

# Road Transport in France: Its Balance Account for Public Finance

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Road transport is heavily taxed in most European countries. France is no exception. Just as in many other countries a debate is raging there about whether or not road users are paying a "fair share" for the costs they impose on the nation or at least on the Treasury. It is common wisdom in France that road use is subsidized, but this assertion is usually not based on fact, as if no data were available. However, cost allocation studies have been carried out, tax revenues have been reported, and officially published data give almost all the necessary elements to settle the debate. In my opinion, the confusion comes from the way taxes are accounted for. This study discusses the premises under which taxes paid by road users should or should not be considered as specific to the road sector and, thus, put in balance with public expenditure also specific to the road sector. It then proposes an account of this balance and concludes that: (i) as a whole, the road sector is amply a net contributor to the Treasury, (ii) the specific taxes and fees paid by trucks cover the public expenditure on road maintenance and operation and almost all investment expenditure that could be allocated to trucks, and (iii) cars and light commercial vehicles pay a disproportionate share of the total costs that, alone, outweighs all public expenditure on the road sector.

Road transport is heavily taxed in most European countries. France is no exception. Just as in many other countries a debate is raging there about whether or not road users are paying a fair share for the costs they impose on the nation or at least on the Treasury. It is common wisdom in France that road use is subsidized, but this assertion is usually not based on facts, as if no data was available. However, cost allocation studies have been carried out, tax revenues have been reported, and officially published data give almost all the necessary elements to settle the debate. In our opinion, the confusion comes from the way taxes are accounted for.

After a quick presentation of the relative weight of road transport within the transport sector in France, this report discusses the premises under which taxes paid by road users should or should not be considered as specific to the road sector and, thus, put in balance with the public expenditure also specific to the road sector. It then proposes an account of this balance, allocating both costs and revenues among the various road users (i.e., private cars, trucks, light commercial vehicles, and buses).

## ROAD TRANSPORT IN FRANCE

What is the relative weight of road transport as compared to the rest of the transport sector in France? Such a question may have many answers. This weight could be measured in terms of traffic, in terms of value added or in terms of total sales. Comparisons in terms of traffic may make some sense for passenger transport, although one passenger-km in the Lyons subway is not economically equal to one passenger-km by plane between Paris and Montpellier. For freight,

the difference is even wider; 1 ton-km of coal on the Lorraine canal is not at all equal to 1 ton-km of *foie gras* in Paris traffic jams. Similarly, comparing values added (as they are reported in national accounts) would totally ignore the fact that most of the road transport activity takes place outside the contract carrier firms. Neither would it take into account the wide differences in degree of integration between say, road and rail. As opposed to rail, the value added in road transport does not include infrastructure costs nor most of maintenance and repair services that can be subcontracted. For these reasons, together with data of Gérondeau (1), we prefer to make the comparison in terms of total sales. Of course, this will bring about some double counting, that is, the transport of the intermediate goods consumed by the transport sector. This flaw would be an obstacle if we were to measure the weight of the transport sector in the economy. However, for the purpose of comparison between modes, it is not, to the extent that we can assume the degree of double counting does not widely differ from one transport mode to the other.

Table 1 gives a precise enough idea of the relative economic weights of the various transport activities in France. With 91 percent for road transport and 6 percent for rail transport, the relative share of road transport is certainly underestimated, since the only taxes that could be deducted were the taxes paid by road transport and since rail total sales include a significant portion of coach and truck services provided by SNCF, the French National Railroad Undertaking.

To derive comparable figures for the United States from the *Transportation Statistics Annual Report 1994* (2) it was necessary to overcome two minor difficulties. First, for the household expenditure on public transit (only 0.4 percent of the total), the report does not distinguish between road (bus) and rail; we assumed that half of the household expenditure on public transit goes to urban rail systems. Second, to avoid double counting, we assumed that federal, state, and local transportation revenue by mode was already accounted for in the form of taxes in the total sales of each mode, and thus should be subtracted from government total expenditure on infrastructure, to keep only the net expenditure.

