

**OF FIRMS AND CAPTIVES:  
RAILWAY INFRASTRUCTURES AND THE ECONOMICS OF FORCED LABOUR  
(SPAIN, 1937 – 1957)**

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**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, a partir del cruce de diferentes fuentes, presenta una lista los trabajos realizados por mano de obra cautiva en los ferrocarriles españoles entre 1938 y 1957. 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 postbélica o los años de dictadura, hasta 1957.

**Palabras clave:** Trabajo forzado, infraestructuras ferroviarias, empresas ferroviarias, Dictadura Franquista, Coerción.

asociación española de historia económica **ABSTRACT**

This article deals with the main economic keys that explain the evolution in the deployment of prisoners and prisoners of war on extending and reconstructing the railways. The first part presents a list of the works carried out during the Spanish civil war and the Francoist dictatorship. Subsequently, an analysis is made of the three main variables of work according to institutional change and the business structure of the Spanish railway. Thanks to this variety of situation, we can better understand to which extent labour supply and productivity levels are on the basis of the evolution of enterprises strategies towards this kind of labour in different situations, such as war economy, after-war reconstruction, and dictatorship, until 1957.

**Keywords:** forced labour, railway infrastructures, railway companies, Franco's Dictatorship, coercion.

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**Introduction**

Railway infrastructures have been one of the most usual scenarios of forced labour in the contemporary age, something that has to be related with the already classic explanation by Fenoaltea (1984), 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 cares. More recently, following this argument Acemoglu and Wolitzky (2011:587) have pointed out “the complementarity between effort and coercion”, remarking that works intensive in effort are more likely to be deployed under coercive measures than some others more qualified.

Along 20<sup>th</sup> century, forced labourers on the railway have been mainly deployed in colonial<sup>1</sup>, war<sup>2</sup> or dictatorship<sup>3</sup> contexts. So, it is not surprising that in the course of the Spanish Civil War its use on railway infrastructures was considered from the very

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<sup>1</sup> Before World War I Germany put to work Onjembo prisoners in railway construction in Namibia, Erichsen, (2005). For forced labour on railway infrastructures in French Colonial Africa see Fall (1993, pp. 93 – 126). Under British rule, workers for the railways in the Gold Coast wer recruited “on the shadowy borderline between 'communal' and 'forced' labour” (Rogers, 1973: 103).

<sup>2</sup> 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 in other railway infrastructures along 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 Asia, nearly 60,000 POWs worked in the Siam – Burna Railway (Sareen, 2005).

<sup>3</sup> For Soviet Union under Stalin, see Gregory and Lazarev (2007) and Mote (2003).

beginning by the Francoist side<sup>4</sup>, 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.

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<sup>5</sup>. This will enable us to better understand the rapid start of railway construction following the war and to advance in the analysis of the relations between entrepreneurial strategies and fascist regimes<sup>6</sup>, at the time that we insert Spanish historiography within the recent renovation of forced labour literature, trying to better understand the relationships between free and unfree labour (Buggeln, 2008, van der Linden, 2012; Stanziani, 2013; and de Vito and Lichtenstein, 2013).

In spite of its importance in repairing and extending the railway network, the role of captive labour in these tasks has also been very scantily treated by Spanish historiography<sup>7</sup>. This lack of knowledge must be understood in the framework of insufficient remembrance

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<sup>4</sup>For an overall view of repression in Civil War, see Preston (2012). Forced labour in Republican Spain during civil war was much less important than in Francoist one, 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). Before Civil War, in 19<sup>th</sup> 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).

<sup>5</sup> The Global Collaboratory on the History of Labour Relations (International Institute of Social History) has made an important attempt to construct a taxonomy of labour relations, where <<forced labour>> (in which are included conscripted soldiers working and convicts) and <<tributary slaves>> (in which are included concentration camps worker inmates) appear inside the category of <<tributary labour>> (Hofmeester and Moll-Murata, 2011, pp. 21 – 22). Along the article we will deal with this duality of captive work, that of POWs depending on Concentration Camps Inspectorate and that of prisoners. For further description of Spanish forced labour system under Franco's dictatorship, see Mendiola (2013a, pp.186 - 190).

