



Diversification activities of passenger railway companies

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Abstract

This paper is about diversification activities, and, more accurately, activities of capitalization of the land and commercial rent generated by railway infrastructures, of passenger railway companies. The global situation of these activities in the different parts of the world in 2003-2004 is first described. Then, the evolution of these activities during the period 1990-2004 is studied. A convergence towards a common diversification strategy and towards activities in stations is observed. Some consequences of the existence of this convergence in terms of transport policies are discussed.

Keywords: Diversification; Passenger railway companies; Station; Rent; Land rent; Railway infrastructure.

1. Introduction, definition, categorization of diversification activities of passenger railway companies and data

a) Introduction

«In Japan, from the early 60s, and the emergence of the car-oriented society, it was understood that, in order to enhance the competitiveness of railways, there were only two ways: high speed trains, and the diversification activities.»

These are words of Mr. Yamanouchi¹, former president of the JR EAST company, the railway company that carries every day the largest number of passengers, in Japan, and in the world. These words show well the fundamental difference that has existed at least from the last 30 years between the passenger railway companies in the different parts of the world regarding their business strategy: While some countries in Europe have developed high speed trains, it seems that it is only in Japan that this second way of supporting railways, that is, the development of the strategy of diversification activities

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¹ Interview, Japan, April 2005.

of passenger railway companies, has appeared. The analysis of this “second way” is precisely the subject of the present paper.

The aim of this study is to be an *empirical basis* of numerous economic and financial (linked to the land and commercial rent generated by transport infrastructure, to the financial strategy of the firm, or to the organizational reforms of the different transportation modes, and especially to the railway reforms), urban and geographical (the links between cities and transportation, transportation and sustainable development issues, for example) or even architectural studies (the role of the station in the city, the design of stations and so on...). This empirical basis is aimed to be qualitative (description of diversification activities of passenger railway companies, and its evolution) and quantitative (analysis of the financial results of passenger railway companies by segment of activity). The results will be shown from the early 1990s until 2004, for a wide range of countries and passenger railway companies located all over the world. By doing this, this paper is aimed to cope with a lack in academic research, to the best of our knowledge: until now, there had been no global empirical description, in time and space, of the situation of diversification activities of passenger railway companies. Indeed, a few studies have already raised the question of the diversification activities of passenger railway companies. But they only studied some specific segments of the railway market (one country, one group of passenger railway companies, one railway company, or even one station), and often, in a short interval of time. For example, Aveline (2003), Aoki (1999) have studied the Japanese private passenger railway companies called “*Major*”, Killeen and Shoji (1997), the Japanese private passenger railway companies called “*Minor*”, Bussolo and Doumas (2005), the European and Japanese stations, Aveline (2003), and Doumas (2003), the Japanese railway companies called “JR”, Komatsubara (2004) the diversification activities in stations.

The present study is aimed to be a *global* empirical study because it is wishing to allow the reader to have an overall view of diversification activities of passenger railway companies. By saying this, it is not meant that all passenger railway companies of any part of the world will be covered, nor that the level of accuracy of the description will be the same for all passenger railway companies (data that are currently available at an acceptable cost are not sufficient for such a work²). Instead, this study is willing to answer, as far as currently available data can tell us about, to the following questions: Are there some companies or some parts of the world specifically involved in these diversification activities? Concerning their contents and their recent developments, is it possible to observe a move at a global scale?

Consequently, the *reasons* why the present situation of diversification activities of passenger railway companies is such as what is observed will not be the central subject of this study. In particular, because it certainly deserves another study per se, the approach to diversification activities of passenger railway companies in terms of theory of the multiproduct firm, economies of scope etc. will be only briefly discussed.

This study may be of some interest for searchers involved in transportation economics, urbanism, geography, or architecture, but also for representatives of public bodies in charge of transportation policies (and, especially, to those in charge of railway policies), and finally for the representatives of companies involved in transport issues, and of course, more especially for the representatives of railway companies.

² Readers who would like to know more about the specific situation of some countries or some companies may also refer to DOUMAS & OKI 2006.

b) Data

The reasons why a global study dealing with the situation and evolution of diversification activities of passenger railway companies has not been achieved yet are certainly the difficult access to data, and the natural barriers of languages in which these data are shown. In this study, the following data have been used:

- Concerning the European companies: the International Union of Railway statistics (UIC), the data of the Yokohama 2004 and Rome 2005 international congresses³, annual reports of passenger railway companies. Some other data were directly asked to railway companies.
- Concerning the American, African and Asian –except Japan- companies: the UIC statistics, the data of the Yokohama 2004 and Rome 2005 international congresses, and the annual reports of passenger railway companies.
- Concerning the Japanese companies: the UIC statistics, the data of the Yokohama 2004 and Rome 2005 international congresses, the annual reports and *stock books* of passenger railway companies⁴⁴ Some other data were directly asked to railway companies.

c) *Definition and categorization of diversification activities of passenger railway companies*

This study focuses on the diversification activities of passenger railway companies which are activities of capitalization of the land and commercial rent generated by railway infrastructures (that is to say, stations and tracks). We call *activities of capitalization of land rent* (generated by railway infrastructures) activities the profit of which comes from the renting (lease), or the sale of some land, the price of which depends on the presence of some railway infrastructure. We call *activities of capitalization of commercial rent* (generated by railway infrastructures) activities the profit of which profit comes from the sale of some goods, other than land, at a place where the price of land depends on the presence of some railway infrastructure.

