Rating Considerations for Lease Pools

The first aircraft operating lease pool structure (ALPS) transaction, originated by GPA Group PLC (ALPS 1992-1), relied on the sale of aircraft to generate sufficient proceeds to repay the rated debt. Subsequent operating lease portfolios, by contrast, rely upon both lease and residual cashflows associated with a portfolio of aircraft to ensure ultimate repayment of outstanding debt. The intention is that the aircraft will be re-leased upon the expiration of the existing leases. From a cashflow perspective and assuming the same portfolio, it could be argued that an investor in rated debt should be indifferent to a sales liquidation structure or a releasing transaction. The reason behind this is that in a theoretically efficient market, the liquidation proceeds of an aircraft should be equal to the net present value of the expected future earnings stream of that aircraft, i.e. the aircraft's lease revenue.

Sale versus Lease Structures

Markets, however, are not fully efficient. In a depressed environment, there is often a penalty associated with selling aircraft. This loss will be a function of the severity of the depression and the imbalance of supply and demand. In other words, the principal benefit of a re-leasing structure is the elimination of the forced sale into a severe recession.

The foregoing does not imply that lease rates would not decline in a depressed environment. In fact, while the sale of an aircraft in a recession would not result in realizing the plane's highest price, lease rates would also fall in a recession. This would occur since lessors would be willing to lease their aircraft at concessionary rates over a short period of time, rather than to have an aircraft on ground generating no income. However, unlike the forced sale, which would "crystallize" the loss on that aircraft once it is sold, an aircraft that is leased at a depressed lease rate could at least be re-leased at higher rates once that lease expires and the depression has ended.

While the above may indicate that a re-leasing structure is better than a forced sale structure, there are also uncertainties associated with re-leasing. Lessee composition, demand for aircraft, aircraft values, and lease rates are subject to change. This is particularly true for a transaction which extends far into the future.

Lease Rates

An important foundation for the analysis of operating lease transactions is the projection of future lease rates; that is, the expected payment to be made by the lessee during the term of the lease. Once the current leases in the portfolio expire or a lessee defaults, the aircraft must be re-leased, and it is this future lease payment which must be forecasted. The methodology used to calculate future lease rates may vary, and one such method which applies the concept of gross asset yield is outlined below. The exact formula used may change on a deal by deal basis, but the various methodologies must be capable of being compared to each other in order to maintain consistency in the approach.

Standard & Poor's used the following formula to calculate monthly lease rates for the Airplanes Pass-Through Trust ("APTT") transaction rated in 1996:

(Aircraft Base Value * Depreciation Adjustment Factor)*
(Spread + INDEX)/12 * Lease Value Decline = Monthly Lease Rate

This formula indicates that lease rates are a function of the depreciated value of an aircraft. The lease rate formula also factors in a spread over the costs of funds. This spread represents the lessor's desired return on its investment. Finally, depending on whether the re-leasing event is to take place outside or within a depression, the lease rate may be subjected to a decline in value which reflects the aircraft's asset value risk and the severity of the stress scenario being modeled. Following are descriptions of the formula terms.

Aircraft Base Value. The aircraft appraisals used in securitizations are similar to the requirements mentioned in the "Corporate Rating Criteria" section.

Depreciation Adjustment Factor. The initial aircraft values determined by appraisals are then depreciated in accordance with Standard & Poor's assumptions for a depreciation curve. The curve should depreciate the base value of an aircraft over its economic life. The use of appraisals and depreciation assumptions are described above in the "Aircraft Asset Risk Evaluation" section. While different aircraft types may be subject to different depreciation curves, the portfolio is generally assessed as a whole and a summary curve is derived which reflects the attributes of the whole portfolio. Different depreciation assumptions are used for large passenger aircraft, regional aircraft, and freighters.

(Spread + Index)/12. The depreciated appraisal values as calculated above would next be multiplied by a gross asset yield which has two components: a spread which changes with the age of the aircraft and an index which represents the costs of funds. To calculate the spread, historical data reflecting lease rates and aircraft values over the useful life for all the aircraft in the portfolio should be obtained and analyzed.