<sup>6</sup> Attitudes about the deployment of forced labourers have been one of the most important issues for historians researching about relationship between business and Nazi regime. Mainly, amongst a rich literature, see Herbert, (1997) and Spoerer, (2010). Another interesting focus of research is the implication of non German enterprises in the deployment of forced labourers 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 Buchheim and Scherner (2006) and Hayes, (2009). For overviews about relationships between Spanish business and politics under Franco's dictatorship, see Cabrera and Del Rey, (2002) and Recio y Tascón, (2003).

<sup>7</sup> See Lafuente, (2002); Olaizola, (2006), Quintero, (2009) and Mendiola, (2013c). Unfortunately, neither the new historiographical orientation concerning the railways, with greater attention given to labour policies, nor

policies initiated 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<sup>8</sup>. While historiography concerning forced labour has undergone considerable development in recent years<sup>9</sup>, 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<sup>10</sup>. In fact, this kind of consults, when possible, will probably enrich and provide further explanations for the conclusions of this paper.

We shall therefore proceed to carry out a sectorial analysis of some of the proposals contained in the work of Mendiola (2013a), which deals with the opportunity cost of the recourse to forced labour, both in relation to the difference in wages and to productivity levels, in the context of the transformations in the institutional framework and in the labour market during the Francoist period. Anyway, we must bear in mind the labour intensive way that Spanish economy took as a whole after 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<sup>11</sup>.

In order to better understand business strategies we must consider, following the contributions of transaction cost economics, the enterprise as a governance structure that has to decide the framework in which transactions are carried out, the classic dilemma of “*make or buy*”<sup>12</sup>. So, we should also ask at which moment and for what reasons enterprises

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the recent works on the war's impact on enterprises and railway infrastructures mention the reality of forced labour (Ballesteros and Martínez Vara, 2011; Cayón and Muñoz, 2009).

<sup>8</sup> See, mainly, Espinosa (2006) and Ranzato, (2007).

<sup>9</sup> See González Cortés (2011). For a critical balance of the absence of forced labour in Spanish economic historiography, see Mendiola (2013a). For their part, Oliver (2007) and Mendiola (2013b) situate forced labour under Francoism in Spanish penal history.

<sup>10</sup> Even recently, during April 2013, Spanish Defense Ministry has denied the declassification of about 10.000 historical documents (from 1936-1953), many of them closely related to concentration camps and POWs' labour battalions, so that could be consulted by historians. 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-y-posguerra.html>

<sup>11</sup> For the fall in real salaries see Vilar, (2009, pp. 135-154), and for changes and reinforcing discipline in labour market regulations, 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: 521), closely related to the especially low rates of growth if we compare it with other European after-war reconstruction processes (Catalán, 2003). For the evolution of economic policies, see Catalán (2011).

<sup>12</sup> 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 the work of Eggertsson (1990, pp. 203-213).

decide to have recourse to forced labour when the institutional framework permits this possibility<sup>13</sup>. Setting out from the premise that “*hierarchy is favored as the asset specificity sets up*” (Williamson, 2002: 181), we shall attempt in this concrete case to explain how in certain circumstances enterprises secured this asset, labour force, by having recourse to other much more hierarchical and disciplined structures: prisons and concentration camps<sup>14</sup>.

To that end, we will in any case bear in mind along the article the transformations both in the supply of forced labour itself (the POWs/prisoners duality) and in the enterprise structure of the railway, with the disappearance in 1941 of the large private companies and their integration in RENFE (*Red Nacional de los Ferrocarriles Españoles* – National Network of Spanish Railways), the new public enterprise (Muñoz, 1995).

