

PIMCO Income Strategy Fund II
Form N-2/A
August 31, 2018
Table of Contents

As filed with the Securities and Exchange Commission on August 31, 2018

1933 Act File No. 333-226215

1940 Act File No. 811-21601

UNITED STATES

SECURITIES AND EXCHANGE COMMISSION

WASHINGTON, D.C. 20549

FORM N-2

(Check appropriate box or boxes)

REGISTRATION STATEMENT UNDER THE SECURITIES ACT OF 1933

Pre-Effective Amendment No. 1

Post-Effective Amendment No.

and

REGISTRATION STATEMENT UNDER THE INVESTMENT COMPANY ACT OF 1940

Amendment No. 12

PIMCO INCOME STRATEGY FUND II

(Exact Name of Registrant as Specified in Charter)

1633 Broadway

New York, New York 10019

(Address of Principal Executive Offices)

(Number, Street, City, State, Zip Code)

(844) 337-4626

(Registrant's Telephone Number, including Area Code)

Joshua D. Ratner

c/o Pacific Investment Management Company LLC

1633 Broadway

New York, New York 10019

(Name and Address (Number, Street, City, State, Zip Code) of Agent for Service)

Copies of Communications to:

David C. Sullivan, Esq.

Ropes & Gray LLP

Prudential Tower, 800 Boylston Street

Boston, Massachusetts 02199

Approximate Date of Proposed Public Offering:

As soon as practicable after the effective date of this Registration Statement.

If any securities being registered on this form will be offered on a delayed or continuous basis in reliance on Rule 415 under the Securities Act of 1933, other than securities offered in connection with a dividend reinvestment plan, check the following box [X].

It is proposed that this filing will become effective (check appropriate box):

when declared effective pursuant to section 8(c).

CALCULATION OF REGISTRATION FEE UNDER THE SECURITIES ACT OF 1933

Title of Securities Being Registered	Amount Being Registered⁽¹⁾	Proposed Maximum Offering Price Per Unit	Proposed Maximum Aggregate Offering Price⁽²⁾	Amount of Registration Fee⁽³⁾
Common Shares, par value \$0.00001			\$175,000,000.00	\$21,663.00

(1) There are being registered hereunder a presently indeterminate number of shares of common stock to be offered on an immediate, continuous or delayed basis.

(2) Estimated solely for purposes of calculating the registration fee as required by Rule 457(o) under the Securities Act of 1933, as amended.

(3) A registration fee of \$124.50 was previously paid in connection with the initial filing on July 18, 2018.

The registrant hereby amends this Registration Statement on such date or dates as may be necessary to delay its effective date until the registrant shall file a further amendment that specifically states that this Registration Statement shall thereafter become effective in accordance with Section 8(a) of the Securities Act of 1933 or until this Registration Statement shall become effective on such date as the Commission, acting pursuant to said Section 8(a), may determine.

Table of Contents

The information in this preliminary prospectus is not complete and may be changed. We may not sell these securities until the registration statement filed with the Securities and Exchange Commission is effective. This preliminary prospectus is not an offer to sell these securities and it is not soliciting an offer to buy these securities in any state where the offer or sale is not permitted.

Subject to Completion dated August 31, 2018

Base Prospectus

August 31, 2018

PIMCO Income Strategy Fund II

\$175,000,000 Common Shares of Beneficial Interest

**Common
Shares**

PIMCO Income Strategy Fund II

PFN

PIMCO Income Strategy Fund II (the "Fund") is a diversified, closed-end management investment company that commenced operations on October 29, 2004, following the initial public offering of its common shares.

Investment Objective. The Fund's primary investment objective is to seek high current income, consistent with the preservation of capital. The Fund cannot assure you that it will achieve its investment objective, and you could lose all of your investment in the Fund.

Investment Strategy. The Fund seeks to achieve its investment objective by utilizing a dynamic asset allocation strategy that focuses on duration management, credit quality analysis, risk management techniques and broad diversification among issuers, industries and sectors. The Fund normally invests in a diversified portfolio of floating and/or fixed rate debt instruments. On behalf of the Fund, Pacific Investment Management Company LLC, the Fund's investment manager ("PIMCO" or the "Investment Manager") employs an active approach to allocation among multiple fixed-income sectors based on, among other things, market conditions, valuation assessments and economic outlook, credit market trends and other economic factors. The Fund focuses on seeking the best income generating investment ideas across multiple fixed income sectors, with an emphasis on seeking opportunities in developed and emerging global credit markets.

(continued on following page)

The Fund's common shares (the "Common Shares") are listed on the New York Stock Exchange ("NYSE") under the symbol "PFN." The last reported sale price of the Common Shares, as reported by the NYSE on July 31, 2018, was \$10.70 per Common Share. The net asset value ("NAV") of the Common Shares at the close of business on July 31, 2018, was \$10.04 per Common Share.

Investment in the Fund's common shares involves substantial risks arising from, among other strategies, the Fund's ability to invest in debt instruments that are, at the time of purchase, rated below investment grade (below Baa3 by Moody's Investors Service, Inc. ("Moody's") or below BBB- by either S&P Global Ratings, a division of The McGraw-Hill Company, Inc. ("S&P") or Fitch, Inc. ("Fitch")) or unrated but determined by PIMCO to be of comparable quality, the Fund's exposure to foreign and emerging markets securities and currencies and to mortgage-related and other asset-backed securities, and the Fund's use of leverage. Debt securities of below investment grade quality are regarded as having predominantly speculative characteristics with respect to capacity to pay interest and to repay principal, and are commonly referred to as "high yield" securities or "junk bonds." The Fund's exposure to foreign securities and currencies, and particularly to emerging markets securities and currencies, involves special risks, including foreign

currency risk and the risk that the securities may decline in response to unfavorable political and legal developments, unreliable or untimely information or economic and financial instability. Mortgage-related and other asset-backed securities are subject to extension and prepayment risk and often have complicated structures that make them difficult to value. Because of the risks associated with investing in high yield securities, foreign and emerging market securities (and related exposure to foreign currencies) and mortgage-related and other asset-backed securities, and using leverage, an investment in the Fund should be considered speculative. Before investing in the Common Shares, you should read the discussion of the principal risks of investing in the Fund in "Principal Risks of the Fund." Certain of these risks are summarized in "Prospectus Summary-Principal Risks of the Fund.

Neither the U.S. Securities and Exchange Commission ("SEC") nor the U.S. Commodity Futures Trading Commission ("CFTC") has approved or disapproved of these securities or determined that this prospectus is truthful or complete. Any representation to the contrary is a criminal offense.

PIMCO Income Strategy Fund II

(Continued from previous page)

Under normal circumstances, the Fund will have a short to intermediate average portfolio duration (i.e., within a zero to eight year range), as calculated by the Investment Manager, although it may be shorter or longer at any time or from time to time depending on market conditions and other factors. PIMCO believes that maintaining duration within this range offers flexibility and the opportunity for above-average returns while potentially limiting exposure to interest rate volatility and related risks.

Portfolio Contents. The Fund seeks to achieve its investment objective by ordinarily investing in a diversified portfolio of floating- and/or fixed-rate debt instruments. The Fund may invest a substantial portion of its floating-rate assets in floating-rate loans. Other floating-rate debt instruments in which the Fund may invest include catastrophe and other event-linked bonds, bank capital securities, unsecured bank loans, corporate bonds and other debt securities, money market instruments and certain types of mortgage-backed and other asset-backed securities that pay interest at rates that adjust whenever a specified interest rate changes and/or reset on predetermined dates (such as the last day of a month or calendar quarter). The Fund also considers floating-rate assets to include securities with durations of less than or equal to one year and fixed-rate securities with respect to which the Fund has entered into derivative instruments to effectively convert the fixed-rate interest payments into floating-rate interest payments. The Fund also may invest in a wide variety of fixed-rate debt securities, including corporate bonds and mortgage-backed and other asset-backed securities issued on a public or private basis, including mortgage pass-through securities, collateralized mortgage obligations ("CMOs"), commercial or residential mortgage-backed securities, mortgage dollar rolls, CMO residuals, stripped mortgage-backed securities ("SMBSs") and other securities that directly or indirectly represent a participation in, or are secured by and payable from, mortgage loans on real property. The Fund may make use of a variety of other instruments, including collateralized debt obligations, preferred securities, commercial paper, zero-coupon and inflation-indexed bonds issued by both governments and corporations, bank certificates of deposit, fixed time deposits and bankers' acceptances, real estate investment trusts (REITs), bonds, debentures, notes, and other debt securities of U.S. and foreign (non-U.S.) corporate and other issuers; obligations of foreign governments or their sub-divisions, agencies and government sponsored enterprises and obligations of international agencies and supranational entities; municipal securities and other debt securities issued by states or local governments and their agencies, authorities and other government-sponsored enterprises, including taxable municipal securities (such as Build America Bonds); structured notes, including hybrid or indexed securities; credit-linked notes; structured credit products; bank loans (including, among others, senior loans, delayed funding loans, revolving credit facilities and loan participations and assignments); convertible debt securities (i.e., debt securities that may be converted at either a stated price or stated rate into underlying shares of common stock), including synthetic convertible debt securities (i.e., instruments created through a combination of separate securities that possess the two principal characteristics of a traditional convertible security, such as an income-producing security and the right to acquire an equity security) and contingent convertible securities. Certain debt instruments, such as convertible bonds, also may include the right to participate in equity appreciation. The principal and/or interest rate on some debt instruments may be determined by reference to the performance of a benchmark asset or market, such as an index of securities, or the differential performance of two assets or markets, such as the level of exchange rates between the U.S. dollar and a foreign currency or currencies. The Fund may invest in debt securities of stressed issuers. Subject to the Fund's investment limitations, at any given time and from time to time, substantially all of the Fund's portfolio may consist of below investment grade securities. The Fund may invest in any level of the capital structure of an issuer of mortgage-backed or asset-backed securities, including the equity or "first loss" tranche. The rate of interest on an income-producing security may be fixed, floating or variable.

The Fund invests predominantly in U.S. dollar-denominated debt securities, which may include those issued by foreign corporations or supra-national government agencies. The Fund may invest up to 25% of its total assets in securities denominated in foreign currencies, including obligations of non-U.S. governments and their respective sub-divisions, agencies and government-sponsored enterprises, except that the Fund may invest without limit in investment grade sovereign debt denominated in the relevant country's local currency with less than 1 year remaining to maturity ("short-term investment grade sovereign debt"),

Edgar Filing: PIMCO Income Strategy Fund II - Form N-2/A

including short-term investment grade sovereign debt issued by emerging market issuers. The Fund may invest up to 40% of its total assets in securities and instruments that are economically tied to "emerging market" countries other than investments in short-term investment grade sovereign debt issued by emerging market issuers, where as noted above there is no limit. The Fund may also invest directly in foreign currencies, including local emerging market currencies.

The Fund may invest up to 20% of its total assets in common stocks and other equity securities from time to time, including those it has received

Table of Contents

PIMCO Income Strategy Fund II

through the conversion of a convertible security held by the Fund or in connection with the restructuring of a debt security.

The Fund may, but is not required to, utilize various derivative strategies (both long and short positions) involving the purchase or sale of futures and forward contracts (including foreign currency exchange contracts), call and put options, credit default swaps, total return swaps, basis swaps and other swap agreements and other derivative instruments for investment purposes, leveraging purposes or in an attempt to hedge against market, credit, interest rate, currency and other risks in the portfolio. The Fund may purchase and sell securities on a when-issued, delayed delivery or forward commitment basis and may engage in short sales. The Fund may also seek to obtain market exposure to the securities in which it invests by entering into a series of purchase and sale contracts.

The Fund has a policy not to concentrate investments in any particular industry, but may (consistent with that policy) invest up to 25% of its total assets in any particular industry, and may invest a substantial portion of its assets in companies in related sectors, such as those in the banking or financial services sectors, which may share common characteristics and are often subject to similar business risks and regulatory burdens.

The Fund may invest without limit in debt securities that are, at the time of purchase, rated below investment grade (commonly referred to as "high yield" securities or "junk bonds") and may also invest without limit in investment grade securities. However, the Fund will not normally invest more than 20% of its total assets in debt instruments, other than mortgage-related and other asset-backed securities, that are, at the time of purchase, rated CCC or lower by S&P and Fitch and Caa1 or lower by Moody's, or that are unrated but determined by PIMCO to be of comparable quality. The Fund may invest without limit in mortgage-related and other asset-backed securities regardless of rating—i.e., of any credit quality.

The Fund may invest in securities that have not been registered for public sale in the U.S. or relevant non-U.S. jurisdictions, including without limit securities eligible for purchase and sale pursuant to Rule 144A under the Securities Act of 1933, as amended (the "Securities Act"), or relevant provisions of applicable non-U.S. law, and other securities issued in private placements. The Fund may also invest in securities of other investment companies, including, without limit, exchange-traded funds ("ETFs"). The Fund may invest in real estate investment trusts ("REITs"). The Fund may invest in securities of companies of any market capitalization, including small and medium capitalizations.

The Fund may invest without limit in illiquid securities (i.e., securities that the Fund reasonably expects cannot be sold or disposed of in current market conditions in seven calendar days or less without the sale or disposition significantly changing the market value of the securities).

Leverage. The Fund utilizes leverage through its outstanding auction rate preferred shares ("ARPS" and, together with any other preferred shares the Fund may have outstanding, "Preferred Shares") and may obtain additional leverage through the use of reverse repurchase agreements, dollar rolls or borrowings, such as through bank loans or commercial paper and/or other credit facilities. The Fund may also enter into transactions other than those noted above that may give rise to a form of leverage including, among others, credit default swaps, futures and forward contracts (including foreign currency exchange contracts), total return swaps and other derivative transactions, loans of portfolio securities, short sales and when-issued, delayed delivery and forward commitment transactions. Although it has no current intention to do so, the Fund may also determine to issue other types of preferred shares. Depending upon market conditions and other factors, the Fund may or may not determine to add leverage following an offering to maintain or increase the total amount of leverage (as a percentage of the Fund's total assets) that the Fund currently maintains, taking into account the additional assets raised through the issuance of Common Shares in such offering. The Fund utilizes certain kinds of leverage, such as reverse repurchase agreements and credit default swaps, opportunistically and may choose to increase or decrease, or eliminate entirely, its use of such leverage over time and from time to time based on PIMCO's assessment of the yield curve environment, interest rate trends, market conditions and other factors. The Fund may also determine to decrease the leverage it currently maintains through its outstanding Preferred Shares through Preferred Share redemptions or tender offers and may or may not determine to replace such leverage through other sources. If the Fund determines to add leverage following an offering, it is not possible to predict with accuracy the precise amount of leverage that

would be added, in part because it is not possible to predict the number of Common Shares that ultimately will be sold in an offering or series of offerings. To the extent that the Fund does not add additional leverage following an offering, the Fund's total amount of leverage as a percentage of its total assets will decrease, which could result in a reduction of investment income available for distribution to holders of the Fund's Common Shares ("Common Shareholders"). The Investment Company Act of 1940, as amended, and the rules and regulations promulgated thereunder (the "1940 Act"), also generally limits the extent to which the Fund may utilize uncovered reverse repurchase agreements and borrowings, together with any other senior securities representing indebtedness, to 331/3% of the Fund's total net assets at the time utilized. See "Use of Leverage." By using leverage, the Fund will seek to obtain a higher return for holders of common shares than if the Fund did not use leverage. Leveraging is a speculative technique and there are special risks and costs involved. There can be no assurance that a leveraging strategy will be used or that it will be successful during any period in which it is employed. See "Use of Leverage" and "Principal Risks of the Fund—Leverage Risk."

This prospectus is part of a registration statement that the Fund has filed with the U.S. Securities and Exchange Commission (the "SEC"), using the "shelf" registration process. The Fund may offer, from time to time, in one or more offerings, up to either 11,500,000 Common Shares or \$110,976,150 of the Common Shares on terms to be determined at the time of the offering. This prospectus provides you with a general description of the Common Shares that the Fund may offer. Each time the Fund uses this prospectus to offer Common Shares, the Fund will provide a prospectus supplement that will contain specific information about the terms of that offering. The prospectus supplement may also add, update or change information contained in this prospectus. You should read this prospectus and the applicable prospectus supplement, which contain important information about the Fund, carefully before you invest in the Common

Table of Contents

Prospectus

Shares. Common Shares may be offered directly to one or more purchasers, through agents designated from time to time by the Fund, or to or through underwriters or dealers. The prospectus supplement relating to an offering will identify any agents, underwriters or dealers involved in the sale of Common Shares, and will set forth any applicable purchase price, fee, commission or discount arrangement between the Fund and its agents or underwriters, or among the Fund's underwriters, or the basis upon which such amount may be calculated. See "Plan of Distribution." The Fund may not sell any Common Shares through agents, underwriters or dealers without delivery or deemed delivery of a prospectus supplement describing the method and terms of the particular offering of the Common Shares.

You should retain this prospectus and any prospectus supplement for future reference. A Statement of Additional Information, dated [], containing additional information about the Fund has been filed with the SEC and is incorporated by reference in its entirety into this prospectus. You can review the table of contents of the Statement of Additional Information on page 89 of this prospectus. You may request a free copy of the Statement of Additional Information, request the Fund's most recent annual and semiannual reports, request information about the Fund and make shareholder inquiries by calling toll-free (844)-337-4626 or by writing to the Fund at c/o Pacific Investment Management Company LLC, 1633 Broadway, New York, New York 10019. You may also obtain a copy of the Statement of Additional Information (and other information regarding the Fund) from the SEC's Public Reference Room in Washington, D.C. by calling (202) 551-8090. The SEC charges a fee for copies. The Fund's Statement of Additional Information and most recent annual and semiannual reports are available, free of charge, on the Fund's website (<http://www.pimco.com>). You can obtain the same information, free of charge, from the SEC's web site (<http://www.sec.gov>).

The Common Shares do not represent a deposit or obligation of, and are not guaranteed or endorsed by, any bank or other insured depository institution, and are not federally insured by the Federal Deposit Insurance Corporation, the Federal Reserve Board or any other government agency.

You should rely only on the information contained or incorporated by reference in this prospectus and any related prospectus supplement. The Fund has not authorized any other person to provide you with inconsistent information. If anyone provides you with inconsistent information, you should not assume that the Fund has authorized or verified it. The Fund is not making an offer to sell these securities in any jurisdiction where the offer or sale is not permitted. You should not assume that the information contained in this prospectus or any prospectus supplement is accurate as of any date other than the dates on their respective front covers. The Fund's business, financial condition, results of operations and prospects may have changed since the date of this prospectus or the date of any prospectus supplement.

Table of Contents

	Page
<u>Prospectus Summary</u>	1
<u>Summary of Fund Expenses</u>	26
<u>Financial Highlights</u>	27
<u>Use of Proceeds</u>	30
<u>The Fund</u>	30
<u>Investment Objective and Policies</u>	30
<u>Portfolio Contents</u>	31
<u>Use of Leverage</u>	51
<u>Principal Risks of the Fund</u>	53
<u>How the Fund Manages Risk</u>	71
<u>Management of the Fund</u>	74
<u>Net Asset Value</u>	76
<u>Distributions</u>	78
<u>Dividend Reinvestment Plan</u>	79
<u>Description of Capital Structure</u>	80
<u>Plan of Distribution</u>	84
<u>Market and Net Asset Value Information</u>	84
<u>Anti-Takeover and Other Provisions in the Declaration of Trust</u>	85
<u>Repurchase of Common Shares; Conversion to Open-End Fund</u>	86
<u>Tax Matters</u>	86
<u>Shareholder Servicing Agent, Custodian and Transfer Agent</u>	88
<u>Independent Registered Public Accounting Firm</u>	88
<u>Legal Matters</u>	88
<u>Table of Contents for Statement of Additional Information</u>	89
<u>Appendix A - Description of Securities Ratings</u>	90

Table of Contents

PIMCO Income Strategy Fund II

Prospectus Summary

This is only a summary. This summary may not contain all of the information that you should consider before investing in the Fund's common shares of beneficial interest (the "Common Shares"). You should review the more detailed information contained in this prospectus and in any related prospectus supplement and in the Statement of Additional Information, especially the information set forth under the heading "Principal Risks of the Fund."

The Fund

PIMCO Income Strategy Fund II (the "Fund") is a diversified, closed-end management investment company. The Fund commenced operations on October 29, 2004, following the initial public offering of its Common Shares. Effective March 1, 2010, the Fund changed its name from PIMCO Floating Rate Strategy Fund to its current name, PIMCO Income Strategy Fund II.

The Common Shares are listed on the New York Stock Exchange ("NYSE") under the symbol "PFN." As of July 31, 2018, the net assets of the Fund attributable to Common Shares were \$599,263,606 and the Fund had outstanding Common Shares and 3,698 auction rate preferred shares of beneficial interest ("ARPS" and, together with any other preferred shares issued by the Fund, "Preferred Shares"). The last reported sale price of the Common Shares, as reported by the NYSE on July 31, 2018, was \$10.70 per Common Share. The net asset value ("NAV") of the Common Shares at the close of business on July 31, 2018, was \$10.04 per Common Share. See "Description of Capital Structure."

The Offering

The Fund may offer, from time to time, in one or more offerings, up to either 11,500,000 Common Shares or \$110,976,150 of the Common Shares on terms to be determined at the time of the offering. The Common Shares may be offered at prices and on terms to be set forth in one or more prospectus supplements. You should read this prospectus and the applicable prospectus supplement carefully before you invest in the Common Shares. Common Shares may be offered directly to one or more purchasers, through agents designated from time to time by the Fund, or to or through underwriters or dealers. The prospectus supplement relating to an offering will identify any agents, underwriters or dealers involved in the sale of Common Shares, and will set forth any applicable purchase price, fee, commission or discount arrangement between the Fund and its agents or underwriters, or among the Fund's underwriters, or the basis upon which such amount may be calculated. See "Plan of Distribution." The Fund may not sell any Common Shares through agents, underwriters or dealers without delivery or deemed delivery of a prospectus supplement describing the method and terms of the particular offering of the Common Shares.

Use of Proceeds

The net proceeds of an offering will be invested in accordance with the Fund's investment objective and policies as set forth below. It is currently anticipated that the Fund will be able to invest substantially all of the net proceeds of an offering in accordance with its investment objective and policies within approximately 30 days of receipt by the Fund, depending on the amount and timing of proceeds available to the Fund as well as the availability of investments consistent with the Fund's investment objective and policies, and except to the extent proceeds are held in cash to pay dividends or expenses, or for temporary defensive purposes. See "Use of Proceeds."

Investment Objective and Policies

The Fund's investment objective is to seek high current income, consistent with the preservation of capital. The Fund seeks to achieve its objective by ordinarily investing in a diversified portfolio of floating- and/or fixed-rate debt instruments. The Fund may invest a substantial portion of its floating-rate assets in floating-rate loans. Other floating-rate debt instruments in which the Fund may invest include catastrophe and other event-linked bonds, bank capital securities, unsecured bank loans, corporate bonds and other debt securities, money market instruments and certain types of mortgage-backed and other asset-backed securities that pay

interest at rates that adjust whenever a specified interest rate changes and/or reset on predetermined dates (such as the last day of a month or calendar quarter). The Fund may invest in investment-grade debt securities and below investment grade debt securities (commonly referred to as "high yield" securities or "junk bonds"), including securities of stressed issuers. The types of securities and instruments in which the Fund may invest are summarized under "Portfolio Contents" below. The Fund cannot assure you that it will achieve its investment objective, and you could lose all of your investment in the Fund.

Portfolio Management Strategies

Dynamic Allocation Strategy. On behalf of the Fund, the Fund's investment manager, Pacific Investment Management Company LLC ("PIMCO" or the "Investment Manager"), employs an active approach to allocation among multiple fixed income sectors based on, among other things, market conditions, valuation assessments, economic outlook, credit market trends and other economic factors. With PIMCO's macroeconomic analysis as the basis for top-down investment decisions, including geographic and credit sector emphasis, the Fund focuses on seeking the best income generating investment ideas across multiple fixed income sectors, with an emphasis on seeking opportunities in developed and emerging global credit markets. The Fund has the flexibility to allocate assets in varying proportions among floating- and fixed-rate debt instruments, as well as among investment-grade and non-investment grade securities. It may focus more heavily or exclusively on an asset class at any time, based on assessments of relative values, market conditions and other factors. PIMCO may choose to focus on particular countries/regions (e.g., U.S. vs. foreign), asset classes, industries and sectors to the exclusion of others at any time and from time to time based on market conditions and other factors. The relative value assessment within fixed-income sectors draws on PIMCO's regional and sector specialist expertise. The Fund will observe various investment guidelines as summarized below.

