The Structure of Financial Leasing Rates in Belgium: Some Empirical Evidence

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On the basis of the leasing rates of some twenty Belgian companies over the period 1985-1990 we investigate how rates for the financial leasing of movable property are established in practice. In addition, we look at the evolution of these rates over those six years. We found that some important changes have occurred in the rating methods. Whereas in 1985 the residual value was still frequently regarded as a supplementary return which was not taken into account for calculating the required return, during the last few years the residual value has been generally taken into account as a component of the required return. The more thoroughly founded view of the residual value as a part of the return (resulting in rate decreases), confirm what is claimed by the companies, i.e. that over the last few years competition on the leasing market is strong.

Introduction

In this paper we examine how rates are established for the financial leasing of movable property and to what extent factors such as required return, residual value, term of contract, nature of the investment good, amount of the investment and cost increases play a part herein. This study is based on an analysis of standard leasing rates for the years 1985 through 1990 relating to some twenty Belgian leasing companies. In a first part we consider possible rate setting methods with an emphasis on the difference between rate setting including and excluding residual value. In a second part the sample leasing rates are examined and discussed in

1 We would like to thank J. Cornette (Euroléase), F. De Cort (President of the Belgian Association of Leasing Companies), E. Loetens (Lease Plan Finance), W. Panneel (Leasing J. van Breda) and A. Vervaet (Locabel) for their valuable comments.
detail. Special attention is paid to the recent evolution in the treatment of residual value.

I. Setting of Leasing Rates

In this first part we discuss how leasing companies determine their rate structure on the basis of two basic methods of rate setting, i.e. including or excluding residual value, and how leasing returns are related to leasing coefficients.

1. Leasing Coefficient and Percentage of Charges

In standard leasing contracts rentals are payable in advance and they remain constant throughout the contract. In general a leasing debt is not represented by a percentage of interest but by a leasing coefficient which represents the rate to be paid per 100 BEF (or a multiple thereof) of the amount invested. From this the periodical rental can be deduced in a simple way. In principle this rental includes all additional charges such as administrative costs, invoicing costs and commissions. It is, however, to be increased by V.A.T. An equivalent (however uncommon) way to determine the periodical rental is the monthly percentage of charges. The leasing coefficient is arrived at from the percentage of charges on the basis of the following equation:

\[ l_c = 100/(n \times p) + c \times 12/p \]

where:

- \( l_c \) = leasing coefficient (per 100 BEF of investment),
- \( c \) = monthly percentage of charges,
- \( n \) = term of contract in years,
- \( p \) = periodicity of payments (\( p = 4 \) for quarterly payments and \( p = 12 \) for monthly payments).
The first term refers to the fraction of the capital which is paid back at each payment and the second one represents the periodical interest charge.\(^2\)

On the basis of a certain required return the lessor in fact has two ways to achieve a rental level which produces this return: he may or may not consider the return which he receives upon the exercise of the purchase option by the lessee (or upon the sale of the investment good should the purchase option not be exercised) as a part of the required return. We now turn to a discussion of these two methods of rate setting.

2. Rate Setting on the Basis of Rental Return

From the point of view of the lessor, the link between the leasing coefficient and the real or effective periodical rental return of a leasing operation (return exclusive of residual value and before tax) is given by the following equation \(^3\):

\[
100 = \sum_{t=0}^{N-1} \frac{l_c}{(1+i_p)^t} = l_c \left( \frac{(1+i_p)^{N-1}}{i_p(1+i_p)^N-1} \right)
\]

where

\[l_c = \text{leasing coefficient (per 100 BEF)},\]
\[i_p = \text{periodical rental return},\]
\[N = \text{number of payments (} N = n \times p \text{ n = term in years and} p = \text{periodicity of the payments}).\]

The effective annual rental return (before tax is then equal to)

\[
(2b) \quad \text{Effective annual rental return } = (1+i_p)^p - 1 .
\]

\(^2\) This split into an interest and a capital part is, however, not the split applied for accounting and tax purposes. See below.

\(^3\) An evaluation of leasing from the point of view of the lessee implies a comparison with cash flows from alternative forms of equipment acquisition (see e.g. QUINTART and ZISSWILLER (1982)).
A lessor who wishes to realize a certain effective rental return, has to calculate his rate, i.e. the leasing coefficient $l_c$, pursuant to formula (2a) where $i_p$ is replaced by the required periodical rental return. When this method is used, the value of the purchase option price is not included in the required return. Any return which the lessor still manages to realize upon the exercise of the option or, if the option is not exercised, upon the sale of the property, will produce an additional return.