From this analysis, a spread curve is derived which will show that the spread component of the lease rate increases with the age of the aircraft. This is to be expected since lease rates as a percentage of aircraft value increase with the age of an aircraft. Stated another way, aircraft values decline more rapidly than lease rates until a plane is fairly old, because that value incorporates a declining expected remaining life in service. The resultant annual lease rate was then divided by 12 to calculate a monthly figure.

Lease Value Decline. The above lease rates reflect the payment which could be expected from an aircraft on lease assuming a given base value. However, base value may have no resemblance to actual value, particularly in a recession. It is therefore necessary to assume a lease value decline, adjusting the lease rate downwards to take into account the nature of the aircraft and the economic environment being modeled. Lease value declines will be derived for each of the rating stress scenarios (*see "Aircraft Asset Risk Evaluation"*), and the declines used in the stress testing will be more severe for lease rates which have to be projected in the later stages of the transaction.

The results of the lease rate analysis can be presented in a lease rate curve that reflects the gross revenue line, before stress testing. The gross yield method is only one of the approaches which can be used to calculate lease rates in operating lease deals. Certain transactions have been analyzed using a lease rate depreciation curve,

Chart 1

Sample Of Gross Asset Yield By Age of Aircraft

analogous to an aircraft value depreciation curve. Analysts may also consider appraisers' projected future lease rates. Regardless of the calculations used, the purpose of the lease rate analysis is to create a curve which reflects the intermediate to long term trend line, taking into consideration the length of the transaction, the aging of the fleet, and the asset models (*see charts 1 and 2)*.

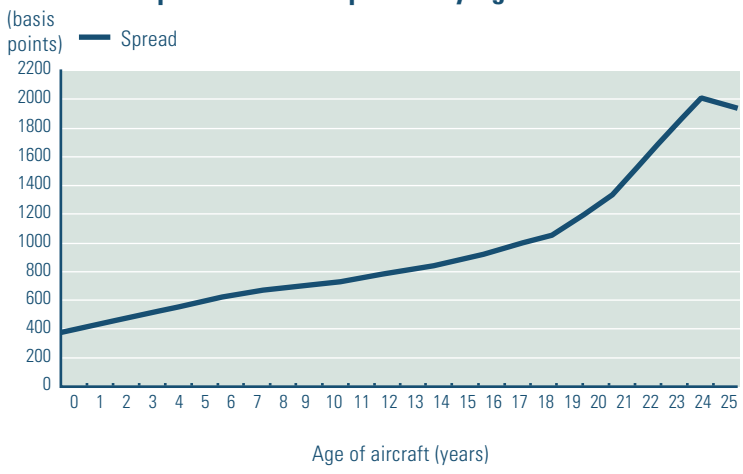
Operating Lease versus Finance Lease

While the majority of portfolio securitizations have involved pools of single investor operating leases, debt in leveraged leases (usually longer term finance leases) has also been securitized. Under an operating lease, the lessor retains the risk and reward associated with the aircraft's residual value. If the lessor is successful at obtaining a lease rate or a sale value above the market value of the aircraft, this positive benefit accrues to the lessor.

However, when debt in a leveraged lease is securitized, the holders of the securitized debt are entitled only to repayment of the underlying leveraged lease notes. Any upside benefit will be retained by the equity investor. In terms of the rating analysis, this effectively diminishes the credit value of a diversified aircraft portfolio, since lower sale proceeds or lease rates on one aircraft cannot be offset by above market performance of another. This affects principally the junior-most tranche in a securitization (or EETC), since more senior securities benefit from subordination of lower tranches. Thus, the senior tranche in a securitization of leveraged lease debt can capture the value at the expense of more junior tranches, but the junior tranches

Chart 2

Sample Of Aircraft Spreads By Age Of Aircraft



cannot capture value at the expense of the equity investors. Stated another way, the various tranches of a securitization are cross collateralized in the cash flows from the leases and aircraft; the equity is not. While there is a difference in the manner of evaluating an operating lease and a leveraged lease pool, the following comments apply equally for both lease types.

Aircraft Sales

As stated at the outset of this section, the primary repayment methods for operating lease transactions are lease rentals and residual cashflows. However in certain transactions and in limited circumstances, the issuer will be able to sell the aircraft. This sale feature gives the issuer more flexibility to generate income should re-leasing not be the more attractive option.

