	91.18
1918	79.33	92.70	84.63
1919	80.40	99.76	81.46
1920	96.78	110.99	111.51
1921	119.22	122.67	122.09
1922	115.20	101.76	123.81
1923	128.73	107.92	131.91
1924	114.98	107.41	116.01
1925	111.94	111.95	114.03
1926	118.42	117.84	120.58
1927	110.22	108.42	109.43
1928	116.44	113.60	114.13
1929	112.32	108.52	111.54
1930	118.55	122.84	124.44
1931	109.95	113.10	119.46
1932	107.73	117.18	123.78
1933	116.51	123.45	130.28

Source Col. 1, figures drawn up by the author. Cols. 2 and 3, J. Maluquer, 'Precios, salarios y beneficios', p. 520.

A different issue is whether pay rises were justified in terms of productivity increases. Table 4 shows the evolution of physical productivity and the trend of operating costs per worker. Physical productivity has been calculated as it was by the MZA: each passenger was allocated 70 kg of weight; the weight of passengers was added to the weight of goods, and the total was divided by the number of employees with permanent contracts. One may argue that other ways of measuring productivity are possible and might even be preferable, but this one gives a good impression. It is immediately noticeable that the two columns in Table 4 move together at the beginning, but separate in 1919/20 and thereafter the disparity between the two columns increases. It is apparent that salary increases were not justified on grounds of productivity. Productivity remained stagnant until 1929. However, the share of personnel costs in the total operating costs changed very little during the twenty-five years shown in Table 4: personnel costs started by accounting for 47.88 per cent of the total in 1913, declined to 31.45 per cent during the war, recovered their pre-war level in 1924 and ended by accounting for 50.95 per cent in 1935.

Table 4 Average productivity and staff costs, 1913–1935 (1913=100)

Year	*Average productivity*	*Staff wages per worker*
1913	100.08	100.00
1914	88.45	95.16
1915	97.60	93.22
1916	111.61	106.04
1917	118.56	117.66
1918	123.52	137.40
1919	110.53	158.84
1920	104.04	211.91
1921	95.54	241.93
1922	90.80	243.20
1923	98.08	256.16
1924	104.36	257.13
1925	104.18	263.79
1926	103.98	255.54
1927	109.83	257.97
1928	113.38	262.15
1929	110.22	260.29
1930	107.05	261.98
1931	98.49	262.40
1932	92.78	250.46
1933	93.28	253.19
1934	87.40	252.20
1935	76.39	247.10

Source Figures drawn up by the author.

IV

The solution should have arrived with the passing of the Railway Act of July 1924, during the time of the Military Directorate, which created a State Railway Fund (Caja Ferroviaria del Estado) to invest in rolling stock and finance new track.[49] Fares were to be revised periodically, so that revenue could cover operating costs, including the opportunity cost of capital invested, financial charges and pensions. The new arrangements meant a managerial association between the companies and the State, which became both partner and regulator.[50] While waiting for the full implementation of the new system, companies were granted new State credit facilities so that they could meet cost increases, particularly those that derived from new labour policies. But events did not turn out as intended: the Act was not fully implemented and credits were less than planned. The railway companies added to the crisis, since they could not face the new personnel costs and the unavoidable purchase of rolling stock alone.[51] The MZA spent 44.6 per cent of the funds received from the State Railway Fund (373.1 million pesetas) on the purchase of rolling stock and 55.9 per cent on the renewal of infrastructure.

Fares had remained unchanged since 1918, but in August 1926 State advances intended to cover staff costs came to an end. They had been reduced by half in July 1924. In this way the whole burden of labour costs fell on the companies while the State did not put in place the supporting mechanisms planned under the 1924 Railway Act. The number of MZA employees increased by 45 per cent between 1913 and 1929; revenue increased by 141.1 per cent but operating costs increased much faster (246.7 per cent). Staff costs showed the largest increases – 279.4 per cent if pensions are excluded – followed by expenditure on coal (266.5 per cent). Financial charges increased by 63.1 per cent. The exploitation coefficient changed from 47.3 in 1913 to 67.0 in 1929. This coefficient would have decreased had income risen or operating costs fallen, but neither happened. The situation worsened owing to the 1929 economic crisis and, to a lesser extent, the competition of road transport.[52] The lack of confidence in an economic revival and social unrest also had a part to play in the 19 per cent fall in revenue between 1929 and 1935.