This method follows the view on (financial) leasing of the Belgian legislator. In order to comply with Royal Decree (RD) no. 55 ⁴ movable leasing needs to be full pay out, i.e. the entire capital needs to be repaid by the leasing payments. This means that the purchase option value is regarded as an extra payment of capital which is not a part of the initial investment. ⁵ From an accounting and tax point of view the purchase option price in such contracts is regarded as an additional return for the lessor at the term of the contract. Since the exercise of the option is a right and not an obligation for the lessee, and the realisation of the residual value by the lessor therefore is not certain, the purchase option price cannot, from an accounting point of view, be regarded as an interest payment on the outstanding capital. The redemption table used for tax and accounting purposes has to use the rental return from equation (2) for splitting the lease rentals into an interest part and a capital part. The return from exercising the option is, in principle, not taken into account before the end of the contract. For the principle of caution in accounting does not allow this on account of the uncertainty of the residual value and the exercise of the purchase option.

This method is also in accordance with the view of the Commission for Banking and Finance who supervises the bank-leasing companies. In principle the latter are not allowed to take any "non financial" risks such as residual-value risks. Especially for quickly aging products such as data

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⁵ For a discussion see e.g. VERVAET and INGELBRECHT (1990), DE BROE (1988), DURINCK et al. (February 1991).
processing equipment, incorporating the residual value in the anticipated return implies a considerable economic risk, at least in accounting terms. By setting rates on the basis of the rental return, accounting wise, the economic risk linked with the uncertain residual value is completely avoided.

The question is whether companies can continue to disregard this residual value in their rate setting under strong competitive pressure. We will see below that over time many leasing companies have changed their policy to a rate setting method including the residual value.

3. Rate Setting on the Basis of Full Return

From the point of view of the lessor, the relation between the leasing coefficient, the residual value and the effective periodical full return of a leasing operation (return including residual value and before tax) is given by the following equation:

\[
(3a) \quad 100 = \sum_{t=0}^{N-1} \frac{l_c}{(1+r_p)^t} + \frac{R}{(1+r_p)^N} = l_c \left( \frac{(1+r_p)^{N-1}}{r_p(1+r_p)^N} \right) + \frac{R}{(1+r_p)^N}
\]

where

\[
l_c = \text{leasing coefficient (per 100 BEF),} \\
r_p = \text{periodical full return (including residual value),} \\
N = \text{number of payments (} N = n \cdot p \text{ with } n = \text{term in years and} \\
\quad p = \text{periodicity of the payments),} \\
R = \text{residual value (purchase option price) per 100 BEF of capital.}
\]

The effective annual full return including residual value but before tax satisfies:

\[
(3b) \quad \text{Effective annual full return including residual value} \quad = (1+r_p)^p - 1.
\]

A lessor who wishes to realize a certain or effective full return, has to
calculate his rate, i.e. the leasing coefficient $l_C$, from formula (3a) where $r_p$ is replaced by the desired periodical full return \(^6\). When this method is used, the value of the purchase option price is included in the desired return. The lessor is counting on being able to realize the value contained in the purchase option price. This is in many instances the case since the agreed residual value or purchase option price generally does not exceed 5 per cent of the invested capital (as appears from the rates studied) while timewise contract length usually is 5 years at the most. For products which are subject to rapid technological aging, such as data processing equipment, it is possible that even a small contractual residual value still exceeds the real residual value of the product at the term of the contract. In this case taking into account the residual value in the desired return is a real economic risk. But for many products this risk is so small that rate setting on the basis of full return (i.e. taking into account the return included in the option value) appears fully justified.

As mentioned before, from an accounting and tax point of view the residual value is only recorded as an extraordinary result at the conclusion of the contract. This may lead to negative accounting profits during the term of the contract. For example, if a leasing company sets its rates on the basis of the full return, and if it has a financing cost of 10% and takes a profit of 1% so that its required full return (including residual value) is 11%, the accounting profits for a three-year contract are already negative for a residual value of 2%. Profits are only realised at the end of the contract, i.e. at the moment of exercise of the option. The resulting tax incentive could at least in theory lead to the use of higher residual values when rates are set on the basis of full return. This, however, is limited by the economic risk involved in the use of larger residual values. In addition, the use of larger residual values in the presence of an unchanged required return not only leads to a postponement of the accounting and tax profit, but also the income flow from the contracts is postponed.

