

Operating leases now account for the majority of aircraft acquisitions. Airlines avoid large capital outlay and benefit from fleet flexibility. The basis of operating leases is simple. Karen Floersch examines the details of how the major lessors structure their business.

# Structuring operating leases

**T**he aircraft leasing market counts among its fraternity many operating lessors. Of these, less than a dozen have the financial backing to acquire and lease large numbers of new aircraft. Of that dozen GE Capital Aviation Services (GECAS) and International Lease Finance Corp (ILFC) dominate the field.

ILFC controls a fleet of more than 500 aircraft and GECAS has a fleet of nearly 1,100 owned and managed aircraft. These two mega-lessors have more than 750 new aircraft on order.

Among the next tier of lessors are such names as GATX Capital Corp, Boullioun Aviation Services, Singapore Aircraft Leasing (SALE), CIT Aerospace, Debis Airfinance, Pembroke Group, Sunrock Aircraft Corp, Tombo Aviation and Wexford Management.

Lessors of new aircraft must translate their buying power, whether by size of the order, cost of funding or both, into relatively low lease rates, and still generate profits. The cost of the lessor's funding is crucial. It is not surprising that so many operating lessors are subsidiaries of large and highly rated financial groups or corporate entities.

## Structuring the lease

Structuring an operating lease requires the combined income stream from monthly lease rentals and future residual value to exceed the cost of acquiring and owning the aircraft.

The structure of leases is simple. Aircraft are acquired with about 10-30% equity while the remainder is debt. The cost of debt varies, but will be typically

6-8%. The cost of debt repayment has to be met by lease rentals.

The monthly lease rental will be based on a number of factors: age and type of aircraft, lessee credit and length of lease term. A standard lease rental will be in the order of 1% of aircraft value per month. Debt therefore has to be over a long enough period for monthly repayments to be lower than lease rentals. This usually means the debt term will be 10-12 years.

Debt repayments are softened, however, by the tax benefits the lessor receives from owning the aircraft. US lessors get either seven or 12 years to tax-depreciate aircraft. Irish lessors can write down 100% of aircraft in the first year. These lower debt repayments can then be passed on to the lessee in the form of lower lease rentals.

Airlines usually only benefit from lease terms of 5-7 years, since it will be economically more efficient to own an aircraft if a lease were 10-15 years: as long as the necessary debt term. Lessors then have to either repay the debt before or at the end of the lease by selling the aircraft with the lease attached, re-lease the aircraft until the debt is repaid, or re-finance the debt and re-lease the aircraft.

Lessors also depend on the re-sale value of the aircraft to generate additional cash by providing funds in excess of outstanding debt and equity portion. Cash is therefore generated during the lease from rentals exceeding debt repayments and re-sale cash exceeding outstanding debt and equity. A lessor's book profit is the difference between lease rentals and debt interest and book depreciation.

## Lease rates

Mort Beyer, chairman and chief executive officer of Mort Beyer & Agnew (MBA), explains that as a rule, monthly lease rates for new aircraft are usually 1% of the market value of an aircraft, although ultimately the supply and demand curve at a particular time dictates the rate.

A large widebody, such as an A330-300 or 777-200 valued at \$100 million, might then fetch a lease rate of \$1 million per month. An A320 or 737-800 at \$400 million should be able to generate \$400,000 per month.

Oversupply pushes rates below the 1% mark. Conversely, a tight rein on supply will push up rates. There is also a geographic disparity in lease rentals. The larger (and more homogeneous) US market commands lower lease rates than in Europe and the rest of the world.

Lessors also benefit from manufacturer discounts that will help them make the lease rental competitive, if so required. Leasing companies declined to discuss the subject, although discounts of 20-25% on the list price of new aircraft are not unusual. An A330-300 or 777-200 could then be acquired for closer to \$80 million, while theoretically still being able to command a monthly rate close to \$1 million.

