
Of Firms and Captives: Railway Infrastructures and the Economics of Forced Labour (Spain, 1937-1957)*

● FERNANDO MENDIOLA

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Introduction

Railway infrastructures have been one of the most usual scenarios of forced labour, and throughout the 20th century captives have been deployed in that sector not only in colonial empires,¹ but also in Europe, within contexts of war² and dictatorship.³ So, it is not surprising that in the course of the Span-

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1. Before World War I, Germany put Onjembo prisoners to work in railway construction in Namibia (Erichsen, 2005). For forced labour on railway infrastructures in French Colonial Africa, see Fall (1993, pp. 203-219). Under British rule, workers for the railways in the Gold Coast were recruited “on the shadowy borderline between ‘communal’ and ‘forced’ labour” (Thomas, 1973, p. 103).

2. For World War I, see Palla, (1995) and Davis (1977). During World War II, thousands of forced labourers had to work for the Deutsche Reichbahn (Mierzejewski, 2000; Megargee, 2009) or on other railway infrastructures throughout Europe (Erez, 2000; Guttermann, 2001; Megargee, 2009; Westerlund, 2010). Spanish exiles were also forced to work, under the Vichy regime, in Djelfa (Algeria), on the construction of the projected Trans-Saharan Railway (International Tracing Service, 1949, p. 15; Morro, 2012). In Japanese-Occupied South East Asia, local inhabitants (Melber, 2016) and nearly 60,000 POWs worked on the Siam–Burma Railway (Sareen, 2005).

3. Apart from the already mentioned Nazi rule, for Soviet Union under Stalin see Gregor and Lazarev (2007) and Mote (2003).

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ish Civil War its use on railway infrastructures was considered from the very beginning by the Francoist side,⁴ and that between 1938 and 1957, thousands of captive workers were engaged in that kind of work. Twenty years, therefore, of forced and unfree labour on the railways, arising in a context of civil war and prolonged – albeit with certain modifications – during the subsequent dictatorship.

As a matter of fact, this was not the first time for captives working on Spanish railways, as in the 19th century Spanish prisoners were also occasionally used on the railway, and slaves worked on several lines in Cuba until the abolition of slavery in this Spanish colony in 1886;⁵ but our research will focus now on the only period in the 20th century when unfree labour has been deployed for railways enterprises and infrastructure.

Despite its importance in repairing and extending the railway network, the role of captive labour in these tasks has been scantily treated by Spanish historiography.⁶ This lack of knowledge must be understood within the framework of insufficient remembrance policies in Spain following the death of the dictator, and the absence of any requirement that enterprises should publicly respond for the use of captive labour.⁷ While historiography concerning forced labour has undergone considerable development in recent years,⁸ this has been carried out with serious problems of access to documentation, scarce and dispersed, and, unlike the German case, practically without being able to consult company documentation. Furthermore, recently, in April 2013, the Spanish Defence Ministry denied the declassification of about 10,000 historical documents (from 1936-1953), many of them closely related to concentration camps and POW labour battalions, so that they could be consulted by historians.⁹

4. For an overall view of repression in the civil war, see Preston (2012). Forced labour in Republican Spain during the civil war was much less significant than in Francoist Spain, and for railway infrastructures we only know about the use of captive labour in opening up the line between Torrejón de Ardoz and Tarancón (Ruiz, 2009).

5. Before the civil war, in 19th century Spain prisoners were also occasionally used on the railway (Burillo, 1999, pp. 203 -247), and slaves worked on several lines in Cuba until the abolition of slavery in this Spanish colony in 1886 (Zanetti and García, 1998). For a *Longue Durée* analysis of forced labour in Spain see Oliver (2007) and Mendiola (2016).

6. See Lafuente, (2002), Olaizola, (2006), Quintero, (2009) and Mendiola, (2013b). Unfortunately, neither the new historiographical orientation concerning the railways, with greater attention given to labour policies, nor the recent works on the war's impact on enterprises and railway infrastructures mention the reality of forced labour (Martínez Vara, 2005; Ballesteros and Martínez Vara, 2011; Cayón and Muñoz, 2009).

7. For remembrance policies in the Spanish transition see, mainly, Espinosa (2006 and 2015), Ranzato (2007) and Aguilar (2008).

8. González Cortés (2014). We must remark the importance of recent García-Funes' research (2017a and 2017b).

9. For more information, see <http://www.tiempodehistoria.com/2013/04/18/el-ministerio-de-defensa-rechaza-un-recurso-de-alzada-para-desclasificar-10-000-documentos-de-la-guerra-civil-and-posguerra.html>

In this article, we shall be examining this reality in depth, with our analysis centred on economic logic and entrepreneurial strategies and attitudes concerning the use of forced labour, differentiating between the reality of prisoners of war (POWs) during the war and its immediate aftermath, and prisoners from 1940 onwards. So, throughout the article we will deal with this duality of captive work, that of POWs depending on the Concentration Camps Inspectorate, and that of prisoners previously sentenced.¹⁰ These two modalities can be included in the recent taxonomy of labour relations elaborated by the *The Global Collaboratory on the History of Labour Relations* (International Institute of Social History), where “forced labour” (workers included conscripted soldiers and convicts) and “tributary slaves” (workers included concentration camp inmates) appear within the category of “tributary labour”.¹¹ Moreover, this research addresses one of the main goals that the recent historiography on forced labour has underlined, that of the relationships between free and unfree labour in the articulation of historical labour markets.¹²

In this case, we have to take into account the already classic explanation by Fenoaltea,¹³ who proposes a model in which the majority use of forced labour on infrastructural work corresponds to its characteristics, which are much more intensive in effort than in care. More recently, following this argument, Acemoglu and Wolitzky have pointed out “the complementarity between effort and coercion”,¹⁴ remarking that effort-intensive labour is more likely to be deployed under coercive measures than some others more qualified. This will enable us to better understand the rapid start of railway construction following the war and to advance the analysis of the relations between entrepreneurial strategies and fascist regimes.¹⁵

In order to better understand business strategies we must consider, following the contributions of transaction cost economics, enterprise as a governance structure that has to decide the framework in which transactions are car-

10. For further description of the Spanish forced labour system under Franco’s dictatorship see Mendiola (2013a) and García-Funes (2017a and 2017b).

11. Hofmeester and Lucassen (2013). For an updated explanation of the taxonomy and recent modifications, see Hofmeester, Lucassen, Lucassen, Stapel and Zijdeman (2015).

12. Bugglen (2008), van der Linden (2012), Stanziani, (2013), de Vito and Lichtenstein (2015), Brass (2014) and Rodríguez García (2016).

