FitchRatings

Public Finance
Community Development & Social Lending
U.S.A.

U.S. Military Housing Rating Criteria

Sector-Specific Criteria

Scope

This report details Fitch Ratings' methodology for assigning new ratings to and surveilling existing ratings for military housing bonds (MHBs). Ratings under these criteria are issue ratings assigned to individual debt instruments and do not incorporate any assessment of recovery prospects. These criteria only apply to housing on military bases in U.S. states and territories. MHBs can include a housing development on a single bases, or a pool of projects across several bases where there is a gross revenue pledge.

Key Rating Drivers

The weighting between the individual and aggregate qualitative and quantitative factors outlined below varies among projects within the sector and could change over time. As a general guideline where one factor is significantly weaker than others, this weakest element tends to attract a greater weight in the analysis. Fitch does not expect to rate MHBs higher than the 'AA' rating category unless there are explicit guarantees that eliminate appropriation risk.

Revenue Defensibility: Fitch considers the demand and pricing risks in the assessment of revenue defensibility. Given the nature of MH projects, there is built-in demand; however, Fitch evaluates the risk that the project will suffer a reduction in demand or marketability, which could have a negative impact on occupancy levels. Fitch's analysis also looks to the stability of the rental income provided by the basic allowance for housing (BAH) receipts. Pricing flexibility is limited given that rental revenue is tied to annual BAH rates. While fluctuations in annual BAH rates and turnover rates cannot be controlled, management's ability to maintain high occupancy levels is necessary for adequate debt service coverage ratios (DSCRs)/financial performance.

Operating Risk: Fitch considers an MHB project's risk of incurring costs greater than projected after completion and evaluates the project's ongoing exposure to cost increases based on the physical condition of the property(s), operating history and management experience. Fitch also evaluates the presence of maintenance reserves and any future capital requirements.

Financial Profile: Fitch's assessments of revenue defensibility and operating risk are used to determine the degree of stress for various scenarios analyzing the project's financial flexibility to achieve benchmark DSCR despite volatility in certain factors such as BAH, vacancy rates and expenses. The results of the cash flow scenarios are typically summarized in a key metric, the stressed DSCR, which measures the adequacy of coverage to service debt on a forward-looking basis. Additionally, the financial profile is assessed through break-even stress scenarios.

Asymmetric Risk Factors: Base Realignment and Closure Risk: MHBs cannot eliminate Base Realignment and Closure (BRAC) risk. BRAC risk is analyzed with emphasis on previous BRAC reports prepared by the U.S. Department of Defense (DoD). The installation's importance to the military is directly linked to the base's essentiality, its history and its mission relative to the current security environment of the U.S., which together, help gauge the likelihood that support for its operations will continue well into the future.

Legal Attributes: Other contributing asymmetric analytical considerations focus on the transaction's debt profile, reserve funds and legal provisions.

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This report updates and replaces "U.S. Military Housing Rating Criteria," dated Sept. 1, 2021.

Related Criteria

Public Sector, Revenue-Supported Entities Rating Criteria (September 2021)

Completion Risk Rating Criteria (December 2020)

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Framework

The sector-specific criteria described in this report are used by Fitch analysts to assess indicative metrics, rating benchmarks and attribute expectations in line with the master revenue criteria, "Public Sector, Revenue-Supported Entities Rating Criteria." The construction phase of the project, if relevant, is reviewed in line with the "Completion Risk Rating Criteria". Ratings that are exposed to completion risk may be constrained by either the completion risk assessment or projected financial metrics during the operating phase of the project.

The ratings are not formulaic or model driven but require qualitative judgement to place the metrics in an overall context for each MHB project. Given the varying degrees of long-term strategic importance and/or uniqueness of geographic locations of military bases, not all rating factors outlined in this report may apply to an individual rating or rating action. Each specific rating action commentary or rating report will discuss the factors most relevant to the individual rating action. Fitch does not believe that MHBs are eligible for rating assignments higher than the 'AA' rating category given the inherent risks that are present and detailed in these criteria.

Use of Risk Factor Attributes to Determine Stress Levels

Fitch assigns attribute rankings of 'aa', 'a' or 'bbb' and below' for revenue defensibility and operating risk. The revenue defensibility and operating risk assessments then affect the magnitude of the stress for those variables in the forward-looking financial profile analysis. A weaker attribute would directly translate into a more severe assumption (e.g. a revenue defensibility attribute assessment of BAH volatility or historically high vacancy rates would increase the revenue stress in a forward-looking rating case). Other risk factors work asymmetrically, where only below-standard features would be reflected in stress levels or rating levels, while more credit-positive features are expected to be the rule and would have a neutral impact on the rating. The risk factors translate into differentiated quantitative assumptions to determine the project's overall stressed DSCR.

Consideration of financial profile in the context of revenue defensibility and operating risk and its correspondence with ratings is presented in the Key Rating Factors Table on pages 2–4. Transactions rated in the 'AA' to 'BB' categories generally demonstrate attribute characteristics primarily in the corresponding category combined with stressed DSCRs consistent with that rating category. Transactions that do not meet the break-even thresholds as described on page 11 will not be eligible for an investment grade rating. The ratings are capped at the stressed DSCR parameters for each respective rating category as outlined on page 8.

Key Rating Factors — Military Housing Transactions

Revenue Defensibility	Relevant Indicators	aa	a	bbb and below
Demand: Characteristics of military housing demand as measured by occupancy rates; the quality of base housing; and the competition from local market units.	***Occupancy Trends*** Analysis of historical and current occupancy trends	Average annual occupancy rates greater than 95% with steady rates throughout the year and strong waiting list. Historical occupancy rates demonstrating the same strong trend.	Average annual occupancy rates between 90%–95% with some fluctuation in occupancy trends and waiting list throughout the year. Steady historical occupancy trends.	Average annual occupancy rates 90% or lower with fluctuation throughout the year. Minimal waiting list. Fluctuation in historical occupancy trends.
	Quality of the MH Project Analysis of the quality of the base housing and scope of the MH portfolio	Projects offering higher quality housing units than the local market with many on-base amenities and incentives. Base mission and/or intended tenant mix that makes living on-base more convenient. If more than one base, consistently strong quality of housing across the bases.	Projects offering housing units comparable in quality to the local market with some amenities on base. For a portfolio of bases, potentially a mix of quality in the housing product.	Projects with housing units of lower quality and offering fewer amenities than the local rental market. Base mission and/or tenant mix does not drive convenience of on-base living. If more than one base, mixed quality of housing across the bases.
	Local Market Assessment Assessment of strength of the local real estate market using third-party market studies and data.	MH projects in strong market position. Trend in rising rents with no concessions in the local market. Projects located on bases where the off-base rental housing options	MH projects in mid-range market position. Project surrounded by an off-base market area that has competing units with sound	MH projects in weak market position. Projects surrounded by, fully-occupied affordable rental units off base in close proximity and of greater