Thus, a real estate business located next to a station belongs to what we call *activities of capitalization of land rent*, but a supermarket business located next to a station belongs to what we call *activities of capitalization of commercial rent*. Let us note that the categorization of a business may depend on the way it is managed by the agent who owns the land where it is located: from the point of view of the railway company that directly operates its shops in the station, a shopping activity is an activity of capitalization of commercial rent, but from the point of view of the railway company that earns a rental lease from an outside company that operates the shop in the station, this same shopping activity is an activity of capitalization of land rent. Let us also note

³ These congresses were patronized by the UIC, gathering a great number of railway companies. Their subjects were the diversification activities of railway companies and their diversification activities in stations.

⁴ *Stock books* (*Yuuka shouken houkokusho souran*) are official documents made by companies listed on the Japanese stock exchange and strictly regulated by laws.

that this definition does not include all cases: the fact that a good is sold here or there may not be connected to the presence of some railway infrastructure. Yet, we think this definition is accurate enough for the purpose of the present study. This implies that the diversification activities that are mainly dealt with in this study are:

- Retail activities in, and next to stations. Retail includes shopkeeping in stations, supermarkets, department store and malls (but also restaurants and cafes) in, and next to stations.
- Real estate activities next to stations and tracks, that may include housing, or office rental lease and sale businesses.
- Leisure activities in, and next to stations. These are hotels, amusement parks, tourism, movie theatres and theatres, private schools and so on.

Concerning retail activities, distinguishing *activities of capitalization of land rent* and *activities of capitalization of commercial rent* allows us to emphasize an interesting aspect of diversification activities of passenger railway companies, which is their two different business models: direct management, or lease from outsiders⁵. In other respects, it will be seen in the next sections that “leisure” activities are not often profitable, and one could thus wonder why some passenger railway companies develop such activities. This is partly due to the fact⁶ that these activities are often to be consumed on the place they were bought, and that their consumption takes time (cinema, restaurants and so on). Thus, consumers remain in the station, and may more naturally be encouraged to consume other kinds of goods, such as retail (department store located near restaurants) or train (amusement parks located near stations in the outskirts of a city, thus attracting additional demand for rail trips: this is in fact the general phenomenon of complementary products).

What are called *activities of capitalization of land rent* and *activities of capitalization of commercial rent* in this study cover most diversification activities of passenger railway companies, namely, nearly all diversification activities which are directly or not connected to some passenger railway infrastructure. Thus, diversification activities of railway companies which are not included in this study are diversification activities of freight railway companies (logistics etc.) and activities which have no link with railway infrastructure (for instance, insurance activities).

2. Diversification activities of passenger railway companies: situation in 2003-2004

This section aims to describe as accurately as possible the situation of diversification activities of passenger railway companies in 2003-2004 in the different parts of the world. The analysis, in addition to the description of the different activities, uses as an indicator the percentage of each activity or segment of activity of the passenger railway company in its global operating revenues and operating income. The passenger railway

⁵ The distinction between *activities of capitalization of land rent* and *activities of capitalization of commercial rent* may seem fuzzy at a first glance. It is indeed not usual to the theory of the firm. Nevertheless, we think this distinction is relevant to the present study because, as will be seen in the next sections, it shows particularly well the contrast that exists between Japan and the rest of the world.

⁶ Please also see DOUMAS and OKI 2006.

companies are distinguished on the basis of the geographical area they belong to, their size and their statutes. The five geographical areas that are studied here are: Japan, Asia except Japan, America, Africa and Europe. In the case of Japan, three kinds of passenger railway companies are distinguished: “JR”, “*Major*” and “*Minor*” companies⁷. The JR companies are the companies that were born after the privatization of the national railway company JNR in 1987. A characteristic of this privatization process was vertical integration and horizontal separation, and this is why geographically separated companies were created. There are 6 JR passenger companies: JR EAST (Tokyo area), JR CENTRAL (Nagoya area), JR WEST (Osaka area), JR HOKKAIDO (Hokkaido island area), JR KYUSHU (Kyushu island area) and JR SHIKOKU (Shikoku island area). The passenger railway companies others than JR are private companies that were never public companies. Among these companies, 15 are sorted out, these are the so-called “*Major*” companies, the biggest Japanese passenger railway companies except the JR (in terms of operating revenues, number of passengers carried or number of passenger-kms). The private companies that were never public and which are not the “*Majors*” are called the “*Minor*” companies. The “*Minor*” companies that are studied are a group of 31 companies which are the companies listed on the stock exchange we could gather data about (there are more than 100 “*Minor*” companies in Japan).