13. Fenoaltea (1984).

14. Acemoglu and Wolitzki, (2011, pp. 587-588).

15. Attitudes about the deployment of forced labour has been one of the most important issues for historians researching the relationships between business and the Nazi regime. Mainly, amongst a rich body of literature, see Herbert (1997), Spoerer (2010), Bugglen (2015) and Wachsmann (2015). Another interesting focus of research is the implication of non-German enterprises in the deployment of forced labour in Nazi-occupied Europe, such as Danish construction firms (Lund, 2010). For a debate about the role of business and its independence under Nazism, see Bucheim and Scherner (2006) and Hayes (2009). For overviews of the relationships between Spanish business and politics under Franco’s dictatorship, see Cabrera and Del Rey, (2002) and Sánchez Recio and Tascón (2003).

ried out: the classic dilemma of *make or buy*.¹⁶ So, we should also ask at which moment and for what reasons enterprises decide to have recourse to forced labour when the institutional framework permits this possibility.¹⁷ Setting out from the premise that “hierarchy is favored as the asset specificity sets up”,¹⁸ we shall attempt in this concrete case to explain how, in a labour shortage situation, some enterprises secured this asset – labour force – by having recourse to other much more hierarchical and disciplined structures: prisons and concentration camps. Nevertheless, although ever since Domar’s seminal article¹⁹ the relationship between coercion and labour shortage – *labour demand effect* – has been present in research about slavery, some other authors have underlined that scarcity cannot always explain the demand for unfree labour.²⁰

To that end, we will start with a quantitative approach for all the period, and later, in following sections, we will focus on the different modalities of firms and captives, from POWs to prisoners, and from private companies to the new public enterprise, RENFE, born in 1941.

Forced labour on the Spanish railways: A quantitative approach

The first challenge that historians face to completely measure the contribution of forced labour to railway infrastructure during this period is the great fragmentation of documentation, mainly that of the Workers’ Battalions (BB. TT. – *Batallones de Trabajadores*).²¹ Nonetheless, in spite of those methodolog-

16. The influence of institutional change on the behaviour of enterprises has been one of the main contributions of New Institutional Economics. A theoretical approach to the study of forced labour employing these proposals can be found in Eggertsson (1990, pp. 203-213).

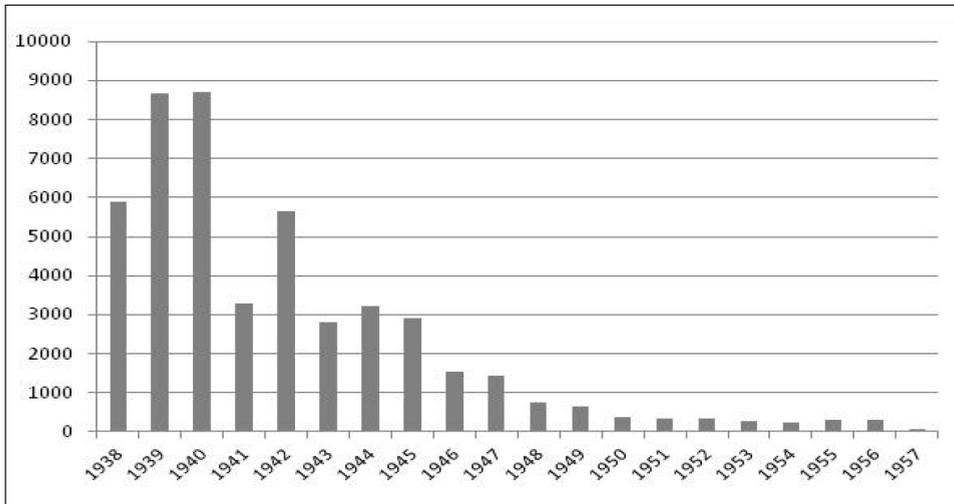
17. Obviously, we are leaving aside the significant intentionality and political functionality of the recourse to forced labour, analysed in Spain by Acosta et al. (2004), Rodrigo (2005, 2012), Gómez (2008), Mendiola (2014), Mendiola y Beaumont (2006) and García-Funes (2017a and 2017b) and Mendiola and Beaumont (2006), amongst others. In the German case, different research projects have also stressed the importance of factors relating to ethnic or social policies, prior to the shortage of labour during the war becoming a serious economic problem, for the creation of forced labour systems (Roth, 1997; Jaskot, 2000; Gruner, 2006; Bugglén, 2015, and Wachsmann, 2015).

18. Williamson (2002, p. 181).

19. Domar (1970).

20. Acemoglu and Wolitzky (2008, pp. 587-588), van der Linden, (2008, pp. 39-54), Moulier-Boutang (2006, pp. 908-921), and Green (2014). For an overview on Domar’s hypothesis as an explanatory factor for forced labour demand in Spanish capitalism, see Mendiola (2016).

21. These battalions of POWs depended on the Inspectorate of POW Concentration Camps [ICCP - *Inspección de Campos de Concentración de Prisioneros*], which filed a monthly report on the location and work of each of their members. Unfortunately, only two complete series of these reports are available for historians, those of December 1938 and January 1939 (AGMA, CCG, 1, 46bis, 8 and AGMA, CCG, 1, 46bis, 9). There are also lists of the roll calls taken of these battalions contained in the Archive of the Court of Accounts [*Archivo del Tribunal de Cuentas*] (Documentary Centre of Historical Memory [*Centro Documental de la Me-*

FIGURE 1 • Evolution of the number of forced workers in railway infrastructures

Source: Prepared by the author based on data from the AGMA, AGTC and Memoranda of the Prison General Directorate. Further details in Mendiola (2013b).

ical problems, we have been able to locate most of the work carried out by captives between 1937 and 1957,²² an indispensable previous stage for a further explanation of the different business strategies related to forced labour.

As we can see in Figure 1, from 1938 onwards several thousand captives worked on railways, especially in 1939 and 1940, years in which the number of forced labourers exceeded 8,000. In January 1939, in the final months of the war, work on the railway represented 7.1% of that done by POWs.²³ The figures remained close to 3,000 until 1945, and from then onwards fell appreciably,²⁴ with the total number remaining under 500 during the 1950s, until in 1957 they completely disappeared, 13 years before the definitive abandonment, in 1970, of the use of prisoners in exterior works.

moria Histórica], Salamanca), but in this case they only mention the location of the High Command, although the companies were often in different places, without specifying the work done. This information has been completed with partial references contained in documents of the General Military Archive of Ávila [AGMA – *Archivo General Militar de Ávila*].

