

A study on Fair Competition Inhibition in UK Rail Freight Terminals

イギリスにおける鉄道貨物ターミナルの競争阻害に関する一考察

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Abstract

This study endeavors to identify whether there are problems which prevent fair competition in the rail Freight Terminals (FT), to show the causes and causal structure of the problems, and finally to show the implications for creating fair competition and efficient use of FT. There are three categories of problems in FT and their causes relate to measures which were used to complete privatization. It has also become clear through this study that FT problems relate to inefficient allocation of FT or prevention of access to FT. Considering this, the measures should be reviewed and a fairer competitive environment in FT should be instituted as a next step following the completion of privatization.

要旨

本稿では、イギリスにおける鉄道貨物ターミナル (FT) において公正な競争が阻害されている点を見出し、その問題の原因と原因から問題発生までのプロセスを明らかにした。イギリスにおける FT に関する問題は3つに大別され、それらの多くは民営化時の FT の継承に起因している。民営化がある程度の完了した今日においては、FT の公正な競争環境の整備が必要であると思われる。

1. Introduction

1.1 Background

The major objectives of the railway revolution in the UK (1994) are “privatization” and “competition.” In order to accomplish these in the freight sector, the UK government set up a market structure -with more than two private Freight Operation Companies (FOCs) with access to the same main line rail track (main line), and to the rail Freight Terminal (FT) and freight facilities connected to the terminal which were owned by the British Railway Board (BRB). In this structure, it has become important for railway policy to create a fair competitive environment

and to realize efficient¹ use of the main line and FT.

There is already existing research in relation to efficient access to the main line (Ozawa and Nemoto (2013)). Even though the main line and FT are closely related, however, there is no existing research about access to FT. Problems which hinder fair competition in accessing FT have occurred since 2000 and they are seen as an important factor in preventing the development of rail freight (ORR (2012)).

Policies to allow private companies to access

¹ “efficient” and “efficiently” in this study means that FT as a scarce resource is allocated to maximize social welfare (FT is allocated in order of higher willingness to pay). And “fair competition” means a competitive environment in which the efficient use of FT can be realized.

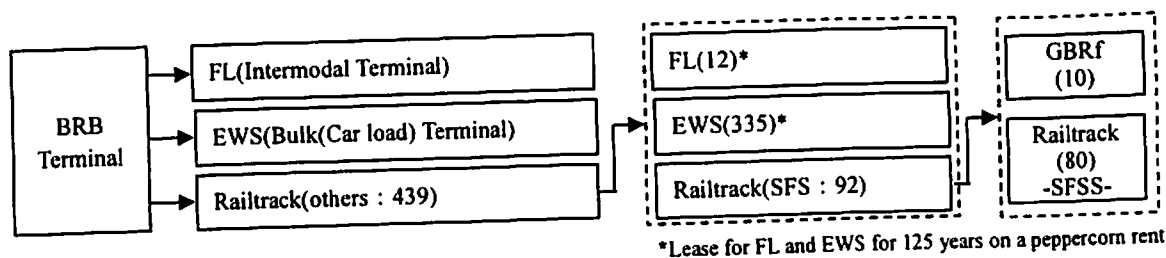


Fig.1 BRB's FT succession

the same stated-owned infrastructure² have been progressively implemented in the telecommunication sector (TS) and the energy sector etc. but not for railways. There is existing research and proposals to foster a fair competitive environment in the TS. For example, in the context of opening up markets to competition, Armstrong, Cowan and Vickers (1994) show the conditions required to approve entry into a bottle neck monopoly to increase competition and open up the market. In relation to access charges for using facilities, Laffont and Tirole (1996a, 1996b) suggests weak and strong forms of pricing (e.g. Efficient Component Pricing Rule and Total Element Long Run Incremental Cost) and Katz(1997) suggests adding a price mark-up based on differences in service, location, and elasticity of demand.

1.2 Objectives

Considering the above, as the first paper dealing with fair competition at FT in the UK, there are three objectives of this study. The first is to identify whether there are problems which prevent fair competition at FT. Secondly, this study attempts to show the causes and the causal structure of the problems systematically and qualitatively. Finally, referring to trials in Japan to create a fair competitive environment in the

TS, this study shows the implications from this for creating fair competition and efficient use of the FT.