Under the circumstances it was very difficult to increase revenue, although the company did its best. Operating cost reduction was possible, however, and that is what the general manager, Maristany, set out to do. In March 1931 he adopted what he himself described as radical measures: the number of trains was to be reduced, leaving only the minimum necessary, empty stock working was to be minimised, as was the consumption of fuel and materials. The object was to avoid operating income not covering costs, pensions and mortgage payments.[53] But costs were more rigid than expected. This was true not only of labour costs, but also of the cost of fuel, materials and lubricants.[54] The problem was that most such costs were constant and the end result was that the reduction in variable costs, brought about by a reduction in traffic, had little impact on production costs. The evolution of production costs during the last few years will now be explored.

In 1930, in an atmosphere of political change and excitement after the fall of the Primo de Rivera dictatorship, railway workers, now organised in the socialist trade union the Sindicato Nacional Ferroviario, called on the government for wage increases. The companies described the workers' demands as excessive. To study the workers' demands, the Ministry of Public Works (Fomento) set up a committee of inquiry with the participation of the companies, employees and the government.[55] The committee did not reach any agreement, but produced three reports, one from each representative group, that were submitted to the Minister. The companies, in their report, devised a radical change in policy towards the State. Earlier they had argued that workers' claims were reasonable and that fare increases were needed to meet them; by supporting workers' claims, the companies were trying to gain their support in the fight for fare increases. Now, however, in their report, the companies started by asserting their inability to face any salary claim, continuing with the denial that wage increases were necessary. Furthermore, they argued, if wages should increase, the increase was not to result in higher fares. The companies were by now worried that any increase in fares would divert traffic to road transport. They now supported direct subsidies. In February 1931 the government agreed to some of the improvements that workers had asked for, for example a minimum wage of five pesetas. It was also accepted that companies could not afford pay rises. Wage increases, the government decided, would have to be subsidised. The subsidies would be financed by a 33 per cent surcharge on the compulsory insurance that travellers had to pay.[56]

With the advent of the Second Republic in April 1931 workers saw the opportunity to realise their claims. Soon after the proclamation of the republic, in what was a bad omen for the railway companies, several decrees were issued that became law in November 1931. These decrees forced companies to rehire or retire all those workers who had been sacked as a result of strikes or industrial action in the railway industry. The time these workers had spent out of employment was to be counted, for benefit purposes, as if they had been employed. This legislation upset the companies as much by its symbolism as its cost.[57] Worker representatives, in turn, wasted little time in asking for new wage increases. Indeed, claiming that the rises obtained in February were not sufficient, they approached the new government demanding further increases. The answer was the same as the year before: a new committee of inquiry was set up in September 1931 with the participation of workers, companies, consumers and the State. This committee had to advise on three burning issues: whether wage increases were justified, how they would be financed if they were justified, and the design of a rational plan for redundancies in the industry. Unsurprisingly, the representatives of train users and the companies did not consider that wage increases were necessary. Three reasons were given:

1 Taking 1913 as a starting point, wages had increased more than the cost of living and more than in other industries (something that was only partly true – see Table 3).
2 Besides their take-home pay, railway workers received benefits whose value was equivalent to nearly 50 per cent of the wage. (The benefits were important but not that important.)
3 The increases demanded were unfeasible given the precarious financial situation of the companies and were not justified in terms of productivity[58] (see Table 4).

The representative of the users did acknowledge, however, that, in order to avoid confrontation, some improvements ought to be granted. On the issue of how to finance improvements, the committee concluded that:

1 The companies were unable to generate the necessary resources to finance wage improvements.
2 Fares should stay as they were in order not to depress demand for railway services further.
3 Any extra resources had to come from the State.