22. For a complete record of these locations, with their date and number of workers, see Mendiola, 2013b.

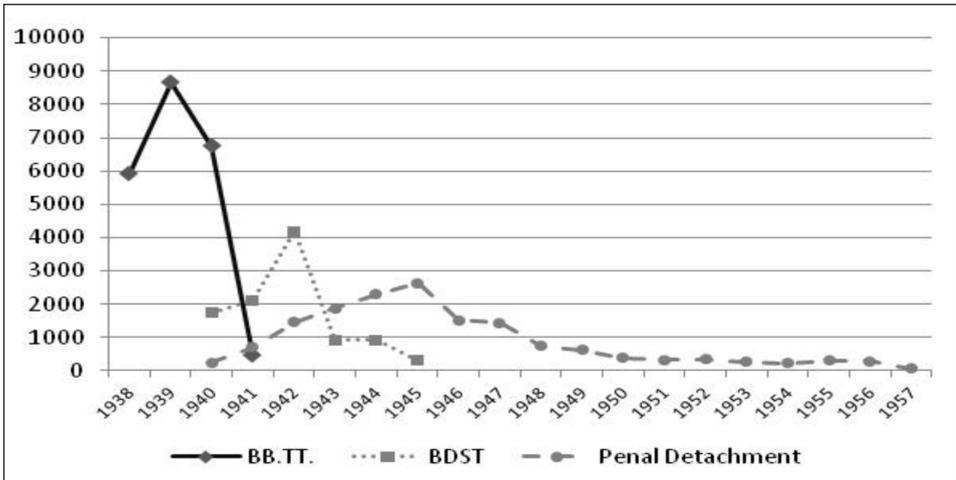
23. Mendiola (2013a, p. 190).

24. We should not forget, as well, that this decline can also be observed in the whole of the prison population. From nearly 280,000 prisoners of both sexes in 1939 (to whom must be added, that year, more than 100,000 captives in Workers' Battalions and Concentration Camps), the number falls to 43,822 in 1945 and to 15,602 in 1960, according to the Memoranda of the Directorate General of Prisons [DGP – *Dirección General de Prisiones*].

Now, to better understand this evolution, we must also consider the institutional change that determined the supply of this type of labour, as well as the POW/prisoners duality on which the Francoist system of forced labour was based. In fact, while on its emergence forced labour in Spain basically involved POWs integrated in BB.TT. between 1938 and 1940, and in Disciplinary Battalions of Worker-Soldiers (BDST – *Batallones Disciplinarios de Soldados Trabajadores*) between 1940 and 1945, the practice of setting incarcerated prisoners of both sexes to work started from 1939 onwards. Although this was a variety that initially involved lower numbers, it was nonetheless to have a much greater duration in time.²⁵

Figure 2 shows the weight of each of these modalities in railway works. It is clear that until 1942 the majority of the workers were POWs, while from 1943 onwards forced labour on the railway lines was done almost exclusively, and after 1946 exclusively, by prisoners. With respect to the latter’s characteristics, while the use of prisoners for work was initially proposed for political prisoners, from 1944 onwards common prisoners also started to be deployed, given the overall fall in the prison population. It was precisely on a railway works site, the Penal Detachment of Loyozuela on the Madrid–Burgos line, where non-political prisoners were deployed for the first time.

FIGURE 2 - *Legal modality of the forced workers in railway infrastructures*



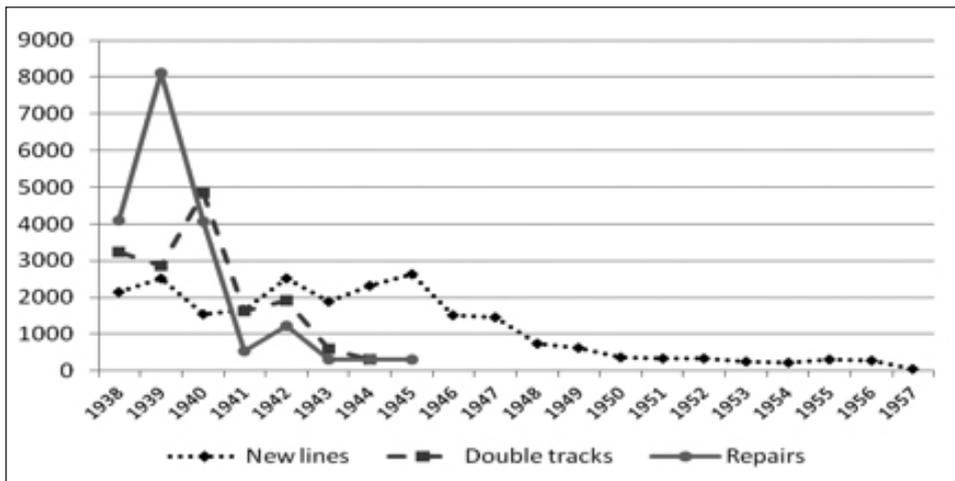
Source: Prepared by the author based on data from the AGMA, AGTC and Memoranda of the Prison General Directorate. Further details in Mendiola (2013b).

25. For overall figures of different modalities of forced labour, see Mendiola, (2013a, p. 189). For the most recent update, see Garcia-Funes (2017a).

With respect to the type of work, Figure 3 shows that in the wartime years repair work is what required the most labour,²⁶ a situation that changed during 1940 and 1941, when this task was surpassed by that of building double track along some stretches, while from 1942 onwards the work on which the captive population was most engaged was the opening up of new lines. Regarding repair work, in 1939 there were as many as 8,000 POWs working on these tasks, with the figure also reaching 4,000 in 1938 and 1940.

In these years, the BB.TT. were used and rapidly transferred from one locality to another, in order to repair damage to infrastructure and make possible its swift return to use. In terms of the opening of new lines, it should be mentioned that during the war the work of POWs was concentrated on setting up the Val de Zafan railway between Alcañiz (Teruel) and Tortosa (Tarragona), to the south of the Ebro, a railway that was used intensively during the battle of the Ebro in 1938.²⁷ In the aftermath of the war, the opening of the new Madrid–Burgos line was the priority for forced labour.

FIGURE 3 • *Type of work realized by captives in railway infrastructures*



Source: Prepared by the author based on data from the AGMA, AGTC and Memoranda of the Prison General Directorate. Further details in Mendiola (2013b).

26. In spite of their detailed descriptions, reference to the work of POWs is totally absent from the first publication on repairing war damages: García Lomas (1940).

27. During this battle, one of the most important and meaningful in the Spanish Civil War, this railway transported 3,000 tons of war material per day, according to the Enterprise Memoranda (*Memoria del Consejo de Administración. Ejercicios 1936, 1937, 1938, and de 1º de enero a 31 de mayo de 1939*; (AHF, Libro 31 bis, p. 30).

