



# Helicopters: An Evolving Market

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## Helicopters: An Evolving Market

The fluctuating global economy and an increase in capital flooding the fixed-wing sector have redirected some aviation financiers to the helicopter marketplace. In the past, helicopter deals often escaped notice and the sector received comparably little investment. However, since 2010, changing currents in the world of helicopter finance and leasing are creating opportunities for manufacturers, lessors, operators and investors.





This edition of mba's Insight Series highlights some of the complexities of the helicopter market by analyzing the recent history of the rotor wing environment, examining new possibilities in helicopter capital markets, and discerning future helicopter industry trends.

## Enabling Global Infrastructure

A look skyward in nearly any part of the world will reveal the range of roles helicopters provide. These mission critical assets are often essential to the sectors they operate in, with their vertical takeoff and landing capacity not met by any other system. It is this notion of "mission critical" which has underpinned the characteristic long economic lives and stable market values.

Like their fixed-wing counterparts, helicopters have varied capabilities for different roles. In analyzing the rotor wing marketplace, it is essential to understand the significant specialization in design among specific models of aircraft. mba broadly categorizes the helicopter landscape into five classes based on Maximum Take-off Weight ("MTOW"): light single engine, light twin engine, medium, super medium, and heavy.

### Helicopter Classifications

	Light Single	Light Twin	Medium	Super Medium	Heavy
<i>Missions</i>	Utility Executive Parapublic Training	Parapublic EMS Executive Utility	Executive OSOG Parapublic	OSOG Search and Rescue Government/VVIP	Search and Rescue Utility (OSOG)
	AW119	AW109 AW169	AW139	AW189	
	EC120/H120 AS350/H125 H130	H135 H145	AS365/H155	H175	AS 332 H225
	Bell 505 Bell 206 Bell 407	Bell 429	Bell 412		
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## The Shape of the Helicopter Sector

While there continues to be growth in demand for some sectors of the helicopter market, it has been a slow recovery from the softness felt by the wider market. For many years, a key driver in the helicopter market has been from the offshore oil and Gas ("OSOG") industry. Heavy and medium helicopters had proven to be effective in support of offshore platforms and the whole concept of super medium helicopters was formed for OSOG operations. As an illustration, about 40.0% of the US\$6 billion spent on new helicopters previously came from the OSOG industry.

From a decade high of nearly US\$130 per barrel, the price of North Sea Brent Crude oil fell to a low of just under US\$29 per barrel in January of 2015.<sup>i</sup> At that price, the economics no longer supported the extraction of oil from remote deepwater rigs. Exploration budgets were cut, and many offshore rigs were idled. Since December of 2012, there has been a 58.0% reduction in the number of drilling platforms operating in the North Sea;<sup>ii</sup> the Gulf of Mexico has seen a 40.0% decrease in the number of rigs since 2014.<sup>iii</sup> While the prices of Brent and West Texas Intermediate crude have risen from the low, the price per barrel still currently hovers at approximately 50.0% of the decade high. It is also important to consider that the global energy market is growing slower than at any other point in the past ten years. According to BP, global primary energy consumption increased by a low 1.0% in 2016, versus a 1.8% ten-year average growth rate.<sup>iv</sup>

The reduction in the price per barrel of oil diminished the demand for large helicopters, with flights out to rigs occurring less frequently and fewer people on board. In 2015, Sikorsky shipped just 12 civil helicopters<sup>v</sup> and Airbus Helicopters booked only two orders for its heavy market helicopter, compared to 23 in 2016. Neither OEM has delivered any new heavy helicopters so far this year, indicating that the sector is softer and not just a reflection of issues with the H225.

The market for light and medium helicopters has not felt as much of an impact. Globally, there are more than 5,000 light and medium helicopters being used for public safety (police, fire, and EMS). When added to the nearly 9,000 utility helicopters in service, these aircraft make up a sizeable percentage of the world civil rotor wing fleet. This sector of the helicopter marketplace has seen sustained 4.0% annual growth.

## Helicopter Leasing Comes of Age

Aircraft leases have been a fixture in the fixed-wing aviation industry for many years, however, the leasing of aircraft by operators from servicers dedicated to helicopters is a relatively new phenomenon. Before the formation of the Milestone Aviation Group in 2010, what leases did exist in the helicopter landscape were typically operating leases offered by banks and large equipment finance companies or large helicopter operating companies themselves; Era group began hybrid operations as an operator and lessor in 2005.<sup>vi</sup> Except for ITC Aviation in Japan, investment groups generally considered the helicopter market to be too small to warrant a full-fledged operating leasing operation.