The results of these calculations are presented in Table 1. It was no surprise to note the relatively much more important role played by air in the United States where distances are much longer than in France. What was unexpected is that the difference would be totally taken up by road and not rail. As a result, road plays a relatively larger role in France than in the United States.

In France, the relative share of rail transport has been steadily declining over the recent decades, especially for freight transport. For passenger transport, the introduction of the very fast trains (TGV) has somewhat slowed down the decline of rail, but not reversed the trend. Table 2 illustrates this evolution when measured, in terms of passenger-km, over the past decade.

TABLE 1 Transport Expenditure in 1991 (in Billions of Dollars)

|                                       | France bi.\$         | France % | USA % |
|---------------------------------------|----------------------|----------|-------|
| Total road transport (taxes excluded) | 142.5 <sup>(1)</sup> | 91%      | 88%   |
| — Freight road transport              | 45.0 <sup>(2)</sup>  | 29%      |       |
| — Households personal vehicle         | 58.0                 | 37%      |       |
| — Buses and commercial cars           | 19.3                 | 12%      |       |
| — Insurance and social security       | 3.5 <sup>(3)</sup>   | 2%       |       |
| — Roads                               | 16.7 <sup>(4)</sup>  | 11%      |       |
| Rail                                  | 10.1 <sup>(5)</sup>  | 6%       | 6%    |
| Subways                               | 1.7 <sup>(6)</sup>   | 1%       |       |
| Air                                   | 1.8 <sup>(7)</sup>   | 1%       | 5%    |
| Inland waterways                      | 0.4                  | 0%       | 1%    |
| Total                                 | 156.4                | 100%     | 100%  |
| Taxes on road transport               | 39.2                 | 25%      |       |

Sources: France: adapted from (3), pp. 70-71, 116-127. USA: adapted from Bureau of Transportation Statistics (2), pp.105-106, 122-123].

Notes: US\$ 1.00 = FF 6.00

(1) All taxes are excluded. They would increase this total by 27%, i.e., 38.5 bi.\$.

(2) Includes both private (in firm) and public (commercial) freight transport.

(3) Net loss for social security due to road accidents.

(4) Central and local governments expenditure on road operation, maintenance and construction.

Franchised highways are included in freight transport and household expenditure on toll roads.

(5) SNCF total sales include 25% subsidy and a small amount of taxes and significant road transport services (parcel delivery and coach services) operated by SNCF.

(6) RATP total sales include bus transport services. We assume these are equivalent to expenditure by the metro systems in the rest of France. Public transit sales include more than 60% subsidy.

(7) Air Inter total sales include taxes.

The total tax revenues generated by the road sector in France amount to \$38.5 billion. It largely exceeds central and local governments' expenditure on road operation, maintenance and construction: \$16.7 billion. This, however, is true for many sectors of the economy, since public expenditure on education, security, welfare, and so forth, has to be financed out of general tax revenue. A more interesting question is whether or not the public expenditure on roads balances the revenue of the taxes that are specific to the road sector and, within the road sector, what cross-subsidies take place between the various uses of road infrastructure. To answer these questions, we must identify and measure the specific tax contributions of each road user and allocate the road public expenditure among these users.

## ROAD TAXATION IN FRANCE

Driving a car is one of the three most heavily taxed activities in France, together with smoking cigarettes and drinking spirits. Whereas almost all other consumer goods bear only an 18.6 percent value added tax (VAT), these three products bear specific taxes, on top of the VAT. On the other hand, some cultural and agricultural products benefit from reduced VAT rates. The specific taxation borne by road users on top of the VAT is not earmarked for any specific use. Earmarking taxes is not common practice in France. What is meant here by road taxes is thus the specific taxes that are paid only by road users, over and above the common taxation of economic activity. Table 3 ranks road user taxes by magnitude of revenue accruing to all levels of government.

