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LABOR AND THE PRIVATIZATION OF MEXICAN RAILROADS**

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WHAT HAPPENS TO WORKERS WHEN GOVERNMENTS DIVEST?: LABOR AND THE PRIVATIZATION OF MEXICAN RAILROADS

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Abstract

The discussion about the relevance of railroads in Mexico goes beyond its economic dimension. Due to historical reasons the debate is typically charged with an enormous amount of ideological and political content. When the privatization decision was made in 1995, under President Zedillo, all these issues were brought into the discussion. The labor union of FNM was an important support of the official party, PRI, and had a good deal of political weight in the public sphere. However, the financial condition of the company, as well as its productivity indicators, were clearly an objective factor in favor of privatization. In order to carry out the privatization process successfully, the labor issue was the main hurdle to jump. Making the company attractive to investors, while respecting all the labor rights of the people and reducing labor redundancy, was the main challenge for the privatization team. When the privatization process started in 1996, FNM had around 43, 000 active workers (more detail on this below). In 1998, 7% of that labor force (3,000) had opted for retirement, 54% (23,300) had been re-hired by the new companies, and 39% (16,700) ended their relation with the company. The characteristics of the severance packages offered to the workers at FNM were similar to those designed in previous privatization processes in Latin America. The packages included: i) Allowing people with at least 25 years in the company to retire (20 years for female workers). This retirement would include all the rights established in the labor contract. The estimated cost of the restructuring process goes to 90% of the total proceeds from the sales of the regional companies, except the company that gives service to the central valley of Mexico.

Key words: Privatization, infrastructure, labor retrenchment.

JEL codes: D21, D61, D62, E65.

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A. Introduction and Methodology

The discussion about the relevance of railroads in Mexico goes beyond its economic dimension. Due to historical reasons the debate is typically charged with an enormous amount of ideological and political content. Even one of the most famous popular songs played by Mexican *mariachis*, says:

“*Negrita* of all my sorrows,
Flying eyes of paper,
negrita of all my sorrows.
You say yes to everyone,
But you don’t tell them when,
Just as you did to me.
That is why I live in pain...”²

It is dedicated to a locomotive. “Flying eyes of paper” is a metaphor making reference to the flags every locomotive usually had in the front, which would wave as the locomotive moved, driven by the wind. Today, the central office of the National Railroad Company (Ferrocarriles Nacionales de México, FNM hereafter) is decorated with photographs of the revolutionary forces, transported by the railroads to fight against the dictator. “The revolution came from the north”, the tradition says. It did so on a railroad, it must be added.

The first contract to build a railroad in Mexico was signed during the 1830’s, but it was not until 1872 that the line connecting Mexico City and the port of Veracruz was finally finished, after President Juárez died, under President Lerdo de Tejada. It was also President Lerdo who, according to historians, was originally opposed to the construction of the Railroads, fearing an invasion by the U.S. Army. “Between strength and weakness” –he allegedly stated—“we’d better keep the desert”.

When the privatization decision was made in 1995, under President Zedillo, all these issues were brought into the discussion. The labor union of FNM was an important support of the official party, PRI, and had a good deal of political weight in the public sphere. However, the financial condition of the company, as well as its productivity indicators, were clearly an objective factor in favor of privatization. The latter was reinforced by the weak financial condition of the treasury and the impossibility of devoting scarce public funds to invest in that public service, while the priorities were on health, education, and poverty alleviation.

In order to carry out the privatization process successfully, the labor issues were the main hurdles to jump. Making the company attractive to investors, while respecting all the labor rights of the

² “Negrita de mis pesares, ojos de papel volando,
negrita de mis pesares,
ojos de papel volando, a todos diles que sí,
pero no les digas cuándo, así me dijiste a mí.
Por eso vivo penando...”

people and reducing labor redundancy, was the main challenge for the privatization team. The strategy to deal with those issues is the main theme of this paper. Given the lack of good public information on this issue, the methodology for the preparation of this paper relies heavily on personal interviews. There are aggregate data obtained from the FNM files, which is presented in the section on labor issues.

Three are the main lessons from the Mexican experience. First, the fact that political opposition to privatization by the labor unions can be overcome successfully. This depends a lot on the strategy, which has to be always inclusive of the workers, respecting always their labor rights. The second is that this is typically attainable at a high financial cost. Severance payments, retirement funds and legal battles are very costly for the treasury. Finally, it is clear that the labor productivity and the conditions of the workers who remained in the company improved enormously.

The paper contains four more sections. After showing an overview of the privatization strategy in the next section, the third part gives the general guidelines in terms of the labor strategy. Then, a more detailed look at the labor restructuring issues is offered. The conclusions and lessons learned close the paper.³

B. Nature of Transaction

Objectives of the privatization process

The tradition of government intervention in the railroad industry came from the Diaz administration, during the last quarter of the XIX century. During the 1880s, the railroad network expanded enormously. This had a strong economic foundation, given that such expansion fostered economic growth during that period (Cárdenas, 1997). Moreover, for a long time the railroad was the most important means of transportation of people in Mexico. Recent research on this area has emphasized the impact of railroads in terms of the political influence of the labor union, as well as the importance of this way of transportation on the internal market. Recently, the absence of proper economic incentives and the urgency of other priorities in the government's budget resulted in a railroad company without capital and with enormous liabilities. The main problems FNM faced at the beginning of the nineties were a completely anachronistic tariff structure; obsolete operating strategies and an important amount of labor redundancy. The organizational inertia and the political power of the labor union thwarted several attempts to restructure the company.

Graph 1 shows total sales of the railroad company from 1990 to 1999. Starting in 1997, the effect of the liquidation of the company is clear, even though the trend was not favorable. Before privatization, between 1970 and 1995, the participation of railroad transportation in total transportation in the economy had fallen from 23 to only 12%. As shown in the graphs, FNM systematically incurred a deficit during the period (the "jump" in operating deficit, as well as the increase in transfers and subsidies in December 1997, December 1998, and April 1999 has to do with the cost of the labor restructuring plan). On average, FNM received 0.4 billion dollars

³ Those interested in a detailed review of the privatization in Mexico since 1988, see Rogozinski (1999).

per year as a subsidy from the treasury during the 20 years previous to privatization (See graphs 1 through 4).

Most of FNM indebtedness was external debt, and represented, on average, about 0.5% of the total government external debt. Graph 5 shows FNM's physical investment throughout the period.

Under these circumstances, President Zedillo decided to privatize the company in order to improve its efficiency and attract private funds to that sector. The stated objective was precisely that: improve the efficiency and competitiveness of the sector, re-directing public funds used to subsidize FNM towards social expenditure. Officially, the objectives were:

- i. The promotion of the development of a railroad structure in the country;
- ii. The creation of a service with the highest standards in terms of safety, competitiveness, and efficiency;
- iii. To strengthen the state's role as main transport authority in the country;
- iv. To foster private and "social" investment in this sector to support its modernization;
- v. To guarantee the labor rights of active and retired workers;
- vi. To make sure that the government would carry out a sale under the best conditions in terms of the sale price and all the other objectives.

As it shall become clear as this paper develops, the achievement of all these objectives was a hard task for the privatization committee.

Adjusting the Legal Framework

The first step in the restructuring strategy was a proposal to modify the constitutional mandate that declared railroad transportation as an activity exclusive of the state. President Zedillo sent the proposal to modify the article 28 of the constitution to the congress. In March 1995, the proposal was approved, allowing the private sector to participate in this activity.

In order to accomplish the stated objectives, in April 1995 the government created the *Comisión Intersecretarial de Desincorporación* (CID) by a presidential decree.⁴ This organism was integrated by the ministries of finance, trade and industry, administrative control, labor, communications and transport, and a special appointment of the undersecretary of budget planning. This committee was in charge of carrying out the privatization sales.

⁴ Inter-Ministerial Privatization Committee.