Note Terms and Conditions

Note terms and conditions vary considerably between transactions depending upon the structure and the preferences of the underlying issuers and lead managers. Most operating lease transactions have consisted of multiple tranche issuances, with ratings ranging from 'AA' to 'BB'. Bonds have paid interest on both a floating- and fixed-rate basis. Simultaneous with the issuance of the rated notes, there is usually an unrated tranche of securities which may be retained by either the originator or a third party.

Redemption

Typically, the issuer will have the ability to redeem any class or sub-class of notes at their redemption price plus accrued but unpaid interest. The redemption price will be set for at least the outstanding principal amount of the notes plus certain premiums, payment of which is dependant on the redemption dates. The notes may only be redeemed in order of priority and provided that there are sufficient funds to do so.

Issuer Level Taxation

Unless taxes are included in the cash flows, all payments of principal, interest, and premium, if any, on the notes are expected to be made without any deductions for withholding tax. Legal opinions should be delivered to the effect that, as of the closing date, the issuer will not be subject to income or other taxes and that payments by the issuer on the rated securities may be made free of withholding on account of any taxes. Upon the imposition of such a tax, the issuer may choose to redeem in whole the relevant notes of any class without premium. Otherwise, payments will be made net of such withholding.

Amortization

The amortization profiles of most of the operating lease portfolios provide for the pro-rata paydown of the rated notes subject to certain pre-determined schedules. The purpose of these schedules is to fully pay down the notes within their final legal maturities, while maintaining a level of overcollateralization equal to, or higher than, that at closing. Supplemental principal payment schedules are available for some of the higher rated classes.

Protection may be built in at the senior tranches by a principal adjustment mechanism. Certain structures may result in a faster paydown, funds permitting, if the declines in the value of the aircraft portfolio are greater than the declines assumed due to depreciation. Therefore, should a reappraisal of the portfolio reveal that aircraft values have fallen more than their depreciated value, or should a sale of aircraft result in a reduction of the portfolio value, the impact of the principal adjustment amount would be to accelerate a paydown of the senior notes. Payment of these amounts would be made possible by diverting payments from the lower-rated tranches.

Priority of Payments

The priority of payments will vary between transactions depending upon the structure put forward by the lead manager. The primary purpose of the priority of payments is to allocate payments to various classes of notes and to third parties. A sample waterfall may look as follows for a structure involving rated class A, B, C and D notes:

- Servicer cost and other expenses*,
- Class A interest,
- Class A minimum principal,
- Class B interest,
- Class B minimum principal,
- Class C interest,
- Class D interest,
- Class A principal adjustment amount,
- Class C scheduled principal,
- Class D scheduled principal,
- Class E minimum interest,
- Class B supplemental principal,
- Class A supplemental principal,
- Class D outstanding principal,
- Class C outstanding principal,
- Class E supplemental interest,

- Class B outstanding principal,
- Class A outstanding principal,
- Class E accrued unpaid interest, and
- Class E outstanding principal.

* Certain fees will be capped with the balances subordinated below rated securities.

Since the rated notes are not repaid in sequential order, the repayment of the notes by their final legal maturities are ensured by certain minimum principal amounts. Should there be sufficient cash to do so, the payments are accelerated by the supplemental principal amounts. Assuming these distributions can be made, any extra monies available will then be used to paydown the outstanding principal. The unrated notes will be paid down last.

The priority of payments may also provide for the replenishment of a liquidity reserve. Items covered by this reserve amount could include potential interest shortfalls, maintenance obligations, the repayment of security deposits, and certain other contingencies, for example deferred tax liabilities. An important function of this reserve could be to ensure that timely interest payments are made regardless of a temporary cash shortfall arising from the underlying leases. The priority of payments could be structured such that there are separate liquidity reserves for each class of notes, and separate top up facilities at different stages in the priority of payments depending on the class of notes.

Purchase Options

Purchase options are another item which must be taken into account when analyzing operating lease portfolios. These options usually allow lessees to purchase aircraft at prices below either their estimated fair market value or their estimated net book value at the option exercise date. Going forward, new lessees may also negotiate leases with similar purchase options.

The impact of the exercise of these options is two-fold. First, if the exercise price of these options are significantly below the appraisal values of the aircraft and a large number of lessees exercised their options, this may adversely impact the repayment of the notes. The second impact is that the exercise of these options may trigger deferred tax liability claims on the issuer. The value declines used in cash flow simulations will be considered (*see "Credit Analysis" section*) to ensure they are sufficiently conservative to address the risk that these exercise prices would be below those assumed in its stress tests. The severity of the value declines would render this risk highly unlikely.