As far as the redundancy plan was concerned, the committee approved, by six votes to four, that any redundant jobs ought to be abolished.

On 1 December 1931 the government increased the minimum wage to six pesetas a day. This the Sindicato Nacional Ferroviario trade union described as insufficient. The State further concluded that the only way to generate the means to improve wages was by taxing freight income. A 3 per cent tax on goods rates was to be introduced. The money collected was to be paid into a fund managed by the Ministry of Public Works. Money from this fund would be distributed among the companies that paid the workers the increase.[59] In any case, these wage increases were very small and applied mostly to the lowest-paid workers in the industry. This explains why Table 2, column 1, for permanent employees' cost, shows almost no change, and very little change is apparent in the real wages (Table 3). Perhaps something would come to light if we were to include temporary workers in the total wage bill, but during this period the size of the work force changed, offsetting any improvement that might have been achieved. These were, in fact, the last wage improvements granted in the period.

The new government also introduced various social welfare improvements that companies reluctantly accepted: compulsory maternity insurance, extension of the eight-hour working day to workers on intermittent contracts, compulsory retirement arrangements for temporary workers, the incorporation into Spanish legislation of the international agreement on accidents at work that Spain had recently signed, and the transformation into a lifetime pension of the compensation paid to workers who had been physically disabled. Taken together, these social welfare provisions meant an increase in labour costs, but not as large as the MZA claimed. Managers pointed out that the cost of such measures did not show in the accounts because of the austerity policy followed by the company.[60] The above-mentioned plan to reduce costs, implemented in 1931, required that no senior staff should be replaced when they died or reached retirement age, that no vacancies should be covered without express management approval, that no overtime should be authorised unless it had been shown that workers had been at work during the eight hours. No temporary workers were to be hired, and those already at work were to be let go if a rigorous assessment found that they were not required.

The number of workers on permanent contracts increased by 6.3 per cent between 1930 and 1935, but it was hardly noticeable in terms of total operating costs. This could be explained by the fact that many of these employees were women in charge of level crossings and they were paid a very low wage in return for free accommodation.[61] The MZA, in order to offset the extra expenditure brought about by the eight-hour day legislation in medium and low-traffic railway stations, asked the Ministry of Public Works for permission to close some sidings, certain stations for part of the day, and to restrict service in others. The austerity plan did little for the company, however, as during 1933 and 1934 the situation grew worse.[62] Despite these and other measures taken to contain it, expenditure continued to grow. The increase was due this time not to social welfare policies introduced by the government but to expenditure on plant.[63] After a long period of neglect (since in 1930 the State had stopped investing directly), the company had been obliged to raise expenditure on track maintenance, as well as the maintenance and repair of locomotives, wagons and coaches. It was an attempt to try and stop the deterioration of the service in order to be able to compete with buses and lorries. The consequences of the neglect were increased compensation expenditure for losses and failures observed during this period. These the company attributed to workers' indiscipline or lack of interest in their work.[64] In 1935 the company succeeded in reducing operating expenses below those of the previous year but, despite a 15 per cent increase in fares in 1934, the extraordinary reduction in traffic that took place during that year rendered the sacrifice meaningless.[65] Under the circumstances, bond repayments, which had amounted to 62.4 million pesetas in 1933, had to be reduced to 46.1 million pesetas in 1935.[66] It was an acknowledgement that the company was unable to honour its responsibilities.

By 1936 the MZA was unable to conduct its operations in a normal manner. The future looked bleak. After the Civil War (1936–39) it was in no condition to make up the disinvestment of the 1930s and repair the damage caused by the conflict. In 1941 the MZA, in common with other Spanish railways, was taken over by the Franco State in 1941.