Key Rating Factors — Military Housing Transactions

Revenue Defensibility	Relevant Indicators	aa	a	bbb and below
		are limited and/or a challenging commuting environment makes on-base living more desirable.	occupancy levels and product that is comparable in term of age, quality or amenities.	quality in terms of age and amenities than the on-base housing.
Pricing: BAH is the main revenue component for a military housing project once construction is complete. As such, Fitch reviews the history of BAH rates, and potential for annual fluctuations in the rate.	Analysis of historical and current BAH rates.	N.A. — Pricing capped at 'a' given price-taking nature of military housing rental revenue stream as tied to the BAH appropriation and assigned rates.	Projects that have received recent increases in BAH rates and demonstrate a trend of increasing BAH rates over a five-year period. Located in market area where the trend for rents is rising.	Projects that have not received recent BAH increases and demonstrate a trend of stable or declining BAH rates, over a five-year period. Located in an area with a weak rental market.
Operating Risk				
Exposure to cost increases based on property's physical condition, management experience, and the transaction's capital reserve protections.	***Cost Management*** Analysis of financial and operating statements to determine cost drivers.	Operating history demonstrating a stable cost profile with five-year average annual expense growth at or below average BAH rate increases. Maintenance and repair costs consistent year over year and in line with overall expense growth.	Operating history demonstrating modest variability with five-year average annual expense growth demonstrating some fluctuation, but overall in line with BAH rate increases. Some fluctuation in maintenance and repair costs with increases above overall expense increases.	Operating history demonstrating high volatility with five-year average annual expense increases above BAH rate increases. Spikes in maintenance and repair costs potentially reflecting unanticipated project expenses.
	Property Management Analysis of the management oversight of a military housing project	Property manager that has deep military housing management experience with a successful operating track record and a national presence.	Property manager that has military housing management experience with an adequate operating track record at other MH projects.	Property manager that is just entering into the management of military housing projects and/or has a history of being replaced on a previous project, and/or has demonstrated poor operating management performance at other MH projects.
	Capital Expenditure Needs Review of third-party engineer reports to assess property condition. Review of capital reserves.	Set schedule for future capital improvements and set capital reserve amounts required in the flow of funds on a per-unit basis; and also includes a re-investment account.	Set capital reserve amounts required in the flow of funds and are based on the recommendations from third-party reports.	No provision for capital reserve deposits in the flow of funds; and vague or non-existent plans for future capital improvements.
Financial Profile				
Debt Service Coverage Revenue defensibility and operating risk assessments used to determine magnitude of stress for those variables to test the cash flow sensitivity.	Financial flexibility evaluated through resulting DSCRs in a forward-looking stressed scenario. Additionally, financial profile assessed through break-even stress scenarios.	Refer to the DSCR Parameters on pg. 8 and Breakeven Stresses on pg. 11.	Refer to the DSCR Parameters on pg. 8 and Breakeven Stresses on pg. 11.	Refer to the DSCR Parameters on pg. 8 and Breakeven Stresses on pg. 11.

N.A. – Not applicable.
Source: Fitch Ratings.

Key Rating Factors — Military Housing Transactions

Asymmetric Risk Factors		Neutral	Negative
BRAC Risk An assessment of the vulnerability to closure of the related military installation for which the housing is constructed.	Review of publicly available BRAC reports prepared by the U.S. Department of Defense as well as analysis of the installation's essentiality, history and mission relative to the current security environment.	Base net receiver in prior BRAC years or little/no mention of BRAC in prior reports; redemption guarantee from the DoD upon base closure or tenant rental waterfall for alternative-use plans; and presence of a feasible plan for converting assets to civilian use on potential base closure.	Base mentioned in prior BRAC reports and a net loser in prior years; absence of a tenant rental waterfall in documents; and absence of an alternative-use plan upon potential base closure.
Legal Attributes An assessment of the various structural features that underpin the cash flows supporting the debt service.	Analysis of legal documents to determine general covenants, payment waterfall and other transaction structural features.	Lock box structure; debt service reserve fund (DSRF) sized at maximum annual debt service; cash trap on failure to meet debt service coverage tests; ability to transfer control of property in the event of underperforming management; lease that extends beyond the term of the bonds.	No lock-box structure; DSRF sized at less than maximum annual debt service; no cash trap tests in flow of funds; and weak or vague mechanics to transfer control of property in the event of underperforming management. Lease that does not extend beyond the term of the bonds.

N.A. – Not applicable.
Source: Fitch Ratings.

Key Rating Drivers

Fitch's key rating drivers are 1) Revenue Defensibility, 2) Operating Risk and 3) Financial Profile. The three key rating drivers are assessed using the following guidance outlined in these criteria, which defines general expectations for a given rating category. Subfactors in each of the key rating drivers highlight the components that are most critical in making the assessment. All assessments are grounded in issue-specific historical data along with a quantitative and qualitative analysis to support a forward-looking view on the expectation for future performance rather than at a single point in time.

Revenue Defensibility

Fitch considers demand and pricing characteristics in its assessment of revenue defensibility for military housing projects. Demand for and the revenue generated from military housing projects is derived primarily from service members stationed at the subject base and their accompanying BAH, as well as the overall quality of the housing on base that attracts the target market. The analysis of revenue defensibility considers: 1) occupancy trends measured by service members stationed and occupying units on the base; 2) quality of the units developed and maintained compared to the local market; and 3) the BAH rates allocated to those ranks. As part of these considerations, Fitch factors in the impact of turnover rates on both occupancy and pricing risks. Given the price-taking nature of military housing rental revenue stream as tied to the BAH appropriation and rates, Fitch caps pricing attribute assessments at 'a' for military housing projects.