In May 1995, the Regulatory Law of the Railroad Service was published to found the basic regulatory framework. This Law defines the mechanisms and rules to award the concessions. This Law was created to regulate the construction, operation, exploitation, and maintenance of the railroads, as well as the public service of railroad transportation. In order to participate in this business, the Law stated, the investor would need a government concession. The requirements to obtain such concession were also established in the Law.⁵ The concession period was established as 50 years and only Mexican corporations would be eligible, restricting foreign participation in such corporations to a maximum of 49%. The regulations did not include any commitment on the side of the concessionaires to re-hire any share of the labor component at the time of the sale. The only commitment was in terms of training of the workers who remained in the company.

Also, June 19, 1995 the Ministry of Communications and Transport (SCT) established the Restructuring Committee of the National Railroad System, formed by SCT officials and workers of FNM. This committee was directly responsible for the privatization process.

The activities of this committee included: the adjustment of the legal framework, definition of the restructuring strategy prior to the sale, and the eventual dissolution of the company. In November 1995, the government issued the general guidelines, in which the important historical role of the labor union and the workers was acknowledged and the government committed to respect all their labor rights.

Restructuring Strategy⁶

The restructuring committee of the railroad system reviewed different restructuring alternatives during the first half of 1995. The international experience was carefully studied. Furthermore, a seminar-workshop with experts from the World Bank was carried out and specialized consulting firms, both Mexican and foreign, were hired. The government ruled out the option that proposed to privatize the whole system as only one company, opting for the segmentation of FNM into several regional monopolies. Each firm would have the responsibility of bearing the operating costs, though the property of the assets remained on the government's hands. One of the advantages of such scheme is the possibility of establishing a regulatory scheme based on yardstick competition. Also, this scheme would attract more investors to the sector. Despite all the advantages, an official from the Ministry, accepts that under this scheme "competition and efficiency go in opposite directions, due to the fact that it limits the profitability of the firms in the long run and increases costs (particularly costs by "switching rails"). Once the decision to divide the company took place, a second decision had to be made, regarding the possibility of functional separation (or vertical unbundling). This option would include the sale of the essential

⁵ Given that railroads have characteristics of natural monopoly, competition in the market is not socially efficient. Competition for the market, through a concession, is the best alternative, especially in cases in which assets are observable (see López-Calva, 1998).

⁶ It is important to mention that the official story of the privatization is in the so-called "white books." All the officials we consulted mentioned the relevance of those records, though, to our surprise, no one allowed us to have access to them, after four months of sending several requirements to different offices within the Ministry of Communications and Transport and the Ministry of the Treasury.

facilities (including the rail tracks themselves) to one company, while allowing different companies to provide the services with their locomotives and cars, making the access to the essential facility mandatory. Examples of countries where such scheme was implemented are Great Britain and Portugal. That option was discarded due to evidence of coordination problems and potential failure.

Regional Segmentation

In July 1995 the Inter-Ministerial Commission approved the separation of the network into three regional monopolies, corresponding to the Northeast (also called “la joya de la corona”, the jewel of the crown), North Pacific, and Southeast-Pacific regions, as well as one firm in charge of connecting Mexico City with the central network, called Terminal Ferroviaria del Valle de México (TFVM). Such concession was owned by the three regional concessionaires (25% each), and the Federal Government (25%). Besides these three regional enterprises, several short lines were created, mainly those providing services to specific large users. Important short lines are: Chihuahua-Pacifico, Coahuila-Durango, Nacozari and Tijuana-Tecate, among others. The monopolies were awarded through a competitive bidding process. Table 1 shows the situation of railroads before the bidding process.

Table 1. Railroads Situation before Bidding Process (1994)

Railroad	Length (km)	Traffic (Million Ton per KM)	Income (mill pesos)	Income/ Km (pesos)
North Pacific	6,200 (30.3)	17,200 (46.2)	1,230 (44.7)	198,387 (1.5) ^a
Northeast	3,960 (19.3)	14,000 (37.6)	1,020 (37.1)	257,575 (1.9)
Southeast	2,200 (10.7)	3,200 (8.6)	270 (9.8)	122,727 (0.91)
Short lines	7,950 (38.7)	2,900 (7.8)	230 (8.4)	25,136 (0.2)

Note: Numbers in parenthesis represent the percentage of the 1994 network

a) Taking as an index the national average

Thus, Federal Government chose to go for a regional segmentation scheme, strengthened by mandatory access rights on critical points of the network. It was considered that this restructuring scheme would result in an operation focused on market needs, minimizing the operative and regulatory complexity, and stimulating the operation according to regional needs.

Mandatory access rights consist the obligation of the regional monopoly to allow other railroad companies to have access to the network at certain points. This gives rise of the access-pricing problem. The parts would negotiate the fee freely and the government would intervene only in those cases where the parties had not reached an agreement. These rights were meant to increase competition in the system, without interfering its operation.

Inside the created legislation it was assured that access mechanisms do not owned markets in order to promote competition. The regional companies are entitled to provide the service on its lines, but they are also obliged to grant competitive access to other companies at points in which they are connected. Access rights are of two types:

- i. Mandatory, which are meant to eliminate bottlenecks that obstruct the flow in the system, and
- ii. Commercial, meant to increase competition between the suppliers of the service.

Concession contracts determine, on a case-by-case basis, both types of access rights.

Besides the agreements on access rights, there are also the so-called inter-connection contracts. These are services that are provided among railroad transporters in order to exchange railroad equipment. Other types of agreements are those between the companies that share terminals. Finally, there are international agreements concerning access rights to railroad companies from the United States. An example is the agreement subscribed with Union Pacific/Southern Pacific and Santa Fe Railroad, for access between Matamoros and Brownsville and between Piedras Negras and Eagle Pass.

Internal Restructuring of FNM

A fundamental step in preparation for the sale was the administrative and financial unbundling of FNM into the regional segments to be sold. These business units, corresponding to different regional railroads, started to operate autonomously since April 1996. The government started to make decisions regarding pre-privatization restructuring in two main areas:

- i. Estimating and absorbing the financial liabilities of the companies to eliminate that burden and increase the number of potential bidders for the sale,
- ii. Eliminating routes and leaving only those that made economic sense.

By September 1997, 19 routes had already been eliminated. The review and renegotiation of the labor contract, as well as the estimation of the labor liabilities is discussed in more detail below.

Dissolution of National Railroads

The formal privatization process of FNM started on November 13, 1995, after the official publication of the *General Guidelines for the Opening to Investment in the National Railroad* and was officially declared complete on August 31, 1999. The valuation of the companies to be sold started immediately. Based on the technical valuation, minimum acceptable bids were

established for the sales.⁷ During this process, workers of FNM were not involved, since there was no scheme that allowed them to buy neither stocks nor anything of the sort.

On June 1996 the first summons for acquisition of the Ferrocarril Chihuahua Pacífico, was published. Yet, the bidding was declared deserted since none of the offers surpassed the technical value of reference. That way, the short route Ojinaga-Topolobambo was denominated as an option to be acquired for whom resulted winner of the Ferrocarril Pacífico-Norte. The concessions awarded were defined as table 2 states:

Table 2. Railroads Concession

Railroad	Date of bidding	Km	Winner	Trade Mark	Amount offered (million pesos)
Northeast	Dec. 1996	4,252	Grupo Transportación Ferroviaria Mexicana	TFM	11,071.9
TFVM	June 1997	296	Grupo Mexico, TFM and Ferromex (25% each). The government has the last 25%	TFVM	
North Pacific	July 1997	6,521	Grupo Ferroviario Mexicano Grupo México (74%) and Union Pacific (26%)	Ferromex	3,152.7
Ojinaga-Topolobambo (Chihuahua-Pacífico) ^a		945	Grupo Ferroviario Mexicano Grupo México (74%) and Union Pacific (26%)	Ferromex	414
Coahuila-Durango	Oct 1997	974	Grupo Acerero del Norte and Industrias Peñoles		180
Southeast ^b	June 1998	1,479	Grupo Triturados Basálticos de México ^c	Ferrosur	2,898
Chiapas-Mayab	July 1999		Compañía de Ferrocarriles Chiapas-Mayab		141
Nacozari	July 1999		Grupo México		20.5

a) As it was stated this short line was offered to Ferromex optionally. b) It is important to point out that this concessionaire decided not to operate nor exploit the short route Coatzacoalcos-Mérida (MAYAB) that was offered for free. c) Ferrocarriles del Sureste actually belong to Grupo Financiero Inbursa and Grupo Frisco since Tribasa sold 100 % of his stocks.