The credit standing of the lessee is one of the major risks facing an operating lessor, and is the reason why all established leasing companies have independent credit departments to evaluate the creditworthiness of potential lessees. Garry Burke, chief executive capital markets of Pembroke Group Ltd, says that "although we are increasingly

*Except for ILFC and GECAS, lessors that have to raise debt to acquire aircraft predominantly order narrowbodies. Large orders for the 737NG and A320 families have been placed by lessors expanding into the operating lease market. These include CIT and Boulliou Aviation Services. Operating leases are still used mainly by weaker credit airlines that have few alternatives for aircraft financing.*

seeing first-tier airlines entering operating leases, a significant proportion of lessees take the aircraft because they could not finance it as economically in any other way”.

A weaker credit assumes a higher risk. Should the lessee default on lease rentals the lessor is exposed to downtime costs and legal expense to repossess the aircraft. Higher lease rates in the region of 1.1% per month will be asked for.

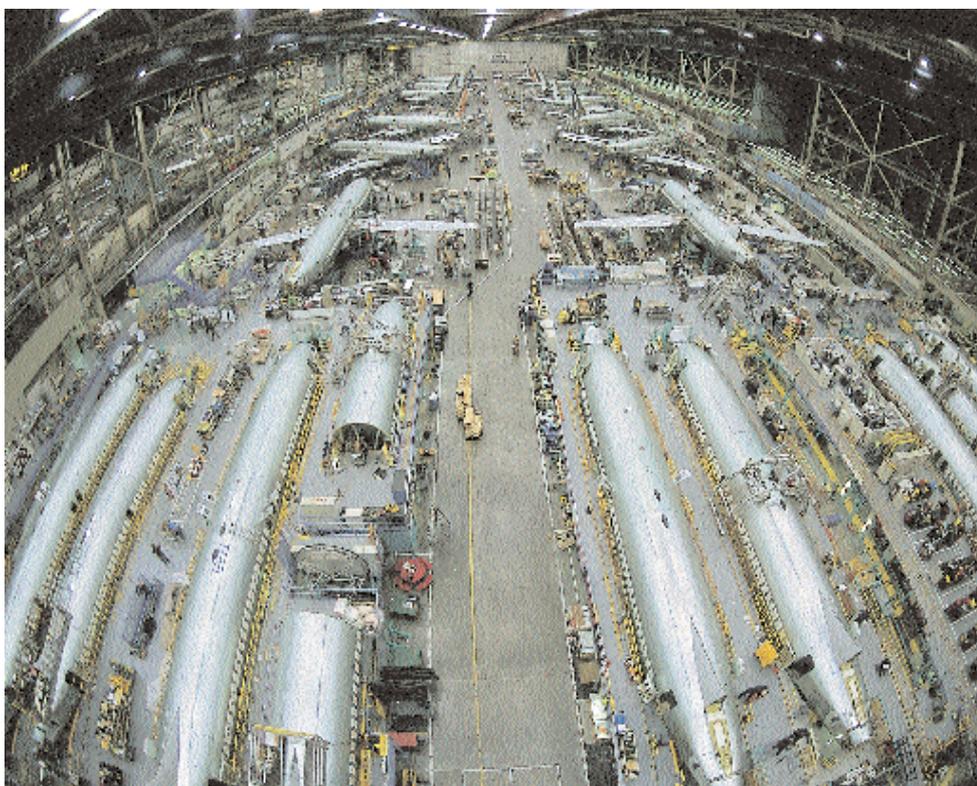
Steven Udvar-Hazy, chief executive officer and director of ILFC, credits his company's focus on financially sound lessees as a key factor in its success. He says ILFC has suffered less than \$1 million in credit losses and virtually no defaults in the past 27 years.

## Residual value

The residual value of an aircraft, says Burke, is determined on two levels. On the macro level, the law of supply and demand will apply. On the micro level, the operating history, return condition, variant of aircraft type and engine will be key factors. The aircraft's residual value is the second major component of a lessor's return on investment. If the lessor gets it wrong, the financial loss can be large.

Leasing companies focus on popular aircraft types with wide user bases to reduce risk. Some lessors also place a high value on a young fleet. For example, ILFC's fleet has an average age of just 3.5 years. This minimises residual value risk exposure, because value retention is good and predictable in the early years of life. Residual values become far less predictable after an age of about eight years.