Demand Risk

Occupancy Trends

A key factor in determining demand is the analysis of a project's occupancy trends. Fitch assesses the occupancy trends of each project to not only determine the overall revenue defensibility but to also assess the stability of the project's revenue, regardless of changes in annual BAH or turnover rates. A project with stronger occupancy attributes demonstrates stability of historical annual occupancy rates with average rates of 95% or greater. This assessment considers the greater level of resiliency that a project with high occupancy rates can withstand in the event of BAH fluctuations, increases in operating expenses and/or turnover at the project.

A project with midrange occupancy attributes has average annual occupancy rates between 90%–95%. For such projects, occupancy rates tend to demonstrate fluctuations on a monthly basis; however, the overall occupancy levels between 90%–95% provides some protection in the event of BAH declines, increase in operating expenses, and/or turnover.

Lastly, Fitch considers projects to be on the weaker end of the occupancy attribute where occupancy rates are 90% or lower with fluctuation throughout the year and historically persistent fluctuations. These projects are much more susceptible to BAH declines, increase in operating expenses, and turnover rates. In addition, the fluctuating trends for projects assessed to have weaker occupancy trends may denote a lower level of quality for the projects on base as compared to options for housing off the base.

Quality of the Military Housing Project

The best positioned military housing (MH) projects tout well-built housing with many on-base amenities and incentives, which makes living on base more desirable than in the surrounding local market. The amenities, schools, health facilities and local community services offered by the military housing project are considered to assess the development's ability to meet the needs of military personnel over other housing options. If MH projects comprise more than one base, Fitch considers whether the quality of the housing is consistently strong across the bases or whether the quality varies across bases.

Gross revenue, which is also driven by demand, may vary with the quality of the project's units and the level of convenience that living in the on-base project may offer to a service member. Fitch also considers the base's mission (training or operational) and the project's intended tenant (family/unaccompanied personnel) to gauge the likelihood that there will be demand for living on base.

Fitch believes it is important to gain an understanding of the target population for which the subject property is being built and to which it is being marketed prior to reviewing the existing on-base real estate and the surrounding market. A review of rank, family status, other housing options, preferences and the potential for deployment gives insight into whether the project will be attractive to service members and how much turnover may be anticipated.

Operating flexibility is a critical rating factor, since the typical MHB has a 40-year maturity. Usually, there is a tenant rental prioritization (tenant waterfall) in the bond legal documents that dictates the hierarchy for potential tenants if the initial target market is not fully occupying the project. Fitch reviews the demographics of the surrounding area, with a special focus on the number of retired service members who reside in the subject area given that many projects include these individuals in the tenant rental waterfall.

Local Market Assessment

MHBs have a number of unique credit strengths relative to the broader housing industry because they fund properties that have a built-in customer base. However, service members receiving the BAH have the option to live in the military's privatized housing or select alternative housing close to the base. Indeed, some service members look for housing options outside the base that charge rents that are less than the current BAH so they can retain the difference, adding to their disposable income. Fitch takes this factor into account and reviews the surrounding real estate market and other available housing alternatives to assess the likelihood of service members finding value in renting off base.

Fitch reviews the base's surrounding local market to determine the quantity and quality of the inventory in the market area. Additionally, trends in the local rental market are reviewed to establish current market occupancy rates, the directions rents are trending, whether concessions are being offered and how dependent the market is upon the base. Fitch analyzes the number and type of competing or alternative living options in MH project's market area that could potentially limit demand. This includes information on the number, type and size of units; amenities; up-to-date fee schedules; and occupancy rates. Fitch evaluates the effect that any potential new entrants into the market area may have on demand. The potential saturation of a market may have a negative impact in the analysis, as it could lead to lower occupancy on the base if alternative options are more desirable.

Having the financing participants develop a well-defined business strategy for the project, with special emphasis on the developer and project manager, is critical to achieving investment-grade ratings, as military housing projects are subject to typical real estate dynamics. The strategy typically addresses normal and expected operating conditions, as well as stressed conditions, considering factors such as deployment.

Pricing Risk

BAH and Turnover Analysis

The BAH is the main revenue component for a military housing project once construction has been completed. The purpose of a BAH is to provide housing compensation to service members who are not provided with adequate and equitable government quarters based on rental housing costs in the local market. The Department of Defense (DoD) created the BAH system to provide more accurate housing allowances, based on the market price of rental housing in the area that surrounds the subject property.

Military housing projects are exposed to annual fluctuations in BAH rates. Therefore, the revenue projections for the project, which are mainly derived from BAH, are reviewed with the potential for increases and decreases in mind. At initial issuance, Fitch reviews reports or studies conducted by independent real estate market experts on behalf of the project as part of this analysis. These studies are used to assess the likelihood of rent levels and occupancy rates combining to achieve the project's expected revenues.

Fitch also reviews those studies in conjunction with historical price trends, market forecasts and peer analysis when available and appropriate. Historical information is likely to be more relevant to the analysis for established projects (from a previous military housing project already on base) where specific performance data are available. The factors that drive gross revenue, BAH and project occupancy levels are stressed as part of the financial analysis *(see Project Stresses on page 9)*.

An additional factor that may impact the assessment of the pricing attribute is the project's level of turnover. Turnover is common for military housing projects due to a variety of reasons including, but not limited to, service members permanent change of station (PCS), deployment or competitive off base housing. Service members receive the higher of their current BAH or the most recent increase, and therefore, in a case of increasing BAH rates, higher turnover has a neutral impact on project revenue. However, if BAH rates decline, turnover becomes an important indicator when determining the degree of impact of the lower BAH rates. High turnover rates combined with decreasing BAH rates mean that a more significant number of units will be affected by the decline in BAH. Conversely, projects with low turnover rates mitigate the impact of decreasing BAH rates as fewer units receive the lower rate.

Operating Risk

Operating risk is the risk that the project will incur costs greater than anticipated, the realization of which may result in a reduction of projected cash flows or a breach of contractual performance requirements. Fitch evaluates the issuer's financial flexibility to address operating and maintenance issues and allow sufficient net operating income for the project to service its debt.