2. FT succession and access rules

2.1 FT succession

In order to allow FOCs to succeed BRB's freight division, almost all FT were transferred to FOCs during the UK's railway revolution (Fig.1). Intermodal terminals were transferred to Freightliner (FL) which inherited BRB's intermodal division. EWS³ inherited BRB's bulk division (oil, coal and steel etc.) and took over control of the bulk terminals. Other terminals (439) were transferred to Railtrack⁴ which also took on ownership of the UK's railway track infrastructure. 347 of the other terminals were leased to FL (12) and EWS (335) for 125 years on a peppercorn rent. Other terminals remained with Railtrack (92) as Strategic Freight Site(SFS). 10 of these SFS were leased to GB Railfreight (GBRf) and 80 remained with Railtrack as a Supplementary Strategic Freight Site (SFSS)⁵.

2.2 Access rules for FT

When almost all of BRB's terminal were transferred to FOCs, rules for fair FT access were established under the Railways Act (1993), Railway Infrastructure Regulation and

² Considering that public utility owned infrastructure in railway sector, telecommunication sector and energy sector etc. before privatization and the utility had public authority, the infrastructures can be regarded as stated-owned and they have same open market situation of infrastructure after privatization.

³ EWS was bought out by DB Schenker UK (DBS) in 2009 and its business was transferred to DBS.

⁴ Railtrack was declared bankrupted in 2002 and its business was inherited by Network Rail.

⁵ There were already some private terminals which provide a competitive alternative to the FOC controlled terminals.

Competition Act (1998), etc. Abuse of monopoly position and discriminatory treatment of specific FOCs and users of FT are prohibited under the rules and FOCs which own an FT are obligated to accept other FOC's request to access them⁶.

Fair access rules for FT in the UK also must correspond to railway- and competition-related laws made by the European Union(EU). The access rules for FT, therefore, are composed of four parts (Table 1).

3. Current state of FT problems

3.1 Outline of FT problems

Despite the establishment of fair access rules, there are problems which hinder fair competition and efficient access to FT. The Office of Rail

Regulator (ORR) has reported those problems which can be divided into three categories (Table 2). Almost all of the problems occur when capacity is insufficient but problems can still occur when there is sufficient capacity.

3.2 Slot allocation problem

There have been issues at the Maritime Terminal (MT) at the Port of Southampton which can be seen to have been due to problem of slot allocation. There are two major terminals in the port: MT owned by FL and West Dock (WD) owned by DBS. As intermodal transport in the UK developed (3.53bln t-km in 1998→6.81bln t-km in 2016), demand for MT has increased. In this context, DBS claimed to the ORR that FL abused its dominate position at the MT which

Table 1 Access rules for FT

	Railway	Competition
UK	<ul style="list-style-type: none"> ■ Railways Act ■ Railways Infrastructure (Access and Management) Regulation (2005) ■ Appeals to ORR under the Railways Infrastructure (Access and Management) Regulation (2005) ■ Freight Facility General Approval ■ Criteria and Procedures for the Approval of Track Access Contract 	<ul style="list-style-type: none"> ■ Competition Act
EU	<ul style="list-style-type: none"> ■ Directive 2012/34/EU 	<ul style="list-style-type: none"> ■ the Treaty on the functioning of European Union

Table 2 FT problems

	FT problems		
	Slot allocation	Unfair occupation	Cost structure difference
Duration	2015	2004	2011
Place	MT Terminal @Southernhampton	PRDC@Willesden* BritishGypsum@Kirkby**	-----
Content of problem	Inefficient use (unfair competition)	Entry forestalling Windfall profit	SWC, Sunk cost Economies of scale
Claim	DBS→FL	GBRf→EWS* DRS→EWS**	GBRf→ORR
Content of claim	FL abused dominant position	* EWS refused to transfer the terminal **EWS refused to transfer the siding	GBRf missed contract of £5m-8m due to the cost difference

⁶ The access charge and access conditions are decided as private transaction between FOC and the FT owner.

prevented FOCs accessing it (Ozawa (2017)). However, in the ORR judgement only the adherence to the laws and rules for FT access were investigated and no consideration was given to how to allow FOCs to access MT efficiently. FOCs with higher willingness to pay (WTP) could not access to the MT and this inefficient access reduced not only competitive power in the railway sector but also the market power of shipping companies which use the Port of Southampton which distorted efficient resource allocation.

3.3 Unfair occupation Problems

GBRf won a six year contract in 2004 to operate Royal mail transport between Willesden Princess Royal Distribution Centre (WPRDC) and Doncaster Down Decoy Royal Mail Terminal. However, EWS which was the former haulage contract holder and failed to hold the contract in 2004, refused to transfer WPRDC to GBRf. EWS leased the terminal under a 125year lease and as a result, GBRf had to pay over £10 million to EWS for 6 years (2004-2010). This behavior can be seen to have prevented access for other FOCs at the FT and it effectively made EWS a landlord at WPRDC and provided it with windfall profits and distorted efficient resource allocation.