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Between 2002 and 2010, offshore oil exploration and production increased dramatically—the number of rigs nearly doubled. This expansion necessitated a significant increase in the number of helicopters available to service OSOG platforms and compelled new ways to finance aircraft acquisitions. Investors realized the potential; between 2010 and 2014 several leasing companies entered the market space, including Waypoint Leasing, Lease Corporation International, Lobo Leasing, and Macquarie Rotorcraft. With the more recent growth of the light and medium helicopter sectors, Infinity Helicopter Leasing was started in 2014 to focus on supplying assets to EMS and fire services. GECAS, the largest player in the aircraft leasing industry, has also recognized the potential of the helicopter leasing space as they purchased Milestone Aviation Group during the peak of the market in 2015. Today, leasing companies are the most prominent purchasers of large civil helicopter assets, signaling that the helicopter leasing business is starting to mature into an industry similar to their fixed-wing counterparts.

The benefits of leasing have already been shown in the fixed wing market, and as helicopters have grown more technologically sophisticated and operationally capable, the new unit price creates investment challenges for many operators, especially in an environment where contracts for their services can be relatively short-term. Leases offer some significant advantages over traditional purchase financing that decreases the risk that acquiring new aircraft can pose to operators:

- **The residual value and asset disposal risk are retained by the lessor:** The operator's bottom line is not impacted by the depreciation of their helicopter assets. While helicopters tend to have long-service lives and hold their value well, operators must consider replacement costs and the fact that residual value is impacted by market demand.
- **Leases preserve working capital:** In the modern helicopter services industry, cost efficiency is the key to profitability. Keeping large amounts of debt off the books, frees up cash for the operator, and looks more appealing to would be investors.
- **Leases can be tailored to individual contracts:** Contracts for helicopter services come with unique elements. EMS and SAR contracts can be long-term, while OSOG or utility operations contracts can be shorter in duration. By matching the term of the lease with the length of a particular contract, operators can fill a short-term need. Also, having the ability to remove an aircraft and replace it with a newer or a reconfigured model allows operators more flexibility.

### **The Future of Helicopter Financing**

Helicopter financing is still somewhat in its infancy when compared to the fixed wing market. Lenders and investors are not as familiar with the sector, and assuming that the assets behave in the same manner can be risky. At the beginning of the current decade, private equity-backed companies buying up other operators was the main way investors were supporting the sector. In 2012/2013, bond issues and export credit were more frequent, with Milestone launching the largest helicopter export credit financing ever in 2013. The oil down turn and resulting market softness seen in 2015, tested the helicopter leasing industry, which had been touting high residual values and market stability since their

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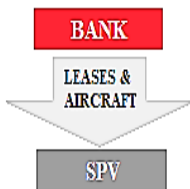
inception. However, the last couple of quarters in 2017 have shown that the market has started to find some balance.

The recent stabilization has raised some questions with financiers about whether or not it is time to revisit the space. Debt transactions are common place among the helicopter lessor community whether it be unsecured revolving credit or securitized loans and notes. In the fixed wing world, airlines and lessors are looking to the debt capital markets as a source of funding. Since the end of 2015, near-record levels of financings were completed and in 2016, aviation-related debt securities issuance in these markets was around US\$3 billion. Over the past couple of years, there has been a strong return of the asset-backed securitization (“ABS”) market, showing the strength of investor demand for aviation assets. However, there has yet to be an ABS deal in the helicopter space.

ABS deals are usually favored by leasing companies, who in many cases act as the servicer to the portfolio rather than a direct lessor, while in return for capital investors are secured from risk. ABS issued by operating lessors are typically diverse across different asset types and operator credits to assist in mitigating insolvency risk.

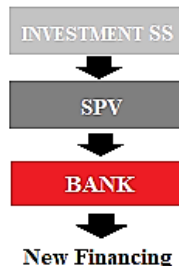
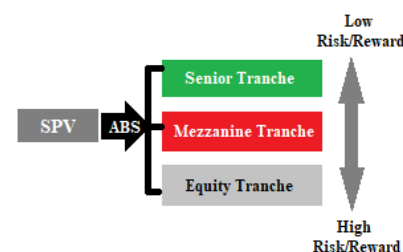
While every transaction is different, the process of securitizing leased aircraft into ABS generally is as follows:

1. The bank finances a large number of leases to a helicopter operator, or a group of operators. The bank seeks to securitize the leases to spread out the risk and raise additional funds.