The practice of selling aircraft at a young age is still done for a debt term of 10-12 years. This can only be accomplished if the aircraft is sold with a lease attached to another investor. The lessor then uses the funds to repay the debt, with the high residual value generating excess cash. The original lessee then continues with the lease until the end of the term.



## Preferred aircraft

With the exception of the largest lessors that direct-finance their aircraft, most operating leasing portfolios are still predominately made up of narrowbody aircraft.

Popular narrowbody choices are the Airbus A320 and 737NGs. MBA reports that typical lease rates for prime credit lessees today are in the region of \$300,000 for the A320-200 and \$260,000 for the 737-800.

Operating leases are still predominately used by weaker credit airlines that do not have the financial means to operate a new widebody.

This has not stopped lessors, such as GECAS, ILFC and SALE, from placing significant orders for widebodies, particularly the 777s and A330/340s. Few are speculative, and most are already earmarked for strong credit carriers.

Typical monthly lease rates for both the 777-300 and the A340-300 for prime credits will range from \$800,000-\$1 million and higher for the below prime credit lessee, according to MBA.

## Funding

The biggest component in the purchase of new aircraft for the operating lessor will be cost of debt. Depending on the source of these funds, it will cost the leasing company on average anywhere from 6 to 8% of debt portion per annum.

Eoin Kelly, financial controller of ORIX Aviation Systems, says there are two basic scenarios when operating leasing companies finance new aircraft acquisitions.

“In the first scenario, the leasing company will most likely acquire the aircraft from its own working capital resources. It will therefore fund the asset at its corporate margin, or internal rate or opportunity cost”. This scenario applies particularly to large leasing companies which tend to raise their financing on a portfolio basis, rather than secured against specific aircraft. They have access, either directly or through a top investment grade-rated parent, to a full range of financing from corporate bank lines to the capital markets and securitisation. It also means that their cost of debt will attract lower interest rate margins, probably close to the London Interbank rate (LIBOR) for the largest lessors.

Examples of leasing companies that raise their funds internally include Boulliou Aviation Service Inc, as a wholly owned subsidiary of Deutsche Bank, and Orix Aviation Systems Ltd, the subsidiary of the Japanese financial institution, ORIX Corp.

Others, such as ILFC, an AA-rated company with an AAA-rated parent, borrows most of its funds on the public markets. Udvar-Hazy says ILFC has more than \$20 billion at its disposal. In its 1999 annual filing ILFC reported a composite interest rate of 6.14% for the year, which offers a general idea of the margins, or interest rates, the largest lessors will pay.

In the second scenario, explains Kelly, the leasing company will usually obtain non-recourse or limited-recourse funding from a bank familiar with the residual value risk in the aircraft. This type of lessor tends to borrow on an aircraft-by-



aircraft basis, using the security of the aircraft and the stream of lease payments to secure the debt. The interest rate on this type of funding is usually higher, because the lending institution is taking an asset risk in addition to a corporate risk. The all-in cost of funds for a limited recourse deal is usually about 1-1.5% over LIBOR. The lending bank will advance 70-85% of the fair market value of an aircraft for debt. The actual percentage of debt advanced will depend on a number of factors, such as the aircraft type and age.

A debt term of 10-12 years is normal. A \$100 million aircraft with 80% debt will require monthly repayments of \$934,00 and \$827,000 if over 10 and 12 years at a cost of 7%. This is in contrast to a lease rental of about \$1 million.

The remaining 15-30% portion of the acquisition cost of the aircraft not funded by debt will be the lessor's equity investment. Boullioun's John Willingham, chief operating officer, says the level of equity usually depends on the ownership of the individual leasing company. "A ratio of 20:80 equity to debt, is conservative, whereas lessors owned by large financial services organisations may be leveraged optimally at a ratio of about 10:90".

ILFC is generally leveraged about 75:25 debt to equity.

Depending on capital resource, a lessor may or may not opt for an amortisation schedule with a debt balloon payment at the end. That is, the debt would be provided over a shorter term, of say seven years with the same monthly repayments made under 10 or 12-year terms, leaving a balloon to be

paid at the end. A \$100 million aircraft with \$80 million debt with monthly payments of \$827,000 would thus have a balloon of about \$42 million after seven years.