Investment Selection Strategies. Once the Fund's top-down, portfolio positioning decisions have been made as described above, PIMCO selects particular investments for the Fund by employing a bottom-up, disciplined credit approach which is driven by fundamental, independent research within each sector/asset class represented in the Fund, with a focus on

Table of Contents

Prospectus

identifying securities and other instruments with solid and/or improving fundamentals.

PIMCO utilizes strategies that focus on credit quality analysis, duration management and other risk management techniques. PIMCO attempts to identify, through fundamental research driven by independent credit analysis and proprietary analytical tools, debt obligations and other income-producing securities that provide current income and/or opportunities for capital appreciation based on its analysis of the issuer's credit characteristics and the position of the security in the issuer's capital structure.

Consideration of yield is only one component of the portfolio managers' approach in managing the Fund. PIMCO also attempts to identify investments that may appreciate in value based on PIMCO's assessment of the issuer's credit characteristics, forecast for interest rates and outlook for particular countries/regions, currencies, industries, sectors and the global economy and bond markets generally.

Credit Quality. The Fund may invest without limit in debt securities that are, at the time of purchase, rated below investment grade or that are unrated but judged by PIMCO to be of comparable quality (commonly referred to as "high yield" securities or "junk bonds"). The Fund will not normally invest more than 20% of its total assets in debt instruments, other than mortgage-related and other asset-backed securities, that are, at the time of purchase, rated CCC or lower by S&P Global Ratings ("S&P") and Fitch, Inc. ("Fitch") and Caa1 or lower by Moody's Investors Services Inc. ("Moody's"), or that are unrated but determined by PIMCO to be of comparable quality to securities so rated. The Fund may invest without limit in mortgage-related and other asset-backed securities regardless of rating (i.e., of any credit quality). Subject to this 20% restriction, the Fund may invest in issuers of any credit quality (including debt securities in the lowest ratings categories and securities that are in default or the issuers of which are in bankruptcy) if PIMCO determines that the particular obligation is undervalued or offers an attractive yield relative to its risk profile. For purposes of applying the foregoing policies, in the case of securities with split ratings (i.e., a security receiving two different ratings from two different rating agencies), the Fund will apply the higher of the applicable ratings. Subject to the aforementioned investment restrictions, the Fund may invest in securities of stressed issuers, which include securities at risk of being in default as to the repayment of principal and/or interest at the time of acquisition by the Fund or that are rated in the lower rating categories by one or more nationally recognized statistical rating organizations (for example, Ca or lower by Moody's or CC or lower by S&P or Fitch) or, if unrated, are determined by PIMCO to be of comparable quality. Debt instruments of below investment grade quality are regarded as having predominantly speculative characteristics with respect to capacity to pay interest and to repay principal, and are commonly referred to as "high yield" securities or "junk bonds." Debt instruments in the lowest investment grade category also may be considered to possess some speculative characteristics. The Fund may, for hedging, investment or leveraging purposes, make use of credit default swaps, which are contracts whereby one party makes periodic payments to a counterparty in exchange for the right to receive from the counterparty a payment equal to the par (or other agreed-upon) value of a referenced debt obligation in the event of a default or other credit event by the issuer of the debt obligation.

Independent Credit Analysis. PIMCO relies primarily on its own analysis of the credit quality and risks associated with individual debt instruments considered for the Fund, rather than relying exclusively on rating agencies or third-party research. The Fund's portfolio managers utilize this information in an attempt to minimize credit risk and to identify issuers, industries or sectors that are undervalued or that offer attractive yields relative to PIMCO's assessment of their credit characteristics. This aspect of PIMCO's capabilities will be particularly important to the extent that the Fund invests in floating rate loans, high yield securities and in securities of emerging market issuers.

Duration Management. It is expected that the Fund normally will have a short to intermediate average portfolio duration (i.e., within a zero to eight year (0 to 8) range), as calculated by PIMCO, although it may be shorter or longer at any time or from time to time depending on market conditions and other factors. While the Fund seeks to maintain a short to intermediate average portfolio duration, there is no limit on the maturity or duration of any individual security in which the Fund may invest. PIMCO believes that maintaining duration within this range offers flexibility and the opportunity for above-average returns while potentially limiting exposure to interest rate volatility and related risk. Duration is a measure used to determine the sensitivity of a security's price to changes in interest rates. The Fund's duration strategy may entail maintaining a negative average portfolio duration from time to time, which would potentially benefit the portfolio in an environment of rising market interest rates, but would generally adversely impact the portfolio in an environment of falling or neutral market interest rates. PIMCO may also utilize certain strategies, including without limit investments in structured notes or interest rate futures contracts or swap, cap, floor or collar transactions, for the purpose of reducing the interest rate sensitivity of the Fund's portfolio, although there is no assurance that it will do so or that such strategies will be successful.

Portfolio Contents

The Fund seeks to achieve its investment objective by ordinarily investing in a diversified portfolio of floating- and/or fixed-rate debt instruments. The Fund may invest a substantial portion of its floating-rate assets in floating-rate loans. Other floating-rate debt instruments in which the Fund may invest include catastrophe and other event-linked bonds, bank capital securities, unsecured bank loans, corporate bonds and other debt securities, money market instruments and certain types of mortgage-backed and other asset-backed securities that pay interest at rates that adjust whenever a specified interest rate changes and/or reset on predetermined dates (such as the last day of a month or calendar quarter). The Fund also considers floating-rate assets to include securities with durations of less than or equal to one year and fixed-rate securities with respect to which the Fund has entered into derivative instruments to effectively convert the fixed-rate interest payments into floating-rate interest payments. The Fund also may invest in a wide variety of fixed-rate debt securities, including corporate bonds and mortgage-backed and other asset-backed securities issued on a public or private basis, including mortgage pass-through securities, collateralized mortgage obligations ("CMOs"), commercial or residential mortgage-backed securities, mortgage dollar rolls, CMO residuals, stripped mortgage-backed securities ("SMBSs") and other securities that directly or indirectly represent a participation in, or are secured by and payable from,

August 31, 2018 | **PROSPECTUS** 2

Table of Contents

PIMCO Income Strategy Fund II

mortgage loans on real property. The Fund may make use of a variety of other instruments, including collateralized debt obligations, preferred securities, commercial paper, zero-coupon and inflation-indexed bonds, bank certificates of deposit, fixed time deposits and bankers' acceptances, real estate investment trusts (REITs), bonds, debentures, notes, and other debt securities of U.S. and foreign (non-U.S.) corporate and other issuers; obligations of foreign governments or their sub-divisions, agencies and government sponsored enterprises and obligations of international agencies and supranational entities; municipal securities and other debt securities issued by states or local governments and their agencies, authorities and other government-sponsored enterprises, including taxable municipal securities (such as Build America Bonds); inflation-indexed bonds issued by both governments and corporations; structured notes, including hybrid or indexed securities; credit-linked notes; structured credit products; bank loans (including, among others, senior loans, delayed funding loans, revolving credit facilities and loan participations and assignments); preferred securities and convertible debt securities (i.e., debt securities that may be converted at either a stated price or stated rate into underlying shares of common stock), including synthetic convertible debt securities (i.e., instruments created through a combination of separate securities that possess the two principal characteristics of a traditional convertible security, such as an income-producing security and the right to acquire an equity security) and contingent convertible securities. Certain debt instruments, such as convertible bonds, also may include the right to participate in equity appreciation. The principal and/or interest rate on some debt instruments may be determined by reference to the performance of a benchmark asset or market, such as an index of securities, or the differential performance of two assets or markets, such as the level of exchange rates between the U.S. dollar and a foreign currency or currencies. The Fund may invest in debt securities of stressed issuers. Subject to the Fund's investment limitations, at any given time and from time to time, substantially all of the Fund's portfolio may consist of below investment grade securities. The Fund may invest in any level of the capital structure of an issuer of mortgage-backed or asset-backed securities, including the equity or "first loss" tranche. The rate of interest on an income-producing security may be fixed, floating or variable.

The Fund invests predominantly in U.S. dollar-denominated debt securities, which may include those issued by foreign corporations or supra-national government agencies. The Fund may invest up to 25% of its total assets in securities denominated in foreign currencies, including obligations of non-U.S. governments and their respective sub-divisions, agencies and government-sponsored enterprises, except that the Fund may invest without limit in investment grade sovereign debt denominated in the relevant country's local currency with less than 1 year remaining to maturity ("short-term investment grade sovereign debt"), including short-term investment grade sovereign debt issued by emerging market issuers. The Fund may invest up to 40% of its total assets in securities and instruments that are economically tied to "emerging market" countries other than investments in short-term investment grade sovereign debt issued by emerging market issuers, where as noted above there is no limit. The Fund may also invest directly in foreign currencies, including local emerging market currencies.

The Fund may invest up to 20% of its total assets in common stocks and other equity securities from time to time, including those it has received through the conversion of a convertible security held by the Fund or in connection with the restructuring of a debt security.

The Fund may, but is not required to, utilize various derivative strategies (both long and short positions) involving the purchase or sale of futures and forward contracts (including foreign currency exchange contracts), call and put options, credit default swaps, total return swaps, basis swaps and other swap agreements and other derivative instruments for investment purposes, leveraging purposes or in an attempt to hedge against market, credit, interest rate, currency and other risks in the portfolio. The Fund may purchase and sell securities on a when-issued, delayed delivery or forward commitment basis and may engage in short sales. The Fund may also seek to obtain market exposure to the securities in which it invests by entering into a series of purchase and sale contracts.

The Fund has a policy not to concentrate investments in any particular industry, but may (consistent with that policy) invest up to 25% of its assets in any particular industry, and may invest a substantial portion of its assets in companies in related sectors, such as those in the banking or financial services sectors, which may share common characteristics and are often subject to similar business risks and regulatory burdens.

Edgar Filing: PIMCO Income Strategy Fund II - Form N-2/A

The Fund may invest without limit in debt securities that are, at the time of purchase, rated below investment grade and may also invest without limit in investment grade securities. The Fund will not normally invest more than 20% of its total assets in debt instruments, other than mortgage-related and other asset-backed securities, that are, at the time of purchase, rated CCC or lower by S&P and Fitch and Caa1 or lower by Moody's, or that are unrated but determined by PIMCO to be of comparable quality. The Fund may invest without limit in mortgage-related and other asset-backed securities regardless of rating—i.e., of any credit quality.

The Fund may invest in securities that have not been registered for public sale in the U.S. or relevant non-U.S. jurisdictions, including without limit securities eligible for purchase and sale pursuant to Rule 144A under the Securities Act of 1933, as amended (the "Securities Act"), or relevant provisions of applicable non-U.S. law, and other securities issued in private placements. The Fund may also invest in securities of other investment companies, including, without limit, exchange-traded funds ("ETFs"). The Fund may invest in real estate investment trusts ("REITs"). The Fund may invest in securities of companies of any market capitalization, including small and medium capitalizations.

The Fund may invest without limit in illiquid securities (i.e., securities that the Fund reasonably expects cannot be sold or disposed of in current market conditions in seven calendar days or less without the sale or disposition significantly changing the market value of the securities).

Upon PIMCO's recommendation, for temporary defensive purposes or during the period in which the net proceeds of this offering are being invested, the Fund may deviate from its investment strategy by investing some or all of its total assets in investments such as high grade debt securities, including high quality, short-term debt securities, and cash and cash equivalents. The Fund may not achieve its investment objective when it does so.

Leverage

The Fund utilizes leverage through its outstanding Preferred Shares and may obtain additional leverage through reverse repurchase agreements, dollar rolls or borrowings, such as through bank loans or commercial paper or other credit facilities. Information regarding the terms and features of the ARPS is provided under "Description of Capital Structure" in this Prospectus.

The Fund may also enter into transactions other than those noted above that may give rise to a form of leverage including, among others, credit default swaps, futures and forward contracts (including foreign currency exchange contracts), total return swaps and other derivative transactions, loans of portfolio securities, short sales and when-issued, delayed delivery and forward commitment transactions. Although it has no current intention to do so, the Fund may also determine to issue other types of preferred shares.

Depending upon market conditions and other factors, the Fund may or may not determine to add leverage following an offering to maintain or increase the total amount of leverage (as a percentage of the Fund's total assets) that the Fund currently maintains, taking into account the additional assets raised through the issuance of Common Shares in such offering. The Fund utilizes certain kinds of leverage, such as reverse repurchase agreements and credit default swaps, opportunistically and may choose to increase or decrease, or eliminate entirely, its use of such leverage over time and from time to time based on PIMCO's assessment of the yield curve environment, interest rate trends, market conditions and other factors. The Fund may also determine to decrease the leverage it currently maintains through its outstanding Preferred Shares through Preferred Shares redemptions or tender offers and may or may not determine to replace such leverage through other sources. If the Fund determines to add leverage following an offering, it is not possible to predict with accuracy the precise amount of leverage that would be added, in part because it is not possible to predict the number of Common Shares that ultimately will be sold in an offering or series of offerings. To the extent that the Fund does not add additional leverage following an offering, the Fund's total amount of leverage as a percentage of its total assets will decrease, which could result in a reduction of investment income available for distribution to Common Shareholders.

The Fund's net assets attributable to its Preferred Shares and the net proceeds the Fund obtains from reverse repurchase agreements or other forms of leverage utilized, if any, will be invested in accordance with the Fund's investment objective and policies as described in this prospectus and any prospectus supplement. So long as the rate of return, net of applicable Fund expenses, on the debt obligations and other investments purchased by the Fund exceeds the dividend rates payable on the Preferred Shares together with the costs to the Fund of other leverage it utilizes, the investment of the Fund's net assets attributable to leverage will generate more income than will be needed to pay the costs of the leverage. If so, and all other things being equal, the excess may be used to pay higher dividends to Common Shareholders than if the Fund were not so leveraged.

Regarding the costs associated with the Fund's ARPS, the terms of the ARPS provide that they would ordinarily pay dividends at a rate set at auctions held every seven days, normally payable on the first business day following the end of the rate period, subject to a maximum applicable rate calculated as a function of the ARPS' then-current rating and a reference interest rate. However, the weekly auctions for the ARPS, as well as auctions for similar preferred shares of other closed-end funds in the U.S., have failed since February 2008, and the dividend rates on the ARPS since that time have been paid at the maximum applicable rate (i.e., the greater of a multiple of or a spread plus a reference rate, which is the greater of the applicable LIBOR rate or the applicable Treasury Index Rate)). In September 2011, Moody's, a ratings agency that provides ratings for the Fund's ARPS, downgraded its rating of the ARPS from "Aaa" to "Aa2," citing persistently thin asset coverage levels, increased NAV volatility and concerns about secondary market liquidity for some assets supporting rated obligations. In July 2012, Moody's downgraded its rating of the ARPS from "Aa2" to "Aa3" pursuant to a revised ratings methodology adopted by Moody's. See "Use of Leverage" and "Description of Capital Structure." The Fund expects that the ARPS will continue to pay dividends at the maximum applicable rate for the foreseeable future and cannot predict whether or when the auction markets for the ARPS may resume normal functioning. See "Use of Leverage," "Principal Risks of the Fund—Leverage Risk," "Principal Risks of the Fund—Additional Risks Associated with the Fund's Preferred Shares" and "Description of Capital Structure" for more information.

Under the Investment Company Act of 1940, as amended, and the rules and regulations thereunder (the "1940 Act"), the Fund is not permitted to issue new preferred shares unless immediately after such issuance the value of the Fund's total net assets (as defined below) is at least 200% of the liquidation value of the outstanding Preferred Shares and the newly issued preferred shares

Edgar Filing: PIMCO Income Strategy Fund II - Form N-2/A

plus the aggregate amount of any senior securities of the Fund representing indebtedness (i.e., such liquidation value plus the aggregate amount of senior securities representing indebtedness may not exceed 50% of the Fund's total net assets). In addition, the Fund is not permitted to declare any cash dividend or other distribution on its Common Shares unless, at the time of such declaration, the value of the Fund's total net assets satisfies the above-referenced 200% coverage requirement.

The 1940 Act also generally prohibits the Fund from engaging in most forms of leverage representing indebtedness other than preferred shares (including the use of reverse repurchase agreements, dollar rolls, bank loans, commercial paper or other credit facilities, credit default swaps, total return swaps and other derivative transactions, loans of portfolio securities, short sales and when-issued, delayed delivery and forward commitment transactions, to the extent that these instruments are not covered as described below) unless immediately after the issuance of the leverage the Fund has satisfied the asset coverage test with respect to senior securities representing indebtedness prescribed by the 1940 Act; that is, the value of the Fund's total assets less all liabilities and indebtedness not represented by senior securities (for these purposes, "total net assets") is at least 300% of the senior securities representing indebtedness (effectively limiting the use of leverage through senior securities representing indebtedness to 33 1/3% of the Fund's total net assets, including assets attributable to such leverage). In addition, the Fund is not permitted to declare any cash dividend or other distribution on its Common Shares unless, at the time of such declaration, this asset coverage test is satisfied. The Fund may (but is not required to) cover its commitments under reverse repurchase

August 31, 2018 | **PROSPECTUS** 4

Table of Contents

PIMCO Income Strategy Fund II

agreements, dollar rolls, derivatives and certain other instruments by the segregation of liquid assets, or by entering into offsetting transactions or owning positions covering its obligations. To the extent that certain of these instruments are so covered, they will not be considered "senior securities" under the 1940 Act and therefore will not be subject to the 1940 Act 300% asset coverage requirement otherwise applicable to forms of senior securities representing indebtedness used by the Fund. However, reverse repurchase agreements and other such instruments, even if covered, represent a form of economic leverage and create special risks. The use of these forms of leverage increases the volatility of the Fund's investment portfolio and could result in larger losses to Common Shareholders than if these strategies were not used. See "Principal Risks of the Fund—Leverage Risk." To the extent that the Fund engages in borrowings, it may prepay a portion of the principal amount of the borrowing to the extent necessary in order to maintain the required asset coverage. Failure to maintain certain asset coverage requirements could result in an event of default.

Leveraging is a speculative technique and there are special risks and costs involved. The Fund cannot assure you that its Preferred Shares and use of any other forms of leverage (such as the use of reverse repurchase agreements or derivatives strategies), if any, will result in a higher yield on your Common Shares. When leverage is used, the NAV and market price of the Common Shares and the yield to Common Shareholders will be more volatile. See "Principal Risks of the Fund—Leverage Risk." In addition, dividend, interest and other costs and expenses borne by the Fund with respect to its Preferred Shares and its use of any other forms of leverage are borne by the Common Shareholders (and not by the holders of Preferred Shares) and result in a reduction of the NAV of the Common Shares. In addition, because the fees received by the Investment Manager are based on the average weekly total managed assets of the Fund ("total managed assets" includes the total assets of the Fund (including any assets attributable to any preferred shares or other forms of leverage that may be outstanding) minus accrued liabilities (other than liabilities representing leverage), the Investment Manager has a financial incentive for the Fund to have preferred shares outstanding and to utilize other forms of leverage, which may create a conflict of interest between the Investment Manager, on the one hand, and the Common Shareholders, on the other hand.

The Fund's ability to utilize leverage is also limited by asset coverage requirements and other guidelines imposed by rating agencies (currently Moody's and Fitch) that provide ratings for the Preferred Shares, which may be more restrictive than the limitations imposed by the 1940 Act noted above. See "Description of Capital Structure" for more information.

The Fund also may borrow money in order to repurchase its shares or as a temporary measure for extraordinary or emergency purposes, including for the payment of dividends or the settlement of securities transactions which otherwise might require untimely dispositions of portfolio securities held by the Fund.

Investment Manager

Pacific Investment Management Company LLC ("PIMCO" or the "Investment Manager") serves as the investment manager of the Fund. Subject to the supervision of the Board of Trustees of the Fund (the "Board") PIMCO is responsible for managing the investment activities of the Fund and the Fund's business affairs and other administrative matters. Alfred Murata and Mohit Mittal are jointly and primarily responsible for the day-to-day management of the Fund.

The Investment Manager receives an annual fee from the Fund, payable monthly, in an amount equal to 0.830% of the Fund's average weekly "total managed assets." "Total managed assets" includes the total assets of the Fund (including any assets attributable to any preferred shares or other forms of leverage that may be outstanding) minus accrued liabilities (other than liabilities representing leverage). For purposes of calculating average weekly total managed assets, the Fund's derivative instruments will be valued based on their market value. PIMCO is located at 650 Newport Center Drive, Newport Beach, CA, 92660. Organized in 1971, PIMCO provides investment management and advisory services to private accounts of institutional and individual clients and to registered investment companies. PIMCO is a majority-owned indirect subsidiary of Allianz SE, a publicly traded European insurance and financial services company. As of June 30, 2018, PIMCO had approximately \$1.71 trillion in assets under management.

Dividends and Distributions

Edgar Filing: PIMCO Income Strategy Fund II - Form N-2/A

The Fund makes regular monthly cash distributions to Common Shareholders at a rate based upon the past and projected net income of the Fund. Subject to applicable law, the Fund may fund a portion of its distributions with gains from the sale of portfolio securities and other sources. Distributions can only be made from net investment income after paying any accrued dividends to holders of the Preferred Shares. The dividend rate that the Fund pays on its Common Shares may vary as portfolio and market conditions change, and will depend on a number of factors, including without limit the amount of the Fund's undistributed net investment income and net short- and long-term capital gains, as well as the costs of any leverage obtained by the Fund (including the amount of the expenses and dividend rates on the Preferred Shares and any other preferred shares issued by the Fund and interest or other expenses on any reverse repurchase agreements, credit default swaps, dollar rolls and borrowings). As portfolio and market conditions change, the rate of distributions on the Common Shares and the Fund's dividend policy could change. For a discussion of factors that may cause the Fund's income and capital gains (and therefore the dividend) to vary, see "Principal Risks of the Fund." There can be no assurance that a change in market conditions or other factors will not result in a change in the Fund distribution rate or that the rate will be sustainable in the future.

The Fund generally distributes each year all of its net investment income and net short-term capital gains. In addition, at least annually, the Fund generally distributes net realized long-term capital gains not previously distributed, if any. The net investment income of the Fund consists of all income (other than net short-term and long-term capital gains) less all expenses of the Fund (after it pays accrued dividends on the outstanding Preferred Shares). The Fund may distribute less than the entire amount of net investment income earned in a particular period. The undistributed net investment income would be available to supplement future distributions. As a result, the distributions paid by the Fund for any particular monthly period may be more or less than the amount of net investment income

Table of Contents

Prospectus

actually earned by the Fund during the period. Undistributed net investment income will be additive to the Fund's NAV and, correspondingly, distributions from undistributed net investment income will be deducted from the Fund's NAV.

The tax treatment and characterization of the Fund's distributions may vary significantly from time to time because of the varied nature of the Fund's investments. The Fund may enter into opposite sides of interest rate swap and other derivatives for the principal purpose of generating distributable gains on the one side (characterized as ordinary income for tax purposes) that are not part of the Fund's duration or yield curve management strategies ("paired swap transactions"), and with a substantial possibility that the Fund will experience a corresponding capital loss and decline in NAV with respect to the opposite side transaction (to the extent it does not have corresponding offsetting capital gains). Consequently, Common Shareholders may receive distributions and owe tax at a time when their investment in the Fund has declined in value, which tax may be at ordinary income rates, and which may be economically similar to a taxable return of capital. The tax treatment of certain derivatives in which the Fund invests may be unclear and thus subject to recharacterization. Any recharacterization of payments made or received by the Fund pursuant to derivatives potentially could affect the amount, timing or character of Fund distributions. In addition, the tax treatment of such investment strategies may be changed by regulation or otherwise.

To the extent required by the 1940 Act and other applicable laws, absent an exemption, a notice will accompany each monthly distribution with respect to the estimated source (as between net income and gains) of the distribution made. If the Fund estimates that a portion of one of its dividend distributions may be comprised of amounts from sources other than net income, the Fund will notify shareholders of record of the estimated composition of such distribution through a Section 19 Notice. For these purposes, the Fund estimates the source or sources from which a distribution is paid, to the close of the period as of which it is paid, in reference to its internal accounting records and related accounting practices. If, based on such accounting records and practices, it is estimated that a particular distribution does not include capital gains or paid-in surplus or other capital sources, a Section 19 Notice generally would not be issued. It is important to note that differences exist between the Fund's daily internal accounting records and practices, the Fund's financial statements presented in accordance with U.S. GAAP, and recordkeeping practices under income tax regulations. For instance, the Fund's internal accounting records and practices may take into account, among other factors, tax-related characteristics of certain sources of distributions that differ from treatment under U.S. GAAP. Examples of such differences may include, among others, the treatment of paydowns on mortgage-backed securities purchased at a discount and periodic payments under interest rate swap contracts. Accordingly, among other consequences, it is possible that the Fund may not issue a Section 19 Notice in situations where the Fund's financial statements prepared later and in accordance with U.S. GAAP and/or the final tax character of those distributions might later report that the sources of those distributions included capital gains and/or a return of capital.