This categorization of passenger railway companies is partly justified by the number of passengers carried by each group of railway company (for instance, 8 590 M for JR, 6 430 M for *Majors*, and 5 660 M for Western Europe companies). It has to be noted that, since this study deals with activities of capitalization of land and commercial rent, it is indeed the number of passengers, and not the number of passenger-km, which is the key indicator of the size of the passenger railway company. In other respects, this categorization mainly follows the one used by the UIC in its 2002 statistics.

a) Asia except Japan / America / Africa /Eastern Europe

Data concerning passenger railway companies of these areas are scarce. The only available statistics are the UIC statistics. These are 2002 statistics, that do not cover all the countries of these areas, and the only available result by segments is based on the categorization: “Passengers”, “Freight”, “Infrastructure” and “Others”. Activities of capitalization of land and commercial rent are mostly classified in “Others” segment (which, thus, mostly gives an overvaluation of it), but it can also be classified in “Passengers” segment. Thus, in term of categorization of activities, the results, strictly speaking, do not exist (since a real accurate description of diversification activities do not exist, except in the case of AMTRAK –USA). Nevertheless, it can be argued that, looking at the few official sources of information (the web) the only existing diversification activities are shopkeeping and restaurants in stations, and a few real estate businesses. In terms of operating revenues by segments, the results of the Africa / Asia except Japan / Eastern Europe areas are shown here:

⁷ JR are inter-cities carriers, local and urban railways. Major are urban railways. Minor are urban and local railways.

Table 1: Operating revenues (OR)⁸ by segment of activity, 2002. Asia except Japan /Africa / Eastern Europe (ME: Millions of Euros; sources: UIC, annual reports of companies)

<i>OR, ME 2002</i>	<i>Passengers</i>	<i>Others</i>
Total Eastern Europe	1 696	148
<i>% total</i>	92	8
Total Africa	303	5
<i>% total</i>	98.4	1.6
Total Asia Except Japan	11 256	243
<i>% total</i>	97.9	2.1

In the case of AMTRAK, activities of capitalization of land and commercial rent (“Food and beverage” + “lease rental”) accounts for nearly 8% of total operating revenues [“Passengers” + “Capitalization of land and commercial rent” + “Others”]⁹. It can therefore be said that, apart from AMTRAK, diversification activities, and activities of capitalization of land and commercial rent of passenger railway companies in Asia except Japan, America, Africa and, to a less extent, Eastern Europe, are under developed. This is not a surprise, but the present study allows us to give an order of the magnitude of the weakness of this development.

b) Japan

In the case of Japan, numerous and accurate data are available. This can be explained by the fact that Japan is the country where passenger railway companies have the most developed the strategy of diversification of activities. Data are mainly come from the “stock books” (*Yuuka shouken houkokusho souran*) of the railway companies.

i) JR Companies

There are two groups of JR Companies: on the one hand, the JR companies that operate their railway network on the island of Honshu, the main island of Japan (there are three of them : JR EAST, JR CENTRAL and JR WEST), which are profitable and listed on the stock exchange, and on the other hand, the three other JR companies, operating networks in the other three main islands of Japan (Hokkaido -JR HOKKAIDO, Kyushu -JR KYUSHU and Shikoku -JR SHIKOKU), which are smaller, often in the red, and not listed on the stock exchange. The segments of activity that are distinguished in the *stock books* are “Transport” (railway, bus, ferry), “Retail” (shops, restaurants, shopping centre, department stores in or near stations, directly operated by child companies), “Real Estate” (office, residential and commercial lease in or near stations), and “Others” (hotel, advertisement, credit cards, tourism, other leisure activities). In terms of operating revenues and operating income by segment, the results are the followings:

⁸ OR = sales for the period + change in trade receivables over the period.

⁹ AMTRAK Annual Report 2004.

Table 2: Operating revenues (OR) and operating income (OI)¹⁰ by segment. Japan. JR CENTRAL, JR EAST and JR WEST (MY: Millions of Yens; source: *stock books* of JR CENTRAL, JR EAST, JR WEST).

<i>MY (2003)</i>	<i>Transport</i>	<i>Retail</i>	<i>Real Estate</i>	<i>Others</i>	<i>total</i>
OR outside group	3 728 815	727 690	263 824	373 941	5 094 275
% total OR outside group	73.2	14.3	5.2	7.3	100
OI	672 344	37 658	70 179	30 710	810 895
% total OI	82.9	4.6	8.7	3.8	100

Activities of capitalization of land and commercial rent (segments “Retail”, “Real Estate”, and one part of the segment “Others”) account for 27% of total operating revenues (30% for JR EAST and JR WEST), and 17% of total operating income (26% for JR WEST and JR EAST) of these companies. These figures greatly differ with the ones presented in the previous subsection and show well the special nature of Japanese passenger railway companies.

The data which are available in the case of JR HOKKAIDO, JR KYUSHU and JR SHIKOKU are less accurate. There are official accounting documents, data from the UIC and, sometimes, annual reports, but, since they are not listed on the stock exchange, there is no *stock book*. Only one segment includes all diversification activities (the segment “Others”: retail, real estate, tourism, hotel, and so on). The results are the followings:

Table 3: Operating revenues (OR) and operating income (OI) by segment. Japan. JR HOKKAIDO, JR KYUSHU and JR SHIKOKU (MY: Millions of Yens; sources: annual reports of the companies).

<i>MY, 2003</i>	<i>Rail</i>	<i>Other transports</i>	<i>Others</i>	<i>total</i>
OR outside group ¹¹	247 466	5 027	23 762	276 255
% total OR outside group	89.6	1.8	8.6	100
OI	-44 341	-1 228	7 261	-38 308

It is to be noted that in the case of these companies, diversification activities account for the only positive part of total operating income.

ii) “Major” companies

“Major” companies are the 15 most important Japanese private passenger railway companies except JR Companies. These are private companies that were born nearly one hundred years ago.