## 1. Forced labour on the Spanish railways: A quantitative approach

In spite of the difficulties in determining at each moment the activity and localization of each of the Workers’ Battalions (BB.TT. – *Batallones de Trabajadores*)<sup>15</sup>, figure 1 shows that from 1938 onwards several thousand POWs 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

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<sup>13</sup> Obviously, we are leaving aside the significant intentionality and political functionality of the recourse to forced labour, analyzed in Spain by Acosta et al. (2004), Rodrigo (2005), Gómez (2008), Mendiola (2014), Mendiola and Beaumont, (2006), amongst others. In the German case, different research works have also stressed the importance of factors relating to ethnic or social policy, prior to the shortage of labour during the war becoming a serious economic problem, for the creation of forced labour systems (Gruner, 2006; Jaskot, 2000; Roth, 1997).

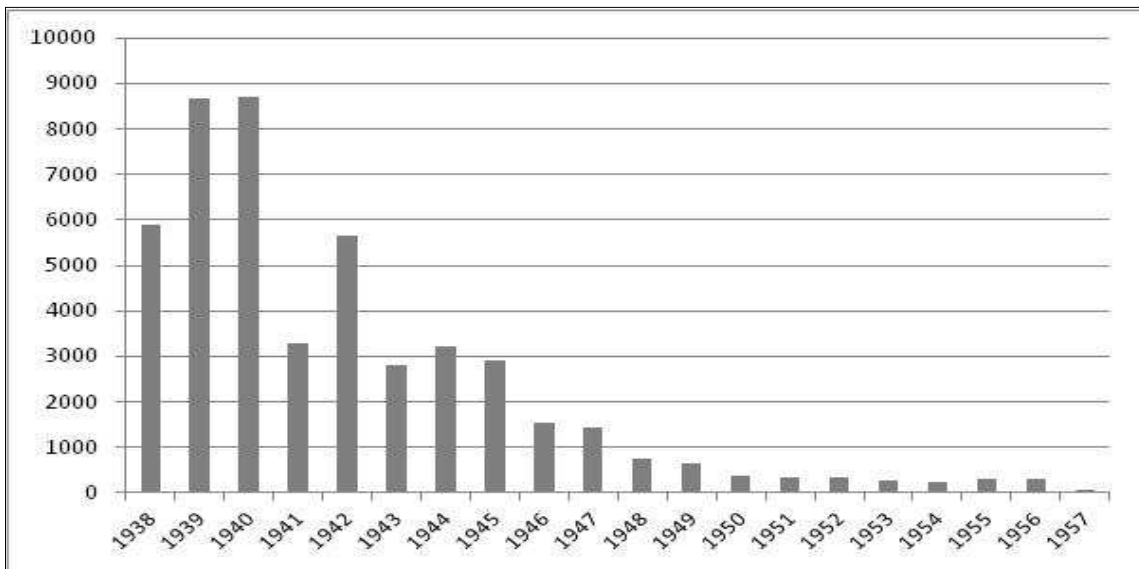
<sup>14</sup> Certainly, relationship between coercion and labour shortage, *labour demand effect*, has been present long time ago in researchers about slavery (Domar, 1970), but lately some other researches have underlined the necessity of taking also in account that sometimes labour scarcity creates the *outside option effect*, which implies reduction coercion (Acemoglu and Wolitzky, 2011, pp. 587-588). For captive population, anyway, outside options were really almost inexistent.

<sup>15</sup> These battalions of POWs depended on the Inspectorate of POWs Concentration Camps [ICCP - *Inspección de Campos de Concentración de Prisioneros*], and they had to send there a monthly report on the localization and work of each of their members. Unfortunately, only two of these 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 Center of Historical Memory [*Centro Documental de la Memoria Histórica*], Salamanca), but in this case they only mention the localization 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*].

that done by POWs (Mendiola, 2013a: 190). The figures remained close to 3,000 until 1945, and from then onwards fell appreciably<sup>16</sup>, with the total number remaining under 500 during the nineteen fifties, until in 1957 they completely disappeared, 13 years before the definitive abandonment, in 1970, of the use of prisoners in exterior works.

Now, in order to 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 forced labour on its emergence 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<sup>17</sup>.