With the sale of those lines, 99.6% or the whole railroad loads in Mexico are handled by operators of the private sector. Summons for the bidding of short routes to Oaxaca and Tijuana-Tecate were also published. Yet, the bidding was declared deserted since in both cases, none of the offers surpassed the technical values of reference.

⁷ It is known that the two central problems in bidding processes is the uncertainty about the value of the company (resulting in the so-called *winner's curse*) and the potential lack of competition. When the number of bidders is low, it is recommended to set a minimum acceptable bid, which can be seen as adding one more bidder: the seller itself.

Investment

On what is related with the improvement of railroads on terms of investment, the minister of communications and transport announced on November, 1998 that new concessionaries would invest more than 13 million pesos for there expansion and modernization. Since the privatization took place, 50 million dollars where invested in the TFVM on 1998 while on 1996 and 1997 only 2 million dollars where destined. The director of the TFM (Northeast), Mario Mohar, announced that the program of investment 1997-2002 for \$721 million dollars, of which in 1998 \$700.00 had already been inverted. Ferromex, on his side, maintained an aggressive inversion program (350 million dollars on 1998 and 1999). Some actions have been made to incorporate the railroad industry to the *System of Normalization and Certification of Labor Competition*. The latter is an attempt to deepen the reform of labor within the company and increase the qualification of the workforce.

Participation of the World Bank

According to the records and the interviews to government officials, the World Bank's main role consisted of providing consulting and advisory services throughout the process. This was mainly done through a new area in the Ministry of Transport and Communications, called "Support Unit of Structural Change." The Bank seems to have played a minimum role in terms of financing the restructuring.

Duration and Terms of the Contract

The Article 11° of the Prescribed Law of the Railroad Service specifies that the concessions will be granted for a maximum of 50 years. It can be renewed, provided that the conditions established in the concession were fulfilled, the company accepts the new conditions established by the ministry, and they announce their intention to continue providing the service with at least five years advance-notice, before the end of the contract.

The concession contains:

- i. Indicators of efficiency and security for the evaluation of the service;
- ii. The period of the concession;
- iii. The characteristics and amounts of the guarantees the firm has to commit to the government,
- iv. All the payments and the form of payment in which the concessionaire must pay.

The Law allows the firm to outsource construction services, conservation and maintenance of the rails. The company is at any time, however, responsible for the obligations established in the contract. Article 14 of the Law states that the railroads, the tracks, traffic control centers, signals

of railroad operation, and the other goods that have been awarded, shall be given back to the government in good operational condition and at no cost after the concession matures.

Article 17, on the other hand, specifies that the concessions will only be granted to Mexican corporations. The foreign investment will be restricted to a maximum of 49% of the capital share of the company. However, it opens the possibility of a participation of foreign investment above that limit, provided that the National Commission of Foreign Investment authorizes such participation.

A concession is considered finished when the one of the following scenarios arises:

- i. The term of the concession or the extensions granted end,
- ii. The holder of the concession quits,
- iii. The government revokes the contract for no provision or unsatisfactory provision of the service,
- iv. There is a need of financial bailout,
- v. The decision to eliminate the object of the concession,
- vi. Bankruptcy of the concessionaire.

The Law only specifies the terms for revoking the contract but does not specify the conditions for bailout. The law says that the concessions can be revoked in anyone of the following scenarios, among others:

- i. Failure to exercise the rights conferred in the concession within a period of 180 natural days after the concession has been awarded
- ii. Interruption, total or partial, of the operation of the railroad without any justified cause presented to the ministry
- iii. Establishment of tariffs that are higher to those authorized by the government;
- iv. Change of nationality of the concessionaire.

Labor Licenses

The fifth chapter of the Law establishes the guidelines for personnel policy in the railroads. The only thing established by the law related with work is that dispatchers and *maquinistas* (locomotive drivers) require a license, called *railroad federal license*, issued by the Ministry of Communications and Transport. A person interested in getting such license must satisfy the following requirements:

- i. Being at least 18 years old;
- ii. Not having a criminal record;
- iii. Take medical exams established by the ministry;
- iv. Having obtained a technical certificate through courses approved by the ministry;
- v. Demonstrating to have the technical expertise and knowledge for the performance of the specific activities.

The *railroad federal license* has to be renewed every two years. The ministry is entitled to examine the licensee owners in terms of “psycho-physic aptitude” and technical capacity at any point in time. The federal license can be cancelled.

Retraining

In the articles 156-159 of the Reglamento del Servicio Ferroviario it establishes the obligation of concessionaries to train the technical railroad personnel through training programs that allow them to realize inspection duties. This way the personnel will have the corresponding training certificate according to the programs established by the concessionaries.

C. Labor Issues in the Privatization of FNM

General Overview

The restructuring of FNM was carried out under permanent consultation with the Mexican Union of Railroad Workers (STFRM hereafter) whose leader was Victor Félix Flores Morales.⁸ The purpose was always to respect the rights of the workers, established in the labor contract. As discussed later, a *pension fund* was created with the proceeds from privatization and workers whose contract ended received generous severance payments (More on this below).

Resistance to Reform: The “*Mad Locomotives*”

The internal restructuring process required an enormous amount of political work. The greatest political resistance took place when the government tried to integrate the line Coatzacoalcos Salina-Cruz to the route of sureste (southeast). The opposition of the Istmo de Tehuantepec was so large, authorities decided to retract it of the planed concession. The CEO of the company reported that his personal vehicle received gunfire in one occasion in which he was not in it, event that he interpreted as a warning sent by some group within the union.⁹

⁸ This union leader started a movement within the group called “Labor Union Democracy” (*Democracia Sindical*). According to a former FNM director, the leader was convinced that the only way to improve the workers conditions was through privatization.

⁹ Most of this section is based on personal interviews with former and the current CEO of FNM.

Part of the workers of railroads started to boycott operations before the imminent possibility of massive dismissal. In fact, from 83,200 workers which composed the payroll on 1990, on December 1996 there were only 48,000. The same way, the number of retired went from 41,921 to 60,000 during the same period. Thefts and sabotage were multiplied as the privatization date became closer, given that the workers wanted to show their opposition to certain policies implemented in the company.¹⁰

The workers had a means of protest known as the *mad locomotives*. They would put weight on the locomotive and leave it empty but running on the track, without control, until it crashed. Before the privatization process, the number of *mad locomotives* incidents increased. Mr. De Pablo, who was the CEO during the privatization process, believes that the only way in which the privatization could succeed was by making the union a fundamental part of the process and keeping a constant communication with the leaders. That is why, there was a tour that took the CEO of FNM and the union leader throughout the country, process in which the effort was focused on convincing the union that privatization was the only way to save the company.

Labor Issues: A Deeper Look

As can be clearly seen on graphic 6, the cost or payroll of FNM was a very high proportion of the operating costs during the period 1990-1999 which oscillated near 80%. One can see a slight tendency to rise, since the operation of FNM decreased less than the number of workers (See graph 6).¹¹

Table 3 shows that FNM had already been going through a labor retrenchment program since 1986. Productivity indicators, however, were low relative to an international standard, as shown in Table 4. Revenues per employee were 1,245% higher in class 1 railroads in the U.S. The ratio of number of employees by kilometer of operated rail was higher in FNM.

¹⁰ There was an occasion, years before the privatization process, in which a new CEO was appointed, whose last name was Villaseñor. In order to show their opposition to the new director, some workers cooked a railroad accident exactly on the date of the new CEO's birthday, at the station called "Villaseñor."

¹¹ Operating cost includes personnel services, supplies, interest payments and other services.