There was the same problem for access to British Gypsum's plant in Kirkby. When Direct Rail Service (DRS) won the train haulage contract to move goods from/to site in Kirkby, EWS which leased a siding between the site and main line (under 125year lease) refused to transfer the siding to DRS⁷. As a result, DRS were liable to pay EWS extra access charges for using the siding.

3.4 Cost structure difference problems

⁷ Case in which a specific FOC owns a siding between FT and main line and earns a wind fall profit is called as a ransom stripes.

When a FOC takes control of a rail car loading terminal previously owned by another FOC, generally, the FOC has to invest in the terminal to align it with their business model. In the case of a change of ownership, the new FOC has to bear a switching cost (SWC) which can be regarded as a sunk cost. The new FOC, therefore, has a disadvantage in comparison to the incumbent FOC in bidding for the contract. According to a claim from GBRf, a FOC failed to make a successful bid due to SWC and the losses amounted to £5-8 million.

3.5 Issues triggering FT problems

ORR has reported some issues which have not happened at FT but can also trigger problems. The issues include transport contracts between FOCs and their customers for deep sea container transport between Southern ports and North-West/Yorkshire. FL undertakes most of the carriage on favorable terms (e.g. long-term contract, minimum transaction units, etc.) and these contract conditions created a barrier to entry for new entrants and FL also occupied the FT.

FL claimed to ORR that DBS abused its dominant position in the transportation of oil and that it implemented dumping practices between Kingsbury Oil Terminal and Humber Oil Terminal. As a result, ORR did not recertify dumping.

4. Causes of FT problem and needs for review railway privatization

4.1 Causal structure of FT problem

Fig.2 shows the process and causes of FT problems. The causes of the problems and factors underlying them are complex and interdependent. FT problems have four direct causes. Occupation of FT and transport by specific FOCs are a

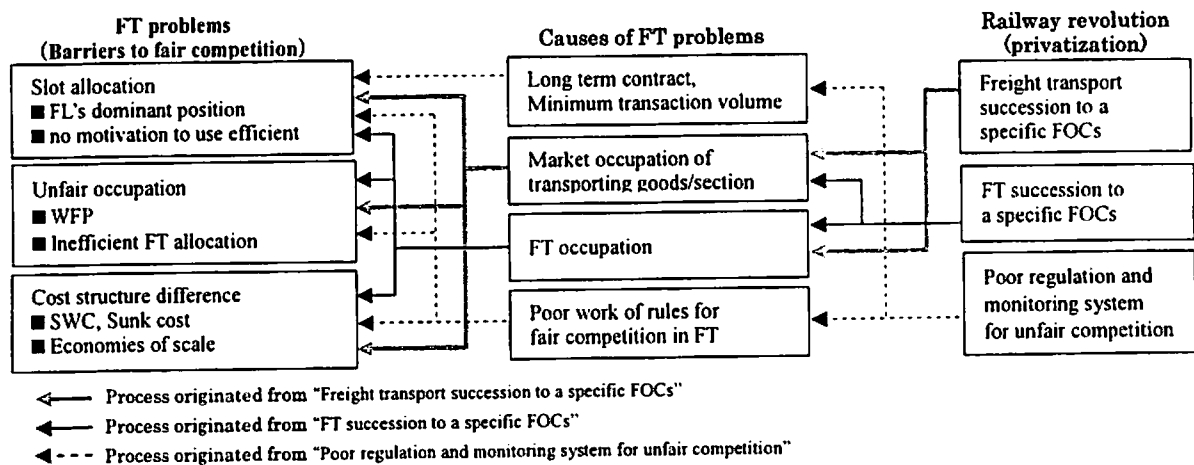


Fig.2 Process and cause of FT problems

significant cause. They underlie all FT problems and are a direct factor causing unfair occupation of FT, alongside SWC and sunk cost which are indirect causes. Unfair FT occupation relates to the transfer of BRB's freight division during privatization. Therefore, the measures used to transfer the division are a root cause of FT issues.

In addition, unsatisfactory competition rules also contribute to FT problems. If the rules work well, the problems ought to be solved successfully and the existence of problems suggests failure of the rules. The reason for this failure relates to the structures designed for monitoring and regulation by the ORR which were not developed well at privatization. Based on the above, it is clear that all of FT problems relate to the policies implemented during privatization. The key words of the railway revolution are privatization and competition, but privatization was preferred in the UK. This preference has hindered fair competition in FT.

