UNITED STATES SECURITIES AND EXCHANGE COMMISSION

Washington, D.C. 20549

REPORT OF FOREIGN PRIVATE ISSUER PURSUANT TO RULE 13a-16 or 15d-16 UNDER THE SECURITIES EXCHANGE ACT OF 1934

For the month of December, 2018

Commission File Number: 001-14946

CEMEX, S.A.B. de C.V.

(Translation of Registrant's name into English)

Avenida Ricardo Margáin Zozaya #325, Colonia Valle del Campestre San Pedro Garza García, Nuevo León, 66265 México (Address of principal executive offices)

Indicate by check mark whether the registrant files or will file annual reports under cover Form 20-F or Form 40-F.

Form 20-F ☑ Form 40-F □

Indicate by check mark if the registrant is submitting the Form 6-K in paper as permitted by Regulation S-T Rule 101(b)(1): □

Indicate by check mark if the registrant is submitting the Form 6-K in paper as permitted by Regulation S-T Rule 101(b)(7): □

Contents

On Tuesday, December 11, 2018, CEMEX, S.A.B. de C.V. ("CEMEX") (NYSE: CX) informed the Mexican Stock Exchange that on December 10, 2018 CEMEX repurchased 11,925,041 CEMEX CPOs at a weighted-average price of MXN9.827734 per CPO, pursuant to the stock repurchase program approved by its 2017 annual general ordinary shareholders' meeting held on April 5, 2018 (the "Program"). The total amount of CPO repurchases carried out on December 10, 2018, excluding fees and value-added tax, was approximately MXN117.2 million (approximately U.S.\$5.8 million based on an exchange rate of MXN20.31 to U.S.\$1.00). CEMEX engaged Citibanamex Casa de Bolsa, S.A. de C.V., Casa de Bolsa, integrante del Grupo Financiero Citibanamex to execute these CPO repurchases.

As required under the laws of Mexico, any future repurchases of CEMEX CPOs by CEMEX under the Program will be announced no later than the end of the business day following the date on which such repurchases are made.

SIGNATURE

| Pursuant to the requirements of the Securities Exchange Act of 1934, | CEMEX, S.A.B. de C.V. has duly caused this report to be signed on its |
|--|---|
| behalf by the undersigned, thereunto duly authorized. | |

| | CEMEX, S.A.B. de C.V. | |
|-------------------------|--------------------------|--|
| | (Registrant) | |
| | | |
| | | |
| Date: December 11, 2018 | By: /s/ Rafael Garza | |
| | Name: Rafael Garza | |
| | Title: Chief Comptroller | |