Figure 1: *Evolution of the number of forced workers in railway infrastructures.*



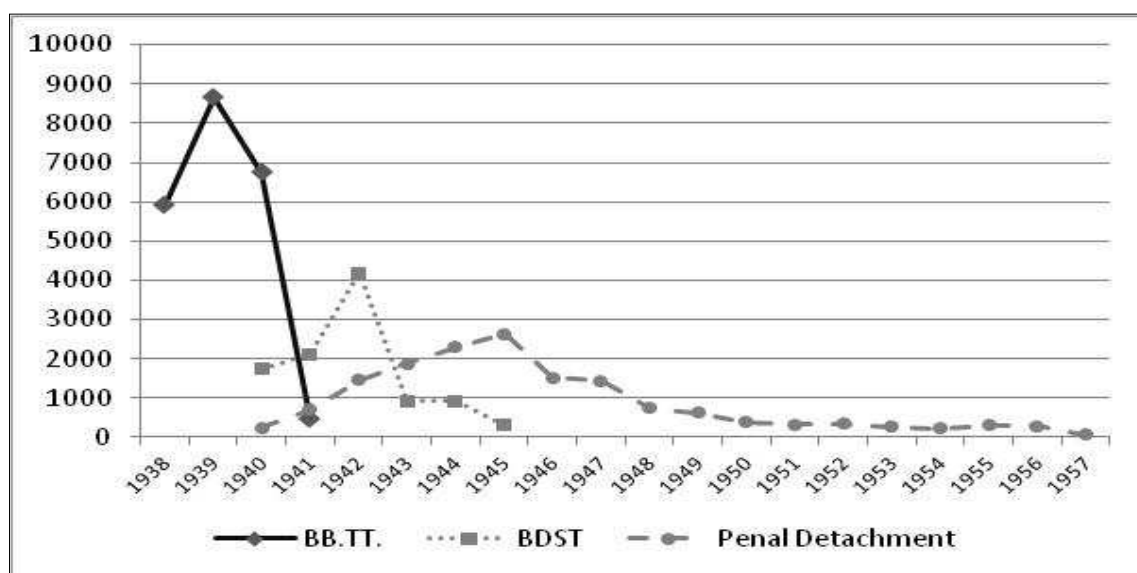
Source: Prepared by the author on the basis of data from the AGMA, AGTC and Memoranda of the Prison General Directorate. Further details in Mendiola (2013c).

<sup>16</sup> This tendency 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*].

<sup>17</sup> For overall figures of different modalities of forced labour, see Mendiola, (2013a, p. 189).

Figure 2 shows the weight of each of these modalities in the 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 employed, facing 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 on the basis of data from the AGMA, AGTC and Memoranda of the Prison General Directorate. Further details in Mendiola, (2013c)

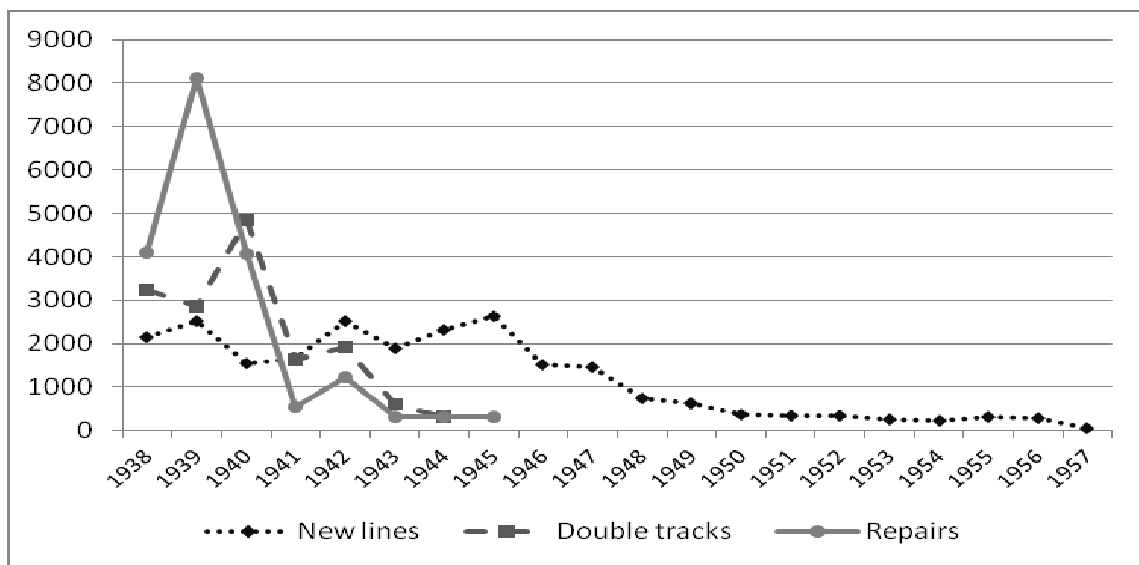
With respect to the type of work, figure 3 shows that in the wartime years repair work is what required the most labour<sup>18</sup>, a situation that changed during 1940 and 41, when this task was surpassed by that of building double track along some stretches, while from 1942 onwards the work on which the captive population was most engaged was the opening up of new lines. With respect to repair work, in 1939 there were as many as 8,000 POWs