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\(^6\) Although our analysis is based on internal rates of return, we are aware of the fact that the net present value method is superior. However, in this case the use of the latter method presumes the possibility to measure the cost of capital accurately. Also, for the cash flows from equation (3a), the internal rate of return method and the net present value criterion likely result in the same accept or reject decision.
II. Leasing Rates in Belgium: an Empirical Study

In this section we analyse the standard leasing rates applied in the years 1985 through 1990 by some twenty Belgian leasing companies. On the basis of these rates we investigate which factors are important in setting these rates and which evolution has taken place during the period under consideration. We show that over time, rate setting has changed to include the residual value.

1. Description of the Sample

For marketing of financial leasing of movable property an authorisation is required, and some 200 to 300 companies have been officially accredited by the Ministry of Economic Affairs as leasing companies. The most active leasing companies are affiliated with the Belgian Association of Leasing Companies (BALC). Statistics show that the members of the BALC represent 90 to 95% of the total financial leasing market. Early 1991 65 companies were affiliated with the BALC, of which 23 provided information on leasing rates. These 23 companies, including the three largest companies, can be classified as follows:
- the NSCI
- 4 so-called captive companies of which 2 are in the data processing and 2 in the automotive sector
- 5 banks or savings banks

7 Royal Decree no. 55 of 10 November 1967 regulates the legal status of leasing company (financieringshuur - location-financement) (O.J., 14 November 1967) and the Ministerial Decree lays down the conditions for entry of new leasing companies (financieringshuur - location-financement).
8 Including the NSCI, which acts as observer and whose rates are indicative for contracts which qualify for subsidies.
9 In this context different companies which belong to one and the same financial group were counted as one company. Several of these companies do have separate companies (spin-offs), centralising a financial groups leasing activities in a specific type of contract.
10 The so-called captive offerors of leasing are companies or departments created by manufacturers, importers or distributors of investment goods; they generally limit their leasing activities to the goods produced or distributed by their parent company.
- 13 subsidiaries of banks or financial institutions.

The sample does not include independent leasing companies. Such companies are but a small section of the market.\footnote{According to some of the contacted companies such independent enterprises have a hard time competing with bank-dependent enterprises which are said to have funding advantages.} In the sample the major, well-established companies as well as smaller ones (recently active on the leasing market) are represented. 7 of the companies in the sample started their leasing operation only after 1988, and 3 in 1987 or 1988. Most of the companies which were already active before 1987 are large companies. The four captive companies studied are however, also very active in operational leasing and other forms of financing. The balance sheet total therefore gives a somewhat distorted picture of their financial leasing activity. The same remark holds true for banks and certain financial institutions for whom financial leasing is only a limited part of their activities. However, the major companies, who - according to market participants - control a large section of the market over the sample period, are represented in the sample.

2. Processing and Interpretation of the Data

As was already mentioned in the first part of this paper leasing rates are generally expressed by leasing coefficients. However the annual full return as calculated in formula 3b is the simplest measure which permits comparison and interpretation of the data. It represents a gross return that contains the return in the purchase option price as well as mark ups for commissions and other costs. In table 1 we mention the minimum, maximum and mean full sample returns as of year end for 1985 through 1990 for quarterly payable contracts with a five-year term for industrial equipment (table 1.a) and passenger cars (table 1.b) for goods of about 1 million BEF. The NSCI interest rates are also mentioned, as well as the margins of the returns for two-year contracts over and above the five-year returns (table 1.c).
### TABLE 1.a (*) : Returns of Five-Year Leasing Contracts for Industrial Equipment With a Value of About 1 Million BEF