V

It may be asked whether staff costs could have been reduced further. The firm, at the same time as it complained about the non-wage benefits enjoyed by its workers, also boasted about their existence. The company believed it fair that its own workers should enjoy the benefits,[67] and accepted that its workers – including subcontracted and temporary staff – were at least as efficiently employed as workers on foreign railways such as the French railways.[68] It could also be argued that railway workers, besides having permanent contracts and therefore an obstacle when the firm wanted to reduce its pay bill, were well paid and enjoyed non-pay benefits. In short, staff expenditure, added to high financial charges, could be seen as suffocating the company. This is what the MZA argued, but it was not the whole truth. It is true that jobs were for life, but they were not for everybody. The firm used contract and temporary workers. These non-permanent staff almost never enjoyed the 'fringe benefits' offered by the company, and the social policy of the government took a long time to make an impact; when it did, the effect was hardly noticed.[69] The fact that wage increases outstripped productivity increases does not mean that wages increased faster than prices, or that they increased faster than in other industries. In fact, wage increases tried to catch up with price increases in a race to recover the purchasing power lost during the First World War. The same thing happened in other industries such as textiles.

The problem went beyond labour costs. When, after 1915, all operating costs rocketed, the slowest rate of increase was associated with labour costs.

Cost structures were substantially altered during the conflict. Only in 1919–20 did the rate of increase of staff costs catch up with other rates of increase, and it was during this period that the percentage of labour costs to total operating costs recovered its original value. But by that date the 'railway problem' was present in all its acrimonious forms. And this is because beyond the cost of wages we need to remember: (1) the heavy financial charges – interest and bond redemption – that always fell on the company and that increased in the last years of the period; (2) the burden imposed on the company by the nationalist and protectionist policy of the government, which meant that the company was forced to buy its inputs in the national market; and, above all, (3) the fall in revenue, which was due partly to the emergence of alternative means of transport, and partly to the impact on a backward country of the crisis of 'production and consumption' which started in 1929. Given these circumstances, it was almost impossible for the exploitation coefficient to improve, whatever plans had been made to contain costs, and the MZA's ability to generate profits was limited.

Notes

1 The MZA was established in Madrid on 31 December 1856, with the participation of the Sociedad Española Mercantil e Industrial, whose principal owners were the Rothschilds. During its first thirty years it achieved its first objective: expanding in south-west Spain (Alicante, Córdoba, Seville, Huelva and Extremadura). In 1898 it achieved its second objective – to connect with French railways – when it took over the Tarragona a Barcelona y Francia – a company with 732 km of track that had just become bankrupt. The company it had just taken over was to be described by the MZA from then on as 'the Catalan network'. By 1913 the MZA's network covered 3,664 km, and carried some 15 million passengers and 1,215,500 million tonnes of freight.

2 A. Carreras and X. Tafunell, 'La gran empresa en España 1917–1974: una primera aproximación', *Revista de historia industrial* 3 (1993), 127–74; 'Spain: big manufacturing firms between State and market, 1917–1990', in A. Chandler, F. Amatori and T. Hikino (eds), *Big Business and the Wealth of Nations* (Cambridge, 1997), pp. 277–304.

3 P. Tedde, 'Las compañías ferroviarias en España 1855–1935', in M. Artola (ed.), *Los ferrocarriles en España 1844–1943* II, *Los ferrocarriles y la economía* (Madrid, 1978), pp. 229–30; P. P. Ortúñez, 'El proceso de nacionalización de los ferrocarriles en España: historia de las grandes compañías 1913–1943', doctoral thesis, Facultad de Ciencias Económicas y Empresariales, Universidad de Valladolid (1998).

4 For an account of European railway experience and the contribution of railways to economic development see S. P. Ville, *Transport and the Development of the European Economy*, *1750–1918* (London, 1990), and 'Transport and communications', in D. H. Aldcroft and S. P. Ville (eds), *The European Economy*, *1750–1914: a Thematic Approach* (Manchester, 1994), pp. 184–215.