Cost Management

A military housing project's physical condition and curb appeal are key factors to maintaining successful operations and cash flow. When assigning an initial rating, Fitch gains an understanding of the project's physical condition through the review of an independent third-party engineer's assessment. Typically, as a follow-up to these reports, Fitch conducts its own site visit to determine firsthand the condition of the base(s) and housing. Fitch also assesses whether a Phase I environmental report is provided and looks to see the incorporation of any and all findings into the legal documentation.

When assigning the initial rating, and on an ongoing basis, Fitch analyzes the exposure to operating cost increases based on the project's physical condition, management experience, and the transaction's capital reserve protections. Cost management is a key indicator in the operating risk assessment of a military housing project. While overall operating expenses, as well as certain project costs (i.e. insurance, maintenance and repair expenses and real estate taxes) generally increase year over year, strong cost management around these expected increases is indicative of a strong operating risk assessment. The degree of stress on operating expenses in Fitch's financial profile assessment is contingent upon the degree of predictability in a project's operating expenses.

Fitch believes stronger costs management also provides the project with more flexibility to manage against other factors such as occupancy changes, high turnover rates and BAH declines.

Fitch assesses the operating history of each project to determine the stability in the operating expenses by analyzing the five-year operating history. Transactions with stronger cost management show stability in their operating profiles, with operating expenses during the five-year period that do not outpace the BAH rate increases. For projects that have some fluctuation, and perhaps a period of unpredictability, in operating expenses over a five-year period; however, demonstrate overall operating expenses that do not rise above the BAH rates, the project's cost management reflects a midrange level. Transactions with weaker cost management demonstrate high volatility in operating costs over a historical five-year period above the historical BAH rates.

Property Management and Governance

The borrower for MHBs are generally made up of public private partnerships with a private developer and a service branch of the DoD, with the exception of the Airforce housing projects where the Airforce provides a government development loan instead of equity, thereby creating an equity position in the partnership. MHBs operate under a ground lease with the respective service branch's military base(s) that will expire 5–10 years after the maturity of the bonds. There is no governing body in an MHB transaction, as each ownership structure is set up as a limited liability company (LLC) solely for the purpose of building the subject property.

The oversight of a military housing project differs based on the two separate phases during the life of a military housing financing. The developer/owner plays the primary oversight role during the construction phase of the project. In the post-construction phase, the property manager provides the primary oversight function. During both phases, the government is an active participant while the bondholder representative and bond trustee serve in supporting roles. The construction phase is reviewed in line with the "Completion Risk Rating Criteria" and, as such, the MHB project rating is capped by the construction risk assessment. Ratings exposed to construction risk may be constrained by either their completion risk credit profile or projected financial metrics during the operating phase of the project

Post construction, the property manager plays a vital role in an MHB project's success as the key participant responsible for day-to-day operations. Fitch views favorably a manager that has deep military housing management experience, a successful operating track record and a national presence. A well-managed property will have a current and substantial waiting list from which to draw prospective tenants, a strategy in place for marketing new tenants and the ability to prepare a vacated unit in a timely manner. A well-managed property will also demonstrate control over operating expenses, without unanticipated year-to-year volatility in expenses. Conversely, Fitch views less favorably a property manager that is just entering into the management of military housing projects and/or has a history of being replaced on a previous project and/or has demonstrated poor operating management performance at other MH projects. A weaker-managed property may demonstrate higher vacancy rates and/or longer turnover times, as well as challenges in controlling operating expenses.

The presence of achievable performance-based measures for the property manager, may be considered a credit positive if they provide an incentive for the operator/manager to achieve or surpass projected performance. Typically, MHBs are structured with additional management fees that are paid only if certain benchmarks are met. MHBs that have been assigned investment-grade ratings typically contain legal provisions that only allow these additional fees to be paid after regular debt service has been satisfied and certain debt service coverage levels have been met.

Capital Expenditure Needs — Economic Life of the Project

Fitch's analysis includes an assessment of whether the term of the rated debt is consistent with the economic life of the project. Upon initial rating assignment, Fitch will typically rely on third-party engineer reports to determine the useful life of systems and the project itself. The final maturity of the rated MHBs should be within the proven economic life of the project, as documented in third-party reports. This proven economic life may only be achieved by significant capital expenditure over the life of the transaction, which is typically required and accounted for in the original project bond documentation.

Making annual deposit amounts on a per-unit basis for the funding of the repair and reserve funds, and detailing plans in bond legal documents for the funding of large-scale recapitalization projects later in the physical life of the project, is consistent with an MHB with an investment-grade rating. Additionally, an MHB transaction often includes a reinvestment account that is funded by excess cash flow, controlled by the military and available for the future redevelopment of the project.

Fitch views these reinvestment accounts as credit positives, as their presence addresses the risk of competing off-base units coming online in the surrounding area, by ensuring the MHB project will be prepared to invest in upgrades to maintain competitiveness and revenues. These reinvestment accounts are in addition to regular capital replacement reserves funded out of project cash flow. Fitch will favorably factor the presence of both capital reserve funds and reinvestment accounts into the rating, given that obsolescence risk without mitigants may result in a project experiencing a shorter economic life and lower revenues. Conversely, the absence of such funds will be viewed negatively.

In certain MHB transactions, the financing includes subordinate debt that funds a government direct loan (GDL). To the extent that the financing includes a GDL, as in many U.S. Air Force transactions, the payment of debt service on the GDL is subordinate to the senior bonds and paid before the funding of reinvestment accounts intended for project recapitalization. Due to the nature of this priority of payment, the funding of reinvestment accounts is less certain when a GDL is present.

Financial Profile

Fitch's assessments of revenue defensibility and operating risk are used to determine the degree of stress for various scenarios analyzing the military housing property's financial flexibility. A large part of Fitch's financial analysis centers on a property's DSCR, since the primary security for a military housing bond is the cash flow the property generates. Fitch calculates DSCR by dividing net available revenues, after Fitch stresses have been applied, by maximum annual debt service (MADS). Net available revenue is net rental revenue less operating expenses, including deposits to the replacement reserve fund. Operating expenses typically include administration, utility, operations and maintenance, insurance and taxes. Depreciation and amortization costs are not included for purposes of calculating the DSCR.