### The Fuel Tax

The major road user tax is the fuel tax (Taxe Intérieure sur les Produits Pétroliers, TIPP). It is also a major source of revenue for the central government, as can be seen in Table 4. It accounts for more

TABLE 2 Modal Shares of Passenger Traffic, 1982-1991

| Year                             | 1982  | 1986  | 1991  |
|----------------------------------|-------|-------|-------|
| Car                              | 80.7% | 81.6% | 82.6% |
| Bus                              | 6.8%  | 6.2%  | 5.9%  |
| Rail                             | 11.3% | 10.9% | 9.9%  |
| Air                              | 1.1%  | 1.3%  | 1.6%  |
| Total (billions of passenger-km) | 574   | 632   | 725   |
| Index                            | 100   | 110   | 126   |

than 10 percent of central government tax revenue, mainly in the form of road fuels taxes. It represents two-thirds of the personal income tax and roughly equals the corporate income tax. One should note that the major single tax in France is the VAT, which accounts for 44 percent of the total central government tax revenue.

The fuel tax, which is collected at the refinery, also applies to home heating oil and to industrial fuel oils, although at much lower rates (see Table 5). There is also a significant difference in tax rates between gasoline and diesel oil. The tax on gasoline is almost twice

TABLE 3 Government Revenues from Road Specific Taxation in 1990

|                                 | millions US\$ | %      |
|---------------------------------|---------------|--------|
| Total                           | 22 281        | 100.0% |
| Road fuels taxes                | 16 263        | 73.0%  |
| Tax on vehicle insurance        | 2 793         | 12.5%  |
| Annual vehicle tax              | 1 693         | 7.6%   |
| Vehicle registration fee        | 772           | 3.5%   |
| Tax on corporate cars           | 378           | 1.7%   |
| Drivers licenses                | 144           | 0.6%   |
| Tax on transportation contracts | 85            | 0.4%   |
| Axle load tax                   | 82            | 0.4%   |
| Traffic citations               | 71            | 0.3%   |
| Tolls                           | 2 723         |        |

Source: (3), pp. 128, 146, 156.

Note: US\$ 1.00 = FF 6.00

TABLE 4 Central and Local Governments' Tax Revenue in 1989

|                                      | Dollar/capita | %    |
|--------------------------------------|---------------|------|
| Central government total tax revenue | 3 824         | 100% |
| Value Added Tax (1)                  | 1 686         | 44%  |
| Personal Income Tax                  | 729           | 19%  |
| Fuel Tax (2)                         | 404           | 11%  |
| Corporate Income Tax                 | 404           | 11%  |
| Other Taxes                          | 601           | 16%  |
| Local governments total tax revenue  | 674           | 100% |
| Annual Vehicle Tax                   | 35            | 5%   |
| License Plate & Driver's License     | 4             | 1%   |
| Other Taxes                          | 635           | 94%  |

Source:

Notes: US\$ 1.00 = FF 6.00

(1) Part of this revenue comes from the VAT on the fuel tax itself.

(2) More than 3/4 of the revenue from the fuel tax is generated on the road

as much as the tax on diesel oil, and the gap is widening. This difference, which was intended not to overpenalize truck operators and freight transportation, explains the relatively high percentage of diesel-powered private automobiles in France (38 percent of new car acquisitions in 1991, 49 percent in 1994).

The relatively heavy weight of road fuels taxes is further increased by the incidence of the VAT.

#### The Specific Effects of the VAT on Road Fuel Taxes

The VAT is a tax on final consumption levied at each step of the production and distribution process. Producers pay the full 18.6 percent VAT on the intermediate goods they purchase. In turn, they collect an 18.6 percent VAT on the goods they sell and return this sum to the Treasury *after deducting* the amount of VAT they have already paid on their own inputs. As a result only the value added is taxed at each step, whereas excise taxation, imposed upon the total price of the intermediate good, accumulates along the production chain. The difference comes from the fact that the VAT is "deductible" by businesses and professionals. As it is smoothly passed on to the final consumer, the VAT introduces very little distortion in the production process. For this reason, it has gradually replaced almost all the excise taxes in France and in Europe.