The private railway enterprises and the work of POWs: The case of MZA (1938-1940).

The greater part of the work of POWs was controlled and organized by the army itself through the Workers' Battalions (BB.TT.), and was very rarely directed at satisfying the needs of private enterprises, except where these were considered to be of strategic importance.²⁸ One of these exceptions was precisely the railways, in private hands in Spain until 1941, but with a growing public intervention. Actually, and as a result of this, Franco's government passed a law just before the end of the war, on 8 March 1939, according to which railway companies' "boards of directors" (*consejos de administración*) were replaced by the new "Direction Boards" (*consejos directivos*), where members designated by the government had much more power. Despite the fact that the work of POWs remains hidden in much of the available documentation,²⁹ in the case of the *Madrid-Zaragoza-Alicante Company* (MZA) we are able to trace the evolution of its strategy in relation to the use of forced labour from 1937 until its dissolution in January 1941.

Now, in order to understand this strategy we must bear in mind the effects of the war on railway infrastructure, the institutional supply of captive labour, and also the situation of the company itself. This enterprise was one of the two biggest Spanish enterprises in the first third of the twentieth century,³⁰ and it had some 30,000 workers prior to the war.³¹ Nonetheless, in spite of its apparent strength, the company suffered from a serious financial situation, a problem predating the outbreak of the war and shared with the majority of railway enterprises. This resulted in a profound transformation of the business structure of the railway in Spain with the appearance in 1941 of RENFE, the public railway enterprise.³²

As can be seen in Figure 4, MZA was the company that took recourse in the most systematic way to the use of POWs between 1938 and 1940, above *Compañía de los Caminos de Hierro del Norte de España* and *Ferrocarriles del Oeste*. The year when forced labour was most significant for the company was 1939, with 5,225 POWs, a figure that represents 16.3% of the total personnel

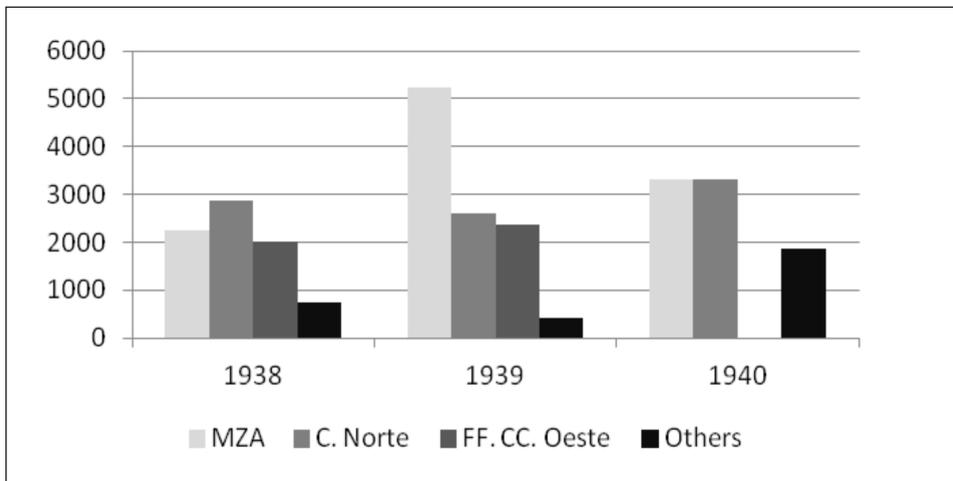
28. For a detailed analysis of the process of formation of the BB.TT. in the concentration camps, see Rodrigo (2005) and García-Funes (2017a). Some militarized industries and iron mines can be found amongst the exceptions, one of the most important being the Basque case (Mendiola, 2012).

29. With respect to the railway enterprises, this invisibility already starts in the companies' own memoranda, (available in the *Historical Railway Archive*) and continues in part of the archived documentation, with the exception of the MZA railway company.

30. From the start of the twentieth century, the two biggest railway companies, *MZA* and *Compañía de los Caminos de Hierro del Norte de España*, were the two biggest Spanish enterprises in numbers of assets (Carreras and Tafunell, 1993).

31. Ballesteros and Martínez Vara (2011, p. 649).

32. Muñoz (1995) and Cayón and Muñoz (2009).

FIGURE 4 • Number of POWs working for the different Spanish railway enterprises*

* When calculating totals per company, the maximum numbers of workers per battalion working for the company have been added up, without taking account of the time worked. In cases where a battalion might have worked in two or more companies, it appears counted in both. The number is higher, as the mobility of workers within battalions is not registered.

Source: Prepared by the author based on data from the AGMA, AGTC and Memoranda of the Prison General Directorate. Further details in Mendiola (2013b).

in 1935.³³ Regarding this, we must take into account that this new modality of workers, the POWs, represented an important shift in the previous evolution of labour policies within the enterprise, which had been enforcing the consolidation of Internal Labour Markets.³⁴

Already in 1937, we know of the offer made on 20 July by the Lieutenant Colonel Head of the Military Railway Service to the director of the MZA company “to be able to draw up a plan of public works in which use would be made of the labour of prisoners of war and political prisoners”,³⁵ but this was turned down by MZA, which claimed that “at present we do not have any work to which the indicated arrangements could be applied”.³⁶ Nonetheless, in spite of that initial rejection, we have managed to verify that by the end of 1938 over 2,000 POWs were working on railway infrastructures of MZA.

33. Figures for personnel (33,792, without counting workers in the mines) provided by Ballesteros and Martínez Vara (2011, p. 649). The documentation of the company does not register the total number of workers during the war years, which would presumably have been lower, thus the percentage of forced workers over the total would certainly be higher.

34. For an analysis of the labour policy and the Internal Labour Markets in MZA, see Portillo and Mar (2008), and Martínez Vara (2005).

35. Historical Railway Archive [AHF – *Archivo Histórico Ferroviario*], C-1368-003.

36. Reply from the President of the Board of Directors of MZA to the Lieutenant Colonel Head of the Military Railway Service. Valladolid, 28 July 1937. AHF, C-1368-003.