Income, Cash Flow, and DSCR

Given the unique circumstances and locations of each military base, there is a range of DSCRs for specific rating categories. Typical ranges for the Fitch-stressed DSCRs after the initial development phase (IDP) are outlined below. Ratings assigned to family MHBs currently range from 'B+' to 'AA'.

Stressed DSCR Parameters for Military Housing Transactions

(x)

Rating	Stressed DSCR (x)
AA	1.55–Above
A	1.35–1.55
BBB	1.20–1.35
BB	1.10–1.20

Source: Fitch Ratings.

The DSCR parameters outlined above are guidelines and demonstrate both ends of the spectrum for each rating category. A transaction that demonstrates these coverage levels, will not always qualify for a commensurate rating within the corresponding range, if there are other credit factors that carry more weight in assigning a rating.

Base Case and Stress Case (the Rating Case)

New Military Housing Project Ratings

For the assignment of a new rating for a MH project, Fitch's project financial analysis begins with a review of base case cash flows as provided by the issuer and/or its agents with an expected set of assumptions regarding revenue, occupancy levels and expenses. Typically, the base case incorporates an annual increase in revenue, as determined by historical BAH rates, and an annual increase in expenses for the first five years during the project's IDP and then assumes no increases to either revenue or expenses over the remaining life of the bonds.

Based on the initial review, Fitch then requests that the issuer construct a stress case (the rating case) using the base case as a starting point. The stress case scenario is a modified projection that incorporates certain additional stress factors as described on pages 10–11 to reflect the specific elements of the transaction. The analysis of the stress case is a key quantitative determinant of the rating. The stress case is established using references to historical events (BAH rates, vacancy rates), peer analysis and Fitch's revenue and expense expectations for the future.

Fitch determines if the cash flows achieve benchmark DSCR levels under the various scenarios after completion of the IDP. However, some MHBs will not receive an investment-grade rating if certain qualitative risks (for instance, real estate market risk or BRAC risk) are deemed significant even if credible projections show strong ability to repay debt. For additional information regarding the cash flow review, please see the 'Third Party Models' section on page 11.

Scenario Analysis for Surveillance Reviews

Fitch applies the same type of stress factors during a surveillance review; however, rather than using third-party cash flows, Fitch uses the most recently available audited financials as the starting point for the analysis. Fitch will evaluate a base case cash flow scenario that serves as Fitch's expected case in the current operating environment. Fitch's stress case scenario will consist of a three-year through-the-cycle scenario that incorporates revenue and operating expense assumptions based on Fitch's review of historical performance of BAH rates, vacancy rates, and expense increases and expectations for future performance, as further described on pages 10–11. Fitch's expectations reflected in the scenario will be shaped by the revenue defensibility and operating risk key rating driver assessments.

The stress case scenario analysis will reveal shifts in net operating income contrasted to the base case, to determine if the benchmark DSCR levels are maintained despite volatility in the various factors. The scenario analysis should not be interpreted as a forecast of actual performance under stress; it is only intended to illustrate performance under given certain stresses and a set of assumptions for a specific transaction. The analysis of the cash flow scenario used in the rating process is a key quantitative and qualitative determinant of the rating and is typically a central point of discussion in rating committees.

Project Stresses

There are a number of factors that influence how a military housing project's cash flow performs, such as BAH rates, occupancy levels/vacancy rates, lifecycle expenses and other project costs. The purpose of applying stresses to these factors is to test the cash flow's sensitivity to changes in these parameters that are specific to the individual project. The stress assumptions and the analysis of the stress case incorporate both the culmination of past experience with other Fitch-rated military housing transactions and expectations for future performance of the subject base, project and surrounding market area.

Unaccompanied military housing projects have risks in addition to those identified above. These risks include the potential for bad debt, higher turnover rates and consequently higher operating expenses. The target tenant base for unaccompanied housing is junior enlisted personnel who deploy often and must vacate their units rather than accompanied service members with families.

Depending on the dynamics of the individual project, base and surrounding real estate market, there are three main areas of focus that Fitch typically stresses: A project's future vacancy factor, its future BAH rates and its operating expenses. Stresses are intended to cover the potential for decreases in occupancy rates and BAH levels and increases in operating expenses over a forward-looking period. The stresses should be specific to the base, its location and the surrounding rental housing market. These three stresses may be incorporated individually or in some combination, depending on the specifics of the transaction.

Use of Attributes to Determine Stress Levels and Break-Even Scenarios

Most key rating drivers and the applicable attributes analyzed in the criteria will determine types and levels of stresses that Fitch will include, notably through the assumptions underlying the rating case. The magnitude of the stress depends on the outcome of the revenue defensibility and operating risk assessments as 'aa', 'a' or 'bbb'. A 'bbb' attribute would directly translate into a more severe assumption (e.g. if the project has demonstrated BAH volatility or historical high vacancy rates, that would increase the revenue stress in a rating case and break-even scenario). Other risk factors would work asymmetrically, where only below-standard features would be reflected in stress levels or rating levels, while more credit-positive features are expected to be the rule, and would have a neutral impact on the rating. The risk factors translate into differentiated quantitative assumptions to determine the stressed DSCR parameters outlined on page 8.

Revenue Stresses

Vacancy

Typically, Fitch stresses vacancy to the higher of (i) the highest actual vacancy rate over the past five years, which may be the prevailing vacancy rate for on-base housing or (ii) a minimum vacancy rate of 5%. The minimum vacancy stress factor is intended to capture the regular turnover for an otherwise fully occupied project. At initial issuance, Fitch uses third-party market demand studies and real estate data, combined with analyst site visits, to determine the rental market vacancy rate. In certain cases, Fitch may use a stress vacancy factor beyond what is typically used as described above, to reflect expected softness in the surrounding rental market.

BAH

Fitch reviews local market rental data and third-party real estate rental rate projections for the area around a given base, to determine if a reduction in the projection for the BAH rate is appropriate for cash flow projections. Bases will be subject to additional BAH rate reduction stresses, if local rental markets have demonstrated recent rental rate declines and/or are projected by third-party market studies to experience downturns in the near future, as BAH rates are set based on local markets' rental rate trends. The magnitude of the stress is determined based on the third-party projections for rental rates in the future.