4.2 Rationality of allowing a specific FOCs to occupy FT

Before privatization, BRB did not invest in FT due to a shortage of fund and the condition of almost all of the terminals declined. BRB's freight division was also not regarded as a

profitable business due to high competition with the road haulage industry. In this context, the UK government had to demonstrate that the freight division was a profitable and attractive business for private companies in order to complete privatization. Under these circumstances, FT occupation by a specific FOC was used to show this⁸. This can be seen as rational reason for the occupation of the FT and it is a characteristic of the UK railway revolution⁹. That is, privatization took priority over fair competition in the revolution.

4.3 Fair competition development in other industries (TS in Japan)¹⁰

In TS in Japan, since the 1990s, the telephone and optical fiber line markets have been opened up to competition. Conflict between the incumbent company which succeeded the state-owned TS and new entrants has occurred since. In this situation, the regulator has tried to

⁸ In the Railway revolution in Germany, almost all of FT were inherited by DB Netz which is part of the government body.

⁹ UK government sought for privatization in advance, because the government regarded major reason of BRB deficit as railway operation by the government.

¹⁰ Introducing competition to state-owned infrastructure has been implemented progressively in TS in Japan. There are many advanced trial and state regarding definition of dominant position and prohibition for abusing its dominant position. Considering above, this study uses TS in Japan as effective reference.

Table 3 Definition of the companies having possibility to inhibit fair competition in TB in Japan

	Company which has dominant position(market power)	
	Telecommunications Carriers Installing Category I Designated Telecommunications Facilities	Telecommunications Carriers Installing Category II Designated Telecommunications Facilities
Condition of the company	Market share over 50% in each prefecture	Market share over 25% in each business area
Connection obligation	Obligation for response to connecting request	Obligation for response to connecting request
Major special duties	<ul style="list-style-type: none"> ■Notification and disclosure of access agreement ■Disclosure of accounting information regarding the access ■Pricing based on LRIC(congested facilities) 	<ul style="list-style-type: none"> ■Notification and disclosure of access agreement
Major prohibitions	<ul style="list-style-type: none"> ■Discriminatory treatment for other companies ■Unfair rule and interference for other companies 	<ul style="list-style-type: none"> ■Discriminatory treatment for other companies ■Unfair rule and interference for other companies

foster a fair competitive environment including keeping balance between the financial condition of the incumbent company and fair access to the bottleneck (congested) facilities¹¹.

In order to keep a balance, definitions of companies which can inhibit fair competition and their special duties and prohibitions are specified (Table 3) and companies are required to be transparent and disclose the contents of their contracts and their accounting situation. A continuous monitoring system for fair competition (e.g. competition assessment system and competition safe-guard system) has also been established. With regard to the access charges for using facilities, there is a pricing scheme to adjust the charge in case of a deficit caused by investment risk. Pricing is based on long-run incremental cost (LRIC) for congested facilities, while short-run marginal cost pricing is recommended for uncongested facilities.

Even if a regulator tries to create a perfectly fair competitive environment, it is difficult to remove all conflicts between the incumbent company and new entrants due to differences in company size and market share and which company has ownership of the facilities. There

have also been problems after the opening of markets. However, policies which have been introduced as a second or third best solution can be seen to have given new entrants a certain level of profit, made competition fairer and increased the welfare of customer (e.g. reduction in telephone fees).

4.4 Needs for reconsidering privatization

Considering FT problems from the perspective of fair competition in the TS, it can be seen that there isn't strong motivation in railway policy to use FT efficiently or effective policies to achieve it¹².

As fig. 2 shows, the policy to allow specific FOCs to occupy a FT should be eliminated in order to bring about fair competition. In particular, a 125year lease is a serious difference in competitive power between firms due to SWC.

Under current conditions, it would be effective to show the condition of each FOC which has the possibility to abuse its dominant position and to create a restriction list for FOCs. It would also be useful to disclose the accounting information and contract contents of the FOCs to correct for

¹¹ Ida (2001) outlined the detail of how a fair competitive environment has been developed in the TS in Japan.

¹² In order to use FT efficiently, solutions for congested FT should be considered. This study concentrates on fair completion in FT under non-congestion. Therefore, we would like to research congestion issues in FT on another paper.

differences in competitive power and to allow changes to access charges in order to avoid investment risk. LRIC would be a better pricing system at congested FT. In parallel with the solutions above, a strong monitoring system for fair competition should also be established. In general, the establishment of policies and an effective monitoring system are complementary and, therefore, ORR's role would become more important as regulator of rail freight.