5 See G. Crompton, 'Railways, goverments and management: a comparative approach', in Clara Eugenia Núñez (ed.), *Railway Management and its Organisational Structure: its Impact on and Diffusion into the General Economy*, XII International Economic History Congress, session B14 (Madrid, 1998), pp. 152–67; V. Zamagni (ed.), 'L' ímpresa pubblic', *Annali di storia dell' impresa* 3 (1987), 118–275.

6 M. MacKinnon, 'The Great War and the Canadian labour market: railway workers, 1903–1939', in G. Grantham and M. Mackinnon (eds), *Labour Market Evolution: the Economic History of Market Integration*, *Wage Flexibility and the Employment Relation* (London, 1994), pp. 205–24.

7 F. Caron, *Histoire de l´exploitation d´un grand réseau : la Compagnie du chemin de fer du Nord 1846–1937* (París and The Hague, 1973), fourth section. Although his study is limited to a single network, the Nord, his general remarks apply to all other networks.

8 A. Giuntini, *Il paese che si muove: le ferrovie in Italia fra '800 e '900* (Milan, 2001); *id.*, 'El ferrocarril italiano, de sus orígenes a hoy', in M. Muñoz Rubio, J. Sanz Fernández and J.

Vidal Olivares (eds), *Siglo y medio del ferrocarril en España 1848–1998: economía*, *industria y sociedad* (Madrid, 1998), pp. 81–103.

9 T. R. Gourvish, 'The regulation of Britain's railways: past, present and future', in L. Andersson-Skog and O. Kranz (eds), *Institutions in the Transport and Communications Industries: State and Private Actors in the Making of Institutional Patterns, 1850–1990* (Canton, 1999); 'Los ferrocarriles como medio de transporte en Gran Bretaña 1830–1990', in Rubio *et al.*, *Siglo y medio del ferrocarril en España*, pp. 55–64.

10 M. Merger, 'Los ferrocarriles franceses desde sus orígenes a nuestros días: evolución del marco jurídico e institucional', in Rubio et al., *Siglo y medio del ferrocarril en España*, pp. 65–79.

11 For the latter see A. Mierzejewski, 'The German National Railway between the world wars: modernisation or preparation for war?' *Journal of Transport History*, third series, 11, 1 (1990), 40–60.

12 G. Crompton, '"Good business for the nation": the railway nationalisation issue, 1921–1947', *Journal of Transport History*, third series, 20, 2 (1999), 141–59; *id*., '"Squeezing the pulpless orange": labour and capital on the railways in the inter-war years', *Business History* 31 (1989), 66–83.

13 G. Channon, 'The Great Western Railway under the British Railways Act of 1921', *Business History Review 55* (1981), 188–216; *Railways in Britain and the United States: Studies in Economic and Business History* (Aldershot, 2001).

14 G. Compton, 'Efficient and economical working? The performance of the railway companies, 1922–1933', *Business History* 27, 2 (1985), 222–37.

15 On Spanish historiography see A. Gómez Mendoza, 'Along broad lines: the economic history of Spanish railways, 1973–1996', *Journal of Transport History*, third series, 19, 1 (1998), 1–17, and J. Vidal Olivares and M. Muñoz Rubio, 'Los ferrocarriles en la historiografía española', *Transportes*, *servicio y telecomunicaciones* (*TST*) 1 (2001), 81–111.

16 M. Artola, 'La acción del estado' 2, in M. Artola (ed.), *Los ferrocarriles en España 1844–1943* I, *El estado y los ferrocarriles* (Madrid, 1978), pp. 409–45.

17 Tedde, 'Las compañías ferroviarias en España', pp. 201–40. One of the most vehement voices in pointing out that financial charges had a disproportionate weight was the civil engineer F. Jiménez Ontiveros, *Transportes por ferrocarril* (Madrid, 1940), pp. 71 and 76.

18 E. P. Juez, *El mundo social de los ferrocarriles españoles 1857–1917* (Madrid, 1992); *Los ferroviarios de las antiguas compañías: una historia desconocida* (Gijón, 2000).