The effect of the VAT on the price of road fuel consumed by private car owners is straightforward: it increases by 18.6 percent the final price of the fuel, production costs, distribution costs, margins *and fuel tax* included. As a result, the tax content (measured in percent) of gasoline prices in France is generally the highest in Europe (see Table 6). Gasoline is more expensive in Italy and Denmark, only because refinery and distribution costs are higher.

The effect of the VAT on the price of road fuels consumed by carriers as intermediate goods should, at the end, be the same as the one

on the fuels consumed by private car owners. Carriers would pay the VAT on both the fuel and the fuel tax, and pass it on to the final consumer of the transport service. Things are not that simple however. For some reason, the VAT paid by carriers on transport fuels is not fully deductible. Until recently it was not at all. As a result, a portion of the VAT on transport fuels is no longer a tax on the value added but rather an excise tax that accumulates along the chain. We will come back to the implications of this peculiar VAT treatment.

#### Tax on Vehicle Insurance and Other Central Government Road Taxes

In order to compensate for the loss incurred by the national social security system because of road accidents, a special earmarked tax was imposed on vehicle insurance fees and its revenue transferred to the social security. Over time, this tax was increased much beyond the costs it was supposed to cover. The other central government road taxes only bring minor contributions to the Treasury. Among them, the axle load tax is an example of an internalizing tax that misses its target because of much too low rates.

#### Local Government Road Taxes

There are three local and subnational government road taxes: (i) the annual vehicle tax (*vignette*), (ii) the vehicle registration fee, and (iii) the fee for the issuance of new driver's licenses. Together, these taxes represent above 6 percent of the local governments' tax revenues (Table 4). The annual vehicle tax rates are decided locally. They depend on horsepower, age, and use of the vehicle. Vehicles more than 25 years old are exempt. The vehicle registration fee is paid when a new license plate is issued, that is, when a vehicle is put on

TABLE 5 Fuel Tax Rates in France as of January 1994

|   | US¢/liter | US\$/gallon |
|---|-----------|-------------|
| Premium gasoline                        | 60.99     | 2.31        |
| Diesel oil                              | 35.37     | 1.34        |
| Industrial high sulfur content fuel oil | 2.03      | 0.08        |
| Industrial low sulfur content fuel oil  | 1.51      | 0.06        |
| Domestic fuel                           | 8.12      | 0.31        |

Source: Institut Français du Pétrole

**TABLE 6 Retail Price of Premium Gasoline (in Dollars/1000 L), May 15, 1990**

|             | Before tax | Taxes | Total | % Taxes |
|-------------|------------|-------|-------|---------|
| France      | 211        | 710   | 921   | 77%     |
| Italy       | 271        | 908   | 1 179 | 77%     |
| Denmark     | 274        | 720   | 994   | 72%     |
| Portugal    | 270        | 623   | 893   | 70%     |
| Ireland     | 306        | 680   | 986   | 69%     |
| Netherlands | 290        | 620   | 910   | 68%     |
| Belgium     | 272        | 577   | 849   | 68%     |
| Greece      | 220        | 457   | 678   | 67%     |
| Spain       | 261        | 505   | 766   | 66%     |
| FRG         | 259        | 487   | 746   | 65%     |
| UK          | 264        | 473   | 738   | 64%     |
| Luxembourg  | 285        | 362   | 647   | 56%     |

Source: *Bulletin pétrolier de la CEE* quoted by *Le Monde*, Paris, Aug. 11, 1990  
Note: in dollars, exchange rates May 15, 1990

the road for the first time, when it changes owner, or when the owner changes residence from one county to another. The driver's license tax is paid when a new license is issued. If they do not lose this document, automobile drivers pay this tax only once in their lifetime.