Deployment and Turnover Rates (Vacancy and BAH)

The potential for a deployment to occur at a base is a risk that will always be present with MHB financings given the nature of military bases and the function they provide. For those bases where Fitch considers the location to be remote and where there is the potential for deployment, Fitch may request that a combination of additional assumptions be incorporated, stressing both project vacancy and BAH rates simultaneously.

When a base is isolated, oftentimes the surrounding rental market is heavily dependent upon that installation. Fitch believes that upon a significant deployment at a remote base, there can be a ripple effect on the local housing market, which could negatively affect BAH rates. This could occur simultaneously with a significant decline in project occupancy on base, due to the deployment. Fitch's requested stress scenario will be specific to its assessment of the likelihood of future deployment, given the base's purpose and history and the level of dependence the local rental area has on a base.

Operating Expense Stresses

Fitch reviews the composition and potential volatility of project operating costs, which will generally include some combination of the following expenses: utilities, operating personnel, taxes, insurance, maintenance and capital expenditure costs. The operating phase may have a high component of cost that is variable. Prior to assigning an initial rating, Fitch reviews independent engineering reports to assess future capital expenditure costs for both the timing and the scope/amount. In lieu of a third-party engineering report, Fitch may accept developer projections for future capital needs if the developer has a demonstrated successful history with military housing project operations.

Fitch will consider stresses to operating expenses in base case projections at the initial rating assignment and actual expenses during surveillance, if circumstances warrant. Some of the reasons for increased expense stresses, as reflected by the operating risk assessment, may include:

- The tenant base demonstrates historically high levels of deployment, which warrants higher expenses for turnover;

- Upon initial rating assignment, utilities/insurance expenses appear underestimated for the subject climate relative to other Fitch-rated MHB peers and/or in the course of surveillance utilities and insurance expenses have increased at a faster pace than then increase in BAH;
- The project is operating at less than full occupancy (90% occupancy or less) and marketing expenses will increase to address this issue.

Break-Even Stresses

Fitch will review a series of break-even scenarios using the actual operating cash flow as a starting point and applying various stresses related to BAH rates, vacancy rates and aggregate operating expenses. The purpose is to determine the magnitude of change that can be incorporated for that one factor, resulting in a maximum revenue shortfall or maximum expense increase, while still demonstrating that the DSCR does not fall below 1.0x coverage. As part of surveillance efforts to track whether an MHB is performing within the expectation for an investment-grade rating, Fitch calculates point-in-time break-even stresses to determine whether or not the MHB stress scenario results are consistent with the thresholds indicated below. When the outcome of the revenue defensibility and/or operating risk assessment is in the 'bbb' range, Fitch may conduct additional breakeven scenarios to determine whether the transaction can sustain historical levels of stress for the various factors and stay within the rating category.

The break-even scenarios are as follows (holding all other variables equal):

- BAH Rates Decline: Stress the annual BAH rate to determine how much it can decline while all rated debt still maintains at least 1.0x coverage. Typical investment-grade-rated MHBs can sustain a minimum of a 10%–15% decline in the BAH.
- Vacancies Increase: Stress the project vacancy to determine how much it can increase while all rated debt still maintains at least 1.0x coverage. Typical investment-grade-rated MHBs can sustain a minimum 10%–15% increase in vacancy.
- Expenses Increase: Stress the aggregate expenses to determine how much they can increase with all rated debt still maintaining at least 1.0x coverage. Typical investment-grade-rated MHBs can sustain a minimum 15%–25% increase in expenses.

Fitch uses the results of these scenarios as benchmarks for relative comparability with other Fitch-rated MHBs. The expectation is that the results of these break-even scenarios will fall within the range of results of similarly rated peers.

Peer Analysis

Information on appropriate MHB peer projects will be used for a comparative analysis of individual risk to assess consistency when it is available to Fitch. However, projects may present quite different qualitative features and credit metrics at a similar rating level due to different legal frameworks, cash flow variability or structural features, thus making such comparisons less valuable.

Peer analysis plays a more important role now that Fitch has rated a substantial number of MHBs that have completed their IDPs and are in full operation mode.

Third-Party Models

Due to the idiosyncratic and complex nature of some transactions and issuers, Fitch also may use third-party models provided by the issuer and its agents if they better reflect the many individual features of the credit. The agency considers the plausibility of results from external cash flow models, for example by reviewing key formulae, examining trends and the model's behavior when sensitized. Despite these precautions, as with all types of information provided by issuers, Fitch is dependent on sponsors or issuers ensuring that the information is timely, accurate and complete. Failure to do so may result in the withdrawal of ratings. The independent audit or review of external cash flow models by a reputable third party is viewed positively by Fitch. This is of particular importance for very complex models as they provide an added level of comfort that the model is working as intended. In certain instances, if Fitch is unable to replicate the calculations in a third-party model, the absence of an independent audit may cause Fitch to decline to rate the transaction or withdraw an existing rating. Use of Models

Models used in complex military housing transactions are cash flow models that project operational cash flows, debt service and resulting financial metrics. These models are not stochastic. Fitch may modify sponsor case assumptions in its base and rating cases as part of its analytical process. Models allow single and combined factor sensitivities to assess the possible impact on debt service.

Credit-Related Assumptions

There are no embedded Fitch credit-related assumptions (including hard-coded, hidden or default values) in the models.

Application of Assumptions

Fitch uses financial models to apply a range of stresses reflecting its assessment of the key rating drivers of the transaction, with the aim of assessing the capacity of the cash flow to repay each rated instrument given the features of the applicable debt structure. The stresses applied are asset- or transaction-specific.

Significance of Model Outputs

Model outputs are one of a number of factors in the determination of the rating. Model outputs are used in conjunction with the rating positioning table on pages 2–4 and the Key Rating Driver assessments. A transaction for which model outputs show a strong ability to repay rated debt may still be assigned a lower or speculative-grade rating if more qualitative risks) are deemed material.

Asymmetric Risk Factors

BRAC Risk

An assessment of the vulnerability to closure of the related military installation for which the housing is constructed is a key asymmetric risk consideration in Fitch's analysis of a military housing project. Fitch reviews publicly available BRAC reports prepared by the DoD for the BRAC Commission and considers past and present military operations or other government activities supported by the installation to gauge the long-term viability of the base during the term of the bonds. Some transactions secured by stand-alone projects that were previously considered for closure/downsizing may not be eligible for investment-grade ratings.