<table>
<thead>
<tr>
<th>Year</th>
<th>Number</th>
<th>Min</th>
<th>Max</th>
<th>Mean</th>
<th>NSCI</th>
<th>NSCIic</th>
<th>Margin</th>
</tr>
</thead>
<tbody>
<tr>
<td>1986</td>
<td>6</td>
<td>11.17</td>
<td>14.58</td>
<td>12.09</td>
<td>11.18</td>
<td>8.54</td>
<td>3.55</td>
</tr>
<tr>
<td>1987</td>
<td>8</td>
<td>11.05</td>
<td>14.58</td>
<td>12.04</td>
<td>11.65</td>
<td>9.07</td>
<td>2.97</td>
</tr>
<tr>
<td>1988</td>
<td>8</td>
<td>10.03</td>
<td>11.83</td>
<td>10.92</td>
<td>11.42</td>
<td>8.80</td>
<td>2.12</td>
</tr>
<tr>
<td>1990</td>
<td>16</td>
<td>13.00</td>
<td>16.11</td>
<td>13.88</td>
<td>13.76</td>
<td>11.46</td>
<td>2.42</td>
</tr>
</tbody>
</table>

### TABLE 1.b (*) : Returns of Five-Year Leasing Contracts for Passenger Cars with a Value of About 1 Million BEF

<table>
<thead>
<tr>
<th>Year</th>
<th>Number</th>
<th>Min</th>
<th>Max</th>
<th>Mean</th>
<th>NSCI</th>
<th>NSCIic</th>
<th>Margin</th>
</tr>
</thead>
<tbody>
<tr>
<td>1985</td>
<td>5</td>
<td>13.29</td>
<td>16.13</td>
<td>14.74</td>
<td>13.53</td>
<td>11.20</td>
<td>3.54</td>
</tr>
<tr>
<td>1986</td>
<td>7</td>
<td>11.46</td>
<td>14.07</td>
<td>12.28</td>
<td>11.18</td>
<td>8.54</td>
<td>3.74</td>
</tr>
<tr>
<td>1987</td>
<td>8</td>
<td>10.38</td>
<td>13.51</td>
<td>11.64</td>
<td>11.65</td>
<td>9.07</td>
<td>2.57</td>
</tr>
<tr>
<td>1988</td>
<td>9</td>
<td>9.91</td>
<td>13.51</td>
<td>11.24</td>
<td>11.42</td>
<td>8.80</td>
<td>2.44</td>
</tr>
<tr>
<td>1989</td>
<td>13</td>
<td>10.76</td>
<td>13.48</td>
<td>12.15</td>
<td>12.59</td>
<td>10.13</td>
<td>2.02</td>
</tr>
<tr>
<td>1990</td>
<td>18</td>
<td>12.28</td>
<td>14.74</td>
<td>13.49</td>
<td>13.76</td>
<td>11.46</td>
<td>2.03</td>
</tr>
</tbody>
</table>

### TABLE 1.c (*) : Margins of Two-Year Over and Above Five-Year Returns for an Investments of About 1 Million BEF for Industrial equipment and Passenger cars

<table>
<thead>
<tr>
<th>Year</th>
<th>Number</th>
<th>Min</th>
<th>Max</th>
<th>Mean</th>
<th>Number</th>
<th>Min</th>
<th>Max</th>
<th>Mean</th>
</tr>
</thead>
<tbody>
<tr>
<td>1985</td>
<td>5</td>
<td>1.75</td>
<td>3.98</td>
<td>2.75</td>
<td>5</td>
<td>0.67</td>
<td>5.71</td>
<td>2.88</td>
</tr>
<tr>
<td>1986</td>
<td>5</td>
<td>1.29</td>
<td>3.96</td>
<td>2.50</td>
<td>6</td>
<td>0.00</td>
<td>3.57</td>
<td>1.73</td>
</tr>
<tr>
<td>1987</td>
<td>7</td>
<td>1.34</td>
<td>3.96</td>
<td>2.14</td>
<td>7</td>
<td>0.00</td>
<td>3.57</td>
<td>1.54</td>
</tr>
<tr>
<td>1988</td>
<td>7</td>
<td>1.10</td>
<td>3.59</td>
<td>1.72</td>
<td>8</td>
<td>0.30</td>
<td>3.44</td>
<td>1.27</td>
</tr>
<tr>
<td>1989</td>
<td>13</td>
<td>0.50</td>
<td>3.09</td>
<td>1.58</td>
<td>10</td>
<td>0.32</td>
<td>2.15</td>
<td>1.06</td>
</tr>
<tr>
<td>1990</td>
<td>14</td>
<td>0.00</td>
<td>3.24</td>
<td>1.54</td>
<td>15</td>
<td>0.00</td>
<td>3.24</td>
<td>1.14</td>
</tr>
</tbody>
</table>