In addition, it seems that there are a wide range of simpler solutions which could be implemented to enhance fair competition in FT and an example of one of these solutions is outlined below. Fig. 3 shows the current state of MT and WD by social surplus¹³. The vertical axis shows the cost and fee of terminals and the horizontal axis is the number of trains. In this analysis, it is assumed below.

-It has passed long time since the terminals were built and the fixed cost is very small, therefore, it can be ignored.

-FT fee is regulated and it is set by actual cost (direct cost) + a reasonable profit (mark-up) of terminal operator (TO)¹⁴.

MC_1^+ and D_1 show the marginal cost (actual cost) + margin and demand (D) in each MT, and MC_2^+ and D_2 show the marginal cost + margin and D in WD. $MC_1^+ < MC_2^+$ means that MT has a higher specification handling facility and no need to move containers from/to berth. Fig.3 shows that MT capacity is greater than WD. In the case that MT and WD are operated separately, the social surplus of MT can be shown as Δagd

and WD's is Δbec . If MT and WD are operated by one TO, the social surplus of MT and WD would be the polygon $afihjd$. As Fig.3 shows, the polygon $afihjd$ is bigger than the sum of $\Delta agd + \Delta bec$. That is, it is better in this situation to let one TO operate MT and WD together and the use of terminals based on operators' WTP can be achieved¹⁵.

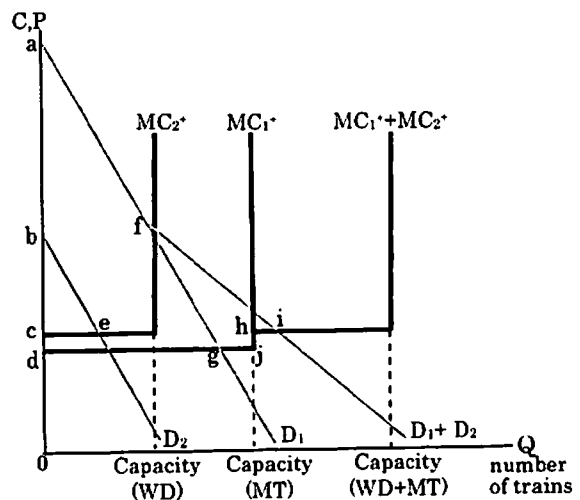


Fig. 3 Effect of FT operation by one TO

5. Conclusion

It has been revealed through this study that fair competition is hindered at FT and the problems can be divided into three categories (slot allocation, unfair occupation and cost structure difference). It has also become clear that the causes of the problems are measures which were implemented to complete privatization.

ORR has dealt with FT problems so well. On the other hand, there are remaining problems to be solved and fair competition in FT is expected to be more a serious problem as rail freight develops further (especially, intermodal sector). In order to solve the problem, there are several measures which the government should implement. In particular, the abuse of a dominant market position should be monitored and the

¹³ It is assumed here that there is available capacity in MT. In general, judging whether there is available capacity or not is not easy. Actually, ORR decided that there is not remaining capacity in MT, but DBS has been doubting about it. The judgement would be more important issues of fair competition in FT in the future.

¹⁴ It is showed in the regulation that FT fee should be based on reasonable cost plus a reasonable profit.

¹⁵ In case of one TO operation, monitoring monopoly power is required.

appropriate correction order for any abuse. And making convincing judgment for the conflict and the appeal should be required. Solutions for congested FT using economics methods (e.g. pricing based on LRIC and congestion charge (CC)¹⁶) are also important. In addition, new ideas (e.g. TO operator merger) would be useful.

Rail freight development by privatization and inefficient access for FT can be regarded as light and shade in the UK railway revolution. It is not until the railway revolution is fully complete that privatization and fair competition will both be achieved successfully. For the current FT market situation in the UK, the measures used to realize privatization should be reviewed as a solution and a fairer competitive environment in FT should be instituted as a next step following the completion of privatization.

The UK railway revolution is only half complete and it seems that there are many policies and solutions which can be used to realize fair competition. In order to further develop rail freight, ORR has many important roles as a regulator and its expectations should be higher in the future.

6. Further study

In order to show more accurate and useful policy recommendations for fair competition, more detailed information and more evidences based on interview are needed. Quantitative analysis is also required to measure the scale of the disbenefits due to the lack of competition for FT. Comparison with competition in other industries, railway characteristics (e.g. different materials (goods and people)) should also be

taken into account. A comparison of fair FT competition and railway revolution in other European countries would be also informative. We consider these points as important for further study to provide more accurate and useful policy recommendation for rail freight development.

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¹⁶ CC in main line has already been introduced in EU counties. Regarding CC in FT, however, consistency with EU law is not dealt in this paper. It is a subject for further research.