This would coincide with the lease termination and re-sale date of the aircraft. The lessor would thus be taking the risk that the re-sale value would be at least equal to the debt balloon and equity portion. The residual value in this case would have to be at least \$62 million. Balloons carry the risk that the re-sale value of the aircraft may be too small.

Balloon risk appetite varies according to the financial institution and the financing structure. Securitisations are paid down to small balloons over an extended period. Non-recourse bank lenders will look for a balloon that is well-covered by a conservative appraisal. This means the balloon will have to be relatively small. If 50-60% of the debt is paid down within the funding period, the final balloon of the remaining debt will be 40-50%.

The decision not to use debt balloons then means the lessor is left with the options of selling the aircraft with a lease attached, or re-financing debt and securing a new lease.

Willingham says that much will depend on how a particular lessor borrows. "Large lessors tend to raise their financings on a portfolio basis. They then manage their financing so they have a range of debt maturities". Examples are bank-owned lessors such as Boullioun, ORIX, GECAS and ILFC.

Lessors sometimes borrow using the security of the aircraft and the stream of lease payments. "For experienced lessors

*Orders for widebodies are only placed by the mega-lessors when they are already earmarked for lease by airlines with strong credit. Few widebody orders are placed speculatively by operating lessors. Major airlines are increasing the proportion of their fleets acquired through operating leases, which provide them greater flexibility.*

that borrow on this basis," adds Willingham, "the debt term may extend beyond the lease term. This allows the lessor to re-market the aircraft without rearranging its funding".

Burke explains a lessor should maintain flexibility in its funding. He says Pembroke generally looks for prepayment rights, without penalty, or ability to repay the debt, in all of its financing structures. For example, should an aircraft's value increase by 20%, the leasing company could sell the aircraft and benefit from the upside, or re-finance the asset and increase the debt portion. This will increase debt repayments, but realise the lessor's equity.

## Re-marketing & re-financing

There is no general rule when an operating lessor should re-finance or re-market. Timing will depend on a variety of factors, such as market conditions, the lessor's growth strategies and its tax position. Equally, each leasing company will go about the process in different ways. For example, GECAS has disposed of its assets through securitisation vehicles, whereas ILFC re-markets its aircraft on a one-off as well as a portfolio basis to third parties.

ILFC's aircraft re-marketing is timed with the level of new aircraft investments, but will also depend on market conditions. ILFC ploughs most of the cashflow generated from aircraft sales back into new deliveries. However, on a micro level, when it comes time to realise the upside in an aircraft's value, Udvar-Hazy says ILFC will usually re-market an aircraft when its value has increased 20% above the company's book value.

Agnew says operating lessors usually hold on to their aircraft two-thirds of the way into a lease before re-marketing, with a lease attached. This timing accomplishes two things. First, the lessor will be able to take the bulk of the asset's tax depreciation benefits, which are usually in the first five to seven years of the investment being made. Second, it is easier to re-market an aircraft if there are still a couple of years to run on the existing lease. Third, re-sale value will probably be at its highest in relation to book value and outstanding debt to be repaid than at any other time during the

aircraft's life.

This time-frame also underscores why the optimum lease period for an aircraft is five to seven years. US-based lessors benefit from the Internal Revenue Service's accelerated equipment depreciation of aircraft. These write-downs appear as accrued tax liability, says Udvar-Hazy. Tax is not due as long as the leasing company keeps investing in new assets, thus continually generating tax write-downs which are made in the early years of ownership. The result is that many US lessors, such as ILFC, hardly ever pay taxes.

For the leasing companies which borrow against the security of the aircraft and a specific lease, re-financing may be required at the end of the committed lease term. Burke says Pembroke usually re-finances its leases in the last year of a lease, and often they are sold to tax investors in a variety of jurisdictions, such as Germany, Japan or the US. In cases where the lease transaction with the lessee is restructured to a longer term before expiration, the debt portion may also be restructured.

Another re-marketing/re-financing option is securitisation. Lessors place a diverse portfolio of aircraft, leased to a variety of airlines, into special-purpose vehicles. These vehicles then finance themselves in the form of publicly traded bonds, which are rated by the major rating agencies, such as Standard & Poors' and Moody's.