The tax characterization of the Fund's distributions made in a taxable year cannot finally be determined until at or after the end of such taxable year. As a result, there is a possibility that the Fund may make total distributions during a taxable year in an amount that exceeds the Fund's net investment income and net realized capital gains for the relevant year (including as reduced by any capital loss carry-forwards). For example, the Fund may distribute amounts early in the year that are derived from short-term capital gains, but incur net short-term capital losses later in the year, thereby offsetting short-term capital gains out of which the Fund has already made distributions. In such a situation, the amount by which the Fund's total distributions exceed net investment income and net realized capital gains would generally be treated as a tax-free return of capital up to the amount of a shareholder's tax basis in his or her Common Shares, with any amounts exceeding such basis treated as gain from the sale of Common Shares. In general terms, a return of capital would occur where the Fund distribution (or portion thereof) represents a return of a portion of your investment, rather than net income or capital gains generated from your investment during a particular period. Although return of capital distributions are not taxable, such distributions would reduce the basis of a shareholder's Common Shares and therefore may increase a shareholder's capital gains, or decrease a shareholder's capital loss, upon a sale of Common Shares, thereby potentially increasing a shareholder's tax liability. The Fund will prepare and make available to shareholders detailed tax information with respect to the Fund's distributions annually. See "Tax Matters."

The 1940 Act currently limits the number of times the Fund may distribute long-term capital gains in any tax year, which may increase the variability of the Fund's distributions and result in certain distributions being comprised more or less heavily than others of long-term capital gains currently eligible for favorable income tax rates. The Fund, as well as several other PIMCO-managed closed end funds, has received exemptive relief from the SEC permitting it to make a greater number of capital gains distributions to holders of the ARPS than would otherwise be permitted by Section 19(b) of the 1940 Act and Rule 19b-1 under the 1940 Act.

Unless a Common Shareholder elects to receive distributions in cash, all distributions of Common Shareholders whose shares are registered with the plan agent will be automatically reinvested in additional Common Shares of the Fund under the Fund's Dividend Reinvestment Plan. See "Distributions" and "Dividend Reinvestment Plan."

Shareholder Servicing Agent, Custodian and Transfer Agent

The Investment Manager, at its own expense, has retained Merrill Lynch & Co., Merrill Lynch, Pierce, Fenner & Smith, Incorporated, and UBS Securities LLC to serve as shareholder servicing agents for the Fund. State Street Bank and Trust Company serves as custodian of the Fund's assets and also provides certain fund accounting and sub-administrative services to the Investment Manager on behalf of the Fund. American Stock Transfer & Trust Company, LLC serves as the Fund's transfer agent and dividend disbursement agent. See "Shareholder Servicing Agent, Custodian and Transfer Agent."

Table of Contents

PIMCO Income Strategy Fund II

Listing

The Fund's outstanding Common Shares are listed on the NYSE under the trading or "ticker" symbol "PFN," as will be the Common Shares offered in this prospectus, subject to notice of issuance.

Market Price of Shares

Shares of closed-end investment companies frequently trade at prices lower than NAV. Shares of closed-end investment companies have during some periods traded at prices higher than NAV and during other periods traded at prices lower than NAV. The Fund cannot assure you that Common Shares will trade at a price equal to or higher than NAV in the future. NAV will be reduced immediately following an offering by any sales load and/ or commissions and the amount of offering expenses paid or reimbursed by the Fund. See "Use of Proceeds." In addition to NAV, market price may be affected by factors relating to the Fund such as dividend levels and stability (which will in turn be affected by Fund expenses, including the costs of any leverage used by the Fund, levels of interest payments by the Fund's portfolio holdings, levels of appreciation/depreciation of the Fund's portfolio holdings, regulation affecting the timing and character of Fund distributions and other factors), portfolio credit quality, liquidity, call protection, market supply and demand and similar factors relating to the Fund's portfolio holdings. See "Use of Leverage," "Principal Risks of the Fund," "Description of Shares" and "Repurchase of Common Shares; Conversion to Open-End Fund" in this prospectus, and see "Repurchase of Common Shares; Conversion to Open-End Fund" in the Statement of Additional Information. The Common Shares are designed for long-term investors and should not be treated as trading vehicles.

Principal Risks of the Fund

The following is a summary of the principal risks associated with an investment in Common Shares of the Fund. Investors should also refer to "Principal Risks of the Fund" in this prospectus and "Investment Objective and Policies" in the Statement of Additional Information for a more detailed explanation of these and other risks associated with investing in the Fund.

Market Discount Risk

As with any stock, the price of the Fund's Common Shares will fluctuate with market conditions and other factors. If you sell your Common Shares, the price received may be more or less than your original investment. Net asset value of the Fund's Common Shares will be reduced immediately following an offering by any sales load and/or commissions and offering expenses paid or reimbursed by the Fund in connection with such offering. The completion of an offering may result in an immediate dilution of the NAV per Common Share for all existing Common Shareholders. The Common Shares are designed for long-term investors and should not be treated as trading vehicles. Shares of closed-end management investment companies frequently trade at a discount from their NAV. The Common Shares may trade at a price that is less than the offering price for Common Shares issued pursuant to an offering. This risk may be greater for investors who sell their Common Shares relatively shortly after completion of an offering.

Credit Risk

The Fund could lose money if the issuer or guarantor of a debt security (including a security purchased with securities lending collateral), or the counterparty to a derivatives contract, repurchase agreement or a loan of portfolio securities, is unable or unwilling, or is perceived (whether by market participants, rating agencies, pricing services or otherwise) as unable or unwilling, to make timely principal and/or interest payments, or to otherwise honor its obligations. The downgrade of the credit of a security held by the Fund may decrease its value. Securities are subject to varying degrees of credit risk, which are often reflected in credit ratings. Measures such as average credit quality may not accurately reflect the true credit risk of the Fund. This is especially the case if the Fund holds securities with widely varying credit ratings. Therefore, if the Fund has an average credit rating that suggests a certain credit quality, the Fund may in fact be subject to greater credit risk than the average would suggest. This risk is greater to the extent the Fund uses leverage or derivatives in connection with the management of the Fund. Municipal bonds are subject to the risk that litigation, legislation or other political events, local business or economic conditions, or the bankruptcy of the issuer could have a significant effect on an issuer's ability to make payments of principal and/or interest.

High Yield Securities Risk

In general, lower rated debt securities carry a greater degree of risk that the issuer will lose its ability to make interest and principal payments, which could have a negative effect on the NAV of the Fund's Common Shares or Common Share dividends. Securities of below investment grade quality are regarded as having predominantly speculative characteristics with respect to capacity to pay interest and repay principal, and are commonly referred to as "high yield" securities or "junk bonds." High yield securities involve a greater risk of default and their prices are generally more volatile and sensitive to actual or perceived negative developments, such as a decline in the issuer's revenues or revenues of underlying borrowers or a general economic downturn, than are the prices of higher grade securities. Debt securities in the lowest investment grade category also may be considered to possess some speculative characteristics by certain rating agencies. The Fund may purchase distressed securities that are in default or the issuers of which are in bankruptcy, which involve heightened risks. See "Principal Risks of the Fund—Distressed and Defaulted Securities Risk." An economic downturn could severely affect the ability of issuers (particularly those that are highly leveraged) to service their debt obligations or to repay their obligations upon maturity. Lower-rated securities are generally less liquid than higher-rated securities, which may have an adverse effect on the Fund's ability to dispose of a particular security. For example, under adverse market or economic conditions, the secondary market for below investment grade securities could contract further, independent of any specific adverse changes in the condition of a particular issuer, and certain securities in the Fund's portfolio may become illiquid or less liquid. As a result, the Fund could find it more difficult to sell these securities or may be able to sell these securities only at prices lower than if such securities were widely traded. See "Principal Risks of the Fund—Liquidity Risk." To the extent the Fund focuses on below investment grade debt obligations, PIMCO's capabilities in analyzing credit quality and associated risks will be particularly important, and there can be no assurance that PIMCO will be

Table of Contents

Prospectus

successful in this regard. See "Portfolio Contents— High Yield Securities" for additional information. Due to the risks involved in investing in high yield securities, an investment in the Fund should be considered speculative.

The Fund's credit quality policies apply only at the time a security is purchased, and the Fund is not required to dispose of a security in the event that a rating agency or PIMCO downgrades its assessment of the credit characteristics of a particular issue. In determining whether to retain or sell such a security, PIMCO may consider factors including, but not limited to, PIMCO's assessment of the credit quality of the issuer of such security, the price at which such security could be sold and the rating, if any, assigned to such security by other rating agencies. Analysis of creditworthiness may be more complex for issuers of high yield securities than for issuers of higher quality debt securities.

Market Risk

The market price of securities owned by the Fund may go up or down, sometimes rapidly or unpredictably. Securities may decline in value due to factors affecting securities markets generally or particular industries represented in the securities markets. The value of a security may decline due to general market conditions that are not specifically related to a particular company, such as real or perceived adverse economic conditions, changes in the general outlook for corporate earnings, changes in interest or currency rates, adverse changes to credit markets or adverse investor sentiment generally. The value of a security may also decline due to factors that affect a particular industry or industries, such as labor shortages or increased production costs and competitive conditions within an industry. During a general downturn in the securities markets, multiple asset classes may decline in value simultaneously. Equity securities generally have greater price volatility than fixed income securities. Credit ratings downgrades may also negatively affect securities held by the Fund. Even when markets perform well, there is no assurance that the investments held by the Fund will increase in value along with the broader market. In addition, market risk includes the risk that geopolitical events will disrupt the economy on a national or global level. For instance, terrorism, market manipulation, government defaults, government shutdowns, political changes or diplomatic developments, and natural/environmental disasters can all negatively impact the securities markets, which could cause the Fund to lose value. Any market disruptions could also prevent the Fund from executing advantageous investment decisions in a timely manner. To the extent the Fund focuses its investments in a region enduring geopolitical market disruption, it will face higher risks of loss. Thus, investors should closely monitor current market conditions to determine whether a specific Fund meets their individual financial needs and tolerance for risk.

Current market conditions may pose heightened risks with respect to funds that invest in fixed income securities. As discussed more under "—Interest Rate Risk," interest rates in the U.S. are near historically low levels. However, continued economic recovery, the end of the Federal Reserve Board's quantitative easing program, and an increased likelihood of a rising interest rate environment increase the risk that interest rates will continue to rise in the near future. Any further interest rate increases in the future could cause the value of the Fund to decrease. As such, fixed income securities markets may experience heightened levels of interest rate, volatility and liquidity risk.

Exchanges and securities markets may close early, close late or issue trading halts on specific securities, which may result in, among other things, the Fund being unable to buy or sell certain securities or financial instruments at an advantageous time or accurately price its portfolio investments.

Interest Rate Risk

Interest rate risk is the risk that fixed-income securities and other instruments in the Fund's portfolio will decline in value because of a change in interest rates. As nominal interest rates rise, the value of certain fixed-income securities held by the Fund is likely to decrease. A nominal interest rate can be described as the sum of a real interest rate and an expected inflation rate. Interest rate changes can be sudden and unpredictable, and the Fund may lose money as a result of movements in interest rates. The Fund may not be able to hedge against changes in interest rates or may choose not to do so for cost or other reasons. In addition, any hedges may not work as intended.

A wide variety of factors can cause interest rates to rise (e.g., central bank monetary policies, inflation rates, general economic conditions). **This risk may be particularly acute in the current market environment because market interest rates are currently near historically low levels.** This, combined with recent economic recovery, the Federal Reserve Board's conclusion of its quantitative easing program, and increases in federal funds interest rates in 2015, 2016 and 2017, which had not occurred since 2006, could potentially increase the probability of an upward interest rate environment in the near future. To the extent the Federal Reserve Board continues to raise interest rates, there is a risk that rates across the financial system may rise.

Fixed-income securities with longer durations tend to be more sensitive to changes in interest rates, usually making them more volatile than securities with shorter durations. Duration is a measure used to determine the sensitivity of a security's price to changes in interest rates that incorporates a security's yield, coupon, final maturity and call features, among other characteristics. Duration is useful primarily as a measure of the sensitivity of a fixed-income security's market price to interest rate (i.e. yield) movements. All other things remaining equal, for each one percentage point increase in interest rates, the value of a portfolio of fixed-income investments would generally be expected to decline by one percent for every year of the portfolio's average duration above zero. For example, the value of a portfolio of fixed-income securities with an average duration of eight years would generally be expected to decline by approximately 8% if interest rates rose by one percentage point.

Variable and floating rate securities generally are less sensitive to interest rate changes but may decline in value if their interest rates do not rise as much, or as quickly, as interest rates in general. Conversely, floating rate securities will not generally increase in value if interest rates decline. Inverse floating rate securities may decrease in value if interest rates increase. Inverse floating rate securities may also exhibit greater price volatility than a fixed rate obligation with similar credit quality. When the Fund holds variable or floating rate securities, a decrease (or, in the case of inverse floating rate securities, an increase) in market interest rates will adversely

Table of Contents

PIMCO Income Strategy Fund II

affect the income received from such securities and the NAV of the Fund's shares.

During periods of very low or negative interest rates, the Fund may be unable to maintain positive returns. Interest rates in the United States and many parts of the world, including certain European countries, are at or near historically low levels. Certain European countries have recently experienced negative interest rates on certain fixed-income instruments. Very low or negative interest rates may magnify interest rate risk. Changing interest rates, including rates that fall below zero, may have unpredictable effects on markets, may result in heightened market volatility and may detract from Fund performance to the extent the Fund is exposed to such interest rates.

Measures such as average duration may not accurately reflect the true interest rate sensitivity of the Fund. This is especially the case if the Fund consists of securities with widely varying durations. Therefore, if the Fund has an average duration that suggests a certain level of interest rate risk, the Fund may in fact be subject to greater interest rate risk than the average would suggest. This risk is greater to the extent the Fund uses leverage or derivatives in connection with the management of the Fund.

Convexity is an additional measure used to understand a security's or Fund's interest rate sensitivity. Convexity measures the rate of change of duration in response to changes in interest rates. With respect to a security's price, a larger convexity (positive or negative) may imply more dramatic price changes in response to changing interest rates. Convexity may be positive or negative. Negative convexity implies that interest rate increases result in increased duration, meaning increased sensitivity in prices in response to rising interest rates. Thus, securities with negative convexity, which may include bonds with traditional call features and certain mortgage-backed securities, may experience greater losses in periods of rising interest rates. Accordingly, if the Fund holds such securities, the Fund may be subject to a greater risk of losses in periods of rising interest rates.

Rising interest rates may result in a decline in value of the Fund's fixed-income investments and in periods of volatility. Further, while U.S. bond markets have steadily grown over the past three decades, dealer "market making" ability has remained relatively stagnant. As a result, dealer inventories of certain types of bonds and similar instruments, which provide a core indication of the ability of financial intermediaries to "make markets," are at or near historic lows in relation to market size. Because market makers provide stability to a market through their intermediary services, the significant reduction in dealer inventories could potentially lead to decreased liquidity and increased volatility in the fixed-income markets. Such issues may be exacerbated during periods of economic uncertainty. All of these factors, collectively and/or individually, could cause the Fund to lose value.

Issuer Risk

The value of a security may decline for a number of reasons that directly relate to the issuer, such as management performance, financial leverage and reduced demand for the issuer's goods or services, as well as the historical and prospective earnings of the issuer and the value of its assets. A change in the financial condition of a single issuer may affect securities markets as a whole. These risks can apply to the Common Shares issued by the Fund and to the issuers of securities and other instruments in which the Fund invests.

Leverage Risk

The Fund's use of leverage (as described under "Use of Leverage" in the body of this prospectus) creates the opportunity for increased Common Share net income, but also creates special risks for Common Shareholders. To the extent used, there is no assurance that the Fund's leveraging strategies will be successful. Leverage is a speculative technique that may expose the Fund to greater risk and increased costs. The Fund's assets attributable to its outstanding Preferred Shares or the net proceeds that the Fund obtains from its use of reverse repurchase agreements, dollar rolls and/or borrowings, if any, will be invested in accordance with the Fund's investment objective and policies as described in this prospectus. Dividends payable with respect to the Preferred Shares and interest expense payable by the Fund with respect to any reverse repurchase agreements, dollar rolls and borrowings (for dividends payable with respect to Preferred Shares) will generally be based on shorter-term interest rates that would be periodically reset. So long as the Fund's portfolio investments provide a higher rate of return (net of applicable Fund expenses) than the dividend rate on the Preferred Shares and the interest expenses and other costs to the Fund of such other leverage, the investment of the proceeds thereof will generate more income than will be needed to pay the costs of the leverage. If so, and all

Edgar Filing: PIMCO Income Strategy Fund II - Form N-2/A

other things being equal, the excess may be used to pay higher dividends to Common Shareholders than if the Fund were not so leveraged. If, however, shorter-term interest rates rise relative to the rate of return on the Fund's portfolio, the interest and other costs of leverage to the Fund (including interest expenses on reverse repurchase agreements, dollar rolls and borrowings and the dividend rate on any outstanding preferred shares) could exceed the rate of return on the debt obligations and other investments held by the Fund, thereby reducing return to Common Shareholders. In addition, fees and expenses of any form of leverage used by the Fund will be borne entirely by the Common Shareholders (and not by preferred shareholders, if any) and will reduce the investment return of the Common Shares. Therefore, there can be no assurance that the Fund's use of leverage will result in a higher yield on the Common Shares, and it may result in losses. In addition, any Preferred Shares issued by the Fund are expected to pay cumulative dividends, which may tend to increase leverage risk.

Leverage creates several major types of risks for Common Shareholders, including:

the likelihood of greater volatility of NAV and market price of Common Shares, and of the investment return to Common Shareholders, than a comparable portfolio without leverage;

the possibility either that Common Share dividends will fall if the interest and other costs of leverage rise, or that dividends paid on Common Shares will fluctuate because such costs vary over time; and

the effects of leverage in a declining market or a rising interest rate environment, as leverage is likely to cause a greater decline in the NAV of the Common Shares than if the Fund were not leveraged and may result in a greater decline in the market value of the Common Shares.

Table of Contents

Prospectus

In addition, holders of ARPS and any other preferred shareholders of the Fund, and the counterparties to the Fund's other leveraging transactions, have or will have priority of payment over the Fund's Common Shareholders.

The use by the Fund of reverse repurchase agreements and dollar rolls to obtain leverage also involves special risks. For instance, the market value of the securities that the Fund is obligated to repurchase under a reverse repurchase agreement or dollar roll may decline below the repurchase price. See "The Fund's Investment Objective and Policies—Portfolio Contents—Reverse Repurchase Agreements and Dollar Rolls."

In addition to reverse repurchase agreements, dollar rolls and/or borrowings (or a future issuance of preferred shares), the Fund may engage in other transactions that may give rise to a form of leverage including, among others, futures and forward contracts (including foreign currency exchange contracts), credit default swaps, total return swaps, basis swaps and other derivative transactions, loans of portfolio securities, short sales and when-issued, delayed delivery and forward commitment transactions). The Fund's use of such transactions gives rise to associated leverage risks described above, and may adversely affect the Fund's income, distributions and total returns to Common Shareholders. The Fund manages some of its derivative positions by segregating an amount of cash or liquid securities equal to the notional value or the market value, as applicable, of those positions. See "Principal Risks of the Fund—Segregation and Coverage Risk." The Fund may also offset derivatives positions against one another or against other assets to manage effective market exposure resulting from derivatives in its portfolio. To the extent that any offsetting positions do not behave in relation to one another as expected, the Fund may perform as if it is leveraged through use of these derivative strategies. See "Use of Leverage."

The SEC has issued a proposed rule relating to a registered investment company's use of derivatives and related instruments that, if adopted, could potentially require the Fund to reduce its use of leverage and/or observe more stringent asset coverage and related requirements than are currently imposed by the 1940 Act, which could adversely affect the value or performance of the Fund and the Common Shares.

Because the fees received by the Investment Manager are based on the average weekly total managed assets of the Fund ("total managed assets" includes the total assets of the Fund (including any assets attributable to any preferred shares or other forms of leverage that may be outstanding) minus accrued liabilities (other than liabilities representing leverage)), the Investment Manager has a financial incentive for the Fund to maintain and issue preferred shares and utilize other forms of leverage, which may create a conflict of interest between the Investment Manager, on the one hand, and the Common Shareholders, on the other hand.

Additional Risks Associated with the Fund's Preferred Shares

Although the Fund's ARPS ordinarily would pay dividends at rates set at periodic auctions, the weekly auctions for the ARPS (and auctions for similar preferred shares issued by closed-end funds in the U.S.) have failed since February 2008. The dividend rates on the ARPS since that time have been paid, and the Fund expects that they will continue to be paid for the foreseeable future, at the "maximum applicable rate" under the Fund's Bylaws (i.e., the greater of a multiple of or a spread plus a reference rate, which is the greater of the applicable LIBOR rate or the applicable Treasury Index Rate). An increase in market interest rates generally, therefore, could increase substantially the dividend rate required to be paid by the Fund to the holders of ARPS, which would increase the costs associated with the Fund's leverage and reduce the Fund's net income available for distribution to Common Shareholders.

In addition, the multiple used to calculate the maximum applicable rate is based in part on the credit rating assigned to the ARPS by the applicable rating agency (currently, Moody's and Fitch), with the multiple generally increasing as the rating declines. In September 2011, Moody's, a ratings agency that provides ratings for the Fund's ARPS, downgraded its rating of the ARPS from "Aaa" to "Aa2," citing persistently thin asset coverage levels, increased NAV volatility and concerns about secondary market liquidity for some assets supporting rated obligations. In July 2012, Moody's downgraded its rating of the ARPS from "Aa2" to "Aa3" pursuant to a revised ratings methodology adopted by Moody's. Under the Bylaws, the 2011 downgrade resulted in an increase in the dividend rate multiplier from 1.25 to 1.5, thereby increasing the dividend rate payable to ARPS holders and increasing the costs to Common Shareholders associated with the Fund's leverage. See "Use of Leverage" and "Description of Capital Structure." The ARPS could be subject to further ratings downgrades in the future, possibly resulting in further increases to the maximum

applicable rate.

Therefore, it is possible that a substantial rise in market interest rates and/or further ratings downgrades of the ARPS could, by reducing income available for distribution to the Common Shareholders and otherwise detracting from the Fund's investment performance, make the Fund's continued use of Preferred Shares for leverage purposes less attractive than such use is currently considered to be. In such case, the Fund may elect to redeem some or all of the Preferred Shares outstanding, which may require it to dispose of investments at inopportune times and to incur losses on such dispositions. Such dispositions may adversely affect the Fund's investment performance generally, and the resultant loss of leverage may materially and adversely affect the Fund's investment returns to Common Shareholders. In 2008 and 2009, the Fund was effectively required to redeem a portion of its ARPS due to market dislocations that caused the value of the Fund's portfolio securities and related asset coverage to decline. In order to increase and maintain the Fund's asset coverage above the requisite 200% level, in December 2008 and March and April 2009, the Fund redeemed 2,552 shares (\$63,800,000) of each series of its outstanding ARPS, in each case at face value (i.e., a total of 12,760 shares (\$319,000,000) across all series). On September 19, 2014, the Fund commenced a voluntary tender offer for up to 100% of its outstanding ARPS at a price equal to 90% of the ARPS' per share liquidation preference of \$25,000. The Fund accepted 2,742 ARPS for payment, representing approximately 42.58% of its outstanding ARPS, such that on October 31, 2014, the expiration of the tender offer, the Fund had a total of 3,698 ARPS outstanding with a total liquidation value of \$92,450,000.

The Fund is also subject to certain asset coverage tests associated with the rating agencies that rate the ARPS—currently Moody's and Fitch. Failure by the Fund to maintain the asset coverages (or to cure such failure in a timely manner) may require the Fund to redeem ARPS. See "Description of Capital

Table of Contents

PIMCO Income Strategy Fund II

Structure." Failure to satisfy ratings agency asset coverage tests or other guidelines could also result in the applicable ratings agency downgrading its then-current ratings on the ARPS, as described above. Moreover, the rating agency guidelines impose restrictions or limitations on the Fund's use of certain financial instruments or investment techniques that the Fund might otherwise utilize in order to achieve its investment objective, which may adversely affect the Fund's investment performance. Rating agency guidelines may be modified by the rating agencies in the future and, if adopted by the Fund, such modifications may make such guidelines substantially more restrictive, which could further negatively affect the Fund's investment performance.