BRAC reports include rankings of the military value of each service's installations, with those ranked higher in strategic importance deemed less likely to close or be negatively affected by mission realignments. Bases with stable missions that have been the net receivers of military activities and personnel from other installations are considered less vulnerable to closure.

Fitch also reviews an installation's current mission, namely, the activities and military organizations supported by the base, including the base's level of essentiality, history and mission relative to the current security environment of the U.S. The qualitative analysis of these components together helps gauge the likelihood that support for its operations will continue well into the future. While there is no way to predict the future security environment, the array of forces the U.S. will maintain and, consequently, the base closures, decades out from the present, the elements described above help assess how well positioned a base is to continue in its current state. Once a BRAC Commission designates a base for closing, it typically takes a number of years before that closing is actually implemented. Given the demonstrated history of the length of time between the DoD's slating of a base for closing and its actual closure, MHB participants are likely to have time to react to the plan and possibly restructure the financing.

Debt Profile and Legal Attributes

Debt Characteristics and Terms

The characteristics of a bond financing, including its amount, maturity and tranche structure, are usually sourced from the bond documentation. The obligation to pay interest and principal according to an amortization schedule is established together with the priority of these payments in the bond trust indenture. An MHB transaction that receives a Fitch investment-grade rating typically includes fully amortizing debt with a final maturity that does not exceed the life of the project and a DSRF. Typically, the term of the bonds is shorter than the term of the underlying lease by approximately five years. Fitch views the lease not extending beyond the bond term as a negative credit factor.

The LLC for the project typically makes an equity contribution to the transaction at closing. Fitch reviews the amount of this equity contribution relative to its rated peer group, as the level of government equity and developer equity contributed is often indicative of the respective parties' commitment to the success of the project. One form of other funds contributed to the transaction comes in the form of a GDL. This is a convention typically used in U.S. Air Force transactions. The GDL is subordinate to bond debt service and its payment comes after the payment of bond principal and interest in the flow of funds.

MHBs that include interest-only periods limited to the IDP and funded using a capitalized interest account generated from bond proceeds (as the full project revenue stream is not expected to be generated until the completion of the construction and lease-up period) is consistent with an investment-grade rating. Capitalized interest accounts sized to provide a moderate cushion beyond the expected construction completion date are viewed positively.

Reserve Funds

MHB debt structures typically include additional security devices and protections such as segregated reserve accounts held in investment grade liquid securities which are legally available for the project, including in most instances a debt service reserve fund (DSRF). The DSRF is typically sized in an amount equivalent to maximum annual debt service (MADS). These protections are only effective in preventing a default in the event there are sufficient reserves to cover shortfalls. These protections are not effective in preventing default in bankruptcy and are not a basis in determining a rating unless there is a legal credit substitution in place for the use of the funds for the payment of debt service.

Structural Features and Legal Provisions

MHBs may benefit from various structural features that underpin cash flows supporting debt service. These may include covenants and triggers based on financial ratios that trap or divert cash. General covenants are expected to restrict additional debt, restrict payments to sponsors or equity holders and typically retain cash for future periods when financial indicators are deteriorating to benefit bondholders. Cash diverted or retained is typically allocated to reserves for capital repairs funding or for principal reduction of the most senior debt.

Fitch will review payment waterfalls to determine that the flow of funds in the trust indenture and the pro forma cash flows are consistent. Fitch confirms that the flow of funds includes principal and interest debt service payments as the first payment. See the below example of typical payment priorities in the flow of funds. Fitch also assesses bond legal documents to determine if covenants ensure that the issuer is able to transfer control of the property in the event management is underperforming and for DSRFs to be trustee-held so they can be accessed in the event of financial deterioration.

Typical Flow of Funds

1	Interest Account for Debt Service (for each Class of Debt)
2	Principal Account for Debt Service (for each Class of Debt)
3	Debt Service Reserve Account
4	Insurance/Tax Escrow Fund
5	Operating Fund
6	Admistrative Fund
7	Repair and Replacement Reserve Fund
8	Operations and Maintenance Reserve Fund
9	Surplus Account, All Remaining Accounts

Source: Fitch Ratings.

For MHBs with a multiple tranche debt structure (senior/subordinate), the methodology for assigning ratings involves a review of the bond's cash flow and projected debt service coverage ratios for each tranche as well as a review of bond legal documents. Fitch will review bond legal documents for the sequence in which the trustee is instructed to pay bonds and will also consider default provisions and remedies specific to the subordinate tranches and any resulting impact on the senior tranche of debt. Distinction between default risk in securities by seniority will only be made where there is a basis in the finance documentation and legal framework to support a conclusion that a default on one tranche will not result in a payment default on other senior tranches.

A typical MHB structure includes a lock-box structure that is an arrangement whereby BAH rental payments are remitted directly to a trustee-held account on behalf of the bondholder's trust estate. Fitch considers the absence of a lock box to be a strong credit negative. Military tenants are able to authorize automatic rental deduction from their paychecks, and the BAH funds are remitted to either the project manager or bond trustee. Payments made directly to the trustee through the automatic rental deduction system mitigate the risks of bad debt and developer bankruptcy and, therefore, provide for a stronger security structure.

Information Quality

The quality of information received by Fitch, both quantitative and qualitative, can be a constraining factor for ratings. Information quality may constrain the rating category to a maximum level or, in extreme cases, preclude the assignment of a rating. Information quality for the initial rating and for surveillance purposes is considered when a rating is first assigned. Fitch must be confident adequate ongoing data will be available to monitor and maintain a rating once assigned. Information quality encompasses such factors as timeliness and frequency, reliability, level of detail and scope.

The information provided to Fitch may contain reports, forecasts or opinions provided to the issuer or their agents by various experts. These include legal advisors, financial advisors, third-party engineers, market or environmental consultants, insurance advisors and others. Where these reports contain matters of fact, Fitch will consider the source and reliability. Where the information is a forecast or opinion, Fitch expects these to be based on well-reasoned analysis supported by the facts.

The degree to which Fitch uses expert information will depend partly upon the above issues and on the relevance of the information to the identified key risks. Where available, if expert information does not address a material issue, but might be expected to, Fitch may request further information or make an appropriate assumption. Fitch may choose not to provide a rating if it determines the reports are not sufficiently supported, complete or reliable.

