

Supplement dated April 28, 2026
To prospectus supplement dated January 27, 2026
(To prospectus dated July 28, 2025)

67,354,187 shares



Dynex Capital, Inc.

This supplement (this “Supplement”) is being filed to update, amend and supplement certain information in the prospectus supplement dated and filed with the Securities and Exchange Commission (the “SEC”) on January 27, 2026 (the “Prospectus Supplement”) and the base prospectus dated July 28, 2025 (the “Base Prospectus”), relating to the offer and sale, from time to time, of up to 67,354,187 shares of our common stock, \$0.01 par value (“common stock”), pursuant to that certain distribution agreement, dated June 29, 2018, as amended May 31, 2019, August 3, 2021, June 3, 2022, February 10, 2023, October 29, 2024, May 1, 2025, July 29, 2025, January 27, 2026, and April 28, 2026 (collectively, the “Distribution Agreement”), with BTIG, LLC, Citizens JMP Securities, LLC, Goldman Sachs & Co. LLC (“Goldman Sachs”), JonesTrading Institutional Services LLC, J.P. Morgan Securities LLC, Keefe, Bruyette & Woods, Inc., Morgan Stanley & Co. LLC (“Morgan Stanley”), RBC Capital Markets, LLC, UBS Securities LLC, and Wells Fargo Securities, LLC (collectively, the “Sales Agents” and each individually, a “Sales Agent”). This Supplement should be read in conjunction with the Prospectus Supplement and accompanying Base Prospectus. This Supplement is only intended to update, amend and supplement certain information in the Prospectus Supplement to the extent set forth herein. Capitalized terms used and not defined herein shall have the meanings ascribed to such terms in the Prospectus Supplement.

On April 28, 2026, we entered into an amendment to the Distribution Agreement, pursuant to which Goldman Sachs and Morgan Stanley were added as Sales Agents under the Distribution Agreement, and accordingly, any reference to “Sales Agents” in the Prospectus Supplement shall hereafter be deemed to include Goldman Sachs and Morgan Stanley.

As of April 24, 2026, we have sold 170,922,998 shares of our common stock pursuant to the Distribution Agreement, leaving up to 50,369,975 shares of our common stock available for issuance from and after the date hereof pursuant to the Prospectus Supplement under the Distribution Agreement.

Our common stock is listed on the New York Stock Exchange (the “NYSE”) under the symbol “DX.” The last reported sale price of our common stock on the NYSE on April 27, 2026 was \$13.79 per share.

The validity of the securities offered pursuant to the Prospectus Supplement will be passed upon for us by Morrison & Foerster LLP. The Sales Agents are represented in this offering by Cooley LLP, New York, New York.

Investing in our common stock involves certain risks. Before buying any shares, you should read the discussion of material risks of investing in our common stock under the caption “Risk Factors” beginning on page S-4 of the Prospectus Supplement, as well as those described in our most recent Annual Report on Form 10-K, any Quarterly Reports on Form 10-Q filed after such Annual Report on Form 10-K and in other information that we file from time to time with the SEC.

Neither the SEC nor any state securities commission has approved or disapproved of these securities or passed upon the adequacy or accuracy of this Supplement, the Prospectus Supplement or the accompanying Base Prospectus. Any representation to the contrary is a criminal offense.

BTIG	Citizens Capital Markets	Goldman Sachs & Co. LLC
Jones	J.P. Morgan	Keefe, Bruyette & Woods
Morgan Stanley	RBC Capital Markets	<i>A Stifel Company</i>
	Wells Fargo Securities	UBS Investment Bank

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