### THE ALLOCATION OF ROAD PUBLIC EXPENDITURE

Every year in France, the Institut National de la Statistique et des Études Économiques (INSEE) and the Observatoire Économique et Statistique des Transports (OEST) jointly publish the *Comptes des Transports*, which is the report of the National Transport Accounts Committee. This report (3) addresses important economic issues on all the transport modes, and among them, gives special attention to the allocation of road costs and revenues. The section devoted to this issue distinguishes between four categories of road users: (i) the private and commercial cars, (ii) the light freight vehicles, (iii) the trucks, and (iv) the buses and coaches.

The private and commercial cars category (voitures particulières et commerciales) is mostly made up of households' private cars and motorcycles. It also includes taxis and company cars. The light freight vehicles (véhicules utilitaires légers) are the pickups and vans used either by households or for commercial purposes. The trucks (transport routiers de marchandises) are the heavy freight vehicles of the company fleets and the carriers. The buses and coaches (bus et cars) are the large passenger vehicles used for urban public transport, for intercity traffic coach services, tourism, and employees transportation.

The total expenditure to be allocated includes investment, maintenance, administrative expenditure, and police for all levels of government. It also includes the expenditure by the franchised highways companies that are responsible for more than 20 percent of road investment in France (see Table 7).

The allocation of public road expenditure among road users results from a thorough cost allocation study carried out in the early 1980s published in 1986 (4) and updated since then to take into account the evolution of the respective traffics. This method allocates separately the responsibilities for expenditure on investment on maintenance and on operation and administration. It does so by taking into account the number of kilometers run by the various types of vehicles and variables such as axle load, overall size, speed, and so forth specific to each type of vehicle. The social security expenditure considered is the share of accident costs not compensated by the vehicle insurance companies. It is allocated among the vehicle classes according to available statistics on accident responsibility (Table 8).

The method used by OEST for allocating road costs between road users has been criticized in recent years. It certainly needs to be updated at least to ensure some coherence between the various methods presently in use in Europe. Such a task is much beyond the scope of our study. Our main focus was on the identification of road public revenues.

### THE IDENTIFICATION OF ROAD PUBLIC REVENUES

There are two options to calculate the balance between what road users contribute to the government's budget and what they cost. In the first option, one could put on the government's revenue side all the taxes paid by road users, including the common taxes such as the normal VAT and the corporate income tax paid by road construction firms. In this case, one has to put on the government's expenditure side all the costs such as the cost of the courts dealing with road related litigation, or the cost of the primary education that benefited the road workers and so forth. This would be both a cum-

**TABLE 7 Distribution of Road Expenditure by Type and by Entity**

|                     | Operation | Investment | Total |
|---------------------|-----------|------------|-------|
| Central Government  | 14%       | 4%         | 18%   |
| Local Government    | 35%       | 32%        | 67%   |
| Franchised Highways | 5%        | 10%        | 15%   |
| Total               | 54%       | 46%        | 100%  |

Source: adapted from (3), p.71

Note: Operation include maintenance, administrative expenditure and police

**TABLE 8 Allocation of Road Public Expenditure for 1990 (in Millions of Dollars)**

| Vehicle Class                   | Car          | Pickup-Van   | Truck        | Bus-Coach  | Total         |
|---------------------------------|--------------|--------------|--------------|------------|---------------|
| Road Expenditure by Governments | 7 699        | 1 793        | 5 457        | 510        | 15 460        |
| — (Allocation Key)              | 49.8%        | 11.6%        | 35.3%        | 3.3%       | 100%          |
| Social Security                 | 829          | 56           | 123          | 14         | 1 022         |
| VAT on Road Exp.                | 1 153        | 269          | 818          | 76         | 2 316         |
| <b>Total Public Expenditure</b> | <b>9 682</b> | <b>2 118</b> | <b>6 398</b> | <b>600</b> | <b>18 798</b> |

Source: (3) pp.73, 156  
Note: US\$ 1.00 = FF 6.00

bersome and precarious task. In the second option, one would put on the government's revenue side only the taxes paid only by road users. And vice versa, on the government's expenditure side are only the direct costs of providing roads. In this case, the common taxes paid by road users, just like those paid by any other citizen, are not considered as government's revenue from roads but as constituent of the costs of using roads.