Fitch considers this attribute to be negative when information is substantially based on assumptions, extrapolated or subject to material caveats, or if the data are often subject to delay, have a history of revisions or errors, or are limited in scope.

Investment Quality and Counterparty Exposure

Although the pledged assets for military housing projects consist largely of rental revenue in the form of the BAH, the investment of project accounts also represents a portion of the assets. Debt service reserve funds (DSRFs), construction and other pledged reserve accounts for military housing projects are typically invested in investment vehicles that mature on or before the date that the funds will be needed. In addition, military housing projects may have variable-rate debt with interest rate swap agreements. Fitch reviews both the quality of investments and derivative counterparties in line with the "Counterparty Risks" section of Fitch's "Public Sector, Revenue-Supported Entities Rating Criteria."

In the review of investment portfolios, the minimum direct support ratings for guaranteed interest contracts (GICs) or similar accounts with eligible direct support institutions are considered in accordance with the referenced criteria. If under Fitch's review it is determined that a significant portion of the transaction funds are held in qualified investments, or the cash flows are dependent on the financial performance of the counterparty, the program would not be viewed as sufficiently isolated to achieve ratings higher than that of the counterparty.

In addition to the investment providers, Fitch reviews insurance provisions to ensure that adequate levels of insurance have been procured and will be maintained continuously to coincide with the term of the bonds.

Surveillance

Fitch monitors all MHB ratings. The methodology for the surveillance of ratings is similar to new issuances; however, rather than using third-party cash flows, Fitch uses the most recently available audited financials as the starting point for the financial profile analysis *(as described on page 9)*. DSCR and operating information are requested and reviewed on a quarterly basis in addition to the annual surveillance review.

Fitch monitors MHBs for the following events that may prompt a review outside the regular surveillance cycle:

- material changes in BAH rates;
- significant declines in occupancy rates or increases in operating expenses as reviewed on a quarterly basis;
- adverse developments related to any pending lawsuits or legal issues;
- material erosion in liquidity related to unanticipated draws on capital reserve funds and/or reinvestment accounts; and
- BRAC developments.

Select Definitions

Capital Reserve	A trustee-held fund that receives regular deposits from project cash flow to address future major maintenance and repair issues for the project. The amount of the deposits is based on a per-unit amount established at bond closing.
Reinvestment Account	A fund that is typically controlled by the military and is funded from the majority of excess cash flow for the project. The funds are expected to be used for future redevelopment of the project.
Contingency Reserve	Funds set aside at the outset of the project to address delays or overruns in project construction.
Capitalized Interest Account	A fund that is set up at bond closing with bond proceeds to address the period of time when full project revenue is not yet generated. Based on an established schedule, the trustee periodically draws on it to partially fund debt service payments during the project's IDP.
Lock-Box Structure	An arrangement whereby rental payments are remitted directly to a trustee-held account on behalf of the bondholder's trust estate.

IDP – Initial development phase.
Source: Fitch Ratings.

Rating Assumption Sensitivity

Fitch's opinions are forward looking and include analysts' views of future performance. The ratings are subject to positive or negative adjustment based on actual or projected financial and operational performance. The list below includes a non-exhaustive list of the primary sensitivities that can influence military housing project bond ratings.

Revenue Defensibility: Ratings are sensitive to changes in attributes of revenue defensibility assumptions that affect the overall assessment. Changes in demand and occupancy, the local market competitive environment, and BAH rates could all affect the project's revenue stream and change the final assessment.

Operating Risk: Ratings are sensitive to changes in operating risk attributes, including changes to expected operating costs, the strength of management oversight, the property condition and/or capital expenditure needs and flexibility.

Financial Profile: Ratings are sensitive to changes in financial profile, as reflected in the stressed cash flows, that result in a different rating assessment in the stressed debt service coverage parameters table.

Asymmetric Risk Factors/BRAC Exposure: Base realignment and closure risk cannot be eliminated. Significant personnel reduction, declining base essentiality or complete closure could have severe negative impact on the project's operations and financial performance, thereby reducing debt service coverage and ultimately negatively weighing on the project's bond rating.

Data Sources

Fitch's key rating assumptions used in this report and data used in assigning ratings are based on analysis of projected and actual DSCR, operating revenues and expenses, occupancy rates, housing units available for occupancy and paygrade distribution of tenants received from issuers, arrangers, underwriters, consultants and other third parties. Publicly available information, including BAH rates and BRAC reports, are also used, as well as Fitch's analytical judgement.

Variations from Criteria

Fitch's criteria are designed to be used in conjunction with experienced analytical judgment exercised through a committee process. The combination of transparent criteria, analytical judgment applied on a transaction-by-transaction or issuer-by-issuer basis and full disclosure via rating commentary strengthens Fitch's rating process while assisting market participants in understanding the analysis behind our ratings.

A rating committee may adjust the application of these criteria to reflect the risks of a specific transaction or entity. Such adjustments are called variations. All variations will be disclosed in the respective rating action commentaries, including their impact on the rating where appropriate.

A variation can be approved by a ratings committee where the risk, feature or other factor relevant to the assignment of a rating and the methodology applied to it are both included within the scope of the criteria, but where the analysis described in the criteria requires modification to address factors specific to the particular transaction or entity.

Criteria Disclosure

In the initial rating report or rating action commentary, Fitch expects to disclose the assumptions made in developing revenue and expense projections. Below is a non-exhaustive list of disclosures typically included in the commentary:

- BAH rate assumptions during the IDP and post-project completion;
- cash flow occupancy rate assumptions;
- operating expense assumptions; and
- asymmetric risk factors.

In many cases, Fitch uses the assumptions derived from its initial rating analysis in its surveillance reviews. During surveillance reviews, Fitch will also disclose the results of break-even stress scenarios for BAH rate declines, vacancy rate increases and expense increases. To focus Fitch's rating action commentaries on the most important changes to the rating, Fitch will disclose material changes to any assumptions and discuss trends in performance.

Limitations

Ratings, including Rating Watches and Outlooks, assigned by Fitch are subject to the limitations specified in Fitch's Rating Definitions at www.fitchratings.com.