2. The bank forms a special purpose vehicle (“SPV”), an entity created specifically to purchase the leases from the bank.

3. The SPV organizes the expected cash flow from the aircraft into tranches of risk, factoring in the credit and operational risks of the lessees. The credit rating agencies determine whether or not the tranches are investment grade.



4. The capital raised through the ABS is used to pay off aircraft debt or to increase working capital to fund further leases. Over time, the investors get the free cash flow generated from the lease payments and aircraft dispositions, plus interest.



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The real benefit of this type of transaction is that, by securitizing the leases, the risk is spread out rather than residing on one company's or bank's balance sheet. The contractual obligation to pay the investors ranks senior to the lessee's other debt obligations, reducing investors' exposure. The banks and lease originators who securitize aircraft leases, can increase their liquidity, thus allowing them to assist leasing companies in purchasing larger fleets.

The concept of ABS is something of a novelty in the helicopter marketplace. While the helicopters themselves have often been used as collateral in obtaining financing, there has not yet been a single example of a successful pooling of helicopter lease assets into an ABS portfolio. There are a few reasons for this: the helicopter lease market is still fairly young, and while banks and rating agencies are beginning to become more accustomed with rotary assets, that comfort level has not yet reached a point where a helicopter ABS would be widely considered. The recent business jet securities 2017-1 has raised questions about the immediate viability of an ABS in the helicopter space, however, it is important to recognize the differences between the corporate jet market volatility and the mission critical nature of helicopter application.

In addition, the pool of available assets is still somewhat small compared to the fixed wing market. In order to get the same returns, a larger portfolio of helicopters would be required. One of the largest aircraft leasing corporations in the world, GECAS, currently owns 1,700 fixed wing aircraft, versus about 300 helicopters, with the second largest, Waypoint Leasing, owning a little more than 150 aircraft in its portfolio. In addition, rotorcraft maintenance differs from fixed wing in the number of Life Limited Components, which is considerably higher on a helicopter from an individual assembly basis. When forecasting the maintenance for fixed wing assets there are typically only a few items that are reserved against: two or three airframe checks, landing gear, APUs, Engine shop visits and Engine LLPs. However, with helicopters over 15 items will need to be considered, and these will not be consistent across all types, however is somewhat mitigated by the higher enrollment of nose to tail power by the hour support agreements for helicopters as opposed to fixed-wing aircraft.

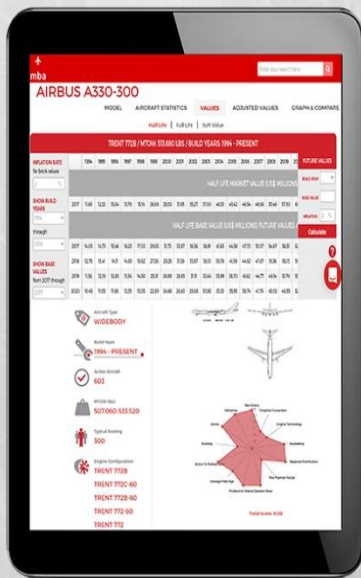
Finally, and most importantly, the real key to successfully executing an ABS transaction is ensuring that the assets are valued consistently and by reputable sources, helping in part to drive investor confidence in residual values.<sup>vii</sup>

### **Looking Ahead**

The health of the helicopter leasing industry, and the rotorcraft market as a whole, is only as good as the demand for the services that those aircraft provide. As discussed above, the reduction in production by the OSOG industry has negatively impacted the demand for large and super-medium helicopters. While the price of oil is bound to recover somewhat, it is unlikely that it will reach the highs experienced in 2008 and 2012 anytime soon. The lack of further development in OSOG capacity will continue to hamper large civil helicopter and super-medium sales. It is important to note that large helicopters tend to have long services lives and hold their value exceptionally well. Progressive maintenance programs, upgrades, and life extension modifications push the useful life of large helicopters out to the 40-year mark and these aircraft are often valued at 70.0% to 80.0% of their original list prices, even ten years after they are originally delivered.<sup>viii</sup>