Liquidity Risk

Liquidity risk exists when particular investments are difficult to purchase or sell at the time that the Fund would like or at the price that the Fund believes such investments are currently worth. Many of the Fund's investments may be illiquid. Illiquid securities may become harder to value, especially in changing markets. The Fund's investments in illiquid securities may reduce the returns of the Fund because it may be unable to sell the illiquid securities at an advantageous time or price or possibly require the Fund to dispose of other investments at unfavorable times or prices in order to satisfy its obligations, which could prevent the Fund from taking advantage of other investment opportunities. Additionally, the market for certain investments may become illiquid under adverse market or economic conditions independent of any specific adverse changes in the conditions of a particular issuer. Bond markets have consistently grown over the past three decades while the capacity for traditional dealer counterparties to engage in fixed income trading has not kept pace and in some cases has decreased. As a result, dealer inventories of corporate bonds, which provide a core indication of the ability of financial intermediaries to "make markets," are at or near historic lows in relation to market size. Because market makers seek to provide stability to a market through their intermediary services, the significant reduction in dealer inventories could potentially lead to decreased liquidity and increased volatility in the fixed income markets. Such issues may be exacerbated during periods of economic uncertainty. In such cases, the Fund, due to limitations on investments in illiquid securities and the difficulty in purchasing and selling such securities or instruments, may be unable to achieve its desired level of exposure to a certain sector. To the extent that the Fund's principal investment strategies involve securities of companies with smaller market capitalizations, foreign (non-U.S.) securities, Rule 144A securities, senior loans, illiquid sectors of fixed income securities, derivatives or securities with substantial market and/or credit risk, the Fund will tend to have the greatest exposure to liquidity risk. Further, fixed income securities with longer durations until maturity face heightened levels of liquidity risk as compared to fixed income securities with shorter durations until maturity. It may also be the case that other market participants may be attempting to liquidate fixed income holdings at the same time as the Fund, causing increased supply in the market and contributing to liquidity risk and downward pricing pressure. See "Principal Risks of the Fund—Valuation Risk."

Asset Allocation Risk

The Fund's investment performance depends upon how its assets are allocated and reallocated. A principal risk of investing in the Fund is that PIMCO may make less than optimal or poor asset allocation decisions. PIMCO employs an active approach to allocation among multiple fixed income sectors, but there is no guarantee that such allocation techniques will produce the desired results. It is possible that PIMCO will focus on an investment that performs poorly or underperforms other investments under various market conditions. You could lose money on your investment in the Fund as a result of these allocation decisions.

Management Risk

The Fund is subject to management risk because it is an actively managed investment portfolio. PIMCO and each individual portfolio manager will apply investment techniques and risk analysis in making investment decisions for the Fund, but there can be no guarantee that these decisions will produce the desired results. Certain securities or other instruments in which the Fund seeks to invest may not be available in the quantities desired. In addition, regulatory restrictions, actual or potential conflicts of interest or other considerations may cause PIMCO to restrict or prohibit participation in certain investments. In such circumstances, PIMCO or the individual portfolio managers may determine to purchase other securities or instruments as substitutes. Such substitute securities or instruments may not perform as intended, which could result in losses to the Fund. To the extent the Fund employs strategies targeting perceived pricing inefficiencies, arbitrage strategies or similar strategies, it is subject to the risk that the pricing or valuation of the securities and instruments involved in such strategies may change unexpectedly, which may result in reduced returns or losses to the Fund. Additionally, legislative, regulatory, or tax restrictions, policies or developments may affect the

investment techniques available to PIMCO and each individual portfolio manager in connection with managing the Fund and may also adversely affect the ability of the Fund to achieve its investment objective. There also can be no assurance that all of the personnel of PIMCO will continue to be associated with PIMCO for any length of time. The loss of the services of one or more key employees of PIMCO could have an adverse impact on the Fund's ability to realize its investment objective.

In addition, the Fund may rely on various third-party sources to calculate its net asset value. As a result, the Fund is subject to certain operational risks associated with reliance on service providers and service providers' data sources. In particular, errors or systems failures and other technological issues may adversely impact the Fund's calculations of its net asset value, and such net asset value calculation issues may result in inaccurately calculated net asset values, delays in net asset value calculation and/or the inability to calculate net asset values over extended periods. The Fund may be unable to recover any losses associated with such failures.

Call Risk

Call risk refers to the possibility that an issuer may exercise its right to redeem a fixed income security earlier than expected (a call). Issuers may call outstanding securities prior to their maturity for a number of reasons (e.g., declining interest rates, changes in credit spreads and improvements in the issuer's credit quality). If an issuer calls a security in which the Fund

¹¹ **PROSPECTUS** | PIMCO Income Strategy Fund II

Table of Contents

Prospectus

has invested, the Fund may not recoup the full amount of its initial investment and may be forced to reinvest in lower-yielding securities, securities with greater credit risks or securities with other, less favorable features.

Foreign (non-U.S.) Investment Risk

The Fund may invest in foreign (non-U.S.) securities and may experience more rapid and extreme changes in value than the Fund that invests exclusively in securities of U.S. companies. The securities markets of many foreign countries are relatively small, with a limited number of companies representing a small number of industries. Additionally, issuers of foreign (non-U.S.) securities are usually not subject to the same degree of regulation as U.S. issuers. Reporting, accounting, auditing and custody standards of foreign countries differ, in some cases significantly, from U.S. standards. Global economies and financial markets are becoming increasingly interconnected, and conditions and events in one country, region or financial market may adversely impact issuers in a different country, region or financial market. Also, nationalization, expropriation or confiscatory taxation, currency blockage, political changes or diplomatic developments could adversely affect the Fund's investments in a foreign country. In the event of nationalization, expropriation or other confiscation, the Fund could lose its entire investment in foreign (non-U.S.) securities. Adverse conditions in a certain region can adversely affect securities of other countries whose economies appear to be unrelated. To the extent that the Fund invests a significant portion of its assets in a specific geographic region, the Fund will generally have more exposure to regional economic risks associated with foreign (non-U.S.) investments. Foreign (non-U.S.) securities may also be less liquid and more difficult to value than securities of U.S. issuers.

The global economic crisis brought several small economies in Europe to the brink of bankruptcy and many other economies into recession and weakened the banking and financial sectors of many European countries. For example, the governments of Greece, Spain, Portugal, and the Republic of Ireland have all experienced large public budget deficits, the effects of which are still yet unknown and may slow the overall recovery of the European economies from the global economic crisis. In addition, due to large public deficits, some European countries may be dependent on assistance from other European governments and institutions or other central banks or supranational agencies such as the International Monetary Fund. Assistance may be dependent on a country's implementation of reforms or reaching a certain level of performance. Failure to reach those objectives or an insufficient level of assistance could result in a deep economic downturn which could significantly affect the value of the Fund's European investments. It is possible that one or more Economic and Monetary Union member countries could abandon the euro and return to a national currency and/or that the euro will cease to exist as a single currency in its current form. The exit of any country out of the euro may have an extremely destabilizing effect on other eurozone countries and their economies and a negative effect on the global economy as a whole. Such an exit by one country may also increase the possibility that additional countries may exit the euro should they face similar financial difficulties.

At a referendum in June 2016, the United Kingdom (the UK) voted to leave the European Union (EU). In connection with the British exit from the EU (commonly known as "Brexit"), it is expected that the UK will invoke article 50 of the Treaty of Lisbon to withdraw from the EU in due course, however there is a significant degree of uncertainty about how negotiations relating to the UK's withdrawal and new trade agreements will be conducted, as well as the potential consequences and precise timeframe for Brexit. It is expected that the UK's exit from the EU will take place within two years of the UK notifying the European Council that it intends to withdraw from the EU. During this period and beyond, the impact of any partial or complete dissolution of the EU on the UK and European economies and the broader global economy could be significant, resulting in negative impacts on currency and financial markets generally, such as increased volatility and illiquidity, and potentially lower economic growth in markets in the UK, Europe and globally, which may adversely affect the value of the Fund's portfolio investments.

The UK has one of the largest economies in Europe, and member countries of the EU are substantial trading partners of the UK. The City of London's economy is dominated by financial services, some of which may have to move outside of the UK post-referendum (e.g., currency trading, international settlement). Under the referendum, banks may be forced to move staff and comply with two separate sets of rules or lose business to banks in Europe. Furthermore, the referendum creates the potential for decreased trade, the possibility of capital outflows, devaluation of the pound sterling, the cost of higher corporate bond spreads due to uncertainty, and the risk that all the above could damage business and consumer spending as well as foreign direct investment. As a result of the referendum, the British economy and its currency may be negatively impacted by changes to its economic and political relations with the EU. Any further exits from the EU, or the possibility of such exits, would likely cause additional market disruption globally and introduce new legal and regulatory uncertainties.

Edgar Filing: PIMCO Income Strategy Fund II - Form N-2/A

The impact of the referendum in the near- and long-term is still unknown and could have additional adverse effects on economies, financial markets, currencies and asset valuations around the world. Any attempt by the Fund to hedge against or otherwise protect its portfolio or to profit from such circumstances may fail and, accordingly, an investment in the Fund could lose money over short or long periods.

The Fund may invest in securities and instruments that are economically tied to Russia. Investments in Russia are subject to various risks such as political, economic, legal, market and currency risks. The risks include uncertain political and economic policies, short term market volatility, poor accounting standards, corruption and crime, an inadequate regulatory system, and unpredictable taxation. Investments in Russia are particularly subject to the risk that economic sanctions may be imposed by the United States and/or other countries. Such sanctions—which may impact companies in many sectors, including energy, financial services and defense, among others—may negatively impact the Fund's performance and ability to achieve its investment objective. The Russian securities market is characterized by limited volume of trading, resulting in difficulty in obtaining accurate prices. The Russian securities market, as compared to U.S. markets, has significant price volatility, less liquidity, a smaller market capitalization

August 31, 2018 | **PROSPECTUS** 12

Table of Contents

PIMCO Income Strategy Fund II

and a smaller number of traded securities. There may be little publicly available information about issuers. Settlement, clearing and registration of securities transactions are subject to risks because of registration systems that may not be subject to effective government supervision. This may result in significant delays or problems in registering the transfer of securities. Russian securities laws may not recognize foreign nominee accounts held with a custodian bank, and therefore the custodian may be considered the ultimate owner of securities they hold for their clients. Ownership of securities issued by Russian companies is recorded by companies themselves and by registrars instead of through a central registration system. It is possible that the ownership rights of the Fund could be lost through fraud or negligence. While applicable Russian regulations impose liability on registrars for losses resulting from their errors, it may be difficult for the Fund to enforce any rights it may have against the registrar or issuer of the securities in the event of loss of share registration. Adverse currency exchange rates are a risk and there may be a lack of available currency hedging instruments. Investments in Russia may be subject to the risk of nationalization or expropriation of assets. Oil, natural gas, metals, and timber account for a significant portion of Russia's exports, leaving the country vulnerable to swings in world prices.

Emerging Markets Risk

Foreign investment risk may be particularly high to the extent that the Fund invests in securities of issuers based in or doing business in emerging market countries or invests in securities denominated in the currencies of emerging market countries. Investing in securities of issuers based in or doing business in emerging markets entails all of the risks of investing in foreign securities noted above, but to a heightened degree.

Investments in emerging market countries pose a greater degree of systemic risk (i.e., the risk of a cascading collapse of multiple institutions within a country, and even multiple national economies). The inter-relatedness of economic and financial institutions within and among emerging market economies has deepened over the years, with the effect that institutional failures and/or economic difficulties that are of initially limited scope may spread throughout a country, a region or even among all or most emerging market countries. This may undermine any attempt by the Fund to reduce risk through geographic diversification of its portfolio investments among emerging market countries.

There is a heightened possibility of imposition of withholding taxes on interest or dividend income generated from emerging market securities. Governments of emerging market countries may engage in confiscatory taxation or expropriation of income and/or assets to raise revenues or to pursue a domestic political agenda. In the past, emerging market countries have nationalized assets, companies and even entire sectors, including the assets of foreign investors, with inadequate or no compensation to the prior owners. There can be no assurance that the Fund will not suffer a loss of any or all of its investments or, interest or dividends thereon, due to adverse fiscal or other policy changes in emerging market countries.

There is also a greater risk that an emerging market government may take action that impedes or prevents the Fund from taking income and/or capital gains earned in the local currency and converting into U.S. dollars (i.e., "repatriating" local currency investments or profits). Certain emerging market countries have sought to maintain foreign exchange reserves and/or address the economic volatility and dislocations caused by the large international capital flows by controlling or restricting the conversion of the local currency into other currencies. This risk tends to become more acute when economic conditions otherwise worsen. There can be no assurance that if the Fund earns income or capital gains in an emerging market currency or PIMCO otherwise seeks to withdraw the Fund's investments from a given emerging market country, capital controls imposed by such country will not prevent, or cause significant expense in, doing so.

Bankruptcy law and creditor reorganization processes may differ substantially from those in the United States, resulting in greater uncertainty as to the rights of creditors, the enforceability of such rights, reorganization timing and the classification, seniority and treatment of claims. In certain emerging market countries, although bankruptcy laws have been enacted, the process for reorganization remains highly uncertain. In addition, it may be impossible to seek legal redress against an issuer that is a sovereign state.

Other heightened risks associated with emerging markets investments include without limitation: (i) risks due to less social, political and economic stability; (ii) the smaller size of the market for such securities and a lower volume of trading, resulting in a lack of liquidity and in price volatility; (iii) certain national policies which may restrict the Fund's investment opportunities, including restrictions on investing in issuers or industries deemed sensitive to relevant national interests and requirements that government approval be obtained prior to investment by foreign persons; (iv) certain national policies that may restrict the Fund's repatriation of investment income, capital or the proceeds of sales of securities, including temporary restrictions on foreign capital remittances; (v) the lack of uniform accounting and auditing standards and/or standards that may be significantly different from the standards required in the United States; (vi) less publicly available financial and other information regarding issuers; (vii) potential difficulties in enforcing contractual obligations; and (viii) higher rates of inflation, higher interest rates and other economic concerns. The Fund may invest to a substantial extent in emerging market securities that are denominated in local currencies, subjecting the Fund to a greater degree of foreign currency risk. See "Principal Risks of the Fund—Currency Risk." Also, investing in emerging market countries may entail purchases of securities of issuers that are insolvent, bankrupt or otherwise of questionable ability to satisfy their payment obligations as they become due, subjecting the Fund to a greater amount of credit risk and/or high yield risk. See "Principal Risks of the Fund—Credit Risk" and "Principal Risks of the Fund—High Yield Securities Risk."

Derivatives Risk

The Fund may, but is not required to, utilize a variety of derivative instruments (both long and short positions) for investment or risk management purposes, as well as to leverage its portfolio. The Fund may use derivatives to gain exposure to securities markets in which it may invest (e.g., pending investment of the proceeds of this offering in individual securities, as well as on an ongoing basis). The Fund may also use derivatives to add leverage to its portfolio. See "Principal Risks of the Fund —Leverage Risk." Derivatives transactions that the Fund may utilize

Table of Contents

Prospectus

include, but are not limited to, purchases or sales of futures and forward contracts (including foreign currency exchange contracts), call and put options, credit default swaps, total return swaps, basis swaps and other swap agreements. The Fund may also have exposure to derivatives, such as interest rate or credit default swaps, through investment in credit-linked trust certificates and other securities issued by special purpose or structured vehicles. The Fund's use of derivative instruments involves risks different from, and possibly greater than, the risks associated with investing directly in securities and other traditional investments. Derivatives are subject to a number of risks described elsewhere in this prospectus, such as liquidity risk, interest rate risk, issuer risk, credit risk, leveraging risk, counterparty risk and management risk. See also "Principal Risks of the Fund—Segregation and Coverage Risk." They also involve the risk of mispricing or improper valuation, the risk of unfavorable or ambiguous documentation and the risk that changes in the value of the derivative may not correlate perfectly with the underlying asset, rate or index. If the Fund invests in a derivative instrument, it could lose more than the principal amount invested. Also, suitable derivative transactions may not be available in all circumstances and there can be no assurance that the Fund will engage in these transactions to reduce exposure to other risks when that would be beneficial. The Fund's use of derivatives also may affect the amount, timing or character of distributions to, and taxes payable by, Common Shareholders. See "Tax Matters." Over-the-counter ("OTC") derivative transactions are also subject to the risk that a counterparty to the transaction will not fulfill its contractual obligations to the other party, as many of the protections afforded to centrally-cleared derivative transactions might not be available for OTC derivatives transactions. For derivatives traded on an exchange or through a central counterparty, credit risk resides with the creditworthiness of the Fund's clearing broker, or the clearinghouse itself, rather than with a counterparty in an OTC derivative transaction.

The regulation of the derivatives markets has increased over the past several years, and additional future regulation of the derivatives markets may make derivatives more costly, may limit the availability or reduce the liquidity of derivatives, or may otherwise adversely affect the value or performance of derivatives. Any such adverse future developments could impair the effectiveness of the Fund's derivative transactions and cause the Fund to lose value. For instance, in December 2015, the SEC proposed new regulations applicable to a registered investment company's use of derivatives and related instruments. If adopted as proposed, these regulations could significantly limit or impact the Fund's ability to invest in derivatives and other instruments, limit the Fund's ability to employ certain strategies that use derivatives and/or adversely affect the Fund's performance, efficiency in implementing its strategy, liquidity and/or ability to pursue its investment objective.

Credit Default Swaps Risk

Credit default swap agreements may involve greater risks than if the Fund had invested in the reference obligation directly since, in addition to general market risks, credit default swaps are subject to illiquidity risk, counterparty risk and credit risk. A buyer generally also will lose its investment and recover nothing should no credit event occur and the swap is held to its termination date. If a credit event were to occur, the value of any deliverable obligation received by the seller (if any), coupled with the upfront or periodic payments previously received, may be less than the full notional value it pays to the buyer, resulting in a loss of value to the seller. When the Fund acts as a seller of a credit default swap, it is exposed to many of the same risks of leverage described herein since if an event of default occurs, the seller must pay the buyer the full notional value of the reference obligation. See "Principal Risks of the Fund—Leverage Risk."

Although the Fund may seek to realize gains by selling credit default swaps that increase in value, to realize gains on selling credit default swaps, an active secondary market for such instruments must exist or the Fund must otherwise be able to close out these transactions at advantageous times. In addition to the risk of losses described above, if no such secondary market exists or the Fund is otherwise unable to close out these transactions at advantageous times, selling credit default swaps may not be profitable for the Fund.

The market for credit default swaps has become more volatile in recent years as the creditworthiness of certain counterparties has been questioned and/or downgraded. The Fund will be subject to credit risk with respect to the counterparties to the credit default swap contract (whether a clearing corporation in the case of a cleared credit default swap or another third party in the case of an uncleared credit default swap). If a counterparty's credit becomes significantly impaired, multiple requests for collateral posting in a

short period of time could increase the risk that the Fund may not receive adequate collateral. The Fund may exit its obligations under a credit default swap only by terminating the contract and paying applicable breakage fees, or by entering into an offsetting credit default swap position, which may cause the Fund to incur more losses.

Counterparty Risk

The Fund will be subject to credit risk with respect to the counterparties to the derivative contracts and other instruments entered into by the Fund or held by special purpose or structured vehicles in which the Fund invests. In the event that the Fund enters into a derivative transaction with a counterparty that subsequently becomes insolvent or becomes the subject of a bankruptcy case, the derivative transaction may be terminated in accordance with its terms and the Fund's ability to realize its rights under the derivative instrument and its ability to distribute the proceeds could be adversely affected. If a counterparty becomes bankrupt or otherwise fails to perform its obligations under a derivative contract due to financial difficulties, the Fund may experience significant delays in obtaining any recovery (including recovery of any collateral it has provided to the counterparty) in a dissolution, assignment for the benefit of creditors, liquidation, winding-up, bankruptcy, or other analogous proceeding. In addition, in the event of the insolvency of a counterparty to a derivative transaction, the derivative transaction would typically be terminated at its fair market value. If the Fund is owed this fair market value in the termination of the derivative transaction and its claim is unsecured, the Fund will be treated as a general creditor of such counterparty, and will not have any claim with respect to any underlying security or asset. The Fund may obtain only a limited recovery or may obtain no recovery in such circumstances.

Table of Contents

PIMCO Income Strategy Fund II

Mortgage-Related and Other Asset-Backed Securities Risk

The Fund may invest in a variety of mortgage-related and other asset-backed securities issued by government agencies or other governmental entities or by private originators or issuers.

The mortgage-related securities in which the Fund may invest include, without limit, mortgage pass-through securities, collateralized mortgage obligations ("CMOs"), commercial or residential mortgage-backed securities, mortgage dollar rolls, CMO residuals, stripped mortgage-backed securities ("SMBs") and other securities that directly or indirectly represent a participation in, or are secured by and payable from, mortgage loans on real property. The Fund may also invest in other types of asset-backed securities, including collateralized debt obligations ("CDOs"), which include collateralized bond obligations ("CBOs"), collateralized loan obligations ("CLOs") and other similarly structured securities. See "Portfolio Contents—Mortgage-Related and Other Asset-Backed Securities" in this prospectus and "Investment Objective and Policies—Mortgage-Related and Other Asset-Backed Securities" in the Statement of Additional Information for a description of the various mortgage-related and other asset-backed securities in which the Fund may invest and their related risks.

Mortgage-related and other asset-backed securities represent interests in "pools" of mortgages or other assets such as consumer loans or receivables held in trust and often involve risks that are different from or possibly more acute than risks associated with other types of debt instruments. Generally, rising interest rates tend to extend the duration of fixed rate mortgage-related securities, making them more sensitive to changes in interest rates. As a result, in a period of rising interest rates, the Fund may exhibit additional volatility since individual mortgage holders are less likely to exercise prepayment options, thereby putting additional downward pressure on the value of these securities and potentially causing the Fund to lose money. This is known as extension risk. Mortgage-backed securities can be highly sensitive to rising interest rates, such that even small movements can cause the Fund to lose value. Mortgage-backed securities, and in particular those not backed by a government guarantee, are subject to credit risk. When interest rates decline, borrowers may pay off their mortgages sooner than expected. This can reduce the returns of the Fund because the Fund may have to reinvest that money at the lower prevailing interest rates. The Fund's investments in other asset-backed securities are subject to risks similar to those associated with mortgage-related securities, as well as additional risks associated with the nature of the assets and the servicing of those assets. Payment of principal and interest on asset-backed securities may be largely dependent upon the cash flows generated by the assets backing the securities, and asset-backed securities may not have the benefit of any security interest in the related assets. See "Principal Risks of the Fund—Mortgage Market/Subprime Risk."

The Fund may also invest in the residual or equity tranches of mortgage-related and other asset-backed securities, which may be referred to as subordinate mortgage-backed or asset-backed securities and interest-only mortgage-backed or asset-backed securities. Subordinate mortgage-backed or asset-backed securities are paid interest only to the extent that there are funds available to make payments. To the extent the collateral pool includes a large percentage of delinquent loans, there is a risk that interest payment on subordinate mortgage-backed or asset-backed securities will not be fully paid. There are multiple tranches of mortgage-backed and asset-backed securities, offering investors various maturity and credit risk characteristics. Tranches are categorized as senior, mezzanine, and subordinated/equity or "first loss," according to their degree of risk. The most senior tranche of a mortgage-backed or asset-backed security has the greatest collateralization and pays the lowest interest rate. If there are defaults or the collateral otherwise underperforms, scheduled payments to senior tranches take precedence over those of mezzanine tranches, and scheduled payments to mezzanine tranches take precedence over those to subordinated/equity tranches. Lower tranches represent lower degrees of credit quality and pay higher interest rates intended to compensate for the attendant risks. The return on the lower tranches is especially sensitive to the rate of defaults in the collateral pool. The lowest tranche (i.e., the "equity" or "residual" tranche) specifically receives the residual interest payments (i.e., money that is left over after the higher tranches have been paid and expenses of the issuing entities have been paid) rather than a fixed interest rate. The Fund expects that investments in subordinate mortgage-backed and other asset-backed securities will be subject to risks arising from delinquencies and foreclosures, thereby exposing its investment portfolio to potential losses. Subordinate securities of mortgage-backed and other asset-backed securities are also subject to greater credit risk than those mortgage-backed or other asset-backed securities that are more highly rated.

Privately-Issued Mortgage-Related Securities Risk

There are no direct or indirect government or agency guarantees of payments in pools created by non-governmental issuers. Privately-issued mortgage-related securities are also not subject to the same underwriting requirements for the underlying mortgages that are applicable to those mortgage-related securities that have a government or government-sponsored entity guarantee.