In order to implement the second option, it is necessary to clearly distinguish between common and specific taxation.

### Common Versus Specific Taxation

The public administration performs various functions: some for the common interest of the nation or the community, others in the interest of a specific portion of it, for example, a given socioeconomic group, or a limited geographic area. Performing these functions entails expenditure: the wages of the civil servants, the purchase of goods and services. With the exception of some public services which beneficiaries can be directly charged for (e.g., public transport, water supply), to finance its expenditure, the public administration can only resort to taxes, or to inflation that is a disguised tax or to borrowing that is a postponed tax.

Taxation can take various forms. Depending on whether it bears in an undifferentiated manner upon all economic activities or upon a few limited ones, one can distinguish, at least theoretically, between common and specific taxation. On equity grounds, one may prefer that those functions the public administration performs for the common benefit be financed out of common taxation, and that those functions that are performed for only the benefit of a well defined social group or of a specific economic activity be financed by taxes borne specifically by these groups or activities. Unfortunately, efficiency dictates that functions for the common benefit be financed out of taxes on goods for which demand is the least elastic.

From an equity perspective, the incidence of common taxation upon a given good or service could represent the collective cost of the administrative actions (justice, police, education) that make possible the production of this good or service. To take an example, when I pay my barber \$20 for a haircut, the \$6 to \$8 of taxes (income tax, property tax, sales tax, etc.) incorporated in this price represent my contribution to the costs incurred by the government to ensure that the barber will accept my \$20 bill and not demand a payment in kind, or to make it possible to bring him to court in case he has cut my ear. These are the common functions of the public administration that are paid for through common taxation. These taxes are not a mere transfer; they represent a real cost. If there were no barbers, we would need less bank notes and less judges.

Conversely, when I pay \$20 for a bottle of whiskey, on top of the \$3 to \$4 of common taxes that help guarantee that the product really

corresponds to the label on the bottle and that the merchant will accept my \$20, bill another \$8 of specific "spirit tax" is collected for other purposes, maybe to discourage consumption or to compensate for the social costs of alcoholism.

Unfortunately, reality does not fit well into this simple dichotomy. It is often impossible to identify the direct and indirect beneficiaries of public action, practically or even conceptually. Moreover, public interest very often coincides with the interests of the individuals directly concerned. This is the case of the subsidized vaccine that protects the person who got the shot, at the same time preventing the disease from spreading. By the same token, the incidence of common taxation is never perfectly evenly spread. Taxes bear necessarily more on some activities than on others, or on some groups of the population than on other groups.

In France it is, however, reasonable to put in the "common taxes" category taxes such as the corporate income tax that is imposed upon all firms making profit, or such as the VAT that is indifferently paid by all final consumers of almost any good or service. For this reason, in the section above, we kept the VAT on road construction as a part of the total cost of providing the road. For the same reason, in the rest of the calculation, we will not consider the VAT at normal rates as a transfer that should be accounted for on the side of the government's road revenue.

As mentioned above, in France there are no taxes earmarked for road expenditure. Nevertheless, road transportation as an activity is subject to a very specific treatment on behalf of the Internal Revenue Services. Specific taxes apply that are not minor sequels of the pre-revolution tax system, and even the common tax, the VAT, does not operate in an ordinary way when it applies to the road transport sector.