(*) Number = number of companies (excluding NSCI) for which data were available in year of reference
Min (Max) = minimum (maximum) five-year leasing return or minimum (maximum) margin of two-year over and above five-year return on basis of available data
Mean = mean return or average margin
NSCI = total five-year leasing return of NSCI for investments of 1 million BEF 12
NSCIic = effective or real interest rate of NSCI for investment credits of five years, i.e. taking into account semi-annual payability and fact that denominator of 360 days is used
Margin = average margin of return on five-year contracts above NSCI interest rate on investment credits

12 The NSCI used a price range between 1 and 2 million BEF, and one of over 2 million BEF. The total return for contracts over 2 million BEF was about 1% to 1.5% lower than that for contracts below 2 million BEF. The rates used by the NSCI are indicative for contracts which qualify for subsidy. The minimum amount for subsidisable investments was 1 million BEF. In the course of 1991, however, these limits were raised. The minimum investment outlay which is still subsidisable is now 3 million BEF and the NSCI uses price ranges up to 5 and over 5 million BEF. In addition, the NSCI only provides leasing rates for terms of 3 to 5 years. These are offered in the form of monthly percentages of charges with a choice of residual values.
Two important aspects immediately appear:

- the average full returns decrease with the term of the contract\textsuperscript{13}
- the average margin of the returns for two-year contracts over and above the five-year contracts decreases between 1985 and 1990.

The falling term structure of the full returns, however, does not mean that the returns which a company wishes to achieve are dependent on maturity. These full returns are indeed gross returns, which may contain increases for commissions and other costs. Another factor determining the term structure of the full returns is the manner in which residual values are taken into account in the rates. For example, if a leasing company wishes to realise a return of 11\%, irrespective of the term of the contract, and sets its rates on the basis of the rental return (excluding residual value), it achieves for a 2 year contract and a residual value of 2 \% a full return of 13.11 \%; for a 5 year contract the full return decreases to 11.68 \%. The phenomenon of a falling term structure is even more dramatic for a residual value of 5 \%. Then the full return on a 2 year contract amounts to 16.15 \% whereas for a 5 year contract it amounts to only 12.47 \%.\textsuperscript{14}

Clearly the residual value has an important effect on the term structure of the full returns in case of rate setting on the basis of the rental return. In fact the decrease of the margins between the full returns of short- and long-term contracts may indicate an over-all evolution in rate setting, i.e. from rate setting excluding to rate setting including residual value. Since other factors also play a role, additional data are needed to find out whether a shift from rate setting in terms of rental returns to rate setting in terms of full returns is indeed responsible for this margin decrease.

\textsuperscript{13} Table 1 only mentions the data on returns for two-year and five-year contracts. Data for three-year and four-year contract returns which show the decreasing term structure more completely, are provided in DURINCK et al. (December 1991).

\textsuperscript{14} The following percentages apply for contracts with quarterly payments. Monthly payable rentals lead to somewhat smaller returns with a bigger difference for shorter terms and greater residual values.
3. Some Other Rate-Determining Factors

We will discuss now how the type of investment good, the size of investment outlay, the contract length, the amount of the residual value and the periodicity of payments may influence leasing rates.

a. The Type of the Investment Good

All companies studied, except for the four captives, are active in various sectors of investment goods. These sectors can be classified into the following categories:
- Passenger cars and delivery vans
- Data processing and office automation equipment
- Other industrial equipment

The companies in our sample do not always use this categorisation. For example, there is not always a separate rating applied to data processing and office automation equipment. In fact of the 19 companies which were active in the various areas, 5 did not use any categorisation at all.

Table 1 shows that relative to the NSCI interest rate, margins went down for all types of leasing contracts. This decrease is stronger for cars than for industrial equipment. This fall in rates appears to confirm what several companies claim, i.e. that the competition on the leasing market is stiffest in the passenger car sector.

b. The Size of the Investment Outlay

Leasing rates for higher investment values are usually below those for lower values: fixed costs have a relatively stronger effect on a smaller investment outlay.

Most price ranges cited vary between 100,000 and 2 million BEF or more. From 5 million BEF onwards the rates are usually set by
negotiation. Only a few companies offered standard rates for investment outlays over 7.5 million BEF. These rates, however, are only indicative. Also companies may not offer rates for small investment values: only about one-third of our sample companies provided rates for investment outlays below 125,000 BEF; for amounts up to 250,000 BEF just over one-half of the companies offered rates. Besides, most of these companies limited the term of such contracts to 3 or 4 years.

