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# CapInvest



## VAT Pricing Strategy for Leasing Companies

## Introduction

*VAT impacts leasing operations as follows (assuming a VAT of 20%):*

- **Purchase of Lease Asset**

When a company purchases an asset, VAT is payable on the purchase price of the asset. Thus, if the cost of the asset is 100, a leasing company's financial investment in the leasing transaction is 120 (100 + 20). Thus, in addition to paying out 100 for the leased asset, the company pays out an additional 20 as VAT on purchase of lease asset. The expense on VAT could be booked to a 'VAT Payments Account, which will reflect a debit balance.

- **Lease Rental**

If we assume the asset is leased for three years at annual rental of 50 (total lease rental of 150 over 3 years), the company would be required to collect VAT of 20% on lease rental of 150, i.e., an additional 30 is collected from a lessee towards VAT. This amount could be booked to a 'VAT Receipts' Account, which will reflect a credit balance.

- **Accounting**

*The following entries record the purchase of asset and VAT payment:*

Lease Asset		100 (debit)	
VAT Payments		20 (debit)	
To	Bank		120 (credit)

*The following entries record receipt of lease rental and VAT:*

Bank		180 (debit)	
To	Lease Rental		150 (credit)
To	VAT Receipts		30 (credit)

VAT regulations in most countries allow VAT collected (also referred to as Input VAT) to be offset against VAT paid out (also referred to as Output VAT); the excess of collections over payments is to be remitted to treasury every quarter. Thus, in the above example, a leasing company would be required to collect 30 as VAT on lease rental and offset the same against VAT paid on purchases, i.e., 20; the balance of 10 is to be paid to treasury.

## Implications for Lease Pricing

Two approaches to pricing leases under a VAT regime and the drawbacks of each are discussed below; we assume the lease is priced to earn 25%.

- **Capitalize VAT as Cost Of Asset**

(Exhibit A)

This approach would capitalize the cost of VAT; in our example, the capitalized cost of the asset would be  $100 + 20 = 120$ ; the leasing transaction would be priced to recover 120 plus interest charges. Assuming lease rental is subject to VAT, a lessee would also pay a VAT of 20% on lease rental.

The benefit of this approach is that a lessor's investment in VAT is fully recovered from a lessee.

However, this approach is seriously flawed for two reasons: (a) it results in double VAT since a lessee also pays VAT on lease rental which in turn is computed by including VAT on purchase; (b) the rate of return from the lease to the lessor is unintentionally higher, which implies a higher cost of lease finance to a lessee that could result in the lease being uncompetitive in the financial market place.

As can be seen from Exhibit A, the return from a lease when VAT is capitalized is 31%, a rate that is higher than the incorporated rate of 25%; therefore, capitalizing VAT makes lease finance more expensive.

- **Exclude VAT From Cost Of Asset**

(Exhibit B)

To overcome the drawback of the first approach, this approach would exclude VAT in pricing a lease; in our example, the capitalized cost of the asset would be 100 and lease transaction would be priced using 100 as the investment.

This approach ensures there is no double VAT; however, the cost of funding the VAT invested in the asset is shifted to the lessor and consequently, the incorporated profit rate in a lease will be watered down by the investment in VAT, which is not being priced, and thus, does not earn a return.

As can be seen from Exhibit B, the rate of return of the lease drops to 22%, a rate that is different from the incorporated rate of 25%; therefore, not capitalizing VAT reduces the rate of return from a lease to below the incorporated rate.

When VAT is not priced, the effect is to create non-interest bearing VAT balance which (a) increases the amount of capital required by operations and (b) reduces profitability since shareholder capital is invested in non-interest earning VAT investments. The adverse effect of VAT varies directly with the term duration of leases, i.e., long duration leases require higher investment in VAT compared to short duration leases. This is reflected in the size of the VAT (debit) balance in a leasing company's balance sheet, which will amortize in future. Since this investment is not priced, it represents an unproductive use of funds.