Privately-issued mortgage-related securities are not traded on an exchange and there may be a limited market for the securities, especially when there is a perceived weakness in the mortgage and real estate market sectors. Without an active trading market, mortgage-related securities held in the Fund's portfolio may be particularly difficult to value because of the complexities involved in assessing the value of the underlying mortgage loans.

Mortgage Market/Subprime Risk

The mortgage markets in the United States and in various foreign countries have experienced extreme difficulties in the past that adversely affected the performance and market value of certain of the Fund's mortgage-related investments. Delinquencies and losses on residential and commercial mortgage loans (especially subprime and second-lien mortgage loans) generally increased during that period and may increase again, and a decline in or flattening of housing and other real property values (as has been experienced during that period and may continue to be experienced in many real estate markets) may exacerbate such delinquencies and losses. Borrowers with adjustable rate mortgage loans are more sensitive to changes in interest rates, which affect their monthly mortgage payments, and may be unable to secure replacement mortgages at comparably low interest rates. Also, a number of mortgage loan originators have experienced serious financial difficulties or bankruptcy in recent periods.

Table of Contents

Prospectus

Owing largely to the foregoing, reduced investor demand for mortgage loans and mortgage-related securities and increased investor yield requirements have caused limited liquidity in the secondary market for mortgage-related securities, which can adversely affect the market value of mortgage-related securities. It is possible that such limited liquidity in such secondary markets could continue or worsen.

Distressed and Defaulted Securities Risk

As noted above, the Fund may invest in the debt securities of financially distressed issuers, including those that are in default or the issuers of which are in bankruptcy. Investments in the securities of financially distressed issuers involve substantial risks. These securities may present a substantial risk of default or may be in default at the time of investment. In addition, these securities may fluctuate more in price, and are typically less liquid than other higher-rated debt securities. The Fund also will be subject to significant uncertainty as to when, and in what manner, and for what value obligations evidenced by securities of financially distressed issuers will eventually be satisfied (e.g., through a liquidation of the issuer's assets, an exchange offer or plan of reorganization, or a payment of some amount in satisfaction of the obligation). Defaulted obligations might be repaid only after lengthy workout or bankruptcy proceedings, during which the issuer might not make any interest or other payments. In any such proceeding relating to a defaulted obligation, the Fund may lose its entire investment or may be required to accept cash or securities with a value substantially less than its original investment. Moreover, any securities received by the Fund upon completion of a workout or bankruptcy proceeding may be illiquid, speculative, or restricted as to resale. Similarly, if the Fund participates in negotiations with respect to any exchange offer or plan of reorganization with respect to the securities of a distressed issuer, the Fund may be restricted from disposing of such securities. To the extent that the Fund becomes involved in such proceedings, the Fund may have a more active participation in the affairs of the issuer than that assumed generally by an investor. The Fund may incur additional expenses to the extent it is required to seek recovery upon a default in the payment of principal or interest on its portfolio holdings.

Also among the risks inherent in investments in a troubled issuer is that it frequently may be difficult to obtain information as to the true financial condition of such issuer. PIMCO's judgments about the credit quality of a financially distressed issuer and the relative value of its securities may prove to be wrong.

Equity Securities and Related Market Risk

The market price of common stocks and other equity securities may go up or down, sometimes rapidly or unpredictably. Equity securities may decline in value due to factors affecting equity securities markets generally, particular industries represented in those markets, or the issuer itself. See "Principal Risks of the Fund—Issuer Risk." The values of equity securities may decline due to general market conditions that are not specifically related to a particular company, such as real or perceived adverse economic conditions, changes in the general outlook for corporate earnings, changes in interest or currency rates or adverse investor sentiment generally. They may also decline due to factors that affect a particular industry or industries, such as labor shortages or increased production costs and competitive conditions within an industry. Equity securities generally have greater price volatility than bonds and other debt securities.

Preferred Securities Risk

In addition to equity securities risk (see "Principal Risks of the Fund—Equity Securities and Related Market Risk"), credit risk (see "Principal Risks of the Fund—Credit Risk") and possibly high yield risk (see "Principal Risks of the Fund—High Yield Securities Risk"), investment in preferred securities involves certain other risks. Certain preferred securities contain provisions that allow an issuer under certain conditions to skip or defer distributions. If the Fund owns a preferred security that is deferring its distribution, the Fund may be required to include the amount of the deferred distribution in its taxable income for tax purposes although it does not currently receive such amount in cash. In order to receive the special treatment accorded to RICs and their shareholders under the Code and to avoid U.S. federal income and/or excise taxes at the Fund level, the Fund may be required to distribute this income to shareholders in the tax year in which the income is recognized (without a corresponding receipt of cash). Therefore, the Fund may be required to pay out as an income distribution in any such tax year an amount greater than the total amount of cash income the

Fund actually received, and to sell portfolio securities, including at potentially disadvantageous times or prices, to obtain cash needed for these income distributions. Preferred securities often are subject to legal provisions that allow for redemption in the event of certain tax or legal changes or at the issuer's call. In the event of redemption, the Fund may not be able to reinvest the proceeds at comparable rates of return. Preferred securities are subordinated to bonds and other debt securities in an issuer's capital structure in terms of priority for corporate income and liquidation payments, and therefore will be subject to greater credit risk than those debt securities. Preferred securities may trade less frequently and in a more limited volume and may be subject to more abrupt or erratic price movements than many other securities, such as common stocks, corporate debt securities and U.S. Government securities.

Inflation-Indexed Security Risk

Inflation-indexed debt securities are subject to the effects of changes in market interest rates caused by factors other than inflation (real interest rates). In general, the value of an inflation-indexed security, including TIPS, tends to decrease when real interest rates increase and can increase when real interest rates decrease. Thus generally, during periods of rising inflation, the value of inflation-indexed securities will tend to increase and during periods of deflation, their value will tend to decrease. Interest payments on inflation-indexed securities are unpredictable and will fluctuate as the principal and interest are adjusted for inflation. There can be no assurance that the inflation index used (i.e., the CPI) will accurately measure the real rate of inflation in the prices of goods and services. Increases in the principal value of TIPS due to inflation are considered taxable ordinary income for the amount of the increase in the calendar year. Any increase in the principal amount of an inflation-indexed debt security will be considered taxable ordinary income, even though the Fund will not receive the principal until maturity. Additionally, a CPI swap can potentially lose value if the realized rate of inflation over the life of the swap is less than the fixed market implied inflation rate (fixed breakeven rate) that the

Table of Contents

PIMCO Income Strategy Fund II

investor agrees to pay at the initiation of the swap. With municipal inflation-indexed securities, the inflation adjustment is integrated into the coupon payment, which is federally tax exempt (and may be state tax exempt). For municipal inflation-indexed securities, there is no adjustment to the principal value. Because municipal inflation-indexed securities are a small component of the municipal bond market, they may be less liquid than conventional municipal bonds.

Senior Debt Risk

Because it may invest in below-investment grade senior debt, the Fund may be subject to greater levels of credit risk than funds that do not invest in such debt. The Fund may also be subject to greater levels of liquidity risk than funds that do not invest in senior debt. Restrictions on transfers in loan agreements, a lack of publicly available information and other factors may, in certain instances, make senior debt more difficult to sell at an advantageous time or price than other types of securities or instruments. Additionally, if the issuer of senior debt prepays, the Fund will have to consider reinvesting the proceeds in other senior debt or similar instruments that may pay lower interest rates.

Loans and Other Indebtedness; Loan Participations and Assignments Risk

Loan interests may take the form of direct interests acquired during a primary distribution and may also take the form of assignments of, novations of or participations in a loan acquired in secondary markets. In addition to credit risk and interest rate risk, the Fund's exposure to loan interests may be subject to additional risks. For example, purchasers of loans and other forms of direct indebtedness depend primarily upon the creditworthiness of the corporate borrower for payment of principal and interest. If the Fund does not receive scheduled interest or principal payments on such indebtedness, the Fund's share price and yield could be adversely affected. Loans that are fully secured offer the Fund more protection than an unsecured loan in the event of non-payment of scheduled interest or principal. However, there is no assurance that the liquidation of collateral from a secured loan would satisfy the corporate borrower's obligation, or that the collateral can be liquidated.

Acquisitions of loans through a purchase of a loan or a direct assignment of a financial institution's interests with respect to a loan may involve additional risks to the Fund. For example, if a loan is foreclosed, the Fund could become owner, in whole or in part, of any collateral, which could include, among other assets, real or personal property, and would bear the costs and liabilities associated with owning and holding or disposing of the collateral. In addition, it is conceivable that under emerging legal theories of lender liability, the Fund could be held liable as co-lender. It is unclear whether loans and other forms of direct indebtedness offer securities law protections against fraud and misrepresentation. In the absence of definitive regulatory guidance, the Fund will rely on PIMCO's research in an attempt to avoid situations where fraud or misrepresentation could adversely affect the Fund. The purchaser of an assignment typically succeeds to all the rights and obligations under the loan agreement with the same rights and obligations as the assigning lender. Assignments may, however, be arranged through private negotiations between potential assignees and potential assignors, and the rights and obligations acquired by the purchaser of an assignment may differ from, and be more limited than, those held by the assigning lender.

In connection with purchasing loan participations, the Fund generally will have no right to enforce compliance by the borrower with the terms of the loan agreement relating to the loan, nor any rights of set-off against the borrower, and the Fund may not directly benefit from any collateral supporting the loan in which it has purchased the loan participation. As a result, the Fund may be subject to the credit risk of both the borrower and the lender that is selling the participation. In the event of the insolvency of the lender selling a participation, the Fund may be treated as a general creditor of the lender and may not benefit from any set-off between the lender and the borrower. Certain loan participations may be structured in a manner designed to prevent purchasers of participations from being subject to the credit risk of the lender with respect to the participation, but even under such a structure, in the event of the lender's insolvency, the lender's servicing of the participation may be delayed and the assignability of the participation impaired.

The Fund may have difficulty disposing of loans and loan participations because to do so it will have to assign or sell such instruments to a third party. Because there is no liquid market for many such instruments, the Fund anticipates that such

instruments could be sold only to a limited number of institutional purchasers. The lack of a liquid secondary market may have an adverse impact on the value of such instruments and the Fund's ability to dispose of particular loans and loan participations when that would be desirable, including in response to a specific economic event such as a deterioration in the creditworthiness of the borrower. The lack of a liquid secondary market for loans and loan participations also may make it more difficult for the Fund to assign a value to these instruments for purposes of valuing the Fund's portfolio.

To the extent the Fund acquires loans, including bank loans, the Fund may be subject to greater levels of credit risk, call risk, settlement risk and liquidity risk than funds that do not acquire such instruments. These instruments are considered predominantly speculative with respect to an issuer's continuing ability to make principal and interest payments and may be more volatile than other types of securities. The Fund may also be subject to greater levels of liquidity risk than funds that do not purchase such instruments. In addition, the loans that the Fund may participate in or acquire may not be listed on any exchange and a secondary market for such loans may be comparatively illiquid relative to markets for other more liquid fixed-income securities. Consequently, transactions in loans may involve greater costs than transactions in more actively traded securities. Restrictions on transfers in loan agreements, a lack of publicly-available information, irregular trading activity and wide bid/ask spreads among other factors, may, in certain circumstances, make loans more difficult to dispose of at an advantageous time or price than other types of securities or instruments. These factors may result in the Fund being unable to realize full value for the loans and/or may result in the Fund not receiving the proceeds from a sale of a loan for an extended period after such sale, each of which could result in losses to the Fund. Some loans may have extended trade settlement periods, including settlement periods of greater than 7 days, which may result in cash not being immediately available to the Fund. If an issuer of a loan prepays or redeems the loan prior to maturity, the

Table of Contents

Prospectus

Fund may have to use the proceeds to acquire loans or similar instruments that may pay lower interest rates. Because of the risks involved in acquiring loans, an investment in the Fund should be considered speculative.

The Fund's acquisitions of subordinated and unsecured loans generally are subject to similar risks as those associated with acquisitions of secured loans. Subordinated or unsecured loans are lower in priority of payment to secured loans and are subject to the additional risk that the cash flow of the borrower and property securing the loan or debt, if any, may be insufficient to meet scheduled payments after giving effect to the senior secured obligations of the borrower. This risk is generally higher for subordinated unsecured loans or debt, which are not backed by a security interest in any specific collateral. Subordinated and unsecured loans generally have greater price volatility than secured loans and may be less liquid. There is also a possibility that originators will not be able to sell participations in subordinated or unsecured loans, which would create greater credit risk exposure for the holders of such loans. Subordinate and unsecured loans share the same risks as other below investment grade securities.

There may be less readily available information about most loans and the underlying borrowers than is the case for many other types of securities, including securities issued in transactions registered under the Securities Act, or registered under the Securities Exchange Act of 1934 (the "Exchange Act"), and borrowers subject to the periodic reporting requirements of Section 13 of the Exchange Act. Loans may be issued by companies that are not subject to SEC reporting requirements and therefore may not be required to file reports with the SEC or may file reports that are not required to comply with SEC form requirements. In addition, such companies may be subject to a less stringent liability disclosure regime than companies subject to SEC reporting requirements. Loans may not be considered "securities," and purchasers, such as the Fund, therefore may not be entitled to rely on the anti-fraud protections of the federal securities laws. Because there is limited public information available regarding loan investments, the Fund is particularly dependent on the analytical abilities of the Fund's portfolio managers.

Economic exposure to loan interests through the use of derivative transactions may involve greater risks than if the Fund had invested in the loan interest directly during a primary distribution or through assignments of, novations of or participations in a loan acquired in secondary markets since, in addition to the risks described above, certain derivative transactions may be subject to leverage risk and greater illiquidity risk, counterparty risk, valuation risk and other risks. See "Principal Risks of the Fund —Derivatives Risk."

Reinvestment Risk

Income from the Fund's portfolio will decline if and when the Fund invests the proceeds from matured, traded or called debt obligations at market interest rates that are below the portfolio's current earnings rate. For instance, during periods of declining interest rates, an issuer of debt obligations may exercise an option to redeem securities prior to maturity, forcing the Fund to invest in lower-yielding securities. The Fund also may choose to sell higher yielding portfolio securities and to purchase lower yielding securities to achieve greater portfolio diversification, because the portfolio managers believe the current holdings are overvalued or for other investment-related reasons. A decline in income received by the Fund from its investments is likely to have a negative effect on dividend levels and the market price, NAV and/or overall return of the Common Shares.

Inflation/Deflation Risk

Inflation risk is the risk that the value of assets or income from the Fund's investments will be worth less in the future as inflation decreases the value of payments at future dates. As inflation increases, the real value of the Fund's portfolio could decline. Deflation risk is the risk that prices throughout the economy decline over time. Deflation may have an adverse effect on the creditworthiness of issuers and may make issuer default more likely, which may result in a decline in the value of the Fund's portfolio and Common Shares.

Tax Risk

The Fund has elected to be treated as a "regulated investment company" under the Code and intends each year to qualify and be eligible to be treated as such, so that it generally will not be subject to U.S. federal income tax on its net investment income or net

short-term or long-term capital gains, distributed (or deemed distributed, as described below) to shareholders. In order to qualify for such treatment, the Fund must meet certain asset diversification tests and at least 90% of its gross income for such year must consist of certain types of qualifying income. Foreign currency gains will generally be treated as qualifying income for purposes of the 90% gross income requirement. However, the U.S. Treasury Department has authority to issue regulations in the future that could treat some or all of the Fund's foreign currency gains as non-qualifying income, thereby jeopardizing the Fund's status as a regulated investment company for all years to which the regulations are applicable. Income derived from some commodity-linked derivatives is not qualifying income, and the treatment of income from some other commodity-linked derivatives is uncertain, for purposes of the 90% gross income test.

If for any taxable year the Fund were to fail to meet the income or diversification test described above, the Fund could in some cases cure such failure, including by paying a fund-level tax and, in the case of a diversification test failure, disposing of certain assets. If, in any year, the Fund were to fail to qualify for treatment as a regulated investment company under the Code, and were ineligible to or did not otherwise cure such failure, the Fund would be subject to tax on its taxable income at corporate rates, and all distributions of such income generally would be taxable to shareholders as ordinary income to the extent of the Fund's current or accumulated earnings and profits. Some portions of such distributions may be eligible for the dividends-received deduction in the case of corporate shareholders and may be eligible to be treated as "qualified dividend income" in the case of shareholders taxed as individuals, provided, in both cases, that the shareholder meets certain holding period and other requirements in respect of the Fund's common shares. In addition, the Fund could be required to recognize unrealized gains, pay substantial taxes and interest and make substantial distributions before re-qualifying as a regulated investment company that is accorded special tax treatment. See "Taxation" in the Statement of Additional Information.

Table of Contents

PIMCO Income Strategy Fund II

Segregation and Coverage Risk

Certain portfolio management techniques, such as, among other things, using reverse repurchase agreements or dollar rolls, purchasing securities on a when-issued or delayed delivery basis, entering into swap agreements, futures contracts or other derivative transactions, or engaging in short sales, may be considered senior securities unless steps are taken to segregate the Fund's assets or otherwise cover its obligations. To avoid having these instruments considered senior securities, the Fund may segregate liquid assets with a value equal (on a daily mark-to-market basis) to its obligations under these types of leveraged transactions, enter into offsetting transactions or otherwise cover such transactions. See "Use of Leverage" in this prospectus. The Fund may be unable to use such segregated assets for certain other purposes, which could result in the Fund earning a lower return on its portfolio than it might otherwise earn if it did not have to segregate those assets in respect of, or otherwise cover such portfolio positions. To the extent the Fund's assets are segregated or committed as cover, it could limit the Fund's investment flexibility. Segregating assets and covering positions will not limit or offset losses on related positions.

In addition, the Fund is required to satisfy various asset coverage requirements with respect to its ARPS under the terms of the Bylaws. See "Description of Capital Structure-- Rating Agency Guidelines and Asset Coverage" for additional detail.

Convertible Securities Risk

Convertible securities are fixed-income securities, preferred securities or other securities that are convertible into or exercisable for common stock of the issuer (or cash or securities of equivalent value) at either a stated price or a stated rate. The market values of convertible securities may decline as interest rates increase and, conversely, may increase as interest rates decline. A convertible security's market value, however, tends to reflect the market price of the common stock of the issuing company when that stock price approaches or is greater than the convertible security's "conversion price." The conversion price is defined as the predetermined price at which the convertible security could be exchanged for the associated stock. As the market price of the underlying common stock declines, the price of the convertible security tends to be influenced more by the yield of the convertible security. Thus, it may not decline in price to the same extent as the underlying common stock. In the event of a liquidation of the issuing company, holders of convertible securities may be paid before the company's common stockholders but after holders of any senior debt obligations of the company. Consequently, the issuer's convertible securities generally entail less risk than its common stock but more risk than its debt obligations. Convertible securities are often rated below investment grade or not rated because they fall below debt obligations and just above common equity in order of preference or priority on the issuer's balance sheet. See "Principal Risks of the Fund—High Yield Securities Risk."

Synthetic Convertible Securities Risk

The Fund may invest in synthetic convertible securities, which are created through a combination of separate securities that possess the two principal characteristics of a traditional convertible security, i.e., an income-producing security ("income-producing component") and the right to acquire an equity security ("convertible component"). The income-producing component is achieved by investing in non-convertible, income-producing securities such as bonds, preferred securities and money market instruments. The convertible component is achieved by purchasing warrants or options to buy common stock at a certain exercise price, or options on a stock index. The values of synthetic convertible securities will respond differently to market fluctuations than a traditional convertible security because a synthetic convertible is composed of two or more separate securities or instruments, each with its own market value. Synthetic convertible securities are also subject to the risks associated with derivatives. See "Principal Risks of the Fund—Derivatives Risk." In addition, if the value of the underlying common stock or the level of the index involved in the convertible element falls below the strike price of the warrant or option, the warrant or option may lose all value.

Contingent Convertible Securities Risk

Contingent convertible securities ("CoCos") have no stated maturity, have fully discretionary coupons and are typically issued in the form of subordinated debt instruments. CoCos generally either convert into equity or have their principal written down upon the occurrence of certain triggering events ("triggers") linked to regulatory capital thresholds or regulatory actions relating to the issuer's

continued viability. As a result, an investment by the Fund in CoCos is subject to the risk that coupon (i.e., interest) payments may be cancelled by the issuer or a regulatory authority in order to help the issuer absorb losses. An investment by the Fund in CoCos is also subject to the risk that, in the event of the liquidation, dissolution or winding-up of an issuer prior to a trigger event, the Fund's rights and claims will generally rank junior to the claims of holders of the issuer's other debt obligations. In addition, if CoCos held by the Fund are converted into the issuer's underlying equity securities following a trigger event, the Fund's holding may be further subordinated due to the conversion from a debt to equity instrument. Further, the value of an investment in CoCos is unpredictable and will be influenced by many factors and risks, including interest rate risk, credit risk, market risk, liquidity risk and valuation risk. An investment by the Fund in CoCos may result in losses to the Fund.

Valuation Risk

When market quotations are not readily available or are deemed to be unreliable, the Fund values its investments at fair value as determined in good faith pursuant to policies and procedures approved by the Board of Trustees. See "Net Asset Value." Fair value pricing may require subjective determinations about the value of a security or other asset. As a result, there can be no assurance that fair value pricing will result in adjustments to the prices of securities or other assets, or that fair value pricing will reflect actual market value, and it is possible that the fair value determined for a security or other asset will be materially different from quoted or published prices, from the prices used by others for the same security or other asset and/or from the value that actually could be or is realized upon the sale of that security or other asset.

Currency Risk

The Fund may engage in practices and strategies that will result in exposure to fluctuations in foreign exchange rates, in which case the Fund will be subject to foreign currency risk. The Fund's Common Shares are priced in U.S. dollars and the distributions paid by the Fund to Common Shareholders are paid in U.S. dollars. However, a substantial portion of the Fund's assets may be denominated directly in foreign (non-U.S.) currencies or in securities that trade in, and receive revenues in, foreign (non-U.S.) currencies, or in derivatives that provide exposure to foreign (non-U.S.) currencies, it will be subject to the risk that those currencies will decline in value relative to the U.S. dollar, or, in the case of hedging positions, that the U.S. dollar will decline in value relative to the currency being hedged.

Currency rates in foreign (non-U.S.) countries may fluctuate significantly over short periods of time for a number of reasons, including changes in interest rates, rates of inflation, balance of payments and governmental surpluses or deficits, intervention (or the failure to intervene) by U.S. or foreign (non-U.S.) governments, central banks or supranational entities such as the International Monetary Fund, or by the imposition of currency controls or other political developments in the United States or abroad. These fluctuations may have a significant adverse impact on the value of the Fund's portfolio and/or the level of Fund distributions made to Common Shareholders. As noted above, the Fund may (but is not required to) seek exposure to foreign currencies, or attempt to hedge exposure to reduce the risk of loss due to fluctuations in currency exchange rates relative to the U.S. dollar. There is no assurance, however, that these strategies will be available or will be used by the Fund or, if used, that they will be successful. As a result, the Fund's investments in foreign currency-denominated securities may reduce the returns of the Fund.

Currency risk may be particularly high to the extent that the Fund invests in foreign (non-U.S.) currencies or engages in foreign currency transactions that are economically tied to emerging market countries. These currency transactions may present market, credit, currency, liquidity, legal, political and other risks different from, or greater than, the risks of investing in developed foreign (non-U.S.) currencies or engaging in foreign currency transactions that are economically tied to developed foreign countries.

U.S. Government Securities Risk

The Fund may invest in debt securities issued or guaranteed by agencies, instrumentalities and sponsored enterprises of the U.S. Government. Some U.S. Government securities, such as U.S. Treasury bills, notes and bonds, and mortgage-related securities guaranteed by the Government National Mortgage Association ("GNMA"), are supported by the full faith and credit of the United States; others, such as those of the Federal Home Loan Banks ("FHLBs") or the Federal Home Loan Mortgage Corporation ("FHLMC"), are supported by the right of the issuer to borrow from the U.S. Treasury; others, such as those of the Federal National Mortgage Association ("FNMA"), are supported by the discretionary authority of the U.S. Government to purchase the agency's obligations; and still others are supported only by the credit of the agency, instrumentality or corporation. Although legislation has been enacted to support certain government sponsored entities, including the FHLBs, the FHLMC and FNMA, there is no assurance that the obligations of such entities will be satisfied in full, or that such obligations will not decrease in value or default. It is difficult, if not impossible, to predict the future political, regulatory or economic changes that could impact the government sponsored entities and the values of their related securities or obligations. In addition, certain governmental entities, including FNMA and FHLMC, have been subject to regulatory scrutiny regarding their accounting policies and practices and other concerns that may result in legislation, changes in regulatory oversight and/or other consequences that could adversely affect the credit quality, availability or investment character of securities issued by these entities. See "Investment Objective and Policies—Mortgage-Related and Other Asset-Backed Securities" in the Statement of Additional Information. U.S. Government debt securities generally involve lower levels of credit risk than other types of debt securities of similar maturities, although, as a result, the yields available from U.S. Government debt securities are generally lower than the yields available from such other securities. Like other debt securities, the values of U.S. Government securities change as interest rates fluctuate. Fluctuations in the value of portfolio securities will not affect interest income on existing portfolio securities but will be reflected in the Fund's NAV.