Table 3. Personnel and Productivity

Year	Traffic Units (millions)*	Number of positions	Productivity (Thousand traffic units per position)
1986	46,475	81,132	573
1987	46,303	81,670	567
1988	46,796	81,248	576
1989	43,953	82,928	530
1990	41,753	83,290	501
1991	37,374	78,114	478
1992	38,991	58,626	665
1993	38,992	55,664	699
1994	39,170	49,323	794
1995	39,142	46,283	846

Source: FNM.

Table 4. FNM vs. US RAILROADS, CLASS 1

Average Productivity Rates, 1995

Concept	FNM	Class 1 USA Railroads Average	Difference + o (-)
Revenues/employee (thousands of pesos)	88	1,184	1,245%
Employee/Km of operated rail	2.29	0.94	1.35
Traffic density (millions of TKB/Km. operated)	3.27	19.28	(16.01)
TKB locomotive (millions of TKB)	48.30	185.00	(136.70)
TKB own railway car (millions of TKB)	1.93	6.65	(4.72)
Combustible expenses/TKB (pesos)	0.86	0.41	0.45

Source: FNM, and *Mercer* for class 1 USA railroads.

Personnel Census

The team in charge of privatization carried out a personnel census between 1995 and 1996, because the files were not appropriately organized and there was not even a clear idea of the real composition of the labor at that point in time. As in other privatization sales, there was a so-called *data room*, in which all the necessary information was gathered. All the potential buyers

had access to the data room. The result of the census was included in the network of the data room with access for the managers of human resources and legal aspects.

Workers were followed from August 1995 to July 1999 so that this system allowed the analysts to know whether the labor trajectory of the worker in this period had been constant or irregular. In the case of workers included in the process of lay-off or early retirement, which started in July 1996, it was also possible to know the date the decision had been made. The data room also contained data about the retirees, as well as those workers who had been separated from the FNM payroll before 1997.

When the privatization process started in 1996, FNM had around 43, 000 active workers (more detail on this below). In 1998, 7% of that labor force (3,000) had opted for retirement, 54% (23,300) had been re-hired by the new companies, and 39% (16,700) ended their relation with the company.¹² As explained below, FNM would only have 3,187 workers by June 30, 1999, in August (when the privatization process was concluded) the last unionized workers where fired and with this the STFRM disappeared. Nowadays, there does not exist any labor union in FNM. The latest information has 731 workers by March 30, 2000, all of them eventual workers. If you consider the workers who were re-hired by the privatized companies, about one third of the total (15,000) did not lose their job in the process. As a means of comparison, in Argentina's railroad privatization the labor force went from 94,800 workers to less than 16,000.

The composition of the labor force showed a clear gender bias, as shown in tables 5 and 6. Female workers were relatively younger in the company. More than 30,000 workers had been in the company between 5 and 25 years. About 2,500 workers had been hired during the previous four years. A very important piece of information is that around 28,000 workers were between 15 and 45 years of age, which implied that they were in a very productive moment in their lives (see table 6). Table 7 shows the detailed composition of the labor force before privatization by activities.

¹² All that has been said notwithstanding, many workers decided to challenge legally the decision of the company to end the contract. By February 2001, there were about 18,500 ongoing legal disputes, which implied a contingent liability close to 1.2 billion dollars, in case the company loses those trials.

Table 5. Tenure of the Personnel
December, 1996

Range	Men	Women	Total
0-4	2,426	509	2,935
5-9	10,265	1,294	11,559
10-14	7,177	507	7,684
15-19	6,970	448	7,418
20-24	6,029	461	6,490
25-29	3,991	189	4,180
30-34	1,111	34	1,145
35-39	784	18	802
40-44	433	7	440
45-49	186	3	189
50-54	76	0	76
55-59	15	0	15
>59	142	18	430
Total	39,875	3,488	43,363

Source: FNM.

Table 6. FNM Labor
Age Structure by Gender, 1996

Range	Men	Women	Total
15-19	108	10	118
20-24	1,888	213	2,101
25-29	6,473	744	7,217
30-34	7,921	742	8,263
35-39	7,632	665	8,297
40-44	6,875	565	7,440
45-49	4,699	336	5,035
50-54	2,411	140	2,551
55-59	1,132	49	1,181
>59	734	24	758
Total	39,875	3,488	43,363

Source: FNM.

Table 7. Labor Force by Occupation in Each Division

Description	Position	Office	Northeast	North-Pacific	Chihuahua	Valley	South east	Total
Wire	Station agent	0	86	158	30	34	127	435
	Telegraph operator	33	201	210	32	66	151	693
	Electrician	7	153	331	18	137	164	810
Office	Trust workers	2217	1113	1727	405	571	921	6954
	Train auditor	67	14	47	11	0	47	186
	Driver	0	0	0	0	0	0	0
	Officer	544	578	1622	131	423	621	3919
	Nurse	0	0	0	0	0	0	0
	Longshoreman	1	0	4	0	7	1	13
	Vigilant	0	3	61	1	4	4	73
	Subtotal	2829	1708	3461	548	1005	1594	11145

Table 7. Labor Force by Occupation in Each Division (cont.)

Dragging Equipment	Bricklayer	0	3	291	0	0	5	299
	Kettle	0	0	0	0	0	0	0
	Carpenter	0	0	67	0	0	0	67
	Tinsmith	0	0	0	0	0	0	0
	Forger of metals	0	0	0	0	0	0	0
	Mechanic Electricist	0	265	805	129	241	801	2241
	Molder, Foundryman	0	0	0	0	0	0	0
	Modelist	0	0	0	0	0	0	0
	Painter	0	0	0	0	0	0	0
		1	239	2292	133	341	599	3605
	Cuter	0	0	0	0	0	0	0
Subtotal	1	507	3455	262	582	1405	6212	
Trains	Locomotive providers	0	66	108	19	34	51	278
	Conductor & Stringy	0	1169	1601	148	318	991	4927
	Machinist	0	735	865	72	166	578	2416
	Train Conductor	0	1052	1392	171	708	726	4049
	Crew Member	0	169	233	25	97	118	642
	Subtotal	0	3191	4199	435	1323	2464	11612

Table 7. Labor Force by Occupation in Each Division (cont.)

Rail	Rail service	30	1661	2191	248	578	1910	6618
	Bridge and buildings service	11	262	2089	14	103	445	2924
	Machine service	8	65	66	11	42	90	282
	Arboreal service	3	0	10	0	6	3	22
	Sweeper service	0	14	72	0	47	50	183
	Water and fuel service	2	10	52	5	25	42	136
	Platform scale service	1	0	39	0	3	4	47
	Clinching service	12	18	27	6	12	64	139
	Impregnate plant service	0	0	32	0	0	50	82
	Division motors service	7	174	332	26	81	174	794
	Soldiers service	1	41	26	5	12	32	117
	Heavy machine service	1	18	35	18	20	26	118
	Fair Service	10	2	2	0	1	6	21
	Subtotal	86	2265	4973	333	930	2896	11483
Dorm train	Officers	18	0	9	2	11	0	40
	Repairers	0	4	30	0	98	0	132
	Housekeeping	10	3	55	0	116	0	184
	Conductors	28	0	24	0	0	0	52
	Chef and Doorman	146	3	138	0	0	0	287
	Subtotal	202	10	256	2	225	0	695
Not listed	Not listed	0	0	270	8	0	0	278
	Subtotal	0	0	270	8	0	0	278
	Total	3158	8121	17313	1668	4302	8801	43363

Source: FNM.

Process and Restructuring Approach Used

The rationalization of the FNM redundant labor was done on base of productivity of the workers according to the position they had. It required the preparation of retrenchment agreements, letters and receipts of retirement, as well as documental support in each case. The workers, in order to verify their severance payment, signed the lay-off agreement, or letters and receipts of retirement. With a copy of these agreements and receipts, the office of Human Resources integrated a file of retrenched and retired personnel, organizing the files by sequential number.

The following principles were established for the retrenchment program:

- i. The lay-off of the personal would have to take into account, as a reference, the salary of the last fortnight, which corresponded to the level of salary zone registered in the payment system.
- ii. The lay-off period would be considered from the date of registration in the personnel census to the date of retirement.
- iii. For the payment of vacations, as well as the savings and incentives funds, they would consider the average days worked per year and calculate the proportional payment. The same would be done for special Christmas payments. The payroll area of FNM was in charge of making the payments of vacations and vacations premium according to the registry (FORM CE-1).
- iv. Union contributions would be deducted from the salaries according to the established ranking for each position.