## Pointers to an Analytical Solution

As is evident, the two pricing methodologies are flawed. An analytical solution to the problem must avoid a doubling VAT effect and not water-down a lessor's rate of return from the investment.

Specifically, (a) a solution must borrow from the second approach by eschewing the capitalization of VAT in pricing a lease to avoid a double VAT impact on a lessee; and (b) it must offer a 'discounted cash flow' framework on the basis of which the lease rental is 'recomputed' to maintain the lessor's return from the lease.

These expectations impose the following requirements on a solution:

(a) VAT should not be capitalized to avoid the double-VAT impact – consequently, the cost of financing VAT is shifted to the lessor; (b) to offset the cost of financing VAT, lease rental must be recomputed appropriately to maintain a lessor's return.

**Exhibit C** sets out the calculation. As can be seen, the lease-pricing rate of 28.14% ensures that the post-VAT return from the lease is 25%, the incorporated rate. The following table summarizes results of the three approaches.

	Capitalize VAT	Do Not Capitalize	VAT Enabled Pricing
Lease Asset	100	100	100
VAT	20%	20%	20%
Pricing Rate	25%	25%	28.14%
Capitalized Value	120.00	100.00	100.00
Lease Rental	44.62	37.18	39.60
VAT	8.92	7.44	7.92
Total Rental	53.55	44.62	47.52
Pre-VAT Rate of Return	25.00%	25.00%	25.00%
Post-VAT Rate of Return	30.82%	22.16%	25.00%

## A CONCEPTUAL OVERVIEW OF VAT PRICING

To appreciate the influence of VAT on lease pricing, we need to examine the cash flow of a lease under a VAT regime. Consider the example of a five-year lease of 100, with a lease-pricing rate of 25% p.a. and with zero residual value. Assume 20% VAT on purchases and on lease rental.

*Assuming that VAT on purchase of asset is not included by a lessor in computing the lease rental, yearly rental will be 37.18 (pre-VAT) and  $37.18 + 7.44 = 44.62$  p.a. (inclusive of 20% VAT); or a total rental of 185.9 and total VAT of 37.20. The investment in the lease will be 100 + 20% or a total of 120, of which the VAT of 20 is recoupable by the lessor from VAT collected on lease rentals.*

Since the lessor can recoup investment in VAT from VAT on lease rental, it would take three years to do so, as can be seen from the table below, when cumulative VAT collections (22.31) exceed the investment in VAT, i.e., 20. Therefore, the lessor's final cash flow will comprise of (a) the lease rental; (b) VAT on lease rental, so long as VAT paid on purchase is not fully offset by VAT from rental – once VAT on purchase has been fully reclaimed, VAT on lease rental is excluded from the lessor's cash flow, as set out in the following table:

	Year 0	Year 1	Year 2	Year 3	Year 4	Year 5
VAT Outflow	(20)	-	-	-	-	-
VAT Inflow		7.44	7.44	7.44	7.44	7.44
Cumulative VAT Inflow *		7.44	14.88	22.32	29.76	37.20
VAT Account Balance	(20)	(12.56)	(5.12)	2.32	9.76	17.20
(A) Investment Outflow	(100)					
(B) Rental Inflow		37.18	37.18	37.18	37.18	37.18
(C) VAT Recapture		7.44	7.44	5.12	0	0
(D) Lessor / Final Flows (A) + (B) + (C)	(120)	44.62	44.62	42.30	37.18	37.18

An astute lessor operating in a 'VAT enabled' leasing scenario will need to work with four lease pricing bands:

*(1) Pre-Tax Rate; (2) Post-Tax Rate; (3) Pre-VAT Rate; (4) Post-VAT Rate*

Awareness of relationships and access to pricing technology will enable lessors to effortlessly traverse the chain from Pre-VAT to a Post-Tax lease pricing scenario or, as should be the case, starting from a post-tax pricing objective and working outwards to a Pre-VAT pricing rate; given the complexity, most lessors though will rarely go beyond the basic pricing band – the pre-tax evaluation of leases.

