

Supplement dated June 2, 2015 to Prospectus dated April 30, 2015

This supplement contains information which amends, supplements or modifies certain information contained in the Prospectus of HMS Income Fund, Inc. (the "Company") dated April 30, 2015 (as supplemented and amended, the "Prospectus"). This supplement is part of, and should be read in conjunction with, the Prospectus. The Prospectus has been filed with the Securities and Exchange Commission and is available at www.sec.gov or by calling (888) 446-3773. Capitalized terms used in this supplement have the same meanings as in the Prospectus, unless otherwise stated herein.

You should carefully consider the "Risk Factors" beginning on page 27 of the Prospectus before you decide to invest.

This supplement updates the Prospectus to reflect the entry by the Company into the fourth amendment to its credit agreement with Capital One, as the administrative agent, and with Capital One and the other banks, as participants.

This supplement amends the Prospectus as follows:

PROSPECTUS SUMMARY

This supplement replaces in its entirety the second and eighth paragraphs in the section entitled "Prospectus Summary-Credit Facilities" on pages 8-9 of the Prospectus (as supplemented) with the following:

On March 11, 2014, we entered into a \$70 million senior secured revolving credit facility with Capital One (the "Syndicated Credit Facility"), as the administrative agent, and with Capital One and the other banks, (the "Lenders"). This Syndicated Credit Facility amends and restates the Credit Facility in its entirety. Borrowings under the Syndicated Credit Facility bear interest, subject to the Company's election, on a per annum basis equal to (i) the adjusted LIBOR rate plus 2.75% or (ii) the base rate plus 1.75%. The base rate is defined as the higher of (a) the prime rate or (b) the Federal Funds Rate (as defined in the credit agreement) plus 0.5%. The adjusted LIBOR rate is defined in the credit agreement for the Syndicated Credit Facility as the LIBOR rate plus such amount as adjusted for statutory reserve requirements for Eurocurrency liabilities. We pay unused commitment fees of 0.25% per annum on the unused lender commitment under the Syndicated Credit Facility if more than 50% of the Syndicated Credit Facility is being used and a commitment fee of 0.375% per annum on the unused lender commitments under the Syndicated Credit Facility if less than 50% of the Syndicated Credit Facility is being used. On May 30, 2014, we entered into the First Amendment (the "First Amendment") to the Syndicated Credit Facility. The First Amendment provides for, among other things, the creation of certain of our structured subsidiaries (the "Structured Subsidiaries"), which are not guarantors under the Syndicated Credit Facility and which will be permitted to incur debt outside of the Syndicated Credit Facility, subject to certain conditions. The assets of the Structured Subsidiaries are not considered collateral under the Syndicated Credit Facility. The First Amendment contains additional covenants such as maintaining a minimum consolidated tangible net worth, excluding Structured Subsidiaries, limitations regarding industry concentration and an anti-hoarding provision to protect the collateral under the Syndicated Credit Facility. On September 22, 2014, we entered into a Second Amendment ("Second Amendment") to the Syndicated Credit Facility. The Second Amendment increases the revolver commitments by the amount of \$35 million, from \$70 million to \$105 million. On May 13, 2015, we entered into a Third Amendment ("Third Amendment") to the Syndicated Credit Facility. The Third Amendment increases the revolver

commitments by the amount of \$10 million, from \$105 million to \$115 million. On May 29, 2015, we entered into a Fourth Amendment ("Fourth Amendment") to the Syndicated Credit Facility. The Fourth Amendment increases the revolver commitments by the amount of \$10 million, from \$115 million to \$125 million. The Syndicated Credit Facility has an accordion provision allowing borrowing capacity to increase up to \$150 million.

As of June 1, 2015, we had \$95 million outstanding and \$30 million available under our Syndicated Credit Facility and had \$215 million outstanding and \$10 million available under the A&R HMS Funding Facility (not including the accordion feature of either of our Credit Facilities), both of which we estimated approximated fair value and subject to certain limitations and the asset coverage restrictions under the 1940 Act.

RISK FACTORS

This supplement replaces in its entirety the risk factor entitled "We may have limited ability to fund new investments if we are unable to expand, extend or refinance our Syndicated Credit Facility or the HMS Funding Facility." on page 37-38 of the Prospectus (as supplemented) with the following:

We may have limited ability to fund new investments if we are unable to expand, extend or refinance our Syndicated Credit Facility or the A&R HMS Funding Facility.