The workers who were laid off had access to the *National Employment Service*, established by the Ministry of Labor and coordinated by the Union Labor. The general secretary of the union trade announced on December, 1996 that although concessionaries where not obligated to hire personnel who had worked at the FNM, this service would be a helpful reference so, if concessionaries decided to hire workers who had voluntarily retired, and had the enough experience on the work they had formerly at FNM. Specifically, they were invited to join the Program of Employment and Scholarships for Qualification of Railroad Workers, which consisted of scholarships for workers to get training in different activities and increase their employment opportunities.

Retirement Scheme

The legal rights for retirees in FNM were established in the labor contract.¹³ The labor contract consisted of more than 3,000 clauses before the privatization took place. Indeed, there was one clause that was repeated in different ways 42 times throughout the contract. After the

¹³ Called "Contrato Colectivo de Trabajo."

restructuring, a new labor contract emerged with only 108 clauses. To achieve this goal, the collaboration of the union leader, Víctor Félix Flores-Morales, was key in the process. Before restructuring of the contract, there existed 5000 different forms of payment specific for each branch. The restructuring of the contract basically helped reduce the forms or payment, making easier the calculation of payment to train drivers: trip value and patio value. As it was stated in the old labor contract workers were entitled to opt for retirement after 30 years of active service in the case of male workers and 25 years in the case of female workers. The retirement package in accordance to the labor contract was of 4 months 30 days per year and 20 days of double minimum wage as a seniority bonus. The restructuring prior to privatization included, under an agreement with the union, to extend those rights to people with 25 years of service (male workers) and 20 years (female workers). In addition to this, male workers who turned 60 and female workers who turned 55 and had at least 15 years in the company were also granted retirement benefits. Finally, people with the latter condition in terms of age and tenure between 10 and 15 years would get the option to retire with the proportional benefits. These retirement plan was far more generous than the one stated in the labor contract since it reached more people, yet, benefits for them where at the most 20 days per year and at least 12 days per year, without surpassing twice the minimum wage, depending on the position: unionized or trust employees.

Retirement Fund

Before the privatization there did not exist a fund for retirement of workers, yet, on December 19, 1997 a trust fund to finance retirement benefits was created. With this fund they will only pay the pension of people who decided on retirement before dissolving the FNM. Yet it does not cover the pension of workers who could have been hired by concessionaries. Matter of fact, the trade union negotiated with concessionaries so they would receive life insurance with resources of each concessionaire. The federal government contributed with 13,351 million pesos and started such trust fund with the state-owned Bank *Nacional Financiera* as the fiduciary institution.¹⁴ The purpose was to guarantee the payment of the pensions to FNM retirees, and the funds came from the proceeds of privatization. The operation and payment of the retirement pensions were established in two stages:

First Stage: From December 1997 to August 31, 1999 the Trust paid the pensions using the administrative and operative infrastructure of FNM, due to the fact that the trust fund did not have its own administrative structure.

Second Stage. Starting on September 1st, 1999 the trust fund will pay directly the retirement pensions and other benefits to the retirees according to the terms and conditions established in the contract (see severance package below). A special “Fiduciary Delegate” was appointed to be in charge of the creation of the organizational structure of the fund. The difference between the financial returns and the monthly disbursements from the fund would be added to the endowment of the trust fund.

There are periodical revisions of the payroll of retired workers (57,000 in December 2000). These include tests of survival. With the intention to pay for a life insurance for the retired

¹⁴ This Trust Fund No. 5012-6, denominated FERRONALESJUB.

personnel, FNM and the STFRM agreed to create a fund, with resources from the federal government, which guaranteed the payment of 2,600 dollars as life insurance for those who retired. The contract also establishes that all benefits and life insurance payments will be adjusted on an annual basis, according to inflation, as officially reported by the consumer price index.

Severance Package

The characteristics of the severance packages offered to the workers at FNM were similar to those designed in previous privatization processes in Latin America. The packages included:

- i. Allowing people with at least 25 years in the company to retire (20 years for female workers). This retirement would include all the rights established in the labor contract, as well as a special bonus for tenure at a rate of 20 days of salary per year of service.
- ii. Those workers who were not eligible for retirement would be laid-off, receiving four months of salary, plus 30 days for each year of service and a special bonus for tenure.
- iii. The base salary would be called the *daily-integrated salary* (see below).
- iv. Part-time workers would be retrenched receiving three months of salary plus 20 days of salary for each year of service.

The *daily-integrated salary* was calculated by adding the monthly amount of the following concepts, divided by 30 days of the month:

- i. Base salary
- ii. Savings fund (monthly equivalent)
- iii. Christmas bonus (monthly equivalent)
- iv. Payment for vacations
- v. Special bonus for rent of housing
- vi. Special bonus for transportation
- vii. Payment for basic bundle of goods
- viii. Payment for educational support of children
- ix. Incentive payment for attendance and punctuality
- x. Incentive payment for productivity
- xi. Incentive payment for training
- xii. Tenure bonus
- xiii. Performance bonus
- xiv. Support for gasoline of the car

From the addition of all those concepts, divided by 30, the daily-integrated salary was calculated. The severance payment would thus be determined according to tenure, age, and gender of the worker. This would be used both for retirement rights and layoffs.

Estimated Cost of the Labor Restructuring Process

When analyzing the operating balance of FNM we can observe a sharp increase in personal services expenditures, which includes wages. These amounts were 16,170,904 thousand pesos in December 1997; 1,827,564 thousand pesos in December 1998, and 475,000 thousand pesos in August 1999. That seemed unusual with respect with the average (about 250,000 thousand pesos). We then verified that those amounts represented severance payments for the retrenchment stages FNM went through. That allowed us to estimate a lower bound of the labor restructuring process. This estimate goes to slightly more than 90% of the proceeds from the sale of the regional companies, without considering the one that provides service to the central valley of Mexico.¹⁵ Of course, this only a lower bound on the cost. It should also be mentioned that the net present value of the cost should include the liabilities added to the fiscal burden through retirement arrangements, less the net present value of the savings the government made by eliminating the subsidy to the company in the subsequent years.

Labor Retrenchment by Division

The composition of FNM workers at the beginning of the privatization process is shown in table 8. Clearly, blue-collar, unionized workers dominated the labor force composition.

Table 8. White and Blue Collar Workers

Personnel Census, 1996

Railroad	Blue collar	White collar	Total
Central office	941	2,217	3,158
Northeast	7,008	1,113	8,121
Pacific-North	15,586	1,727	17,313
Chihuahua-Pacific	1,263	405	1,668
Valley of Mexico	3,731	571	4,302
Southeast	7,880	921	8,801
Total	36,409	6,954	43,363

Source: FNM; blue collar: asalariados (union members), white collar: "De confianza" (non-unionized).

¹⁵ This calculation is the addition of the amounts paid on December 1997, December 1998 and August 1999 in pesos of 1994, over the addition of the income received, also in pesos of 1994, from the sale of all the concessionaries except TFVM.

Northeast Railroad

A total of 7,720 were assigned to the Northeast railroad, 4,058 to the regional department of Monterrey and 3,362 to San Luis Potosí. The Queretaro division belonged to the central region. According to the personnel census, there were 8,121 workers in the Northeast railroad payroll in 1996.

The rationalization process was done on three stages: the first two until November 15th and November 30, respectively, and the third one until December of that year. In the first quarter of 1997, 1564 workers were retrenched in seven groups and 7,920 stayed active. The retrenchment of the train operators was a little bit different because their monthly salaries use to change as long as the number and tariff of the services changed. The criteria and considerations to define the salary of this group of people were particular to their case.

In April 1997, the list of workers was revised again. The idea was to identify people with any kind of special permission for not working, or those who had decided to resign. From April to May 15, 1997, 4,851 workers were retrenched and 1,022 retired. This required again the issue of severance checks, letters of retrenchment, and retirement agreements.