As we have indicated above, recourse to the work of POWs is to be explained, in the first place, as being due to the shortage of labour in a context of war, repression, and the need for reconstruction.³⁷ This loss of human capital affected railway companies, which were also involved in a depuration process for their workers. As a result, more than half of their workers received some kind of sanction because of their political attitude, and 12% of them were dismissed.³⁸

In this situation, railway enterprises were demanding extra labour in order to rapidly repair damage. This reasoning appears in the MZA company's own documentation, one example of which is the document that the Chief Engineer of Tracks and Works showed to the Director of MZA in April 1939 to convince the latter to request new battalions of POWs in order to repair several stations between Madrid and Aranjuez:

At present our service is dealing with the work of clearance and repairs with the very few members of our own personnel that we have managed to assemble, aided by a company from Workers' Battalion number 2 and another from number 16 that is working in Villaverde. Now, given the enormous labour that is necessary to carry out to put all these installations into minimum conditions for their utilization, to continue at the same rhythm as up to now would mean that this work would have a duration that is incompatible with the need of making these installations available as soon as possible.³⁹

Labour shortage is also mentioned to explain the deployment of POWs on other railways,⁴⁰ such as the Val de Zafán railway in 1938, but in this case there is another reason used to justify it, that of its lower, or extremely low cost, as can be read in this report: "the deployment of POWs has been planned, not only because this would make the works much cheaper, but also because of the impossibility of assembling, under current circumstances, the required labour force".⁴¹

37. The need for labour is fundamental to understanding the recourse to forced labour; this has been documented in the Basque case by Mendiola (2012), and also in Germany by Herbert (1997), Tooze (2006) and Wachsmann (2015).

38. Muñoz (2009, p. 211) and Polo Muriel (2015). For overall estimates of human capital losses in the early years of Franco's dictatorship, see Nuñez (2003).

39. Letter dated 16 April 1939. The next day the Director of MZA requested that the Lieutenant Colonel Head of the Military Railway Service send "four new companies" (that is, some 600 POWs) for that purpose. AHF, C-0395-005.

40. García-Funes (2017a).

41. Report by the Military Railway Service to Franco's General Headquarters, 29 November 1938 (Dueñas, 2013). This is only one of the different cases of POWs working on this railway, and in this occasion the request was rejected by the Concentration Camps Inspectorate, because it did not meet the requirements of the normative about captives' work (García-Funes, 2017a).

That kind of specific and empirical information about the cheaper cost is very important to understanding company strategies beyond legality, because while the legislation on forced labour envisaged that companies using prisoners or POWs should pay the state the daily wage established by local work regulations,⁴² the available documentation on railway infrastructures shows us that this was not always obeyed. An extreme case, although exceptional, was the offer in May 1939 by the captain of a nearby concentration camp in Valsequillo (Córdoba) to MZA to use POWs in repair work on the railway line in a “completely free” way, which finally did not take place because the POWs were moved from the camp.⁴³

For the MZA company we have found continuous references to claims by the state that lead us to think that this requirement was not always met, and that MZA was normally reluctant to pay for the use of POWs.⁴⁴ That is, at least, what was alleged in February 1940, facing a claim for payment pending for the work of BB.TT. 143 in the area around Algodor and Aranjuez, to which MZA’s Chief Engineer of Tracks and Works replied that this question “is pending the result of a proposal that the Military Railway Directorate has made to the Ministry of the Army”.⁴⁵ This leads us to consider, even at a time when private railway companies, such as MZA, were ruled by government-designated directors, a conflict of interests between the income to be received by the state due to the work of POWs – which should be paid by the companies deploying POWs – and the need to swiftly reorganize railway infrastructure following the war.

It is precisely from the autumn of 1939 onwards, when those claims began to be received, that MZA changed its position with respect to the work of POWs and requested the withdrawal of the battalions, using arguments about supposed disorganization of the works, the fact that they spent the time without working, their lower level of profitability or their lack of qualifications. Also in another big railway company, *Compañía de los Caminos de Hierro del Norte de España*, the testimony of a company official mentions the difficulty of obtaining high performance while using prisoners of war and the need to relax disciplinary conditions in order to increase productivity.⁴⁶

Several documents in this respect have been conserved, of which one of the clearest is a letter from the Director of the company to the Colonel Head of the Military Railway Service, in which he requested the withdrawal of the

42. “Decree granting the right to work to prisoners and POWs”, *Boletín Oficial del Estado*, 1 June 1937.

43. AHF, C-0330-001-5.

44. AHF, C-0395-005.

45. AHF, C-0395-005.

46. Díaz Sánchez (2003).

battalions arguing that “the average performance per individual is markedly lower than that of a free worker”.⁴⁷

In any case, in spite of these requests, and of the supposedly lower profitability, MZA continued to have nearly 4,000 POWs working on its railway lines and stations during the first months of the year 1940, until the majority of the Workers’ Battalions were disbanded.

When these private companies disappeared and were integrated in the new public railway company, RENFE, in January 1941, the economic situation in Spain had changed somewhat. Labour shortages related to war had largely disappeared, although remained in some qualified jobs, and real wages had declined sharply compared to the pre-war situation. In that conjuncture, when the Spanish economy was taking a labour-intensive path, with very low productivity levels and growth rates,⁴⁸ deployment of captive workers is to be understood with a different logic. Why, if there was no general labour shortage and work was so unusually cheap, did forced labour continue to be significant for the expansion of railway infrastructure? That is, mainly, the question that we will try to answer in the next two parts.

The work of POWs on railway infrastructure used by the public company RENFE (1941-1945)

As we saw in Figure 2, the disbanding of the BB.TT. in 1940 did not mean the end of the work of POWs on railway infrastructures, since these battalions were replaced by the BDST between mid-1940 and 1945, which were, in fact, the principal form of forced labour in general, and of railway work in particular, during 1941 and 1942. These battalions were created in 1940 within the framework of a process of reorganizing the concentration camp structure, which was from then on known as the Directorate of Concentration Camps and Disciplinary Battalions (JCCBD – *Jefatura de Campos de Concentración y Batallones Disciplinarios*), and were formed of youths classified as “opposed” to the regime. Thus, in spite of their peculiarities and their relationship with the reorganization of the military service, the BDST have been considered by both historiography and Spanish legislation as forced labour

47. AHF, C-0395-005. Letter of 12 January 1940 from the Director of MZA to the Colonel Head of the Military Railway Service.

48. For the fall in real salaries see Vilar (2009, pp. 135-154). For changes and reinforcing discipline in labour market regulations see Babiano (2011) and Vilar (2013). In the Spanish economy as a whole after the war we witness a fall in productivity per hour worked (Prados de la Escosura and Rosés, 2010, p. 528). This, of course, was very closely related to the especially low rates of growth if we compare it with other European after-war reconstruction processes, Catalán (2003).

units, organized and designed according to the logic of war and the management of POWs, on the margins of the penal system.⁴⁹

Of their almost 50,000 members, between 2,000 and 4,000 worked on railway infrastructures from 1940 to 1943. However, unlike the case of the BB.TT., they were no longer working on improving the infrastructures belonging to private enterprises, since the greater part of the railway network and its enterprises were integrated into RENFE, the new public company created in January 1941. Nonetheless, it remains a historiographical challenge to detail the contractual relationship that might have existed between the Directorate of Concentration Camps and RENFE, as well as the possible involvement of private construction enterprises that were working for the latter, as can be gathered from the memoirs of one of the POWs who worked in BDST (P) 95.⁵⁰ Actually, neither the publications, nor the company memoranda referring to the development of new works, nor even the minutes of the board of directors, make reference to the work of POWs, something that is surely related to the existence of contractor enterprises that were responsible for carrying out some of the works, companies with which the battalions had relationships.