Foreign (Non-U.S.) Government Securities Risk

The Fund's investments in debt obligations of foreign (non-U.S.) governments or their sub-divisions, agencies and government sponsored enterprises and obligations of international agencies and supranational entities (together "Foreign Government Securities") can involve a high degree of risk. The foreign governmental entity that controls the repayment of debt may not be able or willing to repay the principal and/or interest when due in accordance with the terms of such debt. A governmental entity's willingness or ability to repay principal and interest due in a timely manner may be affected by, among other factors, its cash flow situation, the extent of its foreign reserves, the availability of sufficient foreign exchange on the date a payment is due, the relative size of the debt service burden to the economy as a whole, the governmental entity's policy towards the International Monetary Fund and the political constraints to which a governmental entity may be subject. Foreign governmental entities also may be dependent on expected disbursements from other governments, multilateral agencies and others abroad to reduce principal and interest arrearages on their debt. The commitment on the part of these governments, agencies and others to make such disbursements may be conditioned on the implementation of economic reforms and/or economic performance and the timely service of such debtor's obligations. Failure to implement such reforms, achieve such levels of economic performance or repay principal or interest when due may result in the cancellation of such third parties' commitments to lend funds to the foreign governmental entity, which may further impair such debtor's ability or willingness to timely service its debts. Consequently, foreign governmental entities may default on their debt. Holders of Foreign Government Securities may be requested to participate in the rescheduling of such debt and to extend further loans to governmental entities. In the event of a default by a governmental entity, there may be few or no effective legal remedies for collecting on such debt. These risks are particularly severe with respect to the Fund's investments in Foreign Government Securities of emerging market countries. See "Principal Risks of the Fund—Emerging Markets Risk." Among other risks, if the

Table of Contents

PIMCO Income Strategy Fund II

Fund's investments in Foreign Government Securities issued by an emerging market country need to be liquidated quickly, the Fund could sustain significant transaction costs. Also, governments in many emerging market countries participate to a significant degree in their economies and securities markets, which may impair investment and economic growth, and which may in turn diminish the value of the Fund's holdings in emerging market Foreign Government Securities and the currencies in which they are denominated and/or pay revenues.

Portfolio Turnover Risk

The Investment Manager manages the Fund without regard generally to restrictions on portfolio turnover. Trading in fixed-income securities does not generally involve the payment of brokerage commissions, but does involve indirect transaction costs. Higher portfolio turnover involves correspondingly greater expenses to the Fund, including brokerage commissions or dealer mark-ups and other transaction costs on the sale of securities and reinvestments in other securities. The higher the rate of portfolio turnover of the Fund, the higher these transaction costs borne by the Fund generally will be. Such sales may result in realization of taxable capital gains (including short-term capital gains, which are generally taxed to shareholders at ordinary income tax rates when distributed net of short-term capital losses and net long-term capital losses), and may adversely affect the Fund's after-tax returns. See "Tax Matters."

Confidential Information Access Risk

In managing the Fund, PIMCO may from time to time have the opportunity to receive material, non-public information ("Confidential Information") about the issuers of certain investments, including, without limit, senior floating rate loans, other bank loans and related investments being considered for acquisition by the Fund or held in the Fund's portfolio. For example, a bank issuer of privately placed senior floating rate loans considered by the Fund may offer to provide PIMCO with financial information and related documentation regarding the bank issuer that is not publicly available. Pursuant to applicable policies and procedures, PIMCO may (but is not required to) seek to avoid receipt of Confidential Information from the issuer so as to avoid possible restrictions on its ability to purchase and sell investments on behalf of the Fund and other clients to which such Confidential Information relates (e.g., other securities issued by the bank used in the example above). In such circumstances, the Fund (and other PIMCO clients) may be disadvantaged in comparison to other investors, including with respect to the price the Fund pays or receives when it buys or sells an investment. Further, PIMCO's and the Fund's abilities to assess the desirability of proposed consents, waivers or amendments with respect to certain investments may be compromised if they are not privy to available Confidential Information. PIMCO may also determine to receive such Confidential Information in certain circumstances under its applicable policies and procedures. If PIMCO intentionally or unintentionally comes into possession of Confidential Information, it may be unable, potentially for a substantial period of time, to purchase or sell investments to which such Confidential Information relates.

Operational Risk

An investment in the Fund, like any fund, can involve operational risks arising from factors such as processing errors, human errors, inadequate or failed internal or external processes, failures in systems and technology, changes in personnel and errors caused by third-party service providers. The occurrence of any of these failures, errors or breaches could result in a loss of information, regulatory scrutiny, reputational damage or other events, any of which could have a material adverse effect on the Fund. While the Fund seeks to minimize such events through controls and oversight, there may still be failures that could cause losses to the Fund.

Rule 144A Securities Risk

The Fund may invest in securities that have not been registered for public sale, but that are eligible for purchase and sale pursuant to Rule 144A under the Securities Act. Rule 144A permits certain qualified institutional buyers, such as the Fund, to trade in privately placed securities that have not been registered for sale under the Securities Act. Rule 144A securities may be deemed illiquid, although the Fund may determine that certain Rule 144A securities are liquid in accordance with written procedures adopted by the Board.

Focused Investment Risk

To the extent that the Fund focuses its investments in a particular industry, the NAV of the Common Shares will be more susceptible to events or factors affecting companies in that industry. These may include, but are not limited to, governmental regulation, inflation, rising interest rates, cost increases in raw materials, fuel and other operating expenses, technological innovations that may render existing products and equipment obsolete, competition from new entrants, high research and development costs, increased costs associated with compliance with environmental or other regulation and other economic, market, political or other developments specific to that industry. Also, the Fund may invest a substantial portion of its assets in companies in related sectors that may share common characteristics, are often subject to similar business risks and regulatory burdens and whose securities may react similarly to the types of events and factors described above, which will subject the Fund to greater risk. The Fund also will be subject to focused investment risk to the extent that it invests a substantial portion of its assets in a particular country or geographic region. See "Principal Risks of the Fund—Foreign (Non-U.S.) Investment Risk," "Principal Risks of the Fund—Emerging Markets Risk" and "Principal Risks of the Fund—Currency Risk."

Cyber Security Risk

As the use of technology has become more prevalent in the course of business, the Fund has become potentially more susceptible to operational and informational security risks resulting from breaches in cyber security. A breach in cyber security refers to both intentional and unintentional cyber events that may, among other things, cause the Fund to lose proprietary information, suffer data corruption, and/or destruction, lose operational capacity, result in the unauthorized release or other misuse of confidential information, or otherwise disrupt normal business operations. Cyber security breaches may involve unauthorized access to the Fund's digital information systems (e.g., through "hacking" or malicious software coding), but may

Table of Contents

Prospectus

also result from outside attacks such as denial-of-service attacks (i.e., efforts to make network services unavailable to intended users). In addition, cyber security breaches involving the Fund's third party service providers (including but not limited to advisers, sub-advisers, administrators, transfer agents, custodians, distributors and other third parties), trading counterparties or issuers in which the Fund invests can also subject the Fund to many of the same risks associated with direct cyber security breaches. Moreover, cyber security breaches involving trading counterparties or issuers in which the Fund invests could adversely impact such counterparties or issuers and cause the Fund's investment to lose value.

Cyber security failures or breaches may result in financial losses to the Fund and its shareholders. These failures or breaches may also result in disruptions to business operations, potentially resulting in financial losses; interference with the Fund's ability to calculate its NAV, process shareholder transactions or otherwise transact business with shareholders; impediments to trading; violations of applicable privacy and other laws; regulatory fines; penalties; reputational damage; reimbursement or other compensation costs; additional compliance and cyber security risk management costs and other adverse consequences. In addition, substantial costs may be incurred in an attempt to prevent any cyber incidents in the future.

Like with operational risk in general, the Fund has established risk management systems and business continuity plans designed to reduce the risks associated with cyber security. However, there are inherent limitations in these plans and systems, including that certain risks may not have been identified, in large part because different or unknown threats may emerge in the future. As such, there is no guarantee that such efforts will succeed, especially because the Fund does not directly control the cyber security systems of issuers in which the Fund may invest, trading counterparties or third party service providers to the Fund. There is also a risk that cyber security breaches may not be detected. The Fund and its shareholders could be negatively impacted as a result.

Other Investment Companies Risk

The Fund may invest in securities of other open- or closed-end investment companies, including without limit ETFs and money market funds, to the extent that such investments are consistent with the Fund's investment objective and policies and permissible under the 1940 Act. As a shareholder in an investment company, the Fund will bear its ratable share of that investment company's expenses, and would remain subject to payment of the Fund's investment management fees with respect to the assets so invested. Common Shareholders would therefore be subject to duplicative expenses to the extent the Fund invests in other investment companies. In addition, these other investment companies may utilize leverage, in which case an investment would subject the Fund to additional risks associated with leverage. Money market mutual funds in which the Fund may invest are subject to Rule 2a-7 of the 1940 Act, and invest in a variety of short-term, high quality, dollar-denominated money market instruments. Money market funds are not designed to offer capital appreciation. Effective October 14, 2016, amendments to money market fund regulations could affect a money market fund's operations and possibly negatively affect its return. In addition, certain money market funds may impose a fee upon the sale of shares or may temporarily suspend the ability of investors to redeem shares if such fund's liquidity falls below required minimums, which may adversely affect the Fund's returns or liquidity. Due to its own financial interest or other business considerations, the Investment Manager may choose to invest a portion of the Fund's assets in investment companies sponsored or managed by the Investment Manager or its related parties in lieu of investments by the Fund directly in portfolio securities, or may choose to invest in such investment companies over investment companies sponsored or managed by others. Applicable law may limit the Fund's ability to invest in other investment companies. See "Principal Risks of the Fund —Leverage Risk."

Potential Conflicts of Interest Risk—Allocation of Investment Opportunities

The Investment Manager is involved worldwide with a broad spectrum of financial services and asset management activities and may engage in the ordinary course of business in activities in which their interests or the interests of their clients may conflict with those of the Fund. The Investment Manager may provide investment management services to other funds and discretionary managed accounts that follow an investment program similar to that of the Fund. Subject to the requirements of the 1940 Act, the Investment Manager intends to engage in such activities and may receive compensation from third parties for its services. The

results of the Fund's investment activities may differ from those of the Fund's affiliates, or another account managed by the Fund's affiliates, and it is possible that the Fund could sustain losses during periods in which one or more of the Fund's affiliates and/or other accounts achieve profits on their trading for proprietary or other accounts. The Investment Manager has adopted policies and procedures reasonably designed to allocate investment opportunities on a fair and equitable basis over time.

Real Estate Risk

To the extent that the Fund invests in real estate related investments, including REITs, real estate-related loans or real estate-linked derivative instruments, it will be subject to the risks associated with owning real estate and with the real estate industry generally. These include difficulties in valuing and disposing of real estate, the possibility of declines in the value of real estate, risks related to general and local economic conditions, the possibility of adverse changes in the climate for real estate, environmental liability risks, the risk of increases in property taxes and operating expenses, possible adverse changes in zoning laws, the risk of casualty or condemnation losses, limitations on rents, the possibility of adverse changes in interest rates and in the credit markets and the possibility of borrowers paying off mortgages sooner than expected, which may lead to reinvestment of assets at lower prevailing interest rates. To the extent that the Fund invests in REITs, it will also be subject to the risk that a REIT may default on its obligations or go bankrupt. By investing in REITs indirectly through the Fund, a shareholder will indirectly bear his or her proportionate share of the expenses of the REITs. The Fund's investments in REITs could cause the Fund to recognize income in excess of cash received from those securities and, as a result, the Fund may be required to sell portfolio securities, including when it is not advantageous to do so, in order to make distributions. An investment in a REIT or a real estate-linked derivative instrument that is linked to the value of a REIT is subject to

Table of Contents

PIMCO Income Strategy Fund II

additional risks, such as poor performance by the manager of the REIT, adverse changes to the tax laws or failure by the REIT to qualify for favorable tax treatment under the Internal Revenue Code of 1986 as amended (the "Code"). In addition, some REITs have limited diversification because they invest in a limited number of properties, a narrow geographic area, or a single type of property. Also, the organizational documents of a REIT may contain provisions that make changes in control of the REIT difficult and time-consuming. Finally, private REITs are not traded on a national securities exchange. As such, these products are generally illiquid. This reduces the ability of the Fund to redeem its investment early. Private REITs are also generally harder to value and may bear higher fees than public REITs.

Risk of Regulatory Changes

Legal, tax and regulatory changes could occur and may adversely affect the Fund and its ability to pursue its investment strategies and/or increase the costs of implementing such strategies. New (or revised) laws or regulations may be imposed by the U.S. Commodity Futures Trading Commission ("CFTC"), the SEC, the U.S. Internal Revenue Service ("IRS"), the U.S. Federal Reserve or other banking regulators, other governmental regulatory authorities or self-regulatory organizations that supervise the financial markets that could adversely affect the Fund. In particular, these agencies are implementing a variety of new rules pursuant to financial reform legislation in the United States. The EU (and some other countries) are implementing similar requirements. The Fund also may be adversely affected by changes in the enforcement or interpretation of existing statutes and rules by these governmental regulatory authorities or self-regulatory organizations.

In addition, the securities and futures markets are subject to comprehensive statutes, regulations and margin requirements. The CFTC, the SEC, the Federal Deposit Insurance Corporation, other regulators and self-regulatory organizations and exchanges are authorized under these statutes, regulations and otherwise to take extraordinary actions in the event of market emergencies. The Fund and the Investment Manager have historically been eligible for exemptions from certain regulations. However, there is no assurance that the Fund and the Investment Manager will continue to be eligible for such exemptions. The CFTC and certain futures exchanges have established limits, referred to as "position limits," on the maximum net long or net short positions which any person may hold or control in particular options and futures contracts.

The CFTC has proposed position limits for certain swaps. All positions owned or controlled by the same person or entity, even if in different accounts, may be aggregated for purposes of determining whether the applicable position limits have been exceeded. Thus, even if the Fund does not intend to exceed applicable position limits, it is possible that different clients managed by the Investment Manager and their related parties may be aggregated for this purpose. Therefore it is possible that the trading decisions of Investment Manager may have to be modified and that positions held by the Fund may have to be liquidated in order to avoid exceeding such limits. The modification of investment decisions or the elimination of open positions, if it occurs, may adversely affect the performance of the Fund.

The SEC has in the past adopted interim rules requiring reporting of all short positions above a certain *de minimis* threshold and may adopt rules requiring monthly public disclosure in the future. In addition, other non-U.S. jurisdictions where the Fund may trade have adopted reporting requirements. If the Fund's short positions or its strategy become generally known, it could have a significant effect on the Investment Manager's ability to implement its investment strategy. In particular, it would make it more likely that other investors could cause a short squeeze in the securities held short by the Fund forcing the Fund to cover its positions at a loss. Such reporting requirements may also limit the Investment Manager's ability to access management and other personnel at certain companies where the Investment Manager seeks to take a short position. In addition, if other investors engage in copycat behavior by taking positions in the same issuers as the Fund, the cost of borrowing securities to sell short could increase drastically and the availability of such securities to the Fund could decrease drastically. Such events could make the Fund unable to execute its investment strategy. In addition, if the SEC were to adopt restrictions regarding short sales, they could restrict the Fund's ability to engage in short sales in certain circumstances, and the Fund may be unable to execute its investment strategies as a result.

The SEC and regulatory authorities in other jurisdictions may adopt (and in certain cases, have adopted) bans on short sales of certain securities in response to market events. Bans on short selling may make it impossible for the Fund to execute certain investment strategies and may have a material adverse effect on the Fund's ability to generate returns.

Recently adopted rules implementing the credit risk retention requirements of the Dodd-Frank Wall Street Reform and Consumer Protection Act (the "Dodd-Frank Act"), for asset-backed securities will require the sponsor of certain securitization vehicles (or a majority owned affiliate of such sponsor) to retain, and to refrain from transferring, selling, conveying to a third party, or hedging 5% of the credit risk in assets transferred, sold, or conveyed through the issuance of the asset-backed securities of such vehicle, subject to certain exceptions. The rules apply to offerings of residential mortgage-backed securities (RMBS) occurring on and after December 24, 2015 and to offerings of other types of asset-backed securities occurring on and after December 24, 2016, subject to certain exceptions. In addition, a refinancing of, or a significant amendment to, a securitization that closed prior to such date may in certain cases result in the application of the rules to a securitization that was previously not subject to the Dodd-Frank risk retention requirements. The impact of the risk retention rules on the securitization markets is uncertain. These requirements may increase the costs to originators, securitizers, and, in certain cases, collateral managers of securitization vehicles in which the Fund may invest, which costs could be passed along to such Fund as an investor in such vehicles. In addition, the costs imposed by the risk retention rules on originators, securitizers and/or collateral managers may result in a reduction of the number of new offerings of asset-backed securities and thus in fewer investment opportunities for the Fund. A reduction in the number of new securitizations could also reduce liquidity in the markets for certain types of financial assets that are typically held by securitization vehicles, which in turn could negatively affect the returns on the Fund's investment in asset-backed securities.

Regulatory Risk—Commodity Pool Operator

The CFTC has adopted regulations that subject registered investment companies and their investment advisers to regulation by the CFTC if the registered investment company invests more than a prescribed level of its liquidation value in futures, options on futures or commodities, swaps, or other financial instruments regulated under the Commodity Exchange Act ("CEA") and the rules thereunder ("commodity interests"), or if the Fund markets itself as providing investment exposure to such instruments. The Investment Manager is registered as a "commodity pool operator" ("CPO") under the CEA, however, with respect to the Fund, the Investment Manager has claimed an exclusion from registration as a CPO pursuant to CFTC Rule 4.5. For the Investment Manager to remain eligible for this exclusion, the Fund must comply with certain limitations, including limits on its ability to use any commodity interests and limits on the manner in which the Fund holds out its use of such commodity interests. These limitations may restrict the Fund's ability to pursue its investment objective and strategies, increase the costs of implementing its strategies, result in higher expenses for the Fund, and/or adversely affect the Fund's total return. Further, in the event the Investment Manager becomes unable to rely on the exclusion in CFTC Rule 4.5 with respect to the Fund and is required to register as a CPO with respect to the Fund, the Investment Manager will be subject to additional regulation and its expenses may increase.

Repurchase Agreements Risk

The Fund may enter into repurchase agreements, in which the Fund purchases a security from a bank or broker-dealer, which agrees to repurchase the security at the Fund's cost plus interest within a specified time. If the party agreeing to repurchase should default, the Fund will seek to sell the securities which it holds. This could involve procedural costs or delays in addition to a loss on the securities if their value should fall below their repurchase price. Repurchase agreements maturing in more than seven days and which may not be terminated within seven days at approximately the amount at which the Fund has valued the agreements are considered illiquid securities. These events could also trigger adverse tax consequences for the Fund.

Structured Investments Risk

The Fund may invest in structured products, including, structured notes, credit-linked notes and other types of structured products. Holders of structured products bear risks of the underlying investments, index or reference obligation and are subject to counterparty risk. The Fund may have the right to receive payments only from the structured product, and generally does not have direct rights against the issuer or the entity that sold the assets to be securitized. While certain structured products enable the investor to acquire interests in a pool of securities without the brokerage and other expenses associated with directly holding the same securities, investors in structured products generally pay their share of the structured product's administrative and other expenses. Although it is difficult to predict whether the prices of indices and securities underlying structured products will rise or fall, these prices (and, therefore, the prices of structured products) are generally influenced by the same types of political and economic events that affect issuers of securities and capital markets generally. If the issuer of a structured product uses shorter term financing to purchase longer term securities, the issuer may be forced to sell its securities at below market prices if it experiences difficulty in obtaining such financing, which may adversely affect the value of the structured products owned by the Fund. Structured products generally entail risks associated with derivative instruments. See "Principal Risks of the Fund—Derivative Risk."

Collateralized Loan Obligations Risk

The Fund may invest in CLOs. A CLO is a trust typically collateralized by a pool of loans issued by banks, corporations or any other public or private entity or person, which may include, among others, domestic and foreign senior secured loans, senior unsecured loans and subordinate or mezzanine loans, including loans that may be rated below investment grade or equivalent unrated loans. CLOs may charge management fees and administrative expenses. The cash flows from the trust are split into two or more portions, called tranches, varying in risk and yield. The riskiest portion is the equity tranche which generally bears losses in connection with the first defaults, if any, on the bonds or loans in the trust and serves to provide some measure of protection to the other, more senior tranches from defaults. A senior tranche from a CLO trust typically has higher ratings and lower yields than the underlying securities, and can be rated investment grade. Despite the protection from the equity tranche, CLO tranches can experience

substantial losses due to actual defaults, increased sensitivity to defaults due to collateral default and disappearance of protecting tranches, market anticipation of defaults and aversion to CLO securities as a class. The risks of an investment in a CLO depend largely on the type of the collateral securities and the class of the CLO in which the Fund invests. Normally, CLOs are privately offered and sold, and thus are not registered under the securities laws. As a result, investments in CLOs may be characterized by the Fund as illiquid securities; however, an active dealer market may exist for CLOs allowing a CLO to qualify under Rule 144A under the Securities Act. In addition to the normal risks associated with debt instruments (e.g., interest rate risk and credit risk), CLOs carry additional risks including, but not limited to: (i) the possibility that distributions from the collateral will not be adequate to make interest or other payments; (ii) the quality of the collateral may decline in value or default; (iii) the risk that the Fund may invest in CBOs, CLOs or other CDOs that are subordinate to other classes; and (iv) the complex structure of the security may not be fully understood at the time of investment and may produce disputes with the issuer or others and may produce unexpected investment results.

Certain Affiliations

Certain broker-dealers may be considered to be affiliated persons of the Fund and/or the Investment Manager due to their possible affiliations with Allianz SE, the ultimate parent of the Investment Manager. Absent an exemption from the SEC or other regulatory relief, the Fund is generally precluded from effecting certain principal transactions with affiliated brokers, and its ability to purchase securities being underwritten by an affiliated broker or a syndicate including an affiliated broker, or to utilize affiliated brokers for agency transactions, is subject to restrictions. This could limit the Fund's ability to engage in securities transactions and take advantage of market opportunities.

Table of Contents

PIMCO Income Strategy Fund II

Anti-Takeover Provisions

The Fund's Amended and Restated Agreement and Declaration of Trust (the "Declaration") includes provisions that could limit the ability of other entities or persons to acquire control of the Fund or to convert the Fund to open-end status. See "Anti-Takeover and Other Provisions in the Declaration of Trust." These provisions in the Declaration could have the effect of depriving the Common Shareholders of opportunities to sell their Common Shares at a premium over the then-current market price of the Common Shares or at NAV.

Fund Distribution Rates

Although the Fund may seek to maintain stable distributions, the Fund's distribution rates may be affected by numerous factors, including but not limited to changes in realized and projected market returns, fluctuations in market interest rates, Fund performance, and other factors. There can be no assurance that a change in market conditions or other factors will not result in a change in the Fund's distribution rate or that the rate will be sustainable in the future.

For instance, during periods of low or declining interest rates, the Fund's distributable income and dividend levels may decline for many reasons. For example, the Fund may have to deploy uninvested assets (whether from purchases of Fund shares, proceeds from matured, traded or called debt obligations or other sources) in new, lower yielding instruments. Additionally, payments from certain instruments that may be held by the Fund (such as variable and floating rate securities) may be negatively impacted by declining interest rates, which may also lead to a decline in the Fund's distributable income and dividend levels.

Table of Contents

PIMCO Income Strategy Fund II

Summary of Fund Expenses

The following table is intended to assist investors in understanding the fees and expenses (annualized) that an investor in Common Shares of the Fund would bear, directly or indirectly, as a result of an offering. The table reflects the use of leverage attributable to the Fund's outstanding Preferred Shares and reverse repurchase agreements in an amount equal to 22.88% of the Fund's total managed assets (including assets attributable to such leverage), which reflects approximately the percentage of the Fund's total managed assets attributable to such leverage as of January 31, 2018, and shows Fund expenses as a percentage of net assets attributable to Common Shares. The percentage above and information below do not reflect the Fund's use of other forms of economic leverage, such as credit default swaps or other derivative instruments. The table and example below are based on the Fund's capital structure as of January 31, 2018. The extent of the Fund's assets attributable to leverage following an offering, and the Fund's associated expenses, are likely to vary (perhaps significantly) from these assumptions.