The final day to deliver the control of the railroad to the private investors was postponed in order to carry out a second retrenchment “module” by June 17, 1997. The final delivery of the railroad to the concessionaries took place on July 23, 1997. Right after that, 5,501 additional retrenchment checks were issued. That payment was already done by the Northeast railroad’s human resources office.

North-Pacific Railroad and Chihuahua-Pacific Railroad

The Chihuahua-Pacific railroad planned the retrenchment program in two stages: the first one ending on November 30, 1996 and the second on December 15, 1996. On June 23 of 1997, the data room was brought to the Guadalajara office, and according to the information thereby contained 17,803 workers were retrenched. It is important to clarify that the list of workers was separated by payment system and classified by type of workers: white collar, unskilled blue-collar workers, and transport-technicians blue-collar workers.

The first stage of the lay-off process in the North-Pacific and Chihuahua-Pacific Railroads took place from September 19 to October 4, 1997. The decision of who should be laid-off took into account the skills and labor history of each worker. Also, the area of social security of the North-Pacific Railroad, along with the union representative, determined that certain workers could not be retrenched for reasons related to disease. At the beginning of the process, there were 19,901 workers in these companies, 17,191 in the North-Pacific Railroad and 1,250 in the Chihuahua-Pacific Railroad. A total of 15,495 workers were either retrenched or opted for retirement: 14,496 from North-Pacific Railroad and 1,199 from Chihuahua-Pacific Railroad.

The second process of lay-off ended in January 31 of 1998. During this period the following activities were carried out:

- i. Reception and control of non-paid checks during the first stage of the process
- ii. Estimating the severance payment and issuing the documents of 12,259 people who did not receive their payment during the first stage.

The process ended in February 1998. Finally, the short line Coahuila-Durango, which belonged to the North-Pacific Railroad, was also granted in concession on April 26, 1998.

Southeast Railroad

In May 1997 the Southeast Railroad had 8, 863 workers (922 white collar and 7,941 unionized workers). After the creation of the data room it was possible to carry out the first stage of the general lay-off process for which a deadline was established on September 30, 1998. A total of 7,947 severance payments were issued: 6,541 people were retrenched and 1,406 opted for retirement. The second stage was carried out until the end of that same year. The final delivery of the railroad took place in December 1998.¹⁶

Valley of Mexico Railroad

In the case of the Valley of Mexico Railroad, 2, 765 workers were laid-off. The Union, however, negotiated for these workers an additional lump-sum bonus of about 2,000 dollars, which was extended to workers in other divisions.¹⁷

Personnel Retrenched from January 1997 to June 1999: Summary

The whole retrenchment process is summarized in tables 9-12. These are workers in the FNM payroll between 1996 and 1999.

¹⁶ It is important to mention that not all people collected their payments. As an example, out of 2,757 severance payments issued for people who worked in the short-lines of the Southeast Railroad, only 906 were collected. The main reason for this, according to FNM official Issac Ron was that those people decided to sue the company legally because they did not accept the arrangement or the fact that they were laid-off (see footnote above).

¹⁷ It was exactly 20,000 pesos.

Table 9. Distribution of the Active and Inactive workers
December 1997

1997 Census	Active people 1997	Inactive people				
		Reasons for ending the contract				
		Rationalized	Retired	Passed Away	Not known	Total
Before 1997	44,109	13,107	976	52		14,135
Re-hiring	109	109				109
New-hiring	213	18				18
Total	44, 431	13,234	976	52		14,262
Difference	30,169					

Table 10. Distribution of the Active and Inactive workers
December 1998

1998 Census	Active People 1998	Inactive people				
		Reasons for ending the contract				
		Rationalized	Retired	Passed Away	Not Known	Total
Before 1998	30,169	22,564	213	54	426	23,257
Re-hiring	49	48			1	49
New-hiring	75	1				1
Total	30,293	22,613	213	54	427	23,307
Difference	6,986					

Table 11. Distribution of the Active and Inactive workers
December 1999

1997 Census	Active people 1997	Inactive people				
		Reasons for ending the contract				
		Rationalized	Retired	Passed Away	Not Known	Total
Before 1997	6,986	3,794	22			3,816
Re-hired	39	39				39
New-hiring	17					
Total	7,042	3,833	22	-----	----	3,855
Difference	3,187					

Table 12. Summary

Personnel working at FNM from January 1997 to June 1999	
Before 1997	44,109
Rehiring (+)	197
Admitted (+)	305
Subtotal	44,611
Layoffs (-)	41,424
Active Personnel until June 30, 1999	3,187

Active personnel correspond to those who actually do work.

During the period January 1997-June 1999 the number of workers in FNM went from 44,616 to 3,187. A total of 41,424 workers left the company. Among those, 39,680 were laid-off, 1,211 opted for retirement, and 106 passed away. Additionally, 427 people who apparently worked at FNM never appeared in the payroll.

D. Some Performance Indicators

Table 13 shows the evolution of the length of the network before and after privatization. It can be seen that the network has not been expanded significantly. The companies have spent most of their resources in improving the condition of the existing network and renewing the fleet.

An important piece of information is that after privatization the emphasis has been on freight transportation, in order to get a better balance between passenger and freight services, which was severely biased towards the former until 1996. As tables 14 and 15, as well as graph 7, the services for passenger transportation have decreased, whereas freight services have followed an opposite trend. Perhaps the most important trend observed after the sale is the focus of the companies on the freight market, and the obvious increase in productivity per worker after the reduction of personnel.

Table 13
Length of the Network

Year	Main	Secondary	Private	Total	Wide track	Narrow track
1989	20 351	4 537	1 473	26 361	26 182	179
1990	20 351	4 537	1 473	26 361	26 182	179
1991	20 324	4 537	1 473	26 334	26 163	171
1992	20 445	4 460	1 540	26 445	26 274	171
1993	20 445	4 460	1 540	26 445	26 274	171
1994	20 477	4 460	1 540	26 477	26 310	167
1995	20 687	4 380	1 545	26 612	26 445	167
1996	20 687	4 380	1 555	26 622	26 455	167
1997	20 687	4 380	1 555	26 622	26 455	167
1998	20 687	4 380	1 555	26 622	26 455	167
1999	20 687	4 380	1 555	26 622	26 455	167

Source: Ferrocarriles Nacionales de México (1988-1996), Ferrocarriles Nacionales de México y Transportación Ferroviaria, S.A. de C.V. (1997) y Concesionarios Ferroviarios y Ferrocarriles Nacionales de México (1998).

Table 14
Passengers Traffic and Passenger Cars
National Railroad System

Year	Passengers (thousands)	Passengers/ Kilometer (millions)	Average Distance (kilometers)	Passenger Cars
1989	15 898	5 383	339	1 444
1990	17 149	5 336	311	1 427
1991	14 901	4 686	314	1 289
1992	14 740	4 794	325	1 167
1993	10 878	3 219	296	1 029
1994	7 189	1 855	258	1 113
1995	6 678	1 899	284	1 242
1996	6 727	1 799	267	513
1997	5 092	1 508	296	509
1998	1 576	460	292	83
1999	801	254	317	295

Source: Ferrocarriles Nacionales de México (1988-1996), Ferrocarriles Nacionales de México y Transportación Ferroviaria, S.A. de C.V. (1997) y Concesionarios Ferroviarios y Ferrocarriles Nacionales de México (1998-1999).

Table 15
Commercial Load Transported and Stock of Freight Cars

Year	Net tons (thousands)	Net tons- kilometer (millions)	Average Distance (kilometers)	Freight Cars
1989	53 890	38 570	715.7	47 186
1990	50 960	36 417	714.6	46 602
1991	46 405	32 698	704.6	44 003
1992	48 705	34 197	702.1	42 198
1993	50 377	35 672	708.1	38 839
1994	52 052	37 315	716.9	36 222
1995	52 480	37 613	716.7	35 042
1996	58 831	41 723	709.2	29 438 ^{1/}
1997	61 666	42 442	688.3	28 314
1998	75 914	46 873	617.5	29 363
1999	77 062	47 273	613.0	35 500

1/ This figure was modified by FNM in that year.