For small investment outlays the full returns, i.e. the returns including all mark ups for costs and residual value increase rapidly. The average full return of contracts concluded at the end of 1990 for industrial equipment with an investment value in the range below 250,000 BEF amounted to 18.13% for 2-year contracts and 15.61% for 5-year contracts (with a maximum of over 20% for two-year contracts). To compare, the NSCI interest rate for investment credits (although applicable to larger amounts) was a nominal 11.00% at that time; for investment amounts of 1 million, table 1a indicates full returns of less than 14%.

c. Contract Length

The standard rates usually relate to contracts with a two to five year maturity. According the regulation governing leasing activities, the contractually defined length of the contract has to correspond to the presumable economic lifetime of the investment good. In practice leasing contracts usually imply a term which is slightly below the economic lifetime or depreciation term of the good 15. Contacted companies indicated that the share of short-term contracts (2 years) in the total leasing portfolio is small: longer maturity contracts are preferred because they result in more stable cash inflows while entailing less administration.

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15 To qualify for subsidies said term is to be at least three years. For more information see e.g. VERVAET and INGELBRECHT (1990).
Table 1c shows that the returns for short-term contracts are, on average, higher than returns for long-term ones on account of commissions and other costs which need to be recovered in a shorter period of time. However, as we showed with a numerical example in section II 2, full return pricing also results in a decreasing term structure of leasing rates.

d. The Amount of the Residual Value

Table 2 shows, for the years 1985 and 1990 per category of investment good, in the column total the number of companies which provided rates, and in the column maturity-dep. res. val. the number of those that applied a maturity-dependent residual value (i.e. maturity-related decreasing residual value).

<table>
<thead>
<tr>
<th>Category</th>
<th>1985 Total</th>
<th>Maturity-dep. res. val.</th>
<th>1990 Total</th>
<th>Maturity-dep. res. val.</th>
</tr>
</thead>
<tbody>
<tr>
<td>cars</td>
<td>6</td>
<td>0</td>
<td>18</td>
<td>4</td>
</tr>
<tr>
<td>d.p / office aut. eq.</td>
<td>7</td>
<td>1</td>
<td>18</td>
<td>10</td>
</tr>
<tr>
<td>other ind. equipment</td>
<td>5</td>
<td>1</td>
<td>16</td>
<td>9</td>
</tr>
</tbody>
</table>

In 1985, generally, a maturity-independent residual value was used. However, the data for 1990 show that by that time the contract residual value usually depends on the maturity of the leasing contract, except for cars. This is a consequence of the fact that, as we will see below, in recent years, usually full return pricing is used. Table 2 shows that 10 out of 18 companies, which in 1990 offered rates for the most residual value-sensitive products, i.e. data processing equipment, applied a lower residual value for longer-term contracts.
Table 3 mentions the average of the residual values implied in the rates in the years 1985 and 1990 for each category of investment goods for two- and five-year contracts and for an investment outlay of about 1 million BEF. The residual value, proved to depend on the amount of the investment outlay only in a few cases so that the conclusions likely remain valid for other investment outlays as well.

**TABLE 3 : Equally Weighted-Average Residual Values Implied in Rates in the Years 1985 and 1990 for Two- and Five-Year Contracts Per Category of Investment Good**

<table>
<thead>
<tr>
<th>Category</th>
<th>1985</th>
<th>1990</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>2 years</td>
<td>5 years</td>
</tr>
<tr>
<td>cars</td>
<td>5.17</td>
<td>5.00</td>
</tr>
<tr>
<td>d p / office aut. eq.</td>
<td>4.33</td>
<td>3.43</td>
</tr>
<tr>
<td>other ind. equipment</td>
<td>4.40</td>
<td>4.00</td>
</tr>
</tbody>
</table>

Table 3 shows that in 1990 the residual values of two-year and five-year contracts usually are below those of 1985. These residual values are the highest for cars and this because of the relatively safe second-hand value of cars.

**e. The Periodicity of the Payments**

Rentals may be paid monthly or quarterly. There appears to be a general preference for quarterly rates. About one-half of the companies studied offered exclusively quarterly rates and one-half both quarterly and monthly rates. However monthly rates can be obtained on request.