# Aircraft Values On Demand



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It is important to note that there is still demand for helicopters flying offshore missions, and lessors are still placing aircraft with operators for that use, albeit at a lower levels. New demand for helicopters in the energy production sector comes in the form of renewables, specifically wind turbine servicing. The number of offshore wind turbine installations has grown dramatically. In 2015, 419 new turbines were erected in Europe alone, representing a 108.3% year-over-year increase in power generating capacity.<sup>ix</sup> A further 338 wind turbines were added off of Europe's shores in 2016.<sup>x</sup> The only viable method to move manpower to these turbines for installation and service is by helicopter and one helicopter can serve about 80 turbines. Therefore, this renewable energy production method represents a growth opportunity for the rotorcraft industry. Wind energy could become a dominant force in power production globally; one report estimates that wind could account for up to 20.0% of world energy production by 2030.<sup>xi</sup>

Another area the helicopter industry has seen growth is in the Search and Rescue ("SAR") area. Traditionally, the sole province of militaries and law enforcement agencies, SAR capacity has begun to be outsourced to civilian providers. The most notable example of this shift is to be found in the United Kingdom ("U.K.") where in 2016, Bristow Helicopters took on full responsibility for helicopter SAR operations in the U.K., flying S-92s and AW189s in the place of Sea King models. The takeover was positively received and the U.K. is considering a follow-on tender that would merge with border control and mountain rescue requirements. In Sweden, Norrlandsflyg took up a portion of the SAR load when the Swedish Air Force could not keep up with demand. Similar moves toward SAR privatization have been made in Spain and Australia. Contracted SAR services are particularly attractive in the developing world, where limited government budgets make supporting a dynamic SAR capability impossible.

Industry trends continue to predict a relatively high demand for light single, light twin, and medium helicopters. The Honeywell 2017 Turbine Powered, Civilian Helicopter Purchase Outlook predicts that a full 44.0% of new purchases will be allocated to utility and EMS/law enforcement/SAR missions<sup>xii</sup>. With 3,900 to 4,400 rotorcraft deliveries expected globally—more than 66.0% of which will be light single and twin-engine helicopters<sup>xiii</sup>—there will be ample room for financial institutions and specialized helicopter leasing companies to explore new opportunities to finance these acquisitions.

### In Summary

While the helicopter market might not be imminently ready for new financing arrangements, the stability over the last year indicates that things are looking more positive for the rotary space. mba has seen market values holding steady the last couple of quarters, as well as an increase in consideration from financiers and operators. New markets such as China, and new business models such as Uber Taxi, are propelling helicopters into a wider scene and exposing the sector to more investors. In the last five years, helicopter OEMs have released more new technology and more clean sheet models than in previous decades, therefore increasing the need for economic assistance, in one form or another.

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- <sup>ii</sup> "Oil Production Vital Statistics January 2017." *Energy Matters*, 6 Feb. 2017, [euanmearns.com/oil-production-vital-statistics-january-2017/](http://euanmearns.com/oil-production-vital-statistics-january-2017/).
- <sup>iii</sup> "U.S. Energy Information Administration - EIA - Independent Statistics and Analysis." *Gulf of Mexico crude oil production, already at annual high, expected to keep increasing - Today in Energy - U.S. Energy Information Administration (EIA)*, [www.eia.gov/todayinenergy/detail.php?id=30752](http://www.eia.gov/todayinenergy/detail.php?id=30752)
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- <sup>vi</sup> "Market analysis: A brief history of helicopter leasing." *Helicopter Investor*, [www.helicopterinvestor.com/articles/market-analysis-a-brief-history-of-helicopter-leasing-098/](http://www.helicopterinvestor.com/articles/market-analysis-a-brief-history-of-helicopter-leasing-098/).
- <sup>vii</sup> *Waypoint Leasing*, [waypointleasing.com/](http://waypointleasing.com/).
- <sup>viii</sup> Huber, Mark. "Helicopter Leasing Remains Attractive." *Aviation International News*, 31 Dec. 2016, [www.ainonline.com/aviation-news/business-aviation/2016-12-31/helicopter-leasing-remains-attractive](http://www.ainonline.com/aviation-news/business-aviation/2016-12-31/helicopter-leasing-remains-attractive).
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- <sup>x</sup> "The European offshore wind industry - key trends and statistics 2016." *WindEurope*, 5 Apr. 2017, [windeurope.org/about-wind/statistics/offshore/european-offshore-wind-industry-key-trends-and-statistics-2016/](http://windeurope.org/about-wind/statistics/offshore/european-offshore-wind-industry-key-trends-and-statistics-2016/).
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- <sup>xii</sup> "Honeywell 19th Annual Turbine Powered, Civilian Helicopter Purchase Outlook." 2017.
- <sup>xiii</sup> "Honeywell 19th Annual Turbine Powered, Civilian Helicopter Purchase Outlook." 2017.