Source: Ferrocarriles Nacionales de México (1988-1996), Ferrocarriles Nacionales de México y Transportación Ferroviaria, S.A. de C.V. (1997) y Concesionarios Ferroviarios y Ferrocarriles Nacionales de México (1999).

E. Lessons Learned

The theoretical literature on state-owned enterprises predicts a tendency to maintain labor redundancy in such companies.¹⁸ The first lesson to be learned from the Mexican privatization of railroads is that such prediction is confirmed in a robust manner. Productivity comparisons show that the company was over-staffed before privatization. Also, the political constraints on labor retrenchment caused a labor-intensive bias in the operation of the railroad, inconsistent with the international trends and the pattern of technological change in the sector.

Perhaps one of the more important lessons from this process is that obstacles to reform that seem disproportionate from the political perspective can be overcome if the proper strategy is followed. The main components of such strategy are:

- i. Inclusion of the labor union in the design of the restructuring process, as well as a close and permanent communication with the workers.
- ii. Political will on the side of the government to provide full support to the people in charge of the privatization program.

¹⁸ See Sheshinski and López-Calva (1999) and Svenjar and Terrel (1991), for example.

- iii. Appointment of few people with all the support to carry out the process, under the guidance of an inter-ministerial committee.
- iv. Willingness and capacity to bear the fiscal cost of the reform.

Finally, it is important to make clear that the government should not try to save money on this process and must be generous towards the workers, giving them at least what they are entitled to obtain by law. The Mexican Government did not establish any rules or clauses that force the concessionaries to hire those who previously worked at the FNM with a minimum wage level and fringe benefits. Basically, the process involved schemes of retirement with benefits above those established in the labor contract, and to force concessionaries to provide technical personnel training. The government is currently in the process of dissolving Ferrocarriles Nacionales de México, considering, as one option, replacing it with a regulatory office that oversees conflict settlement between new operators, in addition to mergers and acquisitions. Labor restructuring is expensive. In the case analyzed above, the lower bound on the financial cost of restructuring amounted about 90% of the total proceeds from the sale of the regional companies.

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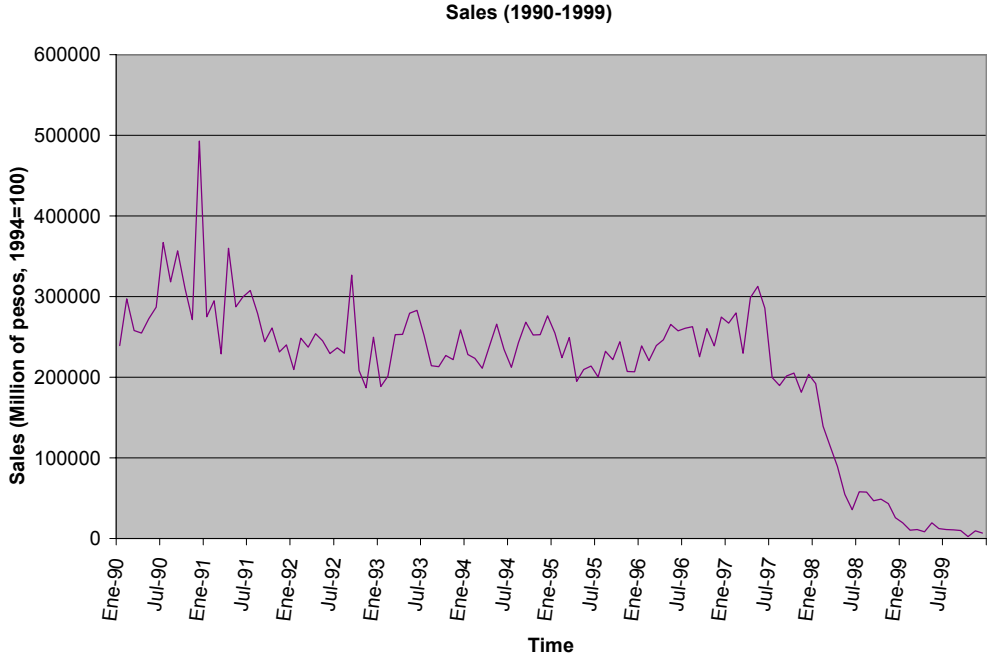
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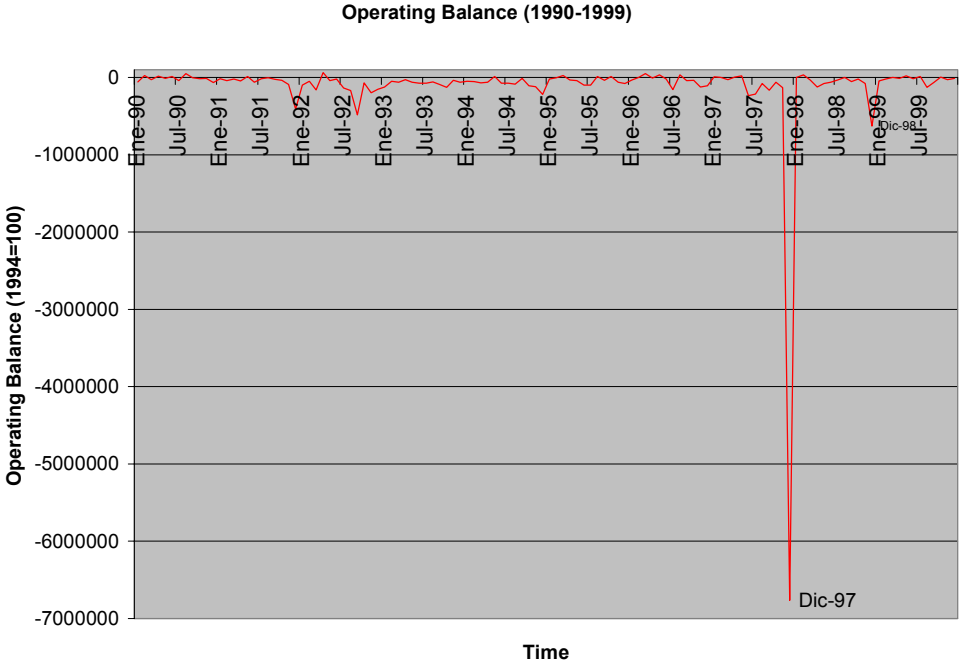
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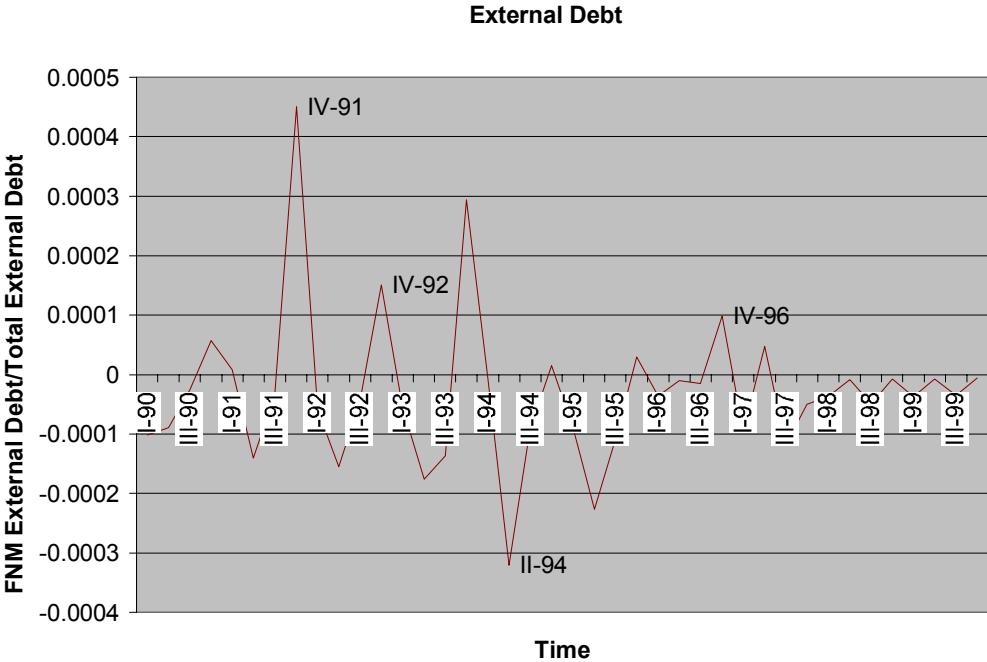
Graph 1