<sup>18</sup> In spite of their detailed descriptions, reference to the work of POWs is totally absent from the first publications on repairing war damages; García Lomas (1940).



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 infrastructures and make possible their swift return to use. With respect to the opening up 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<sup>19</sup>. In the aftermath of the war, the opening up 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 on the basis of data from the AGMA, AGTC and Memoranda of the Prison General Directorate. Further details in Mendiola (2013c).

<sup>19</sup> During this battle, one of the most important and meaningful in 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, y de 1º de enero a 31 de mayo de 1939*; (AHF, Libro 31 bis, página 30).

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

The greater part of the work of the 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<sup>20</sup>. One of these exceptions was precisely the railways, in private hands in Spain until 1941, but with a growing public intervention. In this case, in spite of the fact that the work of POWs remains hidden in a large part of the available documentation<sup>21</sup>, 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 infrastructures, 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<sup>22</sup>, and it had some 30,000 workers prior to the war<sup>23</sup>. 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 the 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 (Muñoz, 1995; Cayón y Muñoz, 2009).

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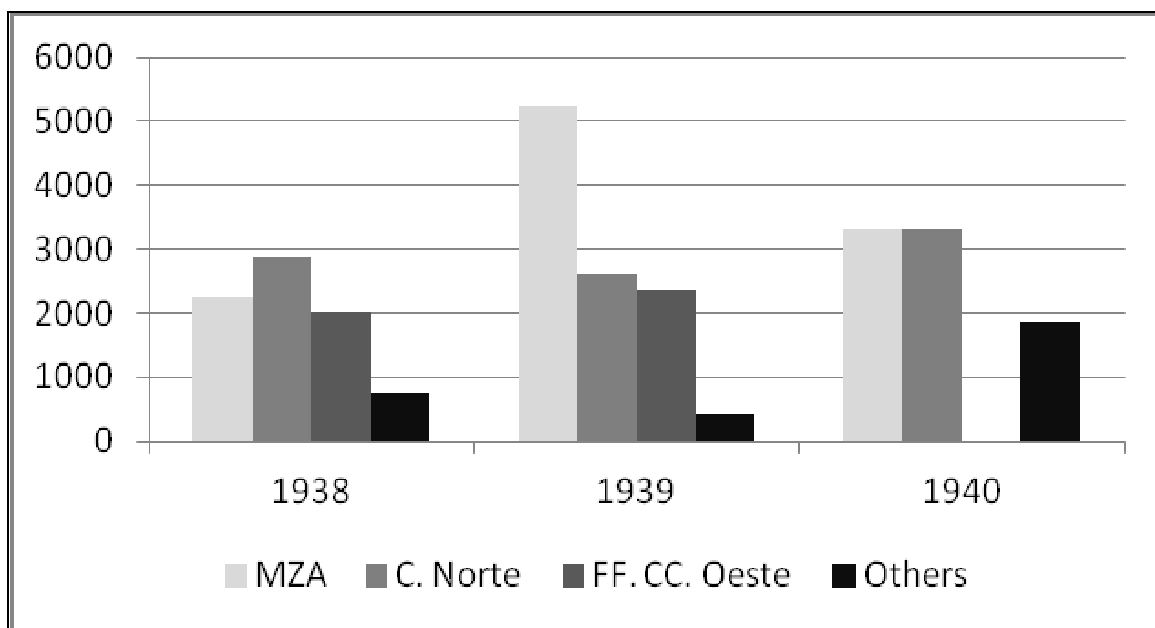
<sup>20</sup> For a detailed analysis of the process of formation of the BB.TT. in the concentration camps, see Rodrigo (2005). Some militarized industries and iron mines can be found amongst the exceptions, for Basque case, see Mendiola (2012).