On March 11, 2014, we entered into a \$70 million senior secured credit facility (as amended from time to time, the "Syndicated Credit Facility") with Capital One, National Association ("Capital One") as the administrative agent, and other banks as participants (together with Capital One, the "Lenders") in the Facility. The Syndicated Credit Facility amended and restated in its entirety a pre-existing \$15 million senior secured revolving credit facility with Capital One. The Syndicated Credit Facility has an accordion provision allowing increases in borrowing of up to \$150 million, subject to certain conditions. On September 22, 2014, we and the Lenders entered into a Second Amendment to the Syndicated Credit Facility increasing the revolver commitments to \$105 million. On May 13, 2015, we and the Lenders entered into a Third Amendment to the Syndicated Credit Facility increasing the revolver commitments to \$115 million. On May 29, 2015, we and the Lenders entered into a Fourth Amendment to the Syndicated Credit Facility increasing the revolver commitments to \$125 million. The maturity date of the Syndicated Credit Facility is March 11, 2017, subsequent to which we have two, one-year extension options, with Lender approval.

On May 18, 2015, our wholly-owned subsidiary, HMS Funding I LLC, a Delaware limited liability company ("HMS Funding"), entered into a credit agreement (the "A&R HMS Funding Facility") among HMS Funding, the Company, as equityholder and servicer, Deutsche Bank AG, New York Branch ("Deutsche Bank"), and the financial institutions party thereto as lenders (together with Deutsche Bank, the "HMS Funding Lenders"). The A&R HMS Funding Facility amended and restated, in its entirety, a pre-existing credit agreement dated June 2, 2014 among the parties. The A&R HMS Funding Facility provides for an initial borrowing capacity of \$225 million, subject to certain limitations, including limitations with respect to HMS Funding's investments, as more fully described in the A&R HMS Funding Facility. The A&R HMS Funding Facility matures on June 3, 2019.

As of June 1, 2015, we had borrowings of \$95 million outstanding on our Syndicated Credit Facility and had borrowings of \$215 million outstanding on the A&R HMS Funding Facility.

There can be no guarantee that we will be able to expand, extend or replace the Syndicated Credit Facility or the A&R HMS Funding Facility on terms that are favorable to us, if at all. Our ability to expand the Syndicated Credit Facility and the A&R HMS Funding Facility, and to obtain replacement financing at the time of maturity, will be constrained by then-current economic conditions affecting the credit markets.

As a BDC, we generally are required to meet a coverage ratio of total assets to total borrowings and other senior securities, which include all of our borrowings and any preferred stock that we may issue in the future, of at least 200%. Stated differently, the amount of our total borrowings and other senior securities as a percentage of our total assets cannot exceed 50%. If this ratio declines below 200%, we cannot incur additional debt and could be required to sell a portion of our investments to repay some debt when it is disadvantageous to do so.

Additionally, in March of 2012, the Board of Governors of the Federal Reserve System, the Federal Deposit Insurance Corporation, and the Office of the Comptroller of the Currency (the "Agencies") jointly issued final guidelines on leveraged lending transactions conducted by regulated financial institutions (the "Leveraged Lending Guidance"). The Leveraged Lending Guidance outlines for Agency-supervised institutions high-level principles related to safe-and-sound leveraged lending and contains the Agencies' minimum expectations for a risk management framework that financial institutions should have in place. The Leveraged Lending Guidance provides only common definitions of leveraged lending and directs financial institutions to define leveraged lending in their internal policies. Therefore, banks or other financial institutions that provide financing to a BDC could determine that such

financing constitutes leveraged lending under their leveraged lending policies. This would impose heightened regulatory requirements on such banks and other financial institutions when they make loans or provide other financing to a BDC, which may make financing more expensive and less available to BDCs. In November of 2014, the Agencies issued "Frequently Asked Questions (FAQ) for Implementing March 2013 Interagency Guidance on Leveraged Lending" that were designed to foster industry and examiner understanding of the Leveraged Lending Guidance and supervisory expectations for safe and sound underwriting and to promote consistent application of the Leveraged Lending Guidance. With regard to BDCs, the FAQ for example states that the risk management and reporting aspects of the Leveraged Lending Guidance should be applied to underlying loans in structured transactions if an institution originates or retains credit risk in the individual loans. If the financial institution originates or participates in a loan to a BDC that holds leveraged loans, then the loan to the BDC constitutes indirect exposure that should be measured and reported as a leveraged loan. The full impact of the Leveraged Lending Guidance and the FAQ is still uncertain, but it is possible that financing may become more expensive for us and banks or other financial institutions may be less willing to engage in leveraged lending, making it more difficult to obtain financing. In the event that we are not able to maintain the Syndicated Credit Facility and the A&R HMS Funding Facility, this could have a material adverse effect on our liquidity and ability to fund new investments, our ability to make distributions to our stockholders and our ability to qualify as a RIC under the Code.