Nonetheless, by means of the internal documentation of the BDST, especially the inspection reports of the year 1942, as well from other types of sources, we can form some idea of the features of this railway work. It is evident that these battalions continued to experience significant problems of organization and productivity detected in the case of the BB.TT., along the lines previously set out by the management of the MZA company.

In this respect, the main problem that we can observe in the internal documentation of the BDST relates to the low productivity of labour, which is noted in the report of the Directorate of Engineers of the 4th Military Region on the *Situación y cometidos de los Batallones de Trabajadores de esta región* (Situation and performance of the Workers' Battalions of this region). It proposes the replacement of several of these battalions by free personnel or prisoners from the *Sistema de Redención de Penas* (System of Punishment Redemption), in order to be able to assign the members of the BDST to tasks of military fortification. It indicates several cases, such as BDST 18 (Val de Zafán railway), that could be replaced by prisoners, a collective whose cost is "very high, but with a better performance".⁵¹

49. Mendiola and Beaumont (2006). It was not until 2005 that these battalions were legally declared part of Francoist prison/concentration systems, when the Spanish Constitutional Court judged that members of these battalions were captives forced to work (Sala Segunda. Sentencia 180/2005, 2005, 4 July, published in *Boletín Oficial del Estado*, 186, pp. 35-42).

50. Horcajada (2008, p. 138).

51. Barriuso (2006, pp. 70-74). The higher cost is due to the fact that Decree of May 1937 established that in the case of prisoners who were married or had children, a small sum (0.5 Pesetas per wife or child) could be diverted as family assistance (Mendiola, 2013a, p. 196).

Mentions of low labour productivity also appear in a large number of inspection reports on the BDST made in mid-1942. While we have not found any individualized mention of the battalions that were working on the railway, the greater number of the reports are explicit when it comes to making clear the problems of organization, management and productivity of this type of punishment. In more than one case, they describe the lamentable physical condition of the POWs, their lack of clothing and shoes for going to work, or “the lack of aptitude of many of the chiefs and captains that direct these squads”, as stated textually concerning the battalions of the 4th Military Region. These included BDST 18, 46 and 48, which were undertaking different works on railway infrastructure during that year.⁵²

On the other hand, the memoirs of the POWs themselves also refer to this question, as occurs in the case of two POWs of BDST (P) 95, which between June and December 1942 worked on laying the Madrid-Zaragoza double track, on the same route where the management of MZA had previously requested the withdrawal of the battalions. In this case, the memoirs of these POWs also stress lower productivity, due both to the strategies of political resistance and non-collaboration, and to the effect of the conditions of living and food, as can be seen in Arenal’s text:

The food was scarce and bad, practically potatoes and water, but on the contrary they wanted the work to be productive, so we tacitly started to carry out passive resistance (...) The comrades responsible for emptying tubs so as to ‘open up’ the railway cutting allowed the loaders to pass, and we, using four stones that we placed perpendicularly and another to stick out, ‘filled’ the wagon. When we reached the dump, we only emptied out the one on top, and we returned with practically the same ones, although sometimes we had no choice but to empty them all, it all depended on the supervision. What is certain is that – according to production estimates made by the RENFE technicians – the work was only proceeding at 25%.⁵³

Similarly, another POW working in the same railway line, J. M. Horcajada, indicates in his memoirs that forced labourers were totally lacking in motivation towards the work, due both to the conditions of life and to the awareness that any effort made in the work “was not going to bring any significant

52. General Military Archive of Ávila, Ministry of the Army. C - 20904. For a more general analysis of the problems of management and productivity in the BDST, see Mendiola and Beaumont, (2006), which examines the work on mountain roads in the Pyrenees in greater depth.

53. Arenal (1999, pp. 87-88). Arenal was working at this time, autumn/winter 1942, on the Madrid-Zaragoza line (Jubera, Soria), as part of BDST (P) 95.

improvements in our daily lives".⁵⁴ Both testimonies are a good example of the importance of human agency, that of the captives themselves, in varying the transaction costs in forced labour regimes, something that was stressed some time ago by authors like Eggertsson.⁵⁵

That difficulty in achieving high productivity levels under such conditions, which clearly show features of continuity with the former POW battalions, leads us to a question that has long been debated in the study of forced labour: that concerning the productivity of this type of labour in comparison with that of free workers.⁵⁶ Research carried out in Germany emphasizes the need for complex answers to this question, taking into account the different modalities of forced labour, and also the influence of captives' agency and material conditions. Besides, variations in labour market, demand or war situations led enterprises to choose labour-intensive production, based on forced labour, in spite of its lower productivity, while relegating possible investments in capital, technology or even training the workers themselves.⁵⁷ In Spain, recent research has also highlighted these variations in productivity levels,⁵⁸ mainly differentiating POW and prisoners labour, as we shall see in the following section.

Prisoner deployment by private construction companies (1941-1957)

As we have seen in Figure 2, from 1943 onwards most of the work of captive labour on the railway was concentrated in prisoners inserted in the System of Punishment Redemption through Work, who were basically working on opening new railway lines. This was, therefore, a significant change with respect to the previous situation, where there had been a predominance of POWs, and it was accompanied by a significant restructuring of the railway infrastructure in Spain, with the appearance of RENFE in 1941. Now, as in the case of the POWs of the BDST, RENFE's documentation does not contain any mention in this respect either, given that the totality of the work of prisoners, inserted in the System of Punishment Redemption through Work,

54. Horcajada, (2008, p. 135)

55. Eggertsson, (1990, p. 208-209)

56. In the case of the mines of Biscay (Spain), the mining companies also employed this argument in 1939 to request the replacement of forced labour by free workers, Pastor (2010).

57. The debate dates to the abolition of slavery in the USA (Fogel and Engerman, 1974). For Nazi Germany, Spoerer (1999, p. 68) shows us variations in productivity amongst different kinds of forced labour. For changes in productivity levels within the same enterprise according to these different factors, see, amongst others, Herbert (1997), Gregor (1998), Wagner (2010) and Spoerer (2010).