### Road Users' Contributions

The special insurance tax mentioned above is definitely a contribution specific to the road sector. It is imposed only on road vehicle insurance and can be put in balance with the public expenditure on road accidents. The VAT paid by road users on their insurance bill is calculated on the total cost of the insurance, including the special tax. For this reason we consider the part of the VAT bearing upon the special tax as a contribution specific to the road users. The special insurance tax and its VAT account for \$2793 million + \$520 million.

The investment and operation expenditures of the franchised highway companies (most of which are semipublic) were accounted for in the public expenditure on roads. We thus take toll revenues into account on the contribution side. Together with minor specific taxes, these account for \$6349 million.

The fuel tax together with the VAT bearing on the fuel tax part of the fuel price are both specific contributions of the road sector.

At the end, they are paid by the final consumer of road services. They account for \$16,263 million + \$3,025 million.

The peculiar thing with the VAT on fuels paid by the carriers is that it is only partially deductible. Until 1982, the VAT on fuels was not deductible by carriers. Since then, the carriers have been progressively allowed to deduct a larger share of the VAT they pay on fuels, and it was planned that, by 1994, the VAT on fuels would be completely deductible. In 1990 it was not, and carriers paid it. Since they did not get it totally refunded, they added it to their costs where it was again taxed by the VAT as if it was a value added. This is why the nondeductible VAT should be accounted for as a specific road tax when it is paid by carriers together with the VAT that bears upon this fake VAT. According to available statistics this nondeductible VAT summed up to: \$586 million + \$1950 million for the pickups, vans, trucks, and buses and coaches. However, these statistics do not distinguish between what is paid by households and what is paid by carriers. What is paid by household should not be deducted since it is a common tax paid on final consumption, whereas what is paid on inputs by the carriers should be deducted to avoid double taxation. Based on household expenditure data we estimated the VAT paid by pickup and van owner households to be 120 + 332 millions of dollars to be subtracted from the nondeductible VAT estimate for pickups and vans. We also assumed that all trucks belonged to carriers and all cars to households.

This false VAT, that is in fact an excise tax specific to the transportation industry, when it is passed on to the consumer, is in its turn increased by the normal VAT that bears upon it. This adds another \$386 million to the specific contributions of the road sector.

Another specific road tax was the differential of VAT tax rate discriminating against household cars. The rate on private cars used to be 25 percent. For harmonization reasons within the European community, this special rate has now been abandoned, but in the reference year of our study it still was 22.5 percent. The differential of VAT rate, which we consider as a specific road tax, provided the government an additional \$568 million in revenue.

Table 9 sums up all the revenue as specific contributions from the road sector. It adds up to \$31,978 million.

Finally, because it was not possible to get separately the total sales of the urban public transport services by bus, we could not estimate the subsidy embodied by the VAT at reduced rates (generally 5 percent) that benefit the bus riders. This subsidy could amount to \$500 million. However, urban transit is a very special sector, with massive transfers and cross-subsidies. It would require specific research, beyond the scope of our study.

### BALANCE ACCOUNT OF ROAD PUBLIC EXPENDITURE AND REVENUE

It is now possible to compare public expenditure and revenues. This is done in Table 10 where the balance is calculated together with the revenue/expenditure ratio. This table suggests three conclusions: (i) as a whole, the road sector is amply a net contributor to the Treasury; (ii) the specific taxes and fees paid by trucks cover the public expenditure on road maintenance and operation that could be allocated to trucks and almost all investment expenditure; and (iii) cars

TABLE 9 Road Public Revenue by Source for 1990 (in Millions of Dollars)