Shareholder Transaction Expenses

Sales load (as a percentage of offering price) ⁽¹⁾	[--]%
Offering Expenses Borne by Common Shareholders (as a percentage of offering price) ⁽²⁾	[--]%
Dividend Reinvestment Plan Fees ⁽³⁾	None

1 In the event that the Common Shares to which this prospectus relates are sold to or through underwriters or dealer managers, a corresponding prospectus supplement will disclose the applicable sales load and/or commission.

2 The related prospectus supplement will disclose the estimated amount of offering expenses, the offering price and the offering expenses borne by the Fund and indirectly by all of its Common Shareholders as a percentage of the offering price.

3 You will pay brokerage charges if you direct your broker or the plan agent to sell your Common Shares that you acquired pursuant to a dividend reinvestment plan. You may also pay a pro rata share of brokerage commissions incurred in connection with open-market purchases pursuant to the Fund's Dividend Reinvestment Plan. See "Dividend Reinvestment Plan."

Annual Expenses

	Percentage of Net Assets Attributable to Common Shares (reflecting leverage attributable to reverse repurchase agreements)
Management Fees ⁽¹⁾	1.03%
Dividend Cost on Preferred Shares ⁽²⁾	0.40%
Interest Payments on Borrowed Funds ⁽³⁾	0.22%
Other Expenses ⁽⁴⁾	0.02%
Total Annual Expenses	1.68%

1 Management Fees include fees payable to the Investment Manager for advisory services and for supervisory, administrative and other services. The Fund pays for the advisory, supervisory and administrative services it requires under what is essentially an all-in fee structure (the "unified management fee"). Pursuant to an investment management agreement, PIMCO is paid a Management Fee of 0.83% based on the Fund's average weekly total managed assets. "Total managed assets" includes the total assets of the Fund (including any assets attributable to any preferred shares or other forms of leverage that may be outstanding) minus accrued liabilities (other than liabilities representing leverage). The Fund (and not PIMCO) will be responsible for certain fees and expenses, which are reflected in the table above, that are not covered by the unified management fee under the investment management agreement. Please see "Management of the Fund — Investment Manager" for an explanation of the unified management fee.

Edgar Filing: PIMCO Income Strategy Fund II - Form N-2/A

2 Reflects the Fund's outstanding Preferred Shares as of January 31, 2018, which represented 11.62% of the Fund's total managed assets (including the liquidation preference of outstanding Preferred Shares and assets attributable to reverse repurchase agreements) as of that date, at an estimated annual dividend rate to the Fund of 3.20% (based on the Preferred Share dividend rate as of July 31, 2018) and assumes the Fund will continue to pay Preferred Share dividends at the "maximum applicable rate" called for under the Fund's Bylaws due to the ongoing failure of auctions for the ARPS. The actual dividend rate paid on the ARPS will vary over time in accordance with variations in market interest rates. See "Use of Leverage" and "Description of Capital Structure."

3 Reflects the Fund's use of leverage in the form of reverse repurchase agreements as of January 31, 2018, which represented 11.26% of the Fund's total managed assets (including the liquidation preference of outstanding Preferred Shares and assets attributable to reverse repurchase agreements) as of that date, at an estimated annual interest rate cost to the Fund of 2.02% (based on market interest rates as of July 31, 2018). See "Leverage—Effects of Leverage." The actual amount of borrowings expenses borne by the Fund will vary over time in accordance with the level of the Fund's use of reverse repurchase agreements, dollar rolls and/or borrowings and variations in market interest rates. Borrowing expense is required to be treated as an expense of the Fund for accounting purposes. Any associated income or gains (or losses) realized from leverage obtained through such instruments is not reflected in the Annual Expenses table above, but would be reflected in the Fund's performance results.

4 Other expenses are estimated for the Fund's current fiscal year ending July 31, 2019.

Example

The following example illustrates the expenses that you would pay on a \$1,000 investment in Common Shares of the Fund, assuming (1) that the Fund's net assets do not increase or decrease, (2) that the Fund incurs total annual expenses of 1.68% of net assets attributable to Common Shares in years 1 through 10 (assuming outstanding Preferred Shares and reverse repurchase agreements representing 22.88% of the Fund's total managed assets) and (3) a 5% annual return⁽¹⁾:

	1 Year	3 Years	5 Years	10 Years
Total Expenses Incurred	\$17	\$53	\$91	\$198

⁽¹⁾ **The example above should not be considered a representation of future expenses. Actual expenses may be higher or lower than those shown.** The example assumes that the estimated Interest Payments on Borrowed Funds, Dividend Cost on Preferred Shares and Other Expenses set forth in the Annual Expenses table are accurate, that the rate listed under Total Annual Expenses remains the same each year and that all dividends and distributions are reinvested at NAV. Actual expenses may be greater or less than those assumed. Moreover, the Fund's actual rate of return may be greater or less than the hypothetical 5% annual return shown in the example. The example does not include commissions or estimated offering expenses, which would cause the expenses shown in the example to increase. In connection with an offering of Common Shares, the prospectus supplement will set forth an example including sales load and estimated offering costs.

Table of Contents

Prospectus

Financial Highlights

The information in the table below for the fiscal years ended July 31, 2017, 2016, 2015, 2014 and 2013 is derived from the Fund's financial statements for the fiscal year ended July 31, 2017 audited by PricewaterhouseCoopers LLP ("PwC"), whose report on such financial statements is contained in the Fund's July 31, 2017 Annual Report and is incorporated by reference into the Statement of Additional Information. The information shown for the six months ended January 31, 2018 is unaudited. The information in the table below for the fiscal years ended July 31, 2012, 2011, 2010, 2009 and 2008 is derived from the Fund's financial statements for the fiscal year ended July 31, 2012.

The information shown for the six months ended January 31, 2018 is unaudited.

Selected Per Share Data for the Year or Period Ended [^] :	Net Asset Value of Investment or Income Period	Net Realized Gain (Loss) ^(a)	Net Realized Loss (Loss)	Less Distributions to Preferred Shareholders ^(b)		Less Distributions to Common Shareholders ^(b)				Net Increase (Decrease) in Net Assets Applicable to Common Shareholders ^(b)	Net Increase (Decrease) in Net Assets Applicable to Common Shareholders ^(b)	Common Share			Net Assets Applicable to Common Shareholders ^(b) (000s)	Total Common Shareholders ^(b) Expense ^(g)		
				From Net Realized Capital Gains	From Net Realized Capital Losses	From Tax Basis Capital Gains	From Tax Basis Capital Losses	Offering Cost and Net Increase Resulting from Share Purchases At-the-market ^(c)	Offering Cost and Net Increase Resulting from Share Purchases At-the-market ^(c)			Offering Cost and Net Increase Resulting from Share Purchases At-the-market ^(c)	End of Year Investment Return ^(d)	End of Year Investment Return ^(d)				
08/01/2017 - 01/31/2018 ⁺	\$ 10.33	\$ 0.39	\$ 0.10	\$ (0.02)	\$ 0.00	\$ 0.47	\$ (0.48)	\$ 0.00	\$ 0.00	\$ (0.48)	N/A	N/A	\$ 0.00	\$ 10.32	\$ 10.26	(0.13)%	\$ 613,879	1.31%*
07/31/2017	9.42	0.80	1.10	(0.03)	0.00	1.87	(0.96)	0.00	0.00	(0.96)	N/A	N/A	0.00	10.33	10.76	26.32	612,310	1.26
07/31/2016	10.27	0.87	(0.67)	(0.02)	0.00	0.18	(1.03)	0.00	0.00	(1.03)	N/A	N/A	0.00	9.42	9.39	11.92	556,840	1.14
07/31/2015	10.88	0.70	(0.29)	(0.03)	0.00	0.38	(1.11)	0.00	0.00	(1.11)	N/A	N/A	0.12	10.27	9.41	(0.12)	606,974	1.16
07/31/2014	10.29	0.72	0.87	(0.04)	0.00	1.55	(0.96)	0.00	0.00	(0.96)	N/A	N/A	0.00	10.88	10.50	12.39	642,119	1.14
07/31/2013	10.23	0.88	0.68	(0.04)	0.00	1.52	(1.46)	0.00	0.00	(1.46)	N/A	N/A	0.00	10.29	10.24	6.80	605,843	1.16
07/31/2012	10.04	1.03	0.03	(0.04)	0.00	1.02	(0.83)	0.00	0.00	(0.83)	N/A	N/A	0.00	10.23	10.96	16.33	597,683	1.48
07/31/2011	9.29	1.03	0.73	(0.04)	0.00	1.72	(0.97)	0.00	0.00	(0.97)	N/A	N/A	0.00	10.04	10.27	12.53	584,351	1.24
07/31/2010	7.98	1.18	2.20	(0.05)	0.00	3.33	(1.64)	0.00	0.00	(1.64)	N/A	N/A	(0.38)	9.29	10.05	52.97	537,342	1.42
07/31/2009	14.16	1.44	(6.40)	(0.20)	0.00	(5.16)	(1.02)	0.00	0.00	(1.02)	N/A	N/A	0.00	7.98	7.78	(29.85)	341,949	2.08 ^(g)
07/31/2008	16.76	1.81	(2.37)	(0.52)	0.00	(1.08)	(1.51)	(0.00)	(0.01)	(1.52)	N/A	N/A	0.00	14.16	12.80	(18.08)	604,632	1.60 ^(g)

[^] A zero balance may reflect actual amounts rounding to less than \$0.01 or 0.01%.

⁺ Unaudited

^{*} Annualized

(a) Per share amounts based on average number of common shares outstanding during the year or period.

(b) The tax characterization of distributions is determined in accordance with Federal income tax regulations. The actual tax characterization of distributions paid is determined at the end of the fiscal year. See Note 2, Distributions—Common Shares, in the Notes to Financial Statements for more information.

(c) See Note 14, Auction-Rate Preferred Shares, in the Notes to Financial Statements.

(d) Total investment return is calculated assuming a purchase of a common share at the market price on the first day and a sale of a common share at the market price on the last day of each year or period reported. Dividends and distributions, if any, are assumed, for purposes of this calculation, to be reinvested at prices obtained under the Funds' dividend reinvestment plan. Total investment return does not reflect brokerage

Edgar Filing: PIMCO Income Strategy Fund II - Form N-2/A

- commissions in connection with the purchase or sale of Fund shares.
- (e) Calculated on the basis of income and expenses applicable to both common and preferred shares relative to the average net assets of common shareholders. The expense ratio and net investment income do not reflect the effects of dividend payments to preferred shareholders.
 - (f) Interest expense primarily relates to participation in borrowing and financing transactions. See Note 5, Borrowings and Other Financing Transactions, in the Notes to Financial Statements for more information.
 - (g) Inclusive of expenses offset by custody credits earned on cash balances at the custodian bank

August 31, 2018 | **PROSPECTUS** 27-28

Table of Contents

PIMCO Income Strategy Fund II

The following table sets forth certain information regarding the Fund's outstanding ARPS as of the end of the last ten of the Fund's fiscal years and most recently completed fiscal period.

Fiscal Year Ended	Total Amount Outstanding	Asset Coverage per Preferred Share⁽¹⁾	Involuntary Liquidating Preference per ARPS⁽²⁾	Average Market Value per Preferred Share⁽³⁾
January 31, 2018	\$92,450,000	\$190,958	\$25,000	N/A
July 31, 2017	\$92,450,000	\$190,527	\$25,000	N/A
July 31, 2016	\$92,450,000	\$175,544	\$25,000	N/A
July 31, 2015	\$92,450,000	\$189,105	\$25,000	N/A
July 31, 2014	\$161,000,000	\$124,695	\$25,000	N/A
July 31, 2013	\$161,000,000	\$119,960	\$25,000	N/A
July 31, 2012	\$161,000,000	\$117,792	\$25,000	N/A
July 31, 2011	\$161,000,000	\$115,720	\$25,000	N/A
July 31, 2010	\$161,000,000	\$108,425	\$25,000	N/A
July 31, 2009	\$161,000,000	\$78,091	\$25,000	N/A
July 31, 2008	\$480,000,000	\$56,481	\$25,000	N/A

1 "Asset Coverage per Preferred Share" means the ratio that the value of the total assets of the Fund, less all liabilities and indebtedness not represented by ARPS, bears to the aggregate of the involuntary liquidation preference of ARPS, expressed as a dollar amount per ARPS.

2 "Involuntary Liquidating Preference per ARPS" means the amount to which a holder of ARPS would be entitled upon the involuntary liquidation of the Fund in preference to the Common Shareholders, expressed as a dollar amount per Preferred Share.

3 The ARPS have no readily ascertainable market value. As discussed herein under "Use of Leverage," auctions for the ARPS have failed since February 2008, there is currently no active trading market for the ARPS and the Fund is not able to reliably estimate what their value would be in a third-party market sale.

Table of Contents

PIMCO Income Strategy Fund II

Use of Proceeds

The net proceeds of an offering will be invested in accordance with the Fund's investment objective and policies as set forth below. It is currently anticipated that the Fund will be able to invest substantially all of the net proceeds of an offering in accordance with its investment objective and policies within approximately 30 days of receipt by the Fund, depending on the amount and timing of proceeds available to the Fund as well as the availability of investments consistent with the Fund's investment objective and policies, and except to the extent proceeds are held in cash to pay dividends or expenses, or for temporary defensive purposes. Pending such investment, it is anticipated that the proceeds of an offering will be invested in high grade, short-term securities, credit linked trust certificates, and/or high yield securities index future contracts or similar derivative instruments designed to give the Fund exposure to the securities and markets in which it intends to invest while PIMCO selects specific investments.

The Fund

The Fund is a diversified, closed-end management investment company. The Fund was organized as a Massachusetts business trust on June 30, 2004, pursuant to an Agreement and Declaration of Trust governed by the laws of the Commonwealth of Massachusetts. The Fund commenced operations on October 29, 2004, following the initial public offering of its Common Shares. Effective March 1, 2010, the Fund changed its name from PIMCO Floating Rate Strategy Fund to its current name, PIMCO Income Strategy Fund II.

Investment Objective and Policies

The Fund's primary investment objective is to seek high current income, consistent with the preservation of capital. The Fund seeks to achieve its objective by ordinarily investing in a diversified portfolio of floating- and/or fixed-rate debt instruments. The Fund may invest a substantial portion of its floating-rate assets in floating-rate loans. Other floating-rate debt instruments in which the Fund may invest include catastrophe and other event-linked bonds, bank capital securities, unsecured bank loans, corporate bonds and other debt securities, money market instruments and certain types of mortgage-backed and other asset-backed securities that pay interest at rates that adjust whenever a specified interest rate changes and/or reset on predetermined dates (such as the last day of a month or calendar quarter). The types of securities and instruments in which the Fund may invest are summarized under "Portfolio Contents" below. The Fund cannot assure you that it will achieve its investment objective, and you could lose all of your investment in the Fund.

The Fund cannot change its investment objective without the approval of the holders of a "majority of the outstanding" Common Shares and any Preferred Shares voting together as a single class, and of the holders of a "majority of the outstanding" Preferred Shares voting as a separate class. A "majority of the outstanding" shares (whether voting together as a single class or voting as a separate class) means (i) 67% or more of such shares present at a meeting, if the holders of more than 50% of those shares are present or represented by proxy, or (ii) more than 50% of such shares, whichever is less. See "Description of Preferred Shares—Voting Rights" for additional information with respect to the voting rights of holders of Preferred Shares.

Portfolio Management Strategies

Dynamic Allocation Strategy. On behalf of the Fund, PIMCO employs an active approach to allocation among multiple fixed income sectors based on, among other things, market conditions, valuation assessments, economic outlook, credit market trends and other economic factors. With PIMCO's macroeconomic analysis as the basis for top-down investment decisions, including geographic and credit sector emphasis, the Fund focuses on seeking the best income generating investment ideas across multiple fixed income sectors, with an emphasis on seeking opportunities in developed and emerging global credit markets. The Fund has the flexibility to allocate assets in varying proportions among floating- and fixed-rate debt instruments, as well as among investment-grade and non-investment grade securities. It may focus more heavily or exclusively on an asset class at any time,

based on assessments of relative values, market conditions and other factors. PIMCO may choose to focus on particular countries/regions (e.g., U.S. vs. foreign), asset classes, industries and sectors to the exclusion of others at any time and from time to time based on market conditions and other factors. The relative value assessment within fixed income sectors draws on PIMCO's regional and sector specialist expertise. The Fund will observe various investment guidelines as summarized below.

Investment Selection Strategies. Once the Fund's top-down, portfolio positioning decisions have been made as described above, PIMCO selects particular investments for the Fund by employing a bottom-up, disciplined credit approach which is driven by fundamental, independent research within each sector/asset class represented in the Fund, with a focus on identifying securities and other instruments with solid and/or improving fundamentals.

PIMCO utilizes strategies that focus on credit quality analysis, duration management and other risk management techniques. PIMCO attempts to identify, through fundamental research driven by independent credit analysis and proprietary analytical tools, debt obligations and other income-producing securities that provide current income and/or opportunities for capital appreciation based on its analysis of the issuer's credit characteristics and the position of the security in the issuer's capital structure.

Consideration of yield is only one component of the portfolio managers' approach in managing the Fund. PIMCO also attempts to identify investments that may appreciate in value based on PIMCO's assessment of the issuer's credit characteristics, forecast for interest rates and outlook for particular countries/regions, currencies, industries, sectors and the global economy and bond markets generally.

Credit Quality. The Fund may invest without limit in debt securities that are, at the time of purchase, rated below investment grade or that are unrated but judged by PIMCO to be of comparable quality (commonly referred to as "high yield" securities or "junk bonds"). The Fund will not normally invest more than 20% of its total assets in debt instruments, other than mortgage-related and other asset-backed securities, that are, at the time of purchase, rated CCC or lower by S&P and Fitch and Caa1 or lower by Moody's, or that are unrated but determined by PIMCO to be of comparable quality to securities so rated. The Fund may invest without limit

Table of Contents

PIMCO Income Strategy Fund II

in mortgage-related and other asset-backed securities regardless of rating (i.e., of any credit quality). Subject to this 20% restriction, the Fund may invest in issuers of any credit quality (including bonds in the lowest ratings categories and securities that are in default or the issuers of which are in bankruptcy) if PIMCO determines that the particular obligation is undervalued or offers an attractive yield relative to its risk profile. For purposes of applying the foregoing policies, in the case of securities with split ratings (i.e., a security receiving two different ratings from two different rating agencies), the Fund will apply the higher of the applicable ratings. Subject to the aforementioned investment restrictions, the Fund may invest in securities of stressed issuers, which include securities at risk of being in default as to the repayment of principal and/or interest at the time of acquisition by the Fund or that are rated in the lower rating categories by one or more nationally recognized statistical rating organizations (for example, Ca or lower by Moody's or CC or lower by S&P or Fitch) or, if unrated, are determined by PIMCO to be of comparable quality. Debt instruments of below investment grade quality are regarded as having predominantly speculative characteristics with respect to capacity to pay interest and to repay principal, and are commonly referred to as "high yield" securities or "junk bonds." Debt instruments in the lowest investment grade category also may be considered to possess some speculative characteristics. The Fund may, for hedging, investment or leveraging purposes, make use of credit default swaps, which are contracts whereby one party makes periodic payments to a counterparty in exchange for the right to receive from the counterparty a payment equal to the par (or other agreed-upon) value of a referenced debt obligation in the event of a default or other credit event by the issuer of the debt obligation.

Independent Credit Analysis. PIMCO relies primarily on its own analysis of the credit quality and risks associated with individual debt instruments considered for the Fund, rather than relying exclusively on rating agencies or third-party research. The Fund's portfolio managers utilize this information in an attempt to minimize credit risk and to identify issuers, industries or sectors that are undervalued or that offer attractive yields relative to PIMCO's assessment of their credit characteristics. This aspect of PIMCO's capabilities will be particularly important to the extent that the Fund invests in floating rate loans, high yield securities and in securities of emerging market issuers.

Duration Management. It is expected that the Fund normally will have a short to intermediate average portfolio duration (i.e., within a zero to eight year (0 to 8) range), as calculated by PIMCO, although it may be shorter or longer at any time or from time to time depending on market conditions and other factors. While the Fund seeks to maintain a short to intermediate average portfolio duration, there is no limit on the maturity or duration of any individual security in which the Fund may invest. PIMCO believes that maintaining duration within this range offers flexibility and the opportunity for above-average returns while potentially limiting exposure to interest rate volatility and related risk. Duration is a measure used to determine the sensitivity of a security's price to changes in interest rates. The Fund's duration strategy may entail maintaining a negative average portfolio duration from time to time, which would potentially benefit the portfolio in an environment of rising market interest rates, but would generally adversely impact the portfolio in an environment of falling or neutral market interest rates. PIMCO may also utilize certain strategies, including without limit investments in structured notes or interest rate futures contracts or swap, cap, floor or collar transactions, for the purpose of reducing the interest rate sensitivity of the Fund's portfolio, although there is no assurance that it will do so or that such strategies will be successful.

Portfolio Contents

The Fund seeks to achieve its investment objective by ordinarily investing in a diversified portfolio of floating- and/or fixed-rate debt instruments. The Fund may invest a substantial portion of its floating-rate assets in floating-rate loans. Other floating-rate debt instruments in which the Fund may invest include catastrophe and other event-linked bonds, bank capital securities, unsecured bank loans, corporate bonds and other debt securities, money market instruments and certain types of mortgage-backed and other asset-backed securities that pay interest at rates that adjust whenever a specified interest rate changes and/or reset on

predetermined dates (such as the last day of a month or calendar quarter). The Fund also considers floating-rate assets to include securities with durations of less than or equal to one year and fixed-rate securities with respect to which the Fund has entered into derivative instruments to effectively convert the fixed-rate interest payments into floating-rate interest payments. The Fund also may invest in a wide variety of fixed-rate debt securities, including corporate bonds and mortgage-backed and other asset-backed securities issued on a public or private basis, including mortgage pass-through securities, collateralized mortgage obligations ("CMOs"), commercial or residential mortgage-backed securities, mortgage dollar rolls, CMO residuals, stripped mortgage-backed securities ("SMBSs") and other securities that directly or indirectly represent a participation in, or are secured by and payable from, mortgage loans on real property. The Fund may make use of a variety of other instruments, including collateralized debt obligations, preferred securities, commercial paper, zero-coupon and inflation-indexed bonds, bank certificates of deposit, fixed time deposits and bankers' acceptances, real estate investment trusts (REITs), bonds, debentures, notes, and other debt securities of U.S. and foreign (non-U.S.) corporate and other issuers; obligations of foreign governments or their sub-divisions, agencies and government sponsored enterprises and obligations of international agencies and supranational entities; municipal securities and other debt securities issued by states or local governments and their agencies, authorities and other government-sponsored enterprises, including taxable municipal securities (such as Build America Bonds); inflation-indexed bonds issued by both governments and corporations; structured notes, including hybrid or indexed securities; credit-linked notes; structured credit products; bank loans (including, among others, senior loans, delayed funding loans, revolving credit facilities and loan participations and assignments); preferred securities and convertible debt securities (i.e., debt securities that may be converted at either a stated price or stated rate into underlying shares of common stock), including synthetic convertible debt securities (i.e., instruments created through a combination of separate securities that possess the two principal characteristics of a traditional convertible security, such as an income-producing security and the right to acquire an equity security) and contingent convertible securities. Certain debt instruments, such as convertible bonds, also may include the right to participate in equity appreciation. The principal and/or interest rate on some debt instruments

Table of Contents

Prospectus

may be determined by reference to the performance of a benchmark asset or market, such as an index of securities, or the differential performance of two assets or markets, such as the level of exchange rates between the U.S. dollar and a foreign currency or currencies. The Fund may invest in debt securities of stressed issuers. Subject to the Fund's investment limitations, at any given time and from time to time, substantially all of the Fund's portfolio may consist of below investment grade securities. The Fund may invest in any level of the capital structure of an issuer of mortgage-backed or asset-backed securities, including the equity or "first loss" tranche. The rate of interest on an income-producing security may be fixed, floating or variable.