Securitisation has allowed lessors to record gains on the disposal of the aircraft sold, and complete the sale of a large number of aircraft in one transaction. Moreover, the lessor remains the 'servicer' of the portfolio responsible for managing the leases and re-leasing the aircraft at lease expiration.

Structuring securitisations is expensive, and so makes more sense for sizeable aircraft portfolios.

## Depreciation

The second largest cost component is book depreciation. The general consensus among leasing companies is to depreciate most new Stage 3 aircraft over 25-30 years so that depreciation costs average 2.5-3% per annum. For example, ILFC depreciates its aircraft using a straight-line method over a 25-year life from date of manufacture to a 15% residual value.

Beyer explains that for book purposes, lessors want to see their aircraft valued at 50-60% of their original value in 10-12 year's time.

## Return conditions

In addition to the risks of lessee

## COST VERSUS INCOME OF AN OPERATING LEASE

### Costs

- 1) Cost of borrowing: 7-8% per year. \$80 million debt repayment for a \$100 million aircraft will cost \$827,000 per month over a 12-year term at 7% interest.
- 2) Book depreciation: 3.5-4.0% per year (industry standard is over 25-30 years).
- 3) Fixed/direct costs, that is overheads, set-up costs of lease/finance & legal: these vary depending on leasing company, but they tend to be nominal.

### Income

- 1) Lease rental stream: typically 1% of the aircraft value per month. This will be \$1 million per month for a \$100 million aircraft.
- 2) Residual value: varies, but ILFC as an example will re-market an aircraft when the sales value exceeds the financial statement book value by 20% or more.

default and a fall in the asset's residual value, another area with the potential for a significant loss to the lessor is the return condition of the aircraft. Burke says, "it is essential that an aircraft is returned in a minimum condition such that a follow-on lessee will be able to have use of the aircraft for a period of time without having to interrupt the use of the aircraft for heavy maintenance".

According to Willingham, "typical return conditions will require an aircraft to be capable of flying without major maintenance for a minimum period of a full C check interval".

Lessors set a maintenance reserve rate to compensate for the use of the maintenance life of the aircraft during the lease term. These reserves are, in turn, based on the industry norm for that aircraft type, or in the case of a new aircraft, based on manufacturers' recommendations.

A reserve may not be required from a top credit airline. The lessor may, instead, add a cushion to the lease rate to make up for the lost interest on a maintenance reserve.

## The economics

In the case of a new \$100 million aircraft, 80% of the cost might be borrowed and 20% is equity. If the cost of interest on that debt over 12 years is 7%, it would be the equal to \$827,000 per month and \$9.9 million per year.

There should also be provisions for overhaul and administrative/marketing cost. This pushes up costs by another \$8,000 per month. This means the lessor would have to charge a minimum monthly lease rental of \$925,000 per month to break even.

However, this calculation does not take into consideration other factors that reduce the lessor's costs even further. The tax benefit from the accelerated write-down on new aircraft investment or effects of purchase discounts are not included.

If the lessor uses the standard lease rate factor of 1%, the income from the monthly rental would be \$1 million and with cash outflow of say \$925,000, the leasing company can generate a monthly cashflow of as much as \$100,000. Later down the road, the lessor may also be able to boost its final profit with the sale of the aircraft. This might be after five years. At this point the outstanding debt would be \$42 million. A re-sale value of \$75 million would generate an excess of \$13 million, over the \$62 million debt and equity.

Operating lessors each have their own internal rate of return (IRR) or profit target on the equity investment, depending on a range of factors such as the capital structure of the leasing company and accounting practices. "The target depends on the creditworthiness of a specific lessee, as well as how risky the lessor perceives the relevant aircraft to be," says Willingham.

Generally speaking, leasing companies will look for a return in excess of 15%. This will come from both lease rentals and residual value profit when the aircraft is sold. "If a leasing company cannot achieve an average of 15% return on its equity, excluding tax benefits, then its shareholders should probably be looking to deploy their equity elsewhere" says Burke bluntly. One of the most successful operating lessors, ILFC, says its minimum return on equity target is 18%. 