Stress Tests

The cash flow modeling that is applicable to an operating lease deal would follow the format outlined in the "Aircraft Portfolio Securitization" section. These transactions will tend to finance the aircraft to the end of its economic life which is assumed to be 25 years for commercial jet aircraft.

The term of the lease will have an effect on how many leasing events would occur per aircraft. The terms of the leases vary, depending on whether the lease is written outside a depression (typically five years), within the first depression (four to five years) or within the second depression (three to four years). Shorter lease terms are used within depressions to reflect the tendency of lessors in a recessionary environment to write leases of a shorter duration in order to reduce their exposure to depressed lease rates.

Insurance

Another factor which is reviewed in operating lease portfolios is insurance. The aircraft must be insured to a level consistent with commercial practices of aircraft lessors operating in a similar industry. Insurance must cover all frame or hull war risks, frame/hull war contingency, frame/hull deductible contingency, and third party liability. Reports issued by a third party insurance broker indicating that insurance is in full force and effect and is in adequate amounts will be reviewed. The financial strength of those insurance companies underwriting these policies will also be factored into the analysis, in addition to how those exposures are managed.

Political Risk Insurance

- Depending on the domicile of the assets, political risk insurance (PRI) may be required for any carriers domiciled in, or operating out of, legally questionable jurisdictions. The insurance is designed to cover failure by a government to allow an aircraft to be deregistered, exported, and removed from a jurisdiction. The purpose of the insurance is to mitigate potential losses which may arise from the Issuer's inability to repossess the aircraft and the subsequent timely sale or releasing of the aircraft.

Accordingly, PRI must be taken out for aircraft which are operated by airlines that are domiciled in countries which have a Standard & Poor's foreign currency sovereign rating of 'BB-' or lower, or which are assigned a DRI five-year Political Risk Score greater than 30. Standard & Poor's DRI Global Risk Service considers a number of domestic political risks that could impact investment in any one country. These include: military coup risk, major insurgency/rebellion, government instability, institutional failure, and government ineffectiveness, among others. The DRI score is a probability scale of 1 to 100, rising with increasing risk. Obtaining PRI for those

jurisdictions which meet these two criteria should provide investors with additional comfort that political risks arising in certain jurisdictions would not impact the transaction negatively. For those countries which are unrated, Standard & Poor's will evaluate those jurisdictions on a case-by-case basis during the ratings process.

Hedging

Interest rate exposure should be offset by swaps which should be entered between the issuer and a suitably rated counterparty. The swap counterparties used in the hedging strategy will be supporting parties to the transaction, and thus the necessary language will have to incorporated into the swap agreement regarding the replacement of the swap counterparty in the event of a downgrade.

The hedging strategy for operating lease deals incorporates a degree of operational risk not seen in traditional structured financings and represents a departure from the scenario in which the term of the swap is consistent with the term of the deal. The hedging strategy is dynamic and is aimed at eliminating any exposure which could arise from a mismatch in the amount of fixed- and floating-rate leases compared to fixed- and floating-rate notes. The profile of the asset base is continually changing as leases either mature or default. Since the timing of these events will not be known at closing, the issuer will rely on the services of a third party who will be responsible for sourcing swaps on an ongoing basis.

Currency exposure, to the extent that it exists, must be fully hedged. To date, all debt issuances have been in US dollars. Lease rentals and aircraft values are also denominated in US dollars, although Airbus has begun quoting aircraft prices also in euros.

Maintenance and Indemnities

Operating leases generally contain "hell and high water" clauses which expressly require the lessee to pay for costs, expenses, and liabilities incurred in relation to the operation of the aircraft, such that the lessor has no residual liability for the payment of any of these obligations s while the aircraft is with the lessee. Analysts will review the leases, or representative standardized leases, as applicable, to assess the allocation of these responsibilities during the lease term. See "Maintenance and Related Issues" in the "The Servicer's Role and Responsibilities" section for a discussion of maintenance responsibilities that arise in the re-leasing context and that the servicer performs, or has performed, on behalf of the lessor while the aircraft is in possession of the servicer.