This study focuses on 14 of them¹². All of them operate networks located in Honshu, the main island of Japan. These networks are mostly small (between 30 and 300 kilometres), urban (suburbs of Tokyo, Osaka and Nagoya) and carry a great number of

¹⁰ OI = earnings generated by the investment cycle and operating cycle for a given period (in most cases, statements of accounts state OI = OR – operating costs).

¹¹ “Outside group” means that does not include transactions from one subsidiary company to another subsidiary company of the group, or from one subsidiary company to the parent company.

¹² A financial scandal linked to the SEIBU company occurred a few months ago, showing that some of the figures shown in its stock books were questionable.

passengers every year. The data that are used in this section come from the “*stock books*” of these companies. The segments of activity that are distinguished are “Transport” (railway, bus, taxi, airline, ferry and so on), “Retail” (shops, restaurants, shopping centre, malls, department stores in or near stations, directly operated, by subsidiaries or not, by the railway group), “Real Estate” (office, residential and commercial lease in or near stations), “Leisure” (hotel, advertisement, tourism, amusement parks, cinema, theatre, other leisure activities) and “Others” (construction works, industry, rolling stock industry, information systems and so on). In terms of operating revenues and operating income by segments, the results are the followings:

Table 4: Operating revenues (OR) and operating income (OI) by segment, 2003. Japan. *Major Companies* (MY: Millions of Yens; source: *stock books* of the companies).

<i>MY (2003)</i>	<i>Transport</i>	<i>Real Estate</i>	<i>Retail</i>	<i>Leisure</i>	<i>Others</i>	<i>total</i>
OR outside group	2 326 682	848 901	2 168 881	1 014 323	871 688	7 230 498
% total OR outside group	32.2	11.7	29.9	14.1	12.1	100
OI	266 065	138 528	28 265	1 915	32 240	467 038
% total OI	56.9	29.7	6.1	0.4	6.9	100

Activities of capitalization of land and commercial rent (segments “Retail”, “Real Estate” and “Leisure”) account for 56% of total operating revenues and 36% of total operating income. This is clearly a different business model, in which the major part of revenues do not come from train ticket sales, but from activities of capitalization of land and commercial rent. Let us note that “Leisure” segment, though it accounts for 14% of total operating revenues, only accounts for 0.4% of total operating income, showing financial results which are, as mentioned before, often in the red.

iii) “Minor” companies

“*Minor*” companies are Japanese private passenger railway companies others than *Major* and JR companies. There are more than 100 of these companies in Japan. Here, only 31 are studied, which are the companies listed in the stock exchange and whose “*stock book*” show operating results by segments. These companies are usually much smaller than JR or *Major* companies (in terms of number of passengers carried or total operating revenues), but the biggest ones carry every year as many passengers as many national companies in the world (for instance, SHIN-KEISEI carried 100 Millions passengers in 2001). The data that are used in this section come from the “*stock books*” of these companies. The segments of activity that are distinguished are the same as in the case of *Major* companies, but the content slightly differs: “Retail” segment do not include many Department stores, and “Leisure” segment includes many “Sports” activities, especially the management of golf-courts. In terms of operating revenues and operating income by segment, the results are the followings:

Activities of capitalization of land and commercial rent (“Retail”, “Real Estate” and “Leisure” segments) account for 61% of total operating revenues and 66% of total operating income. “Leisure” segment seems more profitable in the case of *Minor* companies than in the case of *Major* companies, since its stands for 7% of total operating income (10.9% of total OR).

Table 5: Operating revenues (OR) and operating income (OI) by segment, 2003. Japan. *Minor Companies* (MY: Millions of Yens; source: *stock books* of the companies).

<i>MY, 2003</i>	<i>Transport</i>	<i>Real Estate</i>	<i>Retail</i>	<i>Leisure</i>	<i>Others</i>	<i>total</i>
OR outside group	285 059	62 426	389 054	98 742	64 302	899 583
% total OR outside group	31.7	6.9	43.2	10.9	7.1	100
OI	7 070	13 966	3 845	2 253	3 106	30 240
% total OI	23.4	46.2	12.7	7.5	10.3	100

iv) *Japan*

It is now possible to dress a global picture of diversification activities of Japanese passenger railway companies. In order to build comparable figures, it is necessary to be less accurate, but in spite of this, some strong results can be shown, which are summarized in table 6.

Table 6: Operating revenues and operating income by segment, 2003. Japan (MY: Millions of Yens).

<i>MY, 2003</i>	<i>Transport</i>	<i>Activities of Capitalization of Land and Commercial Rent</i>	<i>Others</i>	<i>total</i>
OR outside group	6 593 049	5 597 603	1 309 931	13 500 606
% total OR outside group	48.8	41.5	9.7	100
OI	899 910	303 870	66 056	1 269 861
% total OI	70.9	23.9	5.2	100

Activities of capitalization of land and commercial rent (segments “Retail”, “Real Estate” and “Leisure” of the tables previously seen; “Leisure” activities of JR Companies are not included in these segments) account for 41% of total operating revenues and 24% of total operating income of the Japanese passenger railway companies that were studied in the present study.