58. Sánchez Albornoz (2003) and Mendiola (2013a).

TABLE 1 • *Construction companies that used prisoners on railway infrastructures (1940-1957)*

	1940–1957	1943	1943	1943
	Total days worked by prisoners	Prisoners on railway works	Prisoners employed	% of prisoners on railway works
Ferrocarriles y Construcciones A.B.C.	636,900	560	1360	41.2
H. Nicolás Gómez	798,225	385	982	39.2
Construcciones Elizaran	485,475	316	316	100.0
A. Marroquín	498,300	325	485	67.0
AMSA	346,050	70	70	100.0
C. Barnal	508,200	0	0	
Marcor S.A.	1,062,525	131	131	100.0
MZOV	283,800	0	0	
Banús /Jubán S.A.	109,650	90	265	34.0
	4,729,125	1877	19602	9.6

Source: Olaizola (2006) and Memoranda of the Directorate General of Prisons (1940-1957). An average of 300 days work per year has been estimated.

was done on opening new lines, contracted out to construction companies and dependent on the Ministry of Public Works.⁵⁹

Outstanding amongst the new lines was, without doubt, that which was to connect Madrid and Burgos, on which an average of between 1,000 and 2,000 prisoners worked during a large part of the 1940s, divided into several detachments. While from 1947 onwards the annual number fell below 500, the final penal detachment on this line was not to close until 1956. This was a new line, considered a priority by the government,⁶⁰ as was another of the works involving prisoners, that of Madrid–Zamora–Orense. The rest of the works, carried out between 1941 and 1957, involved fewer personnel.⁶¹

With respect to the strategies and attitudes of the construction companies towards the work of prisoners, we have pointed out previously that both the

59. A detailed description of the railway works promoted by the Ministry of Public Works in these years can be found in the speech of the Minister of Public Works, Suárez de Tangil (1954).

60. Decree of 20 December 1944, declaring the urgency of the completion of the works of the Madrid–Burgos railway and its connections (Official State Bulletin [*Boletín Oficial del Estado*], 10 January 1945, pp. 342-343).

61. For more detailed information on the lines on which prisoners worked, see the research of Olaizola (2006) and Mendiola (2013b). For the Madrid-Burgos line, see Quintero (2009).

lack of access to company documentation and the scant data provided by the public documentation leave us with many questions that remain unanswered. In any case, on the basis of available data, we can identify which were the enterprises that used forced labour, as can be seen in Table 1, where we have made an estimate of the total number of days worked by prisoners in each enterprise. This enables us to affirm that, as a whole, the construction companies profited from over 4.5 million days worked by prisoners between 1940 and 1957, with *MARCOR S.A.* standing out, with over 1 million days.

Besides, taking the year 1943 as a reference, one of the years when most prisoners were working on railway works and in which the memorandum of the Directorate General of Prisons (DGP – *Dirección General de Prisiones*) is most exhaustive, we have been able to estimate the relative proportion of railway works within the overall use of captive personnel by construction companies, in which a variety of situations could be verified. Indeed, while there were companies that put the majority of prisoners on railway works, in the enterprises that used most prisoners on the railway that year, *Ferrocarriles y Construcciones ABC* and *H. Nicolás Gómez*, the percentage represented by railway works was the lowest. That is to say, the use of prisoners on railway works by many companies should not be considered something exceptional, but rather normal in construction, where they were also used in other types of work.⁶²

Another example of that diversity is *Jubán S.A.*, the company that used captive labour for the longest time, between 1940 and 1970, and about which the memorandum of the DGP for the year 1954 – when the company was using prisoners on the Sukarrieta–Bermeo railway in Biscay – indicates the following:

[...] an already veteran enterprise in contracting with the Central Board, given that since the year 1940 it has been absorbing penal labour in railways, in the works at the Valley of the Fallen, Torrejón de Ardoz, and now in the Bermeo detachment (Biscay), and in this new situation we are indicating, in order to build a satellite city of Madrid.⁶³

In order to understand this option for forced labour, we must bear in mind not only questions related to the wages to be paid, but also the state of the labour markets and productivity levels. With respect to the first of these factors, we have already indicated that the enterprises had in principle to pay the

62. As we can conclude from the data for 1943, *Ferrocarriles and Construcciones ABC* also had hundreds of prisoners working on several roads and urban works in Gipuzkoa-Itziar, Zumarraga, Irun, Errenteria– and Burgos-Bujedo, and also on the dam at Anguiano (La Rioja) and the cement factory in Arrona (Gipuzkoa). Regarding *H. Nicolás Gómez*, it deployed prisoners that year on several roads – Oropesa and Puerto del Arzobispo, in the province of Toledo – and in hydraulic works in the same province – Alberche reservoir, in Talavera de la Reina and the Puerto del Rey channel (Memorandum of the Directorate General of Prisons, 1943).

63. Memorandum of the Directorate General of Prisons, 1954, pp. 62-63.

minimum wage of each locality, so that not much could be saved in that respect, with the Public Treasury being the main beneficiary of this system. Moreover, we must bear in mind, as mentioned before, the labour-intensive direction that the Spanish economy took as a whole after the civil war, with a fall in real salaries and work productivity, and that this ensured employers high profits without needing forced labour as the only way of obtaining cheaper labourers. Now, the other two factors mentioned played key roles in explaining the use of prisoners by construction companies.

With respect to the structure of the labour market, we should bear in mind that much of the works, and especially the railway works, were carried out in areas far removed from population centres. In these areas, companies had to pay a higher salary as an incentive for the available labour to move there, and for greater availability and flexibility when it came to lengthening workdays once the workers had moved and been housed at the works site.⁶⁴ So, even in a situation in which there was not a general labour shortage, the deployment of captives came to provide companies with cheaper workers for lowly populated areas.

This argument comes up time and again in the memoranda of the DGP from 1940 until 1953, and it appears in a specific way in 1944 when explaining its importance in the construction of the new Burgos-Madrid railway, which is precisely where most prisoners were working:

It is not only the lack of free labour that makes construction difficult; let us suppose that it existed in abundance. Would the workers travel several kilometres every day from the closest population centre to start the workday at the established time? In the case of their doing so, with what energy would they manage the tools after several hours travel? So, the Board for Punishment Redemption has found the solution to this problem, installing suitable premises close to the sites [...] The construction works of the direct Madrid-Burgos railway, which for identical reasons would have been no more than a simple project in several of its parts, were started using the same procedure.⁶⁵

Thus, it is evident in this case that the use of forced labour clearly functioned to reduce the transaction costs involved in the movement of workers to distant areas, at the same time as ensuring enterprises with a supply of an essential specific asset – labour power – during the whole year, and especially in summer when the agriculture labour demand might push up wages. This prob-

64. This factor has been shown in the case of the Pyrenees in Navarre in the works of Mendiola and Beaumont (2006) and Mendiola (2012); and, for the Soviet case, by van der Linden (1997).