The Fund invests predominantly in U.S. dollar-denominated debt securities, which may include those issued by foreign corporations or supra-national government agencies. The Fund may invest up to 25% of its total assets in securities denominated in foreign currencies, including obligations of non-U.S. governments and their respective sub-divisions, agencies and government-sponsored enterprises, except that the Fund may invest without limit in investment grade sovereign debt denominated in the relevant country's local currency with less than 1 year remaining to maturity ("short-term investment grade sovereign debt"), including short-term investment grade sovereign debt issued by emerging market issuers. The Fund may invest up to 40% of its total assets in securities and instruments that are economically tied to "emerging market" countries other than investments in short-term investment grade sovereign debt issued by emerging market issuers, where as noted above there is no limit. The Fund may also invest directly in foreign currencies, including local emerging market currencies.

The Fund may invest up to 20% of its total assets in common stocks and other equity securities from time to time, including those it has received through the conversion of a convertible security held by the Fund or in connection with the restructuring of a debt security.

The Fund may, but is not required to, utilize various derivative strategies (both long and short positions) involving the purchase or sale of futures and forward contracts (including foreign currency exchange contracts), call and put options, credit default swaps, total return swaps, basis swaps and other swap agreements and other derivative instruments for investment purposes, leveraging purposes or in an attempt to hedge against market, credit, interest rate, currency and other risks in the portfolio. The Fund may purchase and sell securities on a when-issued, delayed delivery or forward commitment basis and may engage in short sales. The Fund may also seek to obtain market exposure to the securities in which it invests by entering into a series of purchase and sale contracts.

The Fund has a policy not to concentrate investments in any particular industry, but may (consistent with that policy) invest up to 25% of its assets in any particular industry, and may invest a substantial portion of its assets in companies in related sectors, such as those in the banking or financial services sectors, which may share common characteristics and are often subject to similar business risks and regulatory burdens.

The Fund may invest without limit in debt securities that are, at the time of purchase, rated below investment grade (commonly referred to as "high yield" securities or "junk bonds"), and may also invest without limit in investment grade securities. The Fund will not normally invest more than 20% of its total assets in debt instruments, other than mortgage-related and other asset-backed securities, that are, at the time of purchase, rated CCC or lower by S&P and Fitch and Caa1 or lower by Moody's, or that are unrated but determined by PIMCO to be of comparable quality. The Fund may invest without limit in mortgage-related and other asset-backed securities regardless of rating—i.e., of any credit quality.

The Fund may invest in securities that have not been registered for public sale in the U.S. or relevant non-U.S. jurisdictions, including without limit securities eligible for purchase and sale pursuant to Rule 144A under the Securities Act of 1933, as amended (the "Securities Act"), or relevant provisions of applicable non-U.S. law, and other securities issued in private placements. The Fund may also invest in securities of other investment companies, including, without limit, exchange-traded funds ("ETFs"). The Fund may invest in real estate investment trusts ("REITs"). The Fund may invest in securities of companies of any market capitalization, including small and medium capitalizations.

The Fund may invest without limit in illiquid securities (i.e., securities that cannot be disposed of within seven days in the ordinary course of business at approximately the value at which the Fund has valued the securities).

The Fund cannot change its investment objective without the approval (a) of the holders of a "majority of the outstanding" common shares and any preferred shares (including the Fund's currently outstanding auction market preferred shares (the "Preferred Shares")) voting together as a single class, and (b) of the holders of a "majority of the outstanding" preferred shares (including the Preferred Shares) voting as a separate class. A "majority of the outstanding" shares (whether voting together as a single class or voting as a separate class) means (i) 67% or more of such shares present at a meeting, if the holders of more than 50% of those shares are present or represented by proxy, or (ii) more than 50% of such shares, whichever is less.

Temporary defensive investments. Upon PIMCO's recommendation, for temporary defensive purposes or during the period in which the net proceeds of this offering are being invested, the Fund may deviate from its investment strategy by investing some or all of its total assets in investments such as high grade debt securities, including high quality, short-term debt securities, and cash and cash equivalents. The Fund may not achieve its investment objective when it does so.

The following provides additional information regarding the types of securities and other instruments in which the Fund will ordinarily invest. A more detailed discussion of these and other instruments and investment techniques that may be used by the Fund is provided under "Investment Objective and Policies" in the Statement of Additional Information.

High Yield Securities

As noted above, the Fund will not normally invest more than 20% of its total assets in debt instruments, other than mortgage-related and other asset-backed securities, that are, at the time of purchase, rated CCC or lower by S&P and Fitch and Caa1 or lower by Moody's, or that are unrated but determined by PIMCO to be of comparable quality to securities so rated. The Fund may invest without limit in mortgage-related and other

Table of Contents

PIMCO Income Strategy Fund II

asset-backed securities regardless of rating (i.e., of any credit quality). For purposes of applying the foregoing policies, in the case of securities with split ratings (i.e., a security receiving two different ratings from two different rating agencies), the Fund will apply the higher of the applicable ratings. Subject to the aforementioned investment restrictions, the Fund may invest in securities of stressed or distressed issuers, which include securities at risk of being in default as to the repayment of principal and/or interest at the time of acquisition by the Fund or that are rated in the lower rating categories by one or more nationally recognized statistical rating organizations (for example, Ca or lower by Moody's or CC or lower by S&P or Fitch) or, if unrated, are determined by PIMCO to be of comparable quality. The Fund may also invest in defaulted securities and debtor-in-possession financings. Below investment grade securities are commonly referred to as "high yield" securities or "junk bonds." High yield securities involve a greater degree of risk (in particular, a greater risk of default) than, and special risks in addition to the risks associated with, investment grade debt obligations. While offering a greater potential opportunity for capital appreciation and higher yields, high yield securities typically entail greater potential price volatility and may be less liquid than higher-rated securities. High yield securities may be regarded as predominantly speculative with respect to the issuer's continuing ability to make timely principal and interest payments. They also may be more susceptible to real or perceived adverse economic and competitive industry conditions than higher-rated securities. Debt securities in the lowest investment grade category also may be considered to possess some speculative characteristics by certain ratings agencies.

The market values of high yield securities tend to reflect individual developments of the issuer to a greater extent than do higher-quality securities, which tend to react mainly to fluctuations in the general level of interest rates. In addition, lower-quality debt securities tend to be more sensitive to general economic conditions. Certain emerging market governments that issue high yield securities in which the Fund may invest are among the largest debtors to commercial banks, foreign governments and supranational organizations, such as the World Bank, and may not be able or willing to make principal and/or interest payments as they come due.

Credit ratings and unrated securities. Rating agencies are private services that provide ratings of the credit quality of debt obligations. Appendix A to this prospectus describes the various ratings assigned to debt obligations by Moody's, S&P and Fitch. As noted in Appendix A, Moody's, S&P and Fitch may modify their ratings of securities to show relative standing within a rating category, with the addition of numerical modifiers (1, 2 or 3) in the case of Moody's, and with the addition of a plus (+) or minus (-) sign in the case of S&P and Fitch. Ratings assigned by a rating agency are not absolute standards of credit quality and do not evaluate market risks. Rating agencies may fail to make timely changes in credit ratings and an issuer's current financial condition may be better or worse than a rating indicates. The Fund will not necessarily sell a security when its rating is reduced below its rating at the time of purchase. PIMCO does not rely solely on credit ratings, and develops its own analysis of issuer credit quality. The ratings of a debt security may change over time. Moody's, S&P and Fitch monitor and evaluate the ratings assigned to securities on an ongoing basis. As a result, debt instruments held by the Fund could receive a higher rating (which would tend to increase their value) or a lower rating (which would tend to decrease their value) during the period in which they are held by the Fund.

The Fund may purchase unrated securities (which are not rated by a rating agency) if PIMCO determines that the security is of comparable quality to a rated security that the Fund may purchase. Unrated securities may be less liquid than comparable rated securities and involve the risk that PIMCO may not accurately evaluate the security's comparative credit rating. Analysis of the creditworthiness of issuers of high yield securities may be more complex than for issuers of higher-quality debt obligations. The Fund's success in achieving its investment objective may depend more heavily on PIMCO's credit analysis to the extent that the Fund invests in below investment grade quality and unrated securities.

Corporate Bonds

The Fund may invest in a wide variety of bonds of varying maturities issued by U.S. and foreign corporations and other business entities. Bonds are fixed or variable rate debt obligations, including bills, notes, debentures, money market instruments and similar

instruments and securities. Bonds generally are used by corporations as well as governments and other issuers to borrow money from investors. The issuer pays the investor a fixed or variable rate of interest and normally must repay the amount borrowed on or before maturity. Certain bonds are "perpetual" in that they have no maturity date.

Variable- and Floating-rate Securities

Variable- and floating-rate instruments are instruments that pay interest at rates that adjust whenever a specified interest rate changes and/or that reset on predetermined dates (such as the last day of a month or calendar quarter). In addition to senior loans, variable- and floating-rate instruments may include, without limit, instruments such as catastrophe and other event-linked bonds, bank capital securities, unsecured bank loans, corporate bonds, money market instruments and certain types of mortgage-related and other asset-backed securities. Due to their variable- or floating-rate features, these instruments will generally pay higher levels of income in a rising interest rate environment and lower levels of income as interest rates decline. For the same reason, the market value of a variable- or floating-rate instrument is generally expected to have less sensitivity to fluctuations in market interest rates than a fixed-rate instrument, although the value of a variable- or floating-rate instrument may nonetheless decline as interest rates rise and due to other factors, such as changes in credit quality.

The Fund also may engage in credit spread trades. A credit spread trade is an investment position relating to a difference in the prices or interest rates of two bonds or other securities, in which the value of the investment position is determined by changes in the difference between the prices or interest rates, as the case may be, of the respective securities.

Loans and Other Indebtedness; Loan Participations and Assignments

The Fund may purchase indebtedness and participations in commercial loans, as well as interests and/or servicing or similar rights in such loans. Such instruments may be secured or unsecured and may be newly-

Table of Contents

Prospectus

originated (and may be specifically designed for the Fund). Indebtedness is different from traditional debt securities in that debt securities are part of a large issue of securities to the public whereas indebtedness may not be a security, and may represent a specific commercial loan to a borrower. Loan participations typically represent direct participation, together with other parties, in a loan to a corporate borrower, and generally are offered by banks or other financial institutions or lending syndicates. The Fund may participate in such syndications, or can buy part of a loan, becoming a part lender. When purchasing indebtedness and loan participations, the Fund assumes the credit risk associated with the corporate borrower and may assume the credit risk associated with an interposed bank or other financial intermediary. The indebtedness and loan participations that the Fund may acquire may not be rated by any nationally recognized rating service.

A loan is often administered by an agent bank acting as agent for all holders. The agent bank administers the terms of the loan, as specified in the loan agreement. In addition, the agent bank is normally responsible for the collection of principal and interest payments from the corporate borrower and the apportionment of these payments to the credit of all institutions which are parties to the loan agreement. Unless, under the terms of the loan or other indebtedness, the Fund has direct recourse against the corporate borrower, the Fund may have to rely on the agent bank or other financial intermediary to apply appropriate credit remedies against a corporate borrower.

A financial institution's employment as agent bank might be terminated in the event that it fails to observe a requisite standard of care or becomes insolvent. A successor agent bank would generally be appointed to replace the terminated agent bank, and assets held by the agent bank under the loan agreement would likely remain available to holders of such indebtedness. However, if assets held by the agent bank for the benefit of the Fund were determined to be subject to the claims of the agent bank's general creditors, the Fund might incur certain costs and delays in realizing payment on a loan or loan participation and could suffer a loss of principal and/or interest. In situations involving other interposed financial institutions (e.g., an insurance company or governmental agency) similar risks may arise.

Purchasers of loans and other forms of direct indebtedness depend primarily upon the creditworthiness of the corporate borrower for payment of principal and interest. If the Fund does not receive scheduled interest or principal payments on such indebtedness, the NAV, market share price and/or yield of the Common Shares could be adversely affected. Loans that are fully secured offer the Fund more protection than an unsecured loan in the event of non-payment of scheduled interest or principal. However, there is no assurance that the liquidation of collateral from a secured loan would satisfy the corporate borrower's obligation, or that the collateral can be liquidated. In the event of the bankruptcy of a borrower, the Fund could experience delays or limitations in its ability to realize the benefits of any collateral securing a loan.

The Fund may acquire loan participations with credit quality comparable to that of issuers of its securities investments. Indebtedness of companies whose creditworthiness is poor involves substantially greater risks, and may be highly speculative. Some companies may never pay off their indebtedness, or may pay only a small fraction of the amount owed. Consequently, when investing in indebtedness of companies with poor credit, the Fund bears a substantial risk of losing the entire amount invested. The Fund may make purchases of indebtedness and loan participations to achieve income and/or capital appreciation.

The Fund will limit the amount of its total assets that it will invest in any one issuer and the Fund will limit the amount of its total assets that it will invest in issuers within the same industry (see "How the Fund Manages Risk — Investment Limitations"). For purposes of these limits, the Fund generally will treat the corporate borrower as the "issuer" of indebtedness held by the Fund. In the case of loan participations where a bank or other lending institution serves as a financial intermediary between the Fund and the corporate borrower, if the participation does not shift to the Fund the direct debtor-creditor relationship with the corporate borrower, the Fund will treat both the lending bank or other lending institution and the corporate borrower as "issuers." Treating a financial intermediary as an issuer of indebtedness may restrict the Fund's ability to invest in indebtedness related to a single financial intermediary or a group of intermediaries engaged in the same industry, even if the underlying borrowers represent many different companies and industries.

Loans and other types of direct indebtedness (which the Fund may acquire or otherwise gain exposure to) may not be readily marketable and may be subject to restrictions on resale. In some cases, negotiations involved in disposing of indebtedness may

require weeks to complete. Consequently, some indebtedness may be difficult or impossible to dispose of readily at what PIMCO believes to be a fair price. In addition, valuation of illiquid indebtedness involves a greater degree of judgment in determining the Fund's NAV than if that value were based on available market quotations, and could result in significant variations in the Fund's daily share price. At the same time, some loan interests are traded among certain financial institutions and accordingly may be deemed liquid. As the market for different types of indebtedness develops, the liquidity of these instruments is expected to improve. Acquisitions of loan participations are considered to be debt obligations for purposes of the Fund's investment restriction relating to the lending of funds or assets by the Fund.

Acquisitions of loans through a purchase of a loan or direct assignment of a financial institution's interests with respect to a loan may involve additional risks to the Fund. The purchaser of an assignment typically succeeds to all the rights and obligations under the loan agreement with the same rights and obligations as the assigning lender. Assignments may, however, be arranged through private negotiations between potential assignees and potential assignors, and the rights and obligations acquired by the purchaser of an assignment may differ from, and be more limited than, those held by the assigning lender. If a loan is foreclosed, the Fund could become part owner of any collateral, and would bear the costs and liabilities associated with owning and disposing of the collateral. In addition, it is conceivable that under emerging legal theories of lender liability, the Fund could be held liable as co-lender. It is unclear whether loans and other forms of direct indebtedness offer securities law protections against fraud and misrepresentation. In the absence of definitive regulatory guidance, the Fund relies on PIMCO's research in an attempt to avoid situations where fraud or misrepresentation could adversely affect the Fund.

Table of Contents

PIMCO Income Strategy Fund II

The Fund may participate in or acquire debtor-in-possession financings (commonly known as "DIP financings"). DIP financings are arranged when an entity seeks the protections of the bankruptcy court under Chapter 11 of the U.S. Bankruptcy Code. These financings allow the entity to continue its business operations while reorganizing under Chapter 11. Such financings constitute senior liens on unencumbered security (i.e., security not subject to other creditors' claims). There is a risk that the entity will not emerge from Chapter 11 and be forced to liquidate its assets under Chapter 7 of the U.S. Bankruptcy Code. In the event of liquidation, the Fund's only recourse will be against the property securing the DIP financing.

Various state licensing requirements could apply to the Fund with respect to the acquisition of, holding, disposition and/or foreclosure of loans and similar assets. The licensing requirements could apply depending on the location of the borrower, the location of the collateral securing the loan, or the location where the Fund or PIMCO operates or has offices. In states in which it is licensed, the Fund or PIMCO will be required to comply with applicable laws and regulations, including consumer protection and anti-fraud laws, which could impose restrictions on the Fund's or PIMCO's ability to take certain actions to protect the value of its investments in such assets and impose compliance costs. Failure to comply with such laws and regulations could lead to, among other penalties, a loss of the Fund's or PIMCO's license, which in turn could require the Fund to divest assets located in or secured by real property located in that state. These risks will also apply to issuers and entities in which the Fund invests that hold similar assets, as well as any origination company or servicer in which the Fund owns an interest.

Loan origination and servicing companies are routinely involved in legal proceedings concerning matters that arise in the ordinary course of their business. These legal proceedings range from actions involving a single plaintiff to class action lawsuits with potentially tens of thousands of class members. In addition, a number of participants in the loan origination and servicing industry (including control persons of industry participants) have been the subject of regulatory actions by state regulators, including state Attorneys General, and by the federal government. Governmental investigations, examinations or regulatory actions, or private lawsuits, including purported class action lawsuits, may adversely affect such companies' financial results. To the extent the Fund seeks to engage in servicing directly, or has a financial interest in, or is otherwise affiliated with, an origination or servicing company, the Fund will be subject to enhanced risks of litigation, regulatory actions and other proceedings. As a result, the Fund may be required to pay legal fees, settlement costs, damages, penalties or other charges, any or all of which could materially adversely affect the Fund and its holdings.

Delayed Funding Loans and Revolving Credit Facilities

The Fund may enter into, or acquire participations in, delayed funding loans and revolving credit facilities, in which a bank or other lender agrees to make loans up to a maximum amount upon demand by the borrower during a specified term. These commitments may have the effect of requiring the Fund to increase its investment in a company at a time when it might not be desirable to do so (including at a time when the company's financial condition makes it unlikely that such amounts will be repaid). Delayed funding loans and revolving credit facilities are subject to credit, interest rate and liquidity risk and the risks of being a lender.

Bank Capital Securities and Bank Obligations

The Fund may invest in bank capital securities of both non-U.S. (foreign) and U.S. issuers. Bank capital securities are issued by banks to help fulfill their regulatory capital requirements. There are three common types of bank capital: Lower Tier II, Upper Tier II and Tier I. Upper Tier II securities are commonly thought of as hybrids of debt and preferred stock. Upper Tier II securities are often perpetual (with no maturity date), callable and have a cumulative interest deferral feature. This means that under certain conditions, the issuer bank can withhold payment of interest until a later date. However, such deferred interest payments generally earn interest. Tier I securities often take the form of trust preferred securities.

The Fund may also invest in other bank obligations including without limit certificates of deposit, bankers' acceptances and fixed time deposits. Certificates of deposit are negotiable certificates that are issued against funds deposited in a commercial bank for a definite period of time and that earn a specified return. Bankers' acceptances are negotiable drafts or bills of exchange, normally drawn by an importer or exporter to pay for specific merchandise, which are "accepted" by a bank, meaning, in effect, that the bank unconditionally agrees to pay the face value of the instrument on maturity. Fixed time deposits are bank obligations payable at a stated maturity date and bearing interest at a fixed rate. Fixed time deposits may be withdrawn on demand by the investor, but may

be subject to early withdrawal penalties which vary depending upon market conditions and the remaining maturity of the obligation. There are generally no contractual restrictions on the right to transfer a beneficial interest in a fixed time deposit to a third party, although there is generally no market for such deposits. The Fund may also hold funds on deposit with its custodian bank in an interest-bearing account for temporary purposes.

Bonds

The Fund may invest in a wide variety of bonds of varying maturities issued by non-U.S. (foreign) and U.S. corporations and other business entities, governments and quasi-governmental entities and municipalities and other issuers. Bonds may include, among other things, fixed or variable/floating-rate debt obligations, including bills, notes, debentures, money market instruments and similar instruments and securities. Bonds generally are used by corporations as well as governments and other issuers to borrow money from investors. The issuer pays the investor a fixed or variable rate of interest and normally must repay the amount borrowed on or before maturity. Certain bonds are "perpetual" in that they have no maturity date.

Preferred Securities

Preferred securities represent an equity interest in a company that generally entitles the holder to receive, in preference to the holders of other stocks such as common stocks, dividends and a fixed share of the proceeds resulting from liquidation of the company. Unlike common stocks, preferred securities usually do not have voting rights. Preferred securities in some instances are convertible into common stock. Some preferred securities also entitle their holders to receive additional liquidation proceeds on the same basis as holders of a company's common stock, and thus also represent an

Table of Contents

Prospectus

ownership interest in the company. Some preferred securities offer a fixed rate of return with no maturity date. Because they never mature, these preferred securities may act like long-term bonds, can be more volatile than other types of preferred securities and may have heightened sensitivity to changes in interest rates. Other preferred securities have a variable dividend, generally determined on a quarterly or other periodic basis, either according to a formula based upon a specified premium or discount to the yield on particular U.S. Treasury securities or based on an auction process, involving bids submitted by holders and prospective purchasers of such securities. Although they are equity securities, preferred securities have certain characteristics of both debt securities and common stock. They are like debt securities in that their stated income is generally contractually fixed. They are like common stocks in that they do not have rights to precipitate bankruptcy proceedings or collection activities in the event of missed payments. Furthermore, preferred securities have many of the key characteristics of equity due to their subordinated position in an issuer's capital structure and because their quality and value are heavily dependent on the profitability of the issuer rather than on any legal claims to specific assets or cash flows. Because preferred securities represent an equity ownership interest in a company, their value usually will react more strongly than bonds and other debt instruments to actual or perceived changes in a company's financial condition or prospects, or to fluctuations in the equity markets.

In order to be payable, dividends on preferred securities must be declared by the issuer's board of directors. In addition, distributions on preferred securities may be subject to deferral and thus may not be automatically payable. Income payments on some preferred securities are cumulative, causing dividends and distributions to accrue even if they are not declared by the board of directors of the issuer or otherwise made payable. Other preferred securities are non-cumulative, meaning that skipped dividends and distributions do not continue to accrue. There is no assurance that dividends on preferred securities in which the Fund invests will be declared or otherwise made payable.

Preferred securities have a liquidation value that generally equals their original purchase price at the date of issuance. The market values of preferred securities may be affected by favorable and unfavorable changes affecting the issuers' industries or sectors. They also may be affected by actual and anticipated changes or ambiguities in the tax status of the security and by actual and anticipated changes or ambiguities in tax laws, such as changes in corporate and individual income tax rates or the rates applicable to dividends. The dividends paid on the preferred securities in which the Fund invests might not be eligible for the favorable tax treated accorded to "qualified dividend income." See "Taxation" in the Statement of Additional Information. Because the claim on an issuer's earnings represented by preferred securities may become disproportionately large when interest rates fall below the rate payable on the securities or for other reasons, the issuer may redeem preferred securities, generally after an initial period of call protection in which the security is not redeemable. Thus, in declining interest rate environments in particular, the Fund's holdings of higher dividend-paying preferred securities may be reduced and the Fund may be unable to acquire securities paying comparable rates with the redemption proceeds.

Commercial Paper

Commercial paper represents short-term unsecured promissory notes issued in bearer form by corporations such as banks or bank holding companies and finance companies. The rate of return on commercial paper may be linked or indexed to the level of exchange rates between the U.S. dollar and a foreign currency or currencies.

Convertible Securities and Synthetic Convertible Securities

Convertible securities (i.e., debt securities that may be converted at either a stated price or stated rate into underlying shares of common stock) have general characteristics similar to both debt securities and equity securities. Although to a lesser extent than with debt obligations, the market value of convertible securities tends to decline as interest rates increase and, conversely, tends to increase as interest rates decline. In addition, because of the conversion feature, the market value of convertible securities tends to vary with fluctuations in the market value of the underlying common stocks and, therefore, also will react to variations in the general market for equity securities.

Edgar Filing: PIMCO Income Strategy Fund II - Form N-2/A

Convertible securities are investments that provide for a stable stream of income with generally higher yields than common stocks. There can be no assurance of current income because the issuers of the convertible securities may default on their obligations. Convertible securities, however, generally offer lower interest or dividend yields than non-convertible debt securities of similar credit quality because of the potential for equity-related capital appreciation. A convertible security, in addition to providing current income, offers the potential for capital appreciation through the conversion feature, which enables the holder to benefit from increases in the market price of the underlying common stock.

The Fund may invest in synthetic convertible securities, which are created through a combination of separate securities that possess the two principal characteristics of a traditional convertible security, that is, an income-producing component and the right to acquire a convertible component. The income-producing component is achieved by investing in non-convertible, income-producing securities such as bonds, preferred stocks and money market instruments. The convertible component is achieved by purchasing warrants or options to buy common stock at a certain exercise price, or options on a stock index. The Fund may also purchase synthetic securities created by other parties, typically investment banks, including convertible structured notes. The income-producing and convertible components of a synthetic convertible security may be issued separately by different issuers and at different times. The values of synthetic convertible securities will respond differently to market fluctuations than a traditional convertible security b