It is to be noted that nearly all Japanese passenger railway companies operate activities of capitalization of land rent as well as activities of capitalization commercial rent: some of their subsidiaries directly operate shops in stations, hotels etc¹³. This contrasts with the situation of European passenger railway companies, as will be shown in the next sections.

c) *Northern and Western Europe*

In the case of Northern and Western Europe, different sources of data are available (2002 UIC Statistics, annual reports of different passenger railway companies, data from 2004/2005 UIC congresses, data from interviews with representatives of passenger railway companies), but, to let figures be comparable, the only 2002 UIC Statistics and different existing annual reports are used in this section. The main problem one faces when trying to collect data about diversification activities of European passenger railway companies is the lack of homogeneity of the different national statements of accounts, especially in the choice of segments. There is no common regulation aiming

¹³ For more information about this specific point, please refer to DOUMAS & OKI 2006.

to make these different choices of segmentation be comparable. Thus, each company produces its own segments of activity, making the international comparison very difficult. Some countries show segments such as “Hub development and Operations” (NS, Netherlands) that include retailing in stations, “Property Rental Income” (NR, UK) or even “Real Estate” (CFF, Switzerland), but most statements of account of European passenger railway companies show segments of activity including, with some activities of capitalization of land and commercial rent, a large number of other activities, making the whole analysis quite difficult.

Thus, while, thanks to the different annual reports and statements of account, one can describe accurately the different diversification activities of European passenger railway companies, it is unfortunately very difficult to compare their segments of activity and financial results. Activities of capitalization of land and commercial rent are, in the case of European passenger railway companies, mostly shopping activities in stations. These are not department stores or shopping centers, but different kinds of shops, mostly passenger flows dedicated shops. European passenger railway companies do not directly operate these shops, but they earn a rental lease which is function of the operating results of the shop. Some railway companies, like CFF (Switzerland), also show segments dedicated to Real Estate activities (mostly located around stations). In terms of operating revenues by segment, one can try to make the different figures taken from the different accounting frameworks be comparable, and the results are the following, which are, because of the different uncertainties that exist, to be analysed with caution:

Table 7: Operating revenues and operating income by segment, 2003. Northern and Western Europe (ME: Millions of Euros; source: annual reports of the companies).

<i>OR, 2003, ME</i>	<i>Transport (passenger)</i>	<i>Activities of capitalization of land and commercial rent</i>	<i>Others</i>	<i>total</i>
Total “Northern and Western Europe” ¹⁴	23 841	1591	2094	27 526
%	86.6	5.8	7.6	100

d) Global results

Having in mind the different uncertainties of the different results shown before, one can now show global results on the situation of activities of capitalization of land and commercial rent of passenger railway companies in the different parts of the world in 2002/2003/2004. First, most passenger railway companies are involved in only a few sub-segments of diversification activities (renting space for passenger flow dedicated shops in stations). Then, Japan is a very special case: its different kinds of passenger railway companies (JR, *Major* or *Minor*; regardless of their size) operate all kind of diversification activities, from real estate to amusement parks, which account for a large part their total operating results. In terms of operating revenues by segment, global results are the followings:

¹⁴ DB, CFF, FS, RENFE, NS, CIE, DSB, VR, NSB

Table 8: Global operating revenues (OR) by segment, 2003 (sources: please see previous tables).

<i>% OR, 2003</i>	<i>Transport</i>	<i>Activities of capitalization of land and commercial rent</i>	<i>Others</i>
Japan	49	41	10
Asia Except Japan	98	<2 ?	<2?
North America	>85	<7	<8
South America	?	?	?
Africa	98	<2	<2
Western / Northern Europe	87	<6	<7
Eastern Europe	92	<8 ?	<8 ?

The case of Japan could be explained by different geographical or historical reasons: density of population, available land, level of development of road networks, time spent in transport -commuting time- and so on¹⁵. Yet, many of these reasons may in fact be seen as being themselves linked to the development of diversification strategies by passenger railway companies.

3. Evolution of diversification activities of passenger railway companies from 1990 to 2004

As seen in section 2, activities of capitalization of land and commercial rent of passenger railway companies mostly exist in two parts of the world: Japan, and to a less extent, Europe. Thus, section 3 now studies the evolution of diversification activities of passenger railway companies in Japan and Europe, by showing the evolution of their operating results by segments.

a) Japan

This section studies the case of JR and *Major* companies. This is because, unfortunately, data concerning the evolution of results of *Minor* companies were not available.

i) JR

This subsection analyses the case of Honshu JR companies, which are, as seen before, the JR companies that developed the most diversification activities. Data are from the “*stock books*” of these companies from 1992 (the first JR company –JR EAST- to publish its results by segments did it in 1992) to 2004. The evolution of segments of activities show, from the very beginning, a clear separation between “Transport” and “Retail” segment. On the other hand, “Real Estate” segment appeared late (in 1998 for JR EAST, in 2000 for JR CENTRAL, in 1996 for JR WEST).

¹⁵ A more detailed analysis of these issues can be found in Doumas and Oki 2006.