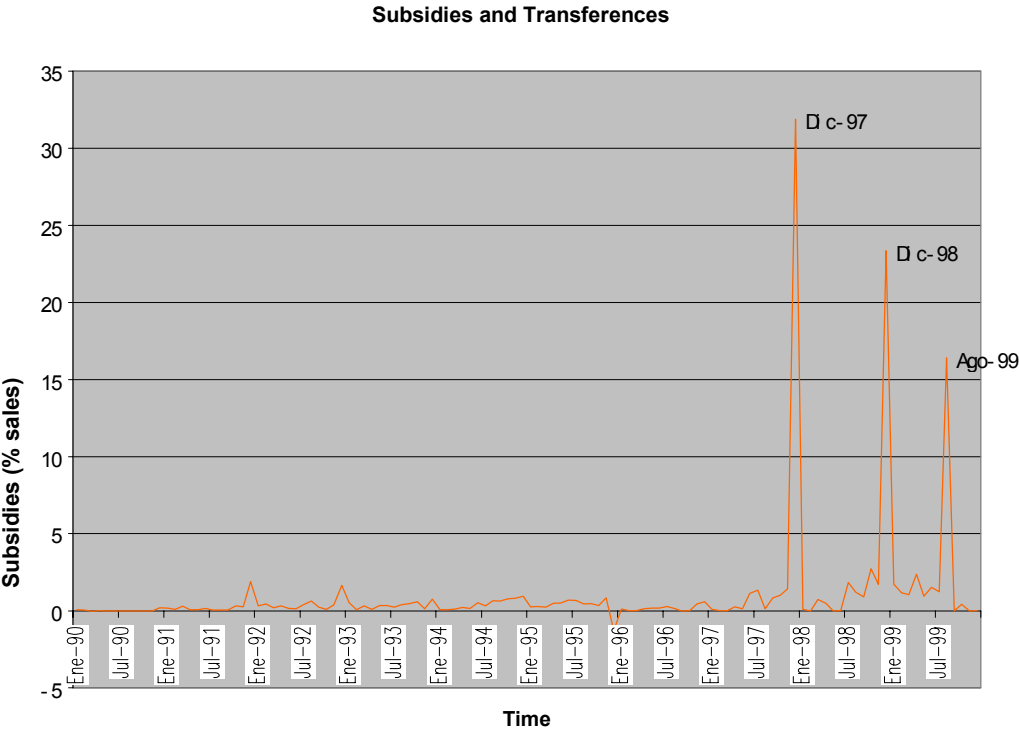
Graph 2



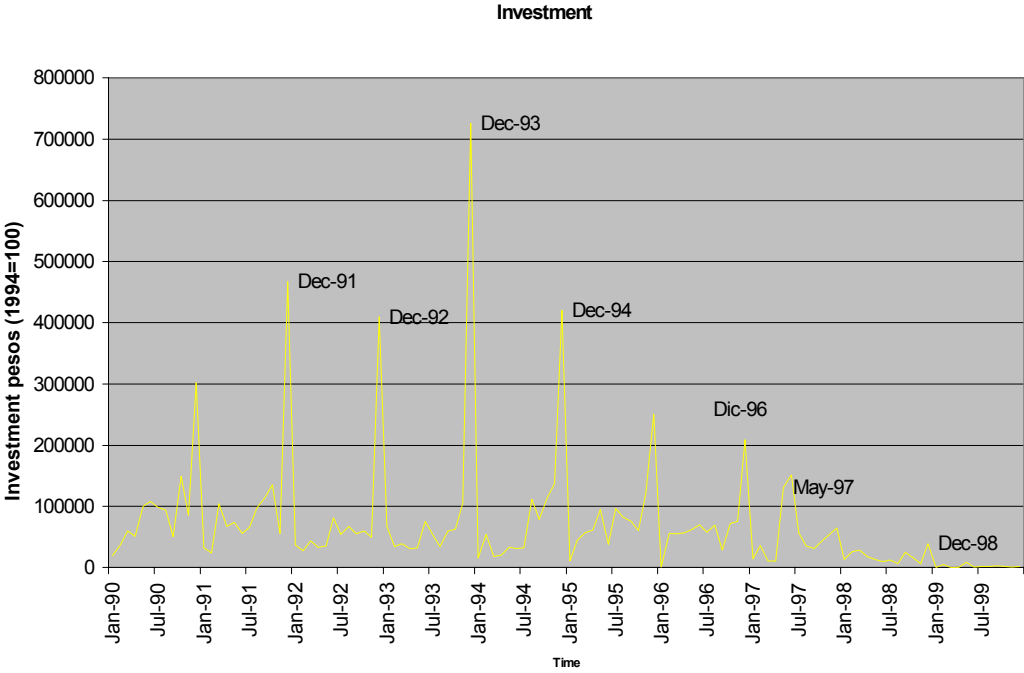
Graph 3



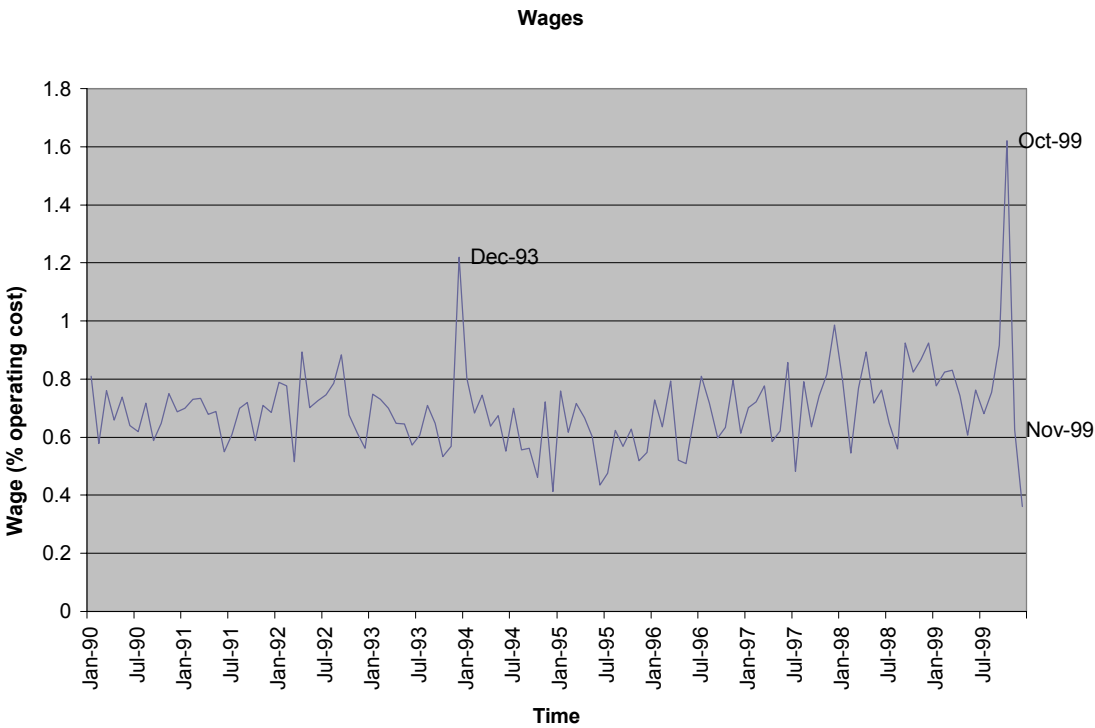
Graph 4



Graph 5



Graph 6



Graph 7
Freight vs. Passengers