The return on which the rentals are based need not be different for monthly or quarterly payable contracts. Of the companies which offered both monthly and quarterly rates, there were three which added explicitly and consistently a rate increase for monthly rentals. The increase was 0.25% or 0.50% of the proposed return or was explicitly added to the rates as an invoicing cost. The others did not apply a mark up for monthly
payment.

4. The Change in Rating Methods (Rental Return Versus Full Return)

In paragraph II.2 we mentioned that the size of the margin between the full returns of five-year and two-year contracts likely gives an indication about whether or not the residual value had been taken into account. The example in paragraph II.2 showed that this margin exceeded 3.5% in the case of rating on the basis of a rental return of 11% with a residual value of 5%. This margin increases if a residual value structure decreasing with the maturity is being used. When costs and commissions are included in the rates, this will also lead to a structure of full returns decreasing with contract length. Thus, a decreasing term-structure of leasing returns is not conclusive evidence for rating on the basis of full returns. However a comparison of the structure of the full returns of rates for which the rating method is known with the full returns of other rates provides clear indications about the rating method used. In addition, the rental returns themselves provide important additional information. If rental return are term-independent, this logically points to rating excluding residual value, whereas term-independent full return suggests rating including residual value. Furthermore if the rates offer a choice between different residual values for contracts with the same length, this is, of course, an additional help: when a residual value-independent full return is observed, likely a rating including residual value is used. In fact one could compare rates for contracts with the same length but which apply to a different type of investment good, since in this case often different residual values are used. An identical full return then suggests full return pricing. Finally, direct contacts with the companies in question provided us with additional pricing information. This information was compared with the rates obtained from these firms. Also 12 out of the 23 companies did not work with commissions. For most of the other companies, the commission

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16 This is, amongst others, the case for the captive companies which get the contract via the parent company, and for some of the bigger companies which operate via the network of offices of the bank of which they are subsidiaries.
percentages could be found so that we were able to compare the returns excluding increases for commissions.

Table 4 shows the rates which we obtained at the end of the years 1985 and 1990 for the different categories of investment goods presented, depending on whether the rating includes or excludes the residual value. A strict differentiation is not always possible because sometimes only a part of the residual value is taken into account in the required return. The heading inclusive in table 4 shows the number of companies which, in setting their rates, fully took the residual value into account.

<table>
<thead>
<tr>
<th>Category</th>
<th>1985 Total</th>
<th>1985 Inclusive</th>
<th>1990 Total</th>
<th>1990 Inclusive</th>
</tr>
</thead>
<tbody>
<tr>
<td>cars</td>
<td>7</td>
<td>3</td>
<td>21</td>
<td>19</td>
</tr>
<tr>
<td>d p / office aut. eq.</td>
<td>8</td>
<td>3</td>
<td>20</td>
<td>13</td>
</tr>
<tr>
<td>other ind. equipment</td>
<td>6</td>
<td>3</td>
<td>18</td>
<td>14</td>
</tr>
</tbody>
</table>

Over one-half of the companies for which rates were available for 1985 rated on the basis of the rental return (so excluding the residual value). By 1990 the situation had completely changed. For cars, whose residual value contains only a small risk, 19 out of the 21 companies rated on the basis of full return. For data processing equipment the treatment is a clearly different: 13 out of the 20 companies regard the residual value as a part of the required return. For other industrial equipment the residual value was usually fully taken into account.

**Conclusion**

In this paper we investigated a number of important factors influencing financial leasing rates for movable property. In addition, we looked at their evolution over the last five years. The most striking phenomenon was that, in this period, important changes have occurred in the rating
methods. Whereas in 1985 the residual value was still frequently regarded as a supplementary return which was not taken into account for the required return, during the last few years the residual value has been generally taken into account as a component of the required return. This has made it necessary to differentiate leased goods into categories, i.e. goods with low risk w.r.t. the realisation of their residual value, such as cars, and goods with uncertain residual values, such as data processing equipment. For the first category the residual value is generally viewed as a part of the return. For the second category it is not always the case, or one uses lower residual values.

The shift to the more correct view of the residual value being part of the return, entailing a reduction in rates, confirms the claims of the companies, i.e. that over the last few years strong competition prevails on the leasing market.

Références


VOORHELDST, F., (1991), "Residuele waarde, zegen of vloek voor de leasingmaatschappij?". De Financieel Economische Tijd, Jg.24 nr.5760, Katern 2, pp.15, Vrijdag 1 Maart.