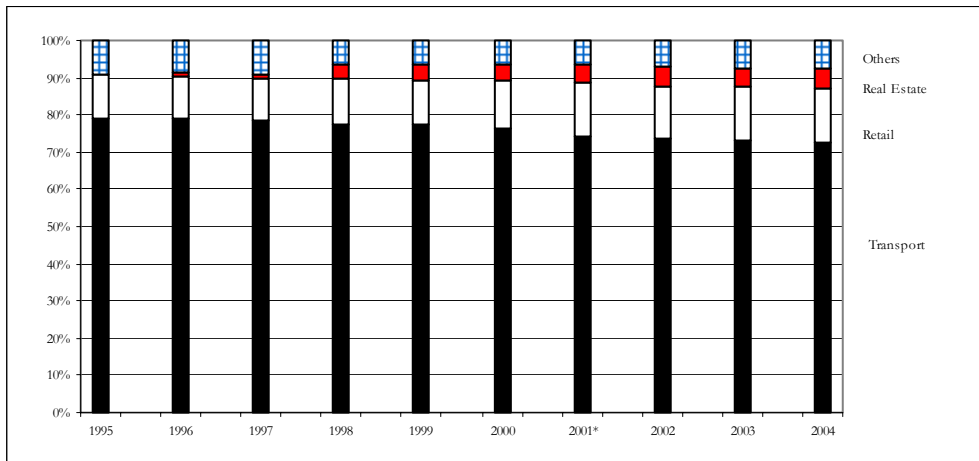


Figure 1: Evolution of operating revenues by segment (% of total operating revenues), 1995-2004, Japan, JR CENTRAL, JR EAST and JR WEST (source: *stock books* of the companies).

These results show that, between 1995 and 2004, the percentage of activities of capitalization of land and commercial rent in total operating revenues (income) has raised up by 7% (14%). It is also to be noted that the “Retail” segment has become profitable with delay, and that the percentage of the “Real Estate” segment in total operating income has raised up from 1% in 1996 up to 9% in 2004. How to explain this evolution? JR companies, when they have been privatized in 1987, have wished to develop a strategy of diversification of activities taking as a model the one *Major* companies had developed for many years. This strategy has led to the development of the segments “Retail” and “Real Estate”, but this development took time and it is only from 1992 to 1995 that these segments appeared in the statements of accounts.

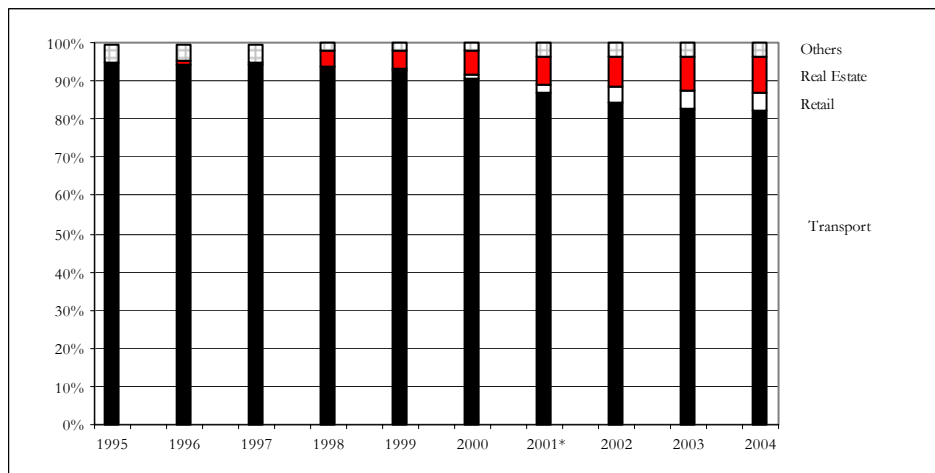


Figure 2: Evolution of operating income by segment (% of total operating income), 1995-2004, Japan, JR CENTRAL, JR EAST and JR WEST (source: *stock books* of the companies).

ii) “Major” companies

Data that were used in this section come from the *stock books* of *Major* companies from 1991 (the *Major* companies began to publish their results by segments in 1991) to 2004. The evolution of the segments of activity of *Major* companies shows that these

companies were already operating diversified activities in 1991, and that the segments “Transportation”, “Retail”, “Real Estate” and “Leisure” already existed in this same year. Nevertheless, it is to be noted that, between 1991 and 2004, 7 out of the 14 companies added to the existing segments, “Retail” (HANKYU, MEITETSU, TOBU) or “Leisure” (HANSHIN, KEISEI, NANKAI, SOTETSU) segments. It means that there has been among these companies a convergence on the period 1991-2004 towards a model of a diversified *Major* company operating three kinds of activities of capitalization of land and commercial rent: “Retail”, “Real Estate” and “Leisure” (13 out of 14 in 2004). In terms of evolution of operating revenues by segment, the results are the followings:

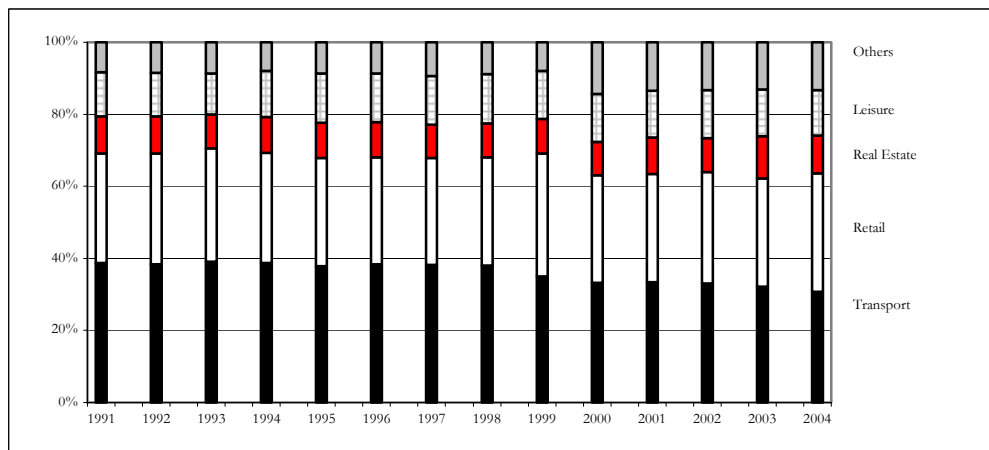


Figure 3: Evolution of operating revenues by segment (% of total operating revenues), 1991-2004, Japan. *Major* companies (source: *stock books* of the companies).

The results¹⁶ confirm that diversification activities had already been developed in 1991 (activities of capitalization of land and commercial rent accounted for 53% of total operating revenues in 1991, and 56% in 2004). Indeed, *Major* companies began to operate such activities one hundred years ago. The evolution of the share of total operating revenues of each of the segments shows a global stability. But, regarding operating income, the percentage of “Real Estate” segment has fallen (from 47% in 1991 to 30% in 2004), while the percentage of “Transportation” segment has raised up (from 34% in 1991 to 52% in 2004). Moreover, “Leisure” segment is in the red 10 years out 14. How to explain this evolution? The fall of the percentage of “Real Estate” segment, and the associated rise of the percentage of “Transportation” segment in total operating income might be explained by the general fall of the prices of land on the period of time studied here (mechanism of speculative bubble). The fall of the percentage of “Transportation” segment in total operating revenues may be explained by the evolution of the Japanese demography in the same period of time, a consequence of which was the fall of the train ridership. Finally, the convergence towards a business model including three segments of capitalization of land and commercial rent (“Retail”, “Real Estate” and “Leisure”) may be seen as a change from a diversification strategy that was initially, especially in the beginning of the 1990s, strongly oriented towards Real Estate activities (the percentage of the segment “Real Estate” in total operating income reaches 54% in 1995), towards a more diversified diversification strategy,

¹⁶ The evolution of operating income by segment can be found in DOUMAS & OKI 2006

including leisure and retail activities (sports, tourism, shopping center and so on) certainly partly aimed to better lower business cycle related risks. In this more diversified strategy, the role of the station is emphasized (shops, sports activities, movie theatres and theatres and other leisure activities take place in the station).

iii) Japan: global results

In the case of Japan, from 1991 to 2004, global results show a convergence of the diversification strategies of the different passenger railway companies. It is a convergence towards a diversified business model including retail, real estate and, most of the time, leisure activities. It is also a convergence on the relative weights of the different segments of the diversification strategy: More accurately, the diversification strategy has tended to let each of its segments take a more equal part in the global strategy. A consequence of this is that activities taking place in or around stations, which had been previously neglected compared to Real Estate activities, have been taking more and more weight in the global strategy of passenger railway companies.

b) Europe

It was shown in the last section that it is very difficult to make the different statements of accounts of the different European passenger railway companies be homogeneous. It can be therefore easily understood that the description of the evolution of their results by segments is even more difficult. In this section, a panel of European passenger railway companies is studied (SNCF, DB, FS, CFF and DSB): these are the companies for which some time series data could be gathered. Data are from annual reports and other official documents, from the UIC 2004/2005 congresses' presentations, and from interviews with the representatives of some of these companies¹⁷.

In the case of **SNCF**, it has to be noted that the *Direction du Développement des Gares* (stations' department), one of its aims is to develop commercial activities in stations, was created only in 1997, while it was in year 2000 when a subsidiary company called A2C was specially created to enhance the commercial results (retail and services) of stations. Some big stations (Gare du Nord, Gare de Lyon, Gare Saint-Lazare and so on) have started to be refurbished since 2000. The evolution of the operating revenues of different activities in stations from 2000 to 2004 shows a progressive rise of these activities (approximately by 10% for operating revenues).

In the case of **DB**, operating revenues by segment are available from 1999. Their evolution shows a progressive rise of the weight of "passenger stations" activities in

¹⁷ It goes without saying that a more complete study should more accurately describe the present state and the evolution of diversification activities of European passenger railway companies. Readers who are more specifically interested in these companies may refer to DOUMAS&OKI 2006, or to the *Actes du Premier congrès mondial sur l'aménagement des gares « NEXT STATION »*. In particular, the situation of the UK would deserve a more accurate presentation. Nevertheless, the present situation of stations in this country (a change of management responsibility occurred when NETWORK RAIL replaced RAILTRACK ; NETWORK RAIL, the present infrastructure manager, now manages directly only the 17 biggest stations in the UK, the others being managed by local Train Operator Companies) makes the global data collection particularly difficult.

global results. Besides, as in the case of SNCF, lots of stations have been refurbished from 1997 to 2004 (Köln, Hanover, Nuremberg, East Berlin and so on).