<sup>21</sup> 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.

<sup>22</sup> 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 number of assets (Carreras and Tafunell, 1993).

<sup>23</sup> Ballesteros and Martínez Vara, (2011, p. 649). For an analysis of the labour policy and the Internal Labour Markets in MZA, see Portillo and Mar, (2008), and Martínez Vara (2005).

Figure 4: Number of POWs working for the different Spanish railway enterprises<sup>24</sup>.



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

As can be seen in figure 4, MZA was the company that had 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 important for the company was 1939, with 5,225 POWs, a figure that represents 16.3% over the total personnel in 1935<sup>25</sup>.

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

<sup>24</sup> 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.

<sup>25</sup> 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.

war and political prisoners”<sup>26</sup>, 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”<sup>27</sup>. 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.

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 needs for reconstruction<sup>28</sup>. This loss of human capital also affected railways companies<sup>29</sup>, which in that very moment were demanding extra labour in order to rapidly repair the damages. 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 it 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”.<sup>30</sup>

Labour shortage is also mentioned to explain the deployment of POWs in Val de Zafán railway in 1938, but in this case we can find another reason to justify it, that of its lower, or extremely low cost, as can be read in this report: “it has been planned the

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<sup>26</sup> Historical Railway Archive [AHF – *Archivo Histórico Ferroviario*], Caja 1368 – 003.

<sup>27</sup> 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

<sup>28</sup> The need for labour is fundamental for understanding the recourse to forced labour; this has been documented in the Basque case by Mendiola, (2012) and also in Germany, by Herbert, (1997) and Tooze (2006).

<sup>29</sup> These companies were also involved in a depuration process for their workers. Anyway, although more than half of their workers received some kind of sanction because of their political attitude, only 12% were dismissed (Muñoz, 2009, p. 211). For overall estimates about human capital losses in the early years of Franco’s dictatorships, see Nuñez (2003).

<sup>30</sup> 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.

deployment of POWs, not only because of being works much cheaper, but also because of the impossibility of joining, in the actual circumstances, the required labour force<sup>31</sup>.

That kind of particular and empirical information about cheaper cost is very important to understand enterprise strategies beyond legality, because while the legislation on forced labour envisaged that enterprises using prisoners or POWs should pay the state the daily wage established in the local work regulations<sup>32</sup>, the available documentation on railway infrastructures shows us that this was not always obeyed<sup>33</sup>. For MZA enterprise 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<sup>34</sup>. That at least is 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 the Chief Engineer of Tracks and Works of MZA replied that this question “is pending the result of a proposal that the Military Railway Directorate has made to the Ministry of the Army”<sup>35</sup>. This leads us to think of a conflict of interests between the incomes to be received by the state due to the work of POWs, and the need to reorganize the railway infrastructures following the war.

It is precisely from the autumn of 1939 onwards, when those claims began to be received, when MZA changed its position with respect to the work of POWs and requested the withdrawal of the battalions using arguments about a supposed disorganization of the works, the fact that they spent the time without working, or their lower level of profitability<sup>36</sup> and their low qualification.

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

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<sup>31</sup> Report by the Military Railway Service to Franco’s General Headquarters, 1938, November 29<sup>th</sup> (Dueñas, 2013). In this case, POWs were deployed by private construction enterprises.