# Exhibit A

## Capitalize VAT in Pricing a Lease

Lease Asset	100
VAT	20%
Pricing Rate	25%
Capitalized Value	120.00
Lease Rental	44.62
VAT	8.92
Total Rental	53.55

	YEAR 0	YEAR 1	YEAR 2	YEAR 3	YEAR 4	YEAR 5	TOTAL
(A) VAT Outflow	(20.00)	0.00	0.00	0.00	0.00	0.00	(20.00)
VAT on Rental		8.92	8.92	8.92	8.92	8.92	44.62
Cumulative VAT Inflow		8.92	17.85	26.77	35.70	44.62	44.62
VAT Account Balance	(20.00)	(11.08)	(2.15)	6.77	8.92	8.92	N.A.
Payment to Treasury	0.00	0.00	0.00	(6.77)	(8.92)	(8.92)	(24.62)
(B) Investment Outflow	(100.00)						(100.00)
(C) Rental Inflow		44.62	44.62	44.62	44.62	44.62	223.11
(D) VAT Recapture		8.92	8.92	2.15	0.00	0.00	20.00
(E) Lessor / Final Flows							
(A) + (B) + (C) + (D)	(120.00)	53.55	53.55	46.77	44.62	44.62	123.11
RATE OF RETURN	30.82%						

# Exhibit B

Exclude VAT in Pricing a Lease

Lease Asset	100
VAT	20%
Pricing Rate	25%
Capitalized Value	100.00
Lease Rental	37.18
VAT	7.44
Total Rental	44.62

	YEAR 0	YEAR 1	YEAR 2	YEAR 3	YEAR 4	YEAR 5	TOTAL
(A) VAT Outflow	(20.00)	0.00	0.00	0.00	0.00	0.00	(20.00)
VAT on Rental		7.44	7.44	7.44	7.44	7.44	37.18
Cumulative VAT Inflow		7.44	14.87	22.31	29.75	37.18	37.18
VAT Account Balance	(20.00)	(12.56)	(5.13)	2.31	7.44	7.44	N.A.
Payment to Treasury	0.00	0.00	0.00	(2.31)	(7.44)	(7.44)	(17.19)
(B) Investment Outflow	(100.00)						(100.00)
(C) Rental Inflow		37.18	37.18	37.18	37.18	37.18	185.92
(D) VAT Recapture		7.44	7.44	5.13	0.00	0.00	20.00
(E) Lessor / Final Flows							
(A) + (B) + (C) + (D)	(120.00)	44.62	44.62	42.31	37.18	37.18	85.92
RATE OF RETURN	22.16%						

# Exhibit C

## VAT Enabled Lease Pricing

Lease Asset	100
VAT	20%
Pricing Rate	28.14%
Capitalized Value	100.00
Lease Rental	39.60
VAT	7.92
Total Rental	47.52

	YEAR 0	YEAR 1	YEAR 2	YEAR 3	YEAR 4	YEAR 5	TOTAL
(A) VAT Outflow	(20.00)	0.00	0.00	0.00	0.00	0.00	(20.00)
VAT on Rental		7.92	7.92	7.92	7.92	7.92	39.60
Cumulative VAT Inflow		7.92	15.84	23.76	31.68	39.60	39.60
VAT Account Balance	(20.00)	(12.08)	(4.16)	3.76	7.44	7.44	N.A.
Payment to Treasury	0.00	0.00	0.00	(3.76)	(7.44)	(7.44)	(18.64)
(B) Investment Outflow	(100.00)						(100.00)
(C) Rental Inflow		39.60	39.60	39.60	39.60	39.60	198.00
(D) VAT Recapture		7.92	7.92	4.16	0.00	0.00	20.00
(E) Lessor / Final Flows							
(A) + (B) + (C) + (D)	(120.00)	47.52	47.52	43.76	39.60	39.60	98.00
RATE OF RETURN	25.01%						