Study of Resource Allocation Efficiency in Diversified Railway Logistics under Administrative Monopoly’s Influence

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Abstract. The paper analyzed whole resource allocation efficiency in diversified railway logistics from the broad aspect by constructing welfare loss formula. The result shows: since the major reform from 2003 in diversified railway, the trend of overall resource allocation efficiency in diversified railway logistics continues to increase, in which warehousing industry has optimal resource allocation efficiency, and the worst is transport supporting industry.

Keywords: Diversified railway logistics, Administrative Monopoly, resource allocation.

1 Introduction

Diversified railway industry is the product of railway reform and development in China. It is a special enterprise groups in the transition of Chinese railway and is funded by the railway. It is mainly engaged in railway transport-related accessories or other business areas outside the railway transport. Its emergence was in the early 80’s, and development and growth was in the 90’s. Since 21st century, it has developed many industries\textsuperscript{1}, such as transport industry (all transport businesses except railway transport), transport supporting industry (it includes freight forwarders, extension services, handling transportation, etc.), warehousing industry, wholesale and retail industry, accommodation and catering industry, real estate industry, leasing and business services industry, residents and other services industry, culture, sports and entertainment industry, agriculture, forestry, animal husbandry and fishery industry etc. Due to historical reasons, ministry of railway has a lot of tangible and intangible assets idle. It is the urgent problem for diversified railway department: How to make use of railways

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comprehensive advantages and all kinds of resources to improve the utilization of railway assets. Especially to diversified railway logistics (transport industry, transport supporting industry and warehousing industry), improve the efficiency of resource allocation is particularly important for it has higher investment in fixed assets.

Resource allocation efficiency has two meanings: first is on broad, macro-level. It is the whole efficiency of the allocation of social resources. It is achieved through the entire social and economic institutional arrangements; second is on narrow, micro-level. It is the efficiency of resource use, generally refers to the production efficiency of production units. It is achieved through internally production management and improved production technology. For diversified railway logistics industry, which is administrative monopoly, the former reflects the changes of whole resource allocation industry efficiency caused by administrative monopoly. So the paper studies it from broad aspect first.

2 The Allocation Efficiency of Whole Social Resources

We know perfectly competitive model meets Pareto optimal on equilibrium condition. At this point all resources achieve maximum efficiency, and social welfare are also to maximize. It can be said the resources allocation achieves perfect position. So resource allocation efficiency when market is perfectly competitive equilibrium becomes a benchmark to measure the state of other markets. We can come to resource allocation efficiency under different market states by comparing resources allocation on different market situation and on perfectly competitive equilibrium situation. These market conditions, of course, include a variety of monopoly. We can get the efficiency of macro-allocation of resources on a monopoly industry by social welfare loss for monopoly compared to social welfare on perfectly competitive market equilibrium. The greater the proportion of social welfare losses caused by Monopoly to GDP, the lower the performance of resource allocation on a monopoly industry.

Harberger established a model to measure social welfare loss for monopoly according to Marshall’s theory of consumer surplus. Figure 1 shows the theory.

![Harberger triangles and Tulloch quadrilateral](image)

Fig. 1. Harberger triangles and Tulloch quadrilateral

Where, the vertical axis represents the price; the horizontal axis represents output; d is the demand curve.