| Vehicle Class                | Car    | Pickup-Van | Truck | Bus-Coach | Total  |
|------------------------------|--------|------------|-------|-----------|--------|
| Special Insurance Tax        | 2 244  | 277        | 246   | 26        | 2 793  |
| VAT on Insurance Tax         | 417    | 52         | 46    | 5         | 520    |
| Tolls & Other specific taxes | 3 830  | 385        | 1 844 | 290       | 6 349  |
| Fuel Tax                     | 11 526 | 2 153      | 2 343 | 242       | 16 263 |
| VAT on Fuel Tax              | 2 144  | 400        | 436   | 45        | 3 025  |
| Non Deductible VAT on Fuels* |        | 411        | 156   | 19        | 586    |
| — Of which households        |        | -129       |       |           | -129   |
| Other Non Deductible VAT*    |        | 517        | 1 039 | 395       | 1 950  |
| — Of which households        |        | -332       |       |           | -332   |
| VAT on Non Deductible VAT    |        | 87         | 222   | 77        | 386    |
| Additional VAT on cars**     | 568    |            |       |           | 568    |
| Total                        | 20 729 | 3 819      | 6 331 | 1 098     | 31 978 |

Source: Adapted from (3) pp.156.

Note: US\$ 1.00 = FF 6.00

\*Note: this figure includes VAT paid by households owning pickups and vans that should not be considered as a road specific tax. It is estimated in the line below.

\*\*Note: Cars are subject to a higher rate of VAT (22.5%). The difference is considered as a specific road tax and reported in this line.

TABLE 10 A Balance Account of Road Public Expenditure and Revenue for 1990 (in Millions of Dollars)

| Vehicle Class                | Car    | Pickup-Van | Truck  | Bus-Coach | Total   |
|------------------------------|--------|------------|--------|-----------|---------|
| Public Expenditure on Roads  | -9 682 | -2 118     | -6 398 | -600      | -18 798 |
| Road Specific Public Revenue | 20 729 | 3 819      | 6 331  | 1 098     | 31 978  |
| Net Balance for the Treasury | 11 047 | 1 701      | -67    | 498       | 13 179  |
| Revenue/Expenditure ratio    | 2.1    | 1.8        | 1.0    | 1.8       | 1.7     |

Note: US\$ 1.00 = FF 6.00

**TABLE 11 A Balance Account of Road Accidents for the Public Sector in 1990**  
(in Millions of Dollars)

| Vehicle Class                            | Car   | Pickup-Van | Truck | Bus-Coach | Total  |
|--|-------|------------|-------|-----------|--------|
| Special Insurance Tax                    | 2 244 | 277        | 246   | 26        | 2 793  |
| VAT on Insurance Tax                     | 417   | 52         | 46    | 5         | 520    |
| Social Security Expenditure on accidents | -829  | -56        | -123  | -14       | -1 022 |
| Net Balance for the Treasury             | 1 832 | 273        | 168   | 18        | 2 291  |
| Revenue/Expenditure ratio                | 3.2   | 5.9        | 2.4   | 2.3       | 3.2    |

Note: US\$ 1.00 = FF 6.00

and light commercial vehicles pay a disproportionate share of the total costs that outweighs all public expenditure on the road sector and leaves the Treasury with a substantial benefit.

We have mentioned above that the special insurance tax was first introduced as a compensation for the accident costs borne by the general Social Security system. If this justification was to hold by itself, the tax rates should be much lower in general, and greatly reduced for light commercial vehicles, as can be seen in Table 11.

## CONCLUSION

Despite its internationally praised railway network, France's transportation sector is even more dependent on roads than its American counterpart. Road transportation in France represents 91 percent of the total expenditure in the transport sector, whereas its share is only 88 percent in the United States.

Although, in France, no taxes are earmarked for road construction or maintenance, road transportation is heavily taxed over and above the common VAT borne by all goods and services sold in France. In addition to the taxes that are specific to the road sector, a special treatment is applied to its VAT that increases even further the transportation sector-specific contribution to the Treasury. As a

result this contribution largely exceeds the total public expenditure on roads by a 1.7 ratio.

Another finding is that the various road users are treated very differently. Whereas, on the one hand, private cars and light commercial vehicles pay a disproportionate share, trucks, on the other hand, break almost even.

Some believe this excess fiscal contribution of automobile owners is small compared with the external costs they impose on society through pollution, noise, and accidents. This may be true, but it is another story.

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