65. Memoranda of the DGP, 1944, 94-95.

lem, mentioned in 1956 by the Memoranda of Prisons Directorate,⁶⁶ had appeared previously in some other railway infrastructure works, such as in Southern USA, where the cotton crop season made labour much more expensive for companies working in the railways after the American Civil War.⁶⁷ In that kind of situation, convict labour was a cheaper alternative for businesses.

On the other hand, it is also necessary to bear in mind the differences in productivity levels that the system of employing prisoners involved in comparison with that of POWs. Within the frame of the overall low productivity for Spanish labour during the decades after the war, the possibility of improving food, both through the companies themselves and through the solidarity of prisoners' families, was identified by the authorities as a key element in improving the prisoners' productivity levels, as recognized in the memoranda of the DGP. Besides, linking work with the shortening of time in captivity and the possibility of obtaining, thanks to overtime, a small income that could directly add to family earnings, also represented clear incentives that prompted many prisoners, especially married ones, to make the maximum effort in their work.⁶⁸

In fact, while in the POW battalions the reference to productivity always appeared as a clear problem, the memoranda of the DGP show that companies were satisfied with the levels of productivity achieved by prisoners, a good example of this being the following report:

According to certificates of Don Junio Cifuentes Plato, principal manager of the Banús Hermanos S.A. works in Bermeo, the convicts have behaved 'admirably', their performance being higher than would be normal in free workers, observing an excellent discipline, and showing good will at all times and dedicating all their faculties to the work.⁶⁹

Conclusions

The data supplied clearly show us the importance of captive labour in repairing, improving and extending the network of railway infrastructure, especially during the civil war and its immediate aftermath. In these years, the work was basically done by battalions of POWs in the framework of the Con-

66. Memoranda of Prisons Directorate (p. 73).

67. Lichtenstein (1996, pp. 46-47). The same kind of arguments appeared in colonial India, related to the deployment of prisoners for some other public works, such as roads or channels (Joshi, 2012, pp. 285-287).

68. Different incentives, mainly Rowan system, were mentioned in the Memoranda of the DGP as an efficient way to improve prisoners' productivity (Mendiola, 2013a, p. 202).

69. Memoranda of the DGP, 1956, 76.

centration Camps, but, nonetheless, the disbanding of these battalions did not mean the disappearance of captive work on the Spanish railway, which was maintained until 1957 through the use of the incarcerated population.

Thus, using the information available to date, and knowing that new research might qualify or enrich what has been set out here, we have been able to identify three factors that explain the variations in the recourse to captive labour by the companies involved in railway infrastructure.

In the first place, we should bear in mind the wage differential between captive labour and free labour. While Francoist legislation indicated that the wage paid by the companies to the state for hiring prisoners or POWs should be equivalent to that of free labour, in the case of the private railway enterprises, and of MZA concretely, we have been able to verify that this regulation was usually not completely fulfilled, so that recourse to forced labour was in fact a cheaper alternative in the case of POWs, at least until 1940.

In the second place, making use of the proposals of transaction cost economics, we have been able to confirm that the specificity of the assets tended to facilitate hierarchical solutions for their provision, in this case through a legal framework that enabled access to institutions like the prison or the concentration camps as suppliers of workers. This factor operated both during the war, a time when the railway companies were also experiencing the overall problem of labour shortage, and during the dictatorship. In the latter case this involved construction companies having recourse to the work of prisoners in order to move workers at low cost to areas that were unpopulated or where local labour was not sufficient for undertaking the work of extending the railway track, now in the hands of the state and used mainly by RENFE, the public railway company.

Finally, we should bear in mind the variations in levels of productivity. While during the war the low costs of POWs and the generalized scarcity of labour made it acceptable to maintain very low levels of productivity, the post-war situation, and above all the recourse to the incarcerated population by construction companies, went hand-in-hand with an increase in productivity levels. This was due both to a slight improvement in material conditions and to incentives related to the duration of the sentence and the possibility, not always guaranteed, that the families of prisoners might obtain some benefit from their extra work.

It is thus evident that the recourse to captive labour obeyed a logic that changed over these twenty years, and that was substantially different during the war and its aftermath. Now, over and above all of these variations, the employment of POWs and prisoners on railway works constituted good business, both for the state and for the enterprises that used them. Clearly, at the cost of much suffering.

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Of Firms and Captives: Railway Infrastructures and the Economics of Forced Labour (Spain, 1937–1957)

ABSTRACT

This article deals with the key economic points that explain the evolution of the deployment of prisoners and prisoners of war on extending and reconstructing railways during the Spanish civil war and Franco's dictatorship. The first part presents a quantitative approach to the works carried out during these periods. Subsequently, an analysis is made of the three main variables of work according to institutional change and the business structure of the Spanish railway: prisoners of war working for private railway companies, prisoners of war working for army battalions, and prisoners working for private construction companies. Thanks to these varied situations, we can better understand how labour supply and productivity levels related to company strategies regarding this kind of labour in different contexts, such as the war economy, post-war reconstruction, and dictatorship, until 1957.

KEYWORDS: Forced labour, railway infrastructure, railway companies, Franco's dictatorship, coercion

JEL CODES: J20; N84; N44; N34; L92



De empresas y cautivos: las infraestructuras ferroviarias y la lógica económica del trabajo forzado (España, 1937-1957)

RESUMEN

Este artículo examina los principales factores explicativos del empleo de presos y prisioneros de guerra en la ampliación y reconstrucción del tendido ferroviario durante la Guerra Civil Española y la posterior dictadura franquista. La primera parte presenta un análisis cuantitativo de trabajos realizados por mano de obra cautiva en los ferrocarriles españoles. Posteriormente se pasan a analizar las tres grandes modalidades de trabajo en función del cambio institucional y la estructura empresarial del ferrocarril: prisioneros de guerra trabajando para compañías privadas, prisioneros de guerra trabajando en batallones militares y presos trabajando para compañías constructoras privadas. Gracias a esta variedad de situaciones podemos entender mejor en qué medida la oferta de trabajo en el mercado laboral y los niveles de productividad están en la base de la diversidad de las estrategias empresariales en diferentes coyunturas, como la economía de guerra, la reconstrucción posbélica o los años de dictadura, hasta 1957.

PALABRAS CLAVE: Trabajo forzado, infraestructuras ferroviarias, empresas ferroviarias, Dictadura Franquista, Coerción.

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