19 E. Ballesteros and T. Martínez Vara, 'La evolución del empleo en el sector ferroviario español 1893–1936', *Revista de historia económica* 3 (2001), 636–78.

20 Ortúñez, *El proceso de nacionalización*, pp. 83–110.

21 M. Muñoz, 'El estado como empresario ferroviario', in M. Muñoz, J. Sanz Fernández and J. Vidal Olivares (eds), *Siglo y medio del ferrocarril en España*, pp. 299–336. J. Vidal and P. P. Ortuñez are of the opinion that railway management was influenced by the change in ownership that took place during these years in the largest companies: foreign majority shareholders were replaced by Spanish financiers with close links with industrial concerns and of great influence in the spheres of power. Vidal Olivares and P. P. Ortúñez, 'The internationalization of ownership of the Spanish railway companies, 1858–1936', *Business History* 44, 4 (2001), 29–54.

22 Tedde, 'Las compañías ferroviarias en España', pp. 229–30 and 241; Ortúñez, *El proceso de nacionalización*, p. 306; J. L. Hernández Marco, 'Las primeras reacciones de las compañías ferroviarias españolas al inicio de la competencia automovilística antes de la Guerra Civil', *Revista de historia económica* 2 (2002), 335–64.

23 F. Comín, P. Martín Aceña, M. Muñoz Rubio and J. Vidal Olivares, *150 años de historia de los ferrocarriles en España* (Madrid, 1998) I, p. 367.

24 MZA, *Situación del personal de la Compañía de MZA 1913–1933* (Madrid, 1934); Asociación General de Transportes por Vía Férrea (AGTVF), *Tres años de política ferroviaria, 1 de mayo de 1932 a 30 de abril de 1935: memoria de la actuación de esta entidad rendida por el consejero delegado D. Blas Vive*s (Madrid, 1935), pp. 68–9 and 223–9; B. Vives, 'Situación de los ferrocarriles españoles y sus causas', *Economía Española* 36 (1935), 73–7. This author sat on the board of MZA.

25 These sources are budget books, reports, company records and financial reports. Most of the relevant documentation can be found in the Archivo Histórico Ferroviario (AHF).