This supplement replaces the second paragraph in the risk factor entitled "Because we borrow money, the potential for gain or loss on amounts invested in us is magnified and may increase the risk of investing in us." on page 38 of the Prospectus (as supplemented) with the following:

As of June 1, 2015, we had borrowings of \$95 million outstanding on our Syndicated Credit Facility and had borrowings of \$215 million outstanding on the A&R HMS Funding Facility.

SENIOR SECURITIES

This supplement replaces in their entirety the third and eighth paragraphs in the section entitled "Senior Securities" on pages 48-49 of the Prospectus (as supplemented) with the following:

On March 11, 2014, we entered into the Syndicated Credit Facility, a \$70 million senior secured credit facility with Capital One, as the administrative agent, and other banks the Lenders in the Syndicated Credit Facility. This Syndicated Credit Facility amends and restated in its entirety the Credit Facility. In connection with the entry into the Syndicated Credit Facility, on March 11, 2014, we borrowed \$20 million, \$13 million of which was used to satisfy our obligations under the Credit Facility. On May 30, 2014, we and the Lenders entered into the First Amendment to the Syndicated Credit Facility. Borrowings under the Syndicated Credit Facility bear interest, subject to the Company's election, on a per annum basis equal to (i) the adjusted LIBOR rate plus 2.75% or (ii) the base rate plus 1.75%. The base rate is defined as the higher of (a) the prime rate or (b) the Federal Funds Rate (as defined in the credit agreement) plus 0.5%. The adjusted LIBOR rate is defined in the credit agreement for the Syndicated Credit Facility as the LIBOR rate plus such amount as adjusted for statutory reserve requirements for Eurocurrency liabilities. We pay unused commitment fees of 0.25% per annum on the unused lender commitment under the Syndicated Credit Facility if more than 50% of the Syndicated Credit Facility is being used and a commitment fee of 0.375% per annum on the unused lender commitments under the Syndicated Credit Facility if less than 50% of the Syndicated Credit Facility is being used. The Syndicated Credit Facility has a three year term, with two one-year extension options, subject to approval of the Lenders. Additionally, the Syndicated Credit Facility has an accordion provision allowing borrowing capacity to increase to \$150 million. Borrowings under the Syndicated Credit Facility are secured by all of our assets, other than the assets of the Structured Subsidiaries, as well as all of the assets, and a pledge of equity ownership interests, of any future subsidiaries of the Company (other than Structured Subsidiaries), which would be joined as guarantors. The credit agreement for the Syndicated Credit Facility contains affirmative and negative covenants usual and customary for credit facilities of this nature, including, but not limited to: (i) maintaining an interest coverage ratio of at least 2.0 to 1.0 (ii) maintaining an asset coverage ratio of at least 2.25 to 1.0 and (iii) maintaining a minimum consolidated tangible net worth, excluding Structured Subsidiaries, of at least \$50 million. Further, the Syndicated Credit Facility contains limitations on incurrence of other indebtedness (other than by Structured Subsidiaries), limitations on industry concentration, and an anti-hoarding provision to protect the collateral under the Syndicated Credit Facility. Additionally, we must provide information to Capital One on a regular basis, preserve our corporate existence, comply with applicable laws, including the 1940 Act, pay obligations when they become due, and invest the proceeds of the Offering in accordance with our investment objectives and strategies (as set forth in the Syndicated Credit Facility). Further, the credit agreement contains usual and customary default provisions including, without limitation: (i) a default in the payment of interest and principal; (ii) insolvency or bankruptcy of the Company; (iii) a material adverse change in our business; or (iv) breach of any covenant, representation or warranty in the loan agreement or other credit documents and failure to cure such breach within defined periods. Additionally, the Syndicated Credit Facility requires us to obtain written approval from the administrative agent prior to entering into any material amendment, waiver or other modification of any provision of the Advisory Agreement. The Syndicated Credit Facility has a maturity date of March 11, 2017. On September 22, 2014, we and the Lenders entered into a Second Amendment to the Syndicated Credit Facility that

increased the revolver commitments to \$105 million. On May 13, 2015, we and the Lenders entered into a Third Amendment to the Syndicated Credit Facility that increased the revolver commitments to \$115 million. On May 29, 2015, we entered into a Fourth Amendment ("Fourth Amendment") to the Syndicated Credit Facility. The Fourth Amendment increases the revolver commitments to \$125 million. The Syndicated Credit Facility has an accordion provision allowing borrowing capacity to increase up to \$150 million.