In the case of **FS**, two subsidiaries, part of the capital of which belongs to private exterior investors, have been created in order to enhance the development, and especially the commercial development, of stations: **GRANDI STAZIONI** (development of the 13 largest Italian stations) in 2001, and **CENTO STAZIONI** (development of the 100 “middle-sized” Italian stations) in 2002. Moreover, another subsidiary, **FERROVIE REAL ESTATE**, in charge of the management of the real estate assets of the group, has appeared in 2003. The evolution of the percentage of operating revenues and operating income of these subsidiaries in global operating results of FS group shows a rising weight of these activities.

In the case of **CFF**, it has to be noted that there is a “Real Estate” segment of activity in the statements of account, which is in fact also a business segment of the company, and which includes commercial activities in stations as well as real estate activities of the company. It was created in 2003 and was accounting for 14% of total operating revenues and 43% of total operating income (“total” = [“Real estate” + “Passenger”]) of the company in this same year.

In the case of **DSB**, in 2002, a “Restaurants and Shops” segment was included in the results by segment of the company, and it was accounting for 4% (and 10% in 2003) of total ([«Restaurants and Shops» + «Passenger and freight» + «Traffic contracts»]) operating revenues in 2002.

In the other European countries, data concerning the evolution of activities of capitalization of land and commercial rent is scarcer. Nevertheless, from the mass of documents and unordered pieces of information that could be gathered, it can be said that a model of commercialization of European stations was born in the beginning of the 2000's. This is only the beginning of the story, and all European passenger railway companies are not yet involved in this move. Nevertheless, it has clearly begun and it can be seen for example in the systematic creation of bodies especially devoted to the management of commercial activities in stations in many European passenger railway companies.

c) Towards a convergence?

Once the evolutions of diversification activities of the different passenger railway companies studied in this paper have been presented, one may wonder if they share common regularities, regardless of the nationality or the category of the passenger railway company. The answer that our study gives to this question seems to be positive. We think indeed that the data that were presented show a convergence of activities of capitalization of land and commercial rent of passenger railway companies towards activities located in stations. In Europe, these are the only diversification activities that have been developed for some years. In Japan, it is more than 10 years since JR Companies focus their strategy of diversification of activities on stations. What's more, *Major* companies, and even if these companies have been diversifying their activities for decades, also tend to focus their attention especially on stations.

The reasons that make these different groups of passenger railway companies focus their diversification strategies towards the station obviously depend on the situation they face. In the case of European passenger railway companies, commercial activities in

stations are mostly the only activities of capitalization of land and commercial rent that can anyway be developed (some are public companies; for most of them stations are the major assets they own, except tracks and rolling stocks –whereas some Japanese companies also own much land around stations and tracks¹⁸). In the case of the Japanese JR Companies, it is the lack of land, in addition to the bursting of the land speculative bubble in Japan at the very moment when these companies were about to undertake their diversification strategy that made them focus their attention on stations. Finally, in the case of *Major* companies, in addition to the reasons previously mentioned, it may also be the wish to minimize business cycle related risks (concerning real estate and shopping activities for example) in the diversification strategy that made it converge towards activities in stations. Thus, the reasons that made each of these groups of passenger railway companies focus their attention on the station are different, but the global result seems to be robust: passenger railway companies have tended to diversify their activities for at least 15 years, and part of the direction of this diversification process seems to be the station.

There are several consequences to this fact. First, it should give incentives to passenger railway companies or countries that have not yet undertaken the systematic development of commercial activities in stations to observe and study the foreign experiences in this field and its results¹⁹. Then, it should give incentives to the representatives of public bodies, and to searchers of the different fields involved in studies linked to stations (transport, economics, urbanism, geography, architecture) to focus their attention on the consequences of this new empirical fact -which seems to be robust-, that is, the systematic development of commercial activities in stations and, more generally, the systematic development of activities of capitalization of the land and commercial rent generated by railway infrastructures.

Conclusion

In this study, the present situation, and the evolution of diversification activities of passenger railway companies in the different parts of the world have been presented. The particular case of Japan, and its different groups of passenger railway companies (JR, *Major* and *Minor*), has been emphasized. Besides, a convergence of diversification activities towards activities in stations in Japan and Europe has been shown and discussed.

Some important questions remain: first, what is specifically due to economic mechanisms (and especially agglomeration mechanisms), in the move observed towards commercial activities in stations? What are the link between phenomena of capitalization of land and commercial rent generated by railway infrastructures, by passenger railway companies, and the privatization process of these companies, or, more generally speaking, the change of ownership of these companies? The

¹⁸ Thus, the move that is observed may in some cases be a partly regulation induced one (if, for example, a public company is ordered to get rid of some of its assets, including land, when privatized).

¹⁹ It is to be noted that, in 2004 and 2005, the first two international congresses of the history of rail dealing with diversification activities -and especially with commercial activities in stations- of railway companies, have taken place (UIC Yokohama 2004 and Rome 2005 congresses).

consequences, in terms of public economics, of the answers given to these questions may be of the highest importance.

Finally, a generalization of the method and contents developed in this study is obviously possible for other means of transportation. While transport infrastructures differ, most of them generate land and commercial rent, which will be, or not, capitalized by transport operators. The cases of subway stations and airports seem to be the closest to the railway infrastructure one. But gas stations, ports, or shops that can be found in ships, may also be interesting subjects of research. In fact, until now, the only barrier to this general study of the land and commercial rent generated by transport infrastructures is the access to data.

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