26 P. Martín Aceña, *La política monetaria en España 1919–1935* (Madrid, 1984).

27 MZA, *Actuación de la Compañía durante los últimos veinte años 1913–1931* (Madrid, 1932), p. 57.

28 Comín *et al*., *150 años*, pp. 203–4.
29 Artola, 'La acción del estado' 1, p. 417. These ideas were put forward at that time by the engineer P. M. González Quijano, 'Los ferrocarriles españoles', *Revista nacional de economía 5* (1916), 52–74.
30 MZA, *Actuación de la Compañía*, pp. 179–81.
31 Junta Superior de Ferrocarriles (JSF), *Antecedentes y datos para el estudio del problema ferroviario* (Madrid, 1940), I, pp. 25–6, and II, pp. 104–5.
32 AHF, C/53/33,C/54/34 and C/55/35, 'Ventajas diversas de que disfruta el personal de los diferentes servicios' (1915–35); AHF, Libros de Presupuestos: No. 45-257.
33 *Ibid*.
34 AHF, C/186/36, 'Informe sobre las ventajas otorgadas al personal de MZA durante 1913'.
35 All the regulations and circulars of the relevant government body that dealt with the increases can be found in AHF, C/53/33. For a brief account of the increases see MZA, *Situación del personal*.
36 E. Ballesteros, 'Un estimación del coste de la vida en España', Revista de historia económica 2 (1997), 395.
37 Comín *et al*., *150 años* I, pp. 289 and 299–300.
38 MZA, *Situación del personal*, pp. 5–9.
39 AHF, C/51/19, 'Expedientes sobre las mejoras económicas concedidas al personal de la Compañía por la concesión del aumento de las tarifas en un 15 por cien'.
40 A. Soto Carmona, *El trabajo industrial en la España contemporánea* (Madrid, 1989), pp. 610–23; Juez, *Los ferroviarios de las antiguas compañías*, pp. 155–9 and 210–13.
41 JSF, *Antecedentes y datos* II, pp. 105–6.
42 Memoria (1919), p. 14. The complete text of the request can be found in the annual report for that year.
43 AHF, C/58/36: 'Estudio sobre las mejoras y la distribución de aumentos de tarifas y la aplicación de la jornada de ocho notas' and 'Nuevas mejoras que podrían concederse en el caso de que una nueva elevación de tarifas las hiciese posibles'.
44 JSF, *Antecedentes y datos* I, pp. 20–6 and 40–3, and II, pp. 99–104.
45 MZA, *Situación del personal*, pp. 11–14; JSF, *Antecedentes y datos* IV, pp. 149 and 151–2.
46 AHF, C/108/235, 'Reales Ordenes autorizando las prórrogas de anticipos'.
47 The time series of real average wages has been calculated using only MZA employees on permanent contracts.
48 J. Maluquer, 'Precios, salarios y beneficios : la distribución funcional de la renta', in *Estadísticas Históricas de España* (Madrid, 1989), p. 520.
49 The Caja Ferroviaria del Estado was an autonomous body authorised to issue bonds with the guarantee of the State. Not enough investment took place and the fund, unable to redeem the bonds, was taken over by the State in the 1930s. It was active from August 1925 to September 1930.
50 Comín *et al*., *150 años* I, p. 360.
51 Tedde, 'Las compañías ferroviarias en España' 2, pp. 210–16; Ortúñez, *El proceso de nacionalización*, pp. 205–18.
52 Vives, 'Situación de los ferrocarriles españoles', p. 76.
53 AHF, C/24/63, 'Circular a los diferentes servicios de la Compañía, 11 de marzo de 1931'.
54 AHF, C/250/1. On 5 October 1932 the Norte and MZA sent a memorandum to the Minister of Public Works complaining about the repeated increase in this rate, and objecting to the prohibition on imported English coal, which was of superior quality.
55 G. Pérez Conesa and A. Peña Boeuf, *Antecedentes y datos para el estudio del problema ferroviario* IV (Madrid, 1940), pp. 150–8.
56 Memoria (1931), p. 15.
57 AGTVF, *Tres años de política ferroviaria*, pp. 184–94.
58 The text can be found in JSF, *Antecedentes y datos* IV, pp. 154–62.
59 Memoria (1931), Anexo 9.
60 AHF, C/38/78, 'Economías realizadas' (1930–33); AHF, C/57/59, 'Economías realizadas durante 1931 y 1932 y parte en que fueron compensadas por el aumento de gastos'.
61 In 1930 there were 1,907 permanently employed crossing keepers, 524 of whom were men and 1,383 women. Men earned 3.91 pesetas per day, women 1.11 pesetas (AHF C/47/, 'Plantillas de personal correspondientes a 1930'). Both numbers increased substantially when the eight-hour week became law. Wages improved but continued very low, particularly women's.
62 The chairman of the board, Juan Alvarado, acknowledged at the shareholders' meeting in

1933 that it was almost 'a miracle having come this far' (C/38/78, 'Exposición general de la situación de la Compañía en 1933').

63 AHF, C/38/70, 'Medidas posibles a tomar para el perfeccionamiento y saneamiento de la explotación'.

64 Memoria (1934), Anexo 17, pp. 179–83.

65 Memoria (1935), pp. 34–5.

66 Tedde, 'Las compañias ferroviarias en España' 2, p. 231.

67 This point of view was put forward at least in 1923 to the committee that inspected company accounts on behalf of the Military Directorate (AHF, C/113/257).

68 MZA, *Actuación de la Compañía*, pp. 177–9.

69 In the Way and Works Department (Servicio de Vía y Obras) in 1909 there were workers who had been waiting anything from ten to twenty years to be given a permanent contract (AHF, C/49/4).

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