As of June 1, 2015, we had \$95 million outstanding under our Syndicated Credit Facility and had \$215 million outstanding under the A&R HMS Funding Facility. Accordingly, as of June 1, 2015, we had \$30 million available under our Syndicated Credit Facility and had \$10 million available under the A&R HMS Funding Facility (not including the accordion feature of either of our Credit Facilities) subject to certain limitations and the asset coverage restrictions under the 1940 Act, as discussed below.

MANAGEMENT'S DISCUSSION AND ANALYSIS OF FINANCIAL CONDITION AND RESULTS OF OPERATIONS

This supplement replaces the third and eighth paragraphs in the section entitled "Management's Discussion and Analysis of Financial Condition and Results of Operations - Liquidity and Capital Resources - Capital Resources" on pages 65-67 of the Prospectus (as supplemented) with the following:

On March 11, 2014, we entered into a \$70 million senior secured revolving credit facility with Capital One (the "Syndicated Credit Facility"), as the administrative agent, and with Capital One and the other banks, (the "Lenders"). This Syndicated Credit Facility amends and restates the Credit Facility in its entirety. Borrowings under the Syndicated Credit Facility bear interest, subject to the Company's election, on a per annum basis equal to (i) the adjusted LIBOR rate plus 2.75% or (ii) the base rate plus 1.75%. The base rate is defined as the higher of (a) the prime rate or (b) the Federal Funds Rate (as defined in the credit agreement) plus 0.5%. The adjusted LIBOR rate is defined in the credit agreement for the Syndicated Credit Facility as the LIBOR rate plus such amount as adjusted for statutory reserve requirements for Eurocurrency liabilities. We pay unused commitment fees of 0.25% per annum on the unused lender commitment under the Syndicated Credit Facility if more than 50% of the Syndicated Credit Facility is being used and a commitment fee of 0.375% per annum on the unused lender commitments under the Syndicated Credit Facility if less than 50% of the Syndicated Credit Facility is being used. On May 30, 2014, we entered into the First Amendment (the "First Amendment") to the Syndicated Credit Facility. The First Amendment provides for, among other things, the creation of certain of our structured subsidiaries (the "Structured Subsidiaries"), which are not guarantors under the Syndicated Credit Facility and which will be permitted to incur debt outside of the Syndicated Credit Facility, subject to certain conditions. The assets of the Structured Subsidiaries are not considered collateral under the Syndicated Credit Facility. The First Amendment contains additional covenants such as maintaining a minimum consolidated tangible net worth, excluding Structured Subsidiaries, limitations regarding industry concentration and an anti-hoarding provision to protect the collateral under the Syndicated Credit Facility. On September 22, 2014, we entered into a Second Amendment ("Second Amendment") to the Syndicated Credit Facility. The Second Amendment increases the revolver commitments by the amount of \$35 million, from \$70 million to \$105 million. On May 13, 2015, we entered into a Third Amendment ("Third Amendment") to the Syndicated Credit Facility. The Third Amendment increases the revolver commitments by the amount of \$10 million, from \$105 million to \$115 million. On May 29, 2015, we entered into a Fourth Amendment ("Fourth Amendment") to the Syndicated Credit Facility. The Fourth Amendment increases the revolver commitments by the amount of \$10 million, from \$115 million to \$125 million. The Syndicated Credit Facility has an accordion provision allowing borrowing capacity to increase up to \$150 million.

As of June 1, 2015, we had \$95 million outstanding and \$30 million available under our Syndicated Credit Facility and had \$215 million outstanding and \$10 million available under the A&R HMS Funding Facility (not including the accordion feature of either of our Credit Facilities), both of which we estimated approximated fair value and subject to certain limitations and the asset coverage restrictions under the 1940 Act.

This supplement inserts the tenth paragraph in the section entitled "Management's Discussion and Analysis of Financial Condition and Results of Operations - Recent Developments and Subsequent Events" on page 69 of the Prospectus (as supplemented) with the following:

On May 29, 2015, we entered into the Fourth Amendment to the Syndicated Credit Facility increasing the borrowing capacity to \$125 million.