<sup>32</sup> “Decree granting the right to work to prisoners and POWs”, *Boletín Oficial del Estado*, 1 June 1937.

<sup>33</sup> 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. (AHF, 0330 – 001 - 5).

<sup>34</sup> AHF, C - 0395 – 005.

<sup>35</sup> AHF, C - 0395 – 005.

<sup>36</sup> 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 in obtaining a high performance with prisoners of war and the need to relax disciplinary conditions in order to increase productivity (Díaz Sánchez, 2003).

Service, in which he requested the withdrawal of the battalions arguing that “the average performance per individual is markedly lower than that of a free worker”<sup>37</sup>.

So it is clear that the end of Civil War and the return of hundreds of thousands of soldiers back home, with their resulting and immediate access to labour market, changed chances for enterprises to obtain labour force, and this operated, in some cases, as an incentive for replacing POWs with free soldiers, as occurred in iron mines in Bizkaia, where companies complained about their lower productivity (Pastor, 2010).

In any case, in spite of these requests from MZA, and of the supposedly lower profitability, this firm 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.

### **3. The work of POWs on railway infrastructures used by the public enterprise RENFE (1941-1945)**

As we have seen 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 in the framework of a process of reorganizing the concentration camp structure, which was from then onwards 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 relation with the reorganization of the military service, the BDST have been considered by both historiography and Spanish legislation as forced labour units, organized and designed according to the logic of war and the management of POWs, on the margin of the penal system (Mendiola y Beaumont, 2006)<sup>38</sup>.

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<sup>37</sup> AHF, C - 0395 – 005. Letter of 12 January 1940 from the Director of MZA to the Colonel Head of the Military Railway Service.

<sup>38</sup> It was not until 2005 that these battalions were legally declared part of Francoist prison / concentration system, when Spanish Constitutional Court sentenced that members of these battalions were captives forced to

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 enterprise created in January 1941. Nonetheless, it remains a historiographical challenge to detail the contractual relation 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 (Horcajada, 2008: 138). Actually, neither the publications, nor the memoranda of the enterprise 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 the works, companies with which the battalions had relations.

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 a large part of the problems of organization and productivity detected in the case of the BB.TT., on the line previously set out by the management of the MZA enterprise.

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 4<sup>th</sup> 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

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work (Sala Segunda. Sentencia 180/2005, 2005, July 4<sup>th</sup>, published in *Boletín Oficial del Estado*, 186, pgs. 35 – 42).

be replaced by prisoners, a collective whose cost is “very high, but with a better performance”<sup>39</sup>.

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 part 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 4<sup>th</sup> Military Region. These included numbers 18, 46 and 48, which were undertaking different works on railway infrastructures during that year<sup>40</sup>.

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 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%.<sup>41</sup>

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<sup>39</sup> Barriuso (2006: 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).

<sup>40</sup> General Military Archive of Ávila, Ministry of the Army. Caja 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.

<sup>41</sup> (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.



On the same line, 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 improvements in our daily lives” (Horcajada, 2008: 135). 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 (1990: 208-209).

That difficulty in achieving high productivity levels under such conditions, which clearly show features of continuity with the former POWs 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 free workers<sup>42</sup>. Researches carried out in Germany remark the need of giving 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 market labour, demand or war situation 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<sup>43</sup>. In Spain recent researches (Sánchez Albornoz, 2003, and Mendiola, 2013a) have also remarked these variations in productivity levels, mainly differentiating POW and prisoners labour, as we shall see in the following section.

#### **4. Prisoner deployment by private construction enterprises (1940 – 1957)**

From 1941 onwards 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 up new railway lines. This was therefore a significant change with respect to the previous situation, where there had been a predominance of POWs, and

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<sup>42</sup> 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).

<sup>43</sup> The debate dates back 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 labourers. 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).

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, was done on opening up new lines, contracted out to construction enterprises and dependent on the Ministry of Public Works<sup>44</sup>.

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 nineteen forties, 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 administration<sup>45</sup>, 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 less personnel<sup>46</sup>.

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

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<sup>44</sup> 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).

<sup>45</sup> 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).

<sup>46</sup> For more detailed information on the lines on which prisoners worked, see the research of Olaizola, (2006) and Mendiola (2013c). For the Madrid-Burgos line, see Quintero, (2009).

to estimate the relative weight of railway works within the overall use of captive personnel by construction enterprises, in which a variety of situations could be verified. Indeed, while there were enterprises that concentrated the greater part of the 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. Said another way, the use of prisoners on railway works in many enterprises should not be considered something exceptional, but instead as normal in construction enterprises, which also used them in other types of work<sup>47</sup>.

Table 1: *Construction enterprises that used prisoners on railway infrastructures (1940-1957).*

	<b>1940 - 1957</b>	<b>1943</b>	<b>1943</b>	<b>1943</b>
	<b>Total days worked by prisoners</b>	<b>Prisoners on railway works</b>	<b>Prisoners employed</b>	<b>% of prisoners in railway works</b>
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: Memoranda of the Directorate General of Prisons (1940 – 1957). An average of 300 days work per year has been estimated.

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

<sup>47</sup> In 1943, *Ferrocarriles y Construcciones ABC* also had hundreds of prisoners working on several urban works in Gipuzkoa, and also on the dam at Anguiano (La Rioja), while *H. Nicolás Gómez* also had prisoners working that year on several roads and hydraulic works (Memorandum of the Directorate General of Prisons, 1943).

“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”<sup>48</sup>.

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 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. Now, the other two factors mentioned played a key role in explaining the use of prisoners by the construction enterprises.

With respect to the structure of the labour market, we should bear in mind that a large part of the works, and especially the railway works, were carried out in areas far removed from population centres. In these areas the enterprises 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<sup>49</sup>. 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”<sup>50</sup>.

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

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<sup>48</sup> Memorandum of the Directorate General of Prisons, 1954, pp. 62 – 63.

<sup>49</sup> 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 also, for the Soviet case, by Linden, (1997).

<sup>50</sup> Memoranda of the DGP, 1944, 94-95.

same time as ensuring enterprises with a supply of an essential specific asset, labour power, during the whole year, and mainly in summer time in which agriculture labour demand might rise wages<sup>51</sup>.

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. In fact, the possibility of improving food, both through the enterprises themselves and through the solidarity of the prisoners' families, was identified by the authorities as a key element in improving productivity levels, as is recognized in the memoranda of the DGP. Besides, linking work with the real duration of the sentence and the possibility of obtaining a small income that could directly affect the family economy, thanks to extra work done outside the timetable, also represented a clear incentive that prompted many prisoners, especially married ones, to make the maximum effort in their work (Mendiola, 2013a, p. 202).

In fact, while in the battalions of POWs the reference to productivity always appeared as a clear problem, the memoranda of the DGP show a clear satisfaction of enterprises 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”<sup>52</sup>.

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<sup>51</sup> This problem, mentioned in 1956 by the Memoranda of Prisons Directorate (p. 73), had appeared previously in some other railway infrastructure works, like in the South of USA, where cotton crops season made much more expensive labour for enterprises working in the railways after American Civil War. In that kind of situation, convict labour was a cheaper alternative for enterprises (Lichtenstein, 1996: 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: 285 – 287),

## 5. Conclusions

The data supplied clearly show us the importance of captive labour in repairing, improving and extending the network of railway infrastructures, 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 Concentration 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 enterprises involved in railway infrastructure.

In the first place, we should bear in mind the wages differential between captive labour and free labour. While Francoist legislation indicated that the wage paid by the enterprises 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 the 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 enterprises were also experiencing the overall problem of labour shortage, and during the dictatorship. In the latter case this involved construction enterprises 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 enterprise.

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

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<sup>52</sup> Memoranda of the DGP, 1956, 76.

acceptable to maintain very low levels of productivity, the post-war situation, and above all the recourse to the incarcerated population by the construction enterprises, went hand in hand with an increase in productivity levels. This was due both to a slight improvement in material conditions and to the 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. 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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