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UNITED STATES  
SECURITIES AND EXCHANGE COMMISSION  
Washington, D.C. 20549

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FORM 6-K

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

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For the month of October, 2012

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  
Garza García, Nuevo León, México 66265  
(Address of principal executive office)

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): \_\_\_\_\_

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## Contents

1. Press release, dated October 19, 2012, announcing offering of shares by CEMEX Latam Holdings, S.A., a subsidiary of CEMEX, S.A.B. de C.V. (NYSE: CX).
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**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: October 19, 2012

By: /s/ Rafael Garza  
Name: Rafael Garza  
Title: Chief Comptroller

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**EXHIBIT INDEX**

EXHIBIT NO.      DESCRIPTION

1.      Press release, dated October 19, 2012, announcing offering of shares by CEMEX Latam Holdings, S.A., a subsidiary of CEMEX, S.A.B. de C.V. (NYSE: CX).
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**CEMEX ANNOUNCES OFFERING OF SHARES BY ITS SUBSIDIARY,  
CEMEX LATAM HOLDINGS, S.A.**

**MONTERREY, MEXICO, OCTOBER 19, 2012** – CEMEX, S.A.B. de C.V. ("CEMEX") (NYSE: CX) announced today that CEMEX Latam Holdings, S.A. ("CEMEX Latam"), a wholly-owned subsidiary of CEMEX España, S.A. ("CEMEX España"), will commence offerings that are expected to include an aggregate of 126,569,938 common shares to be issued by CEMEX Latam, which are expected to be comprised of (a) 110,060,816 common shares to be offered in a public offering to investors in Colombia and in a concurrent private placement to eligible investors outside of Colombia, and (b) an additional 16,509,122 common shares to be offered in such private placement that are subject to a 30-day put option granted to the initial purchasers of the private placement. CEMEX Latam's common shares are expected to be listed on the Colombian Stock Exchange (*Bolsa de Valores de Colombia S.A.*). CEMEX Latam's assets include substantially all of CEMEX's cement and ready-mix assets in Colombia, Panama, Costa Rica, Brazil, Guatemala, Nicaragua and El Salvador. Prior to the offerings, all of CEMEX Latam's 407,890,342 currently outstanding common shares were owned by CEMEX España. The size and timing of the offerings will depend on market and other conditions. CEMEX Latam expects to apply the net proceeds of the offerings to the repayment of indebtedness owed to CEMEX, who, in turn, expects to apply the net proceeds to it to general corporate purposes, including the repayment of indebtedness.

**THE REGISTRATION AND LISTING OF CEMEX LATAM'S SHARES IN THE NATIONAL REGISTRY OF SECURITIES AND ISSUERS AND THE COLOMBIAN STOCK EXCHANGE, RESPECTIVELY, AND THE AUTHORIZATION OF THE COLOMBIAN OFFERING BY THE COLOMBIAN FINANCIAL SUPERINTENDENCY DO NOT IMPLY THAT THE COLOMBIAN STOCK EXCHANGE OR THE COLOMBIAN FINANCIAL SUPERINTENDENCY HAVE PASSED UPON CEMEX LATAM'S SOLVENCY OR CREDITWORTHINESS, OR UPON THE ADEQUACY OR ACCURACY OF THE OFFER PRICE. THE COLOMBIAN STOCK EXCHANGE AND THE COLOMBIAN FINANCIAL SUPERINTENDENCY HAVE NOT, IN ANY WAY, CONSIDERED THE MERITS OF THE SHARES OF CEMEX LATAM BEING OFFERED FOR INVESTMENT.**

**This press release does not constitute or form part of an offer to sell or solicitation of an offer to purchase or subscribe for securities in the United States or in any other jurisdiction. The securities referred to herein have not been and will not be registered under the U.S. Securities Act of 1933, as amended (the "Securities Act"), and may not be offered or sold in the United States or in any other jurisdiction absent registration or an applicable exemption from the registration requirements of the Securities Act or from the registration requirements in any such other jurisdiction.**

**THERE WILL NOT BE A REGISTRATION WITH THE NATIONAL SECURITIES REGISTRY (REGISTRO NACIONAL DE VALORES) MAINTAINED BY THE MEXICAN NATIONAL BANKING AND SECURITIES COMMISSION (COMISIÓN NACIONAL BANCARIA Y DE VALORES, OR CNBV), AND NO PUBLIC OFFERING OR BROKERAGE ACTIVITIES MAY BE CONDUCTED IN MEXICO, EXCEPT PURSUANT TO A PRIVATE PLACEMENT EXEMPTION SET FORTH UNDER ARTICLE 8 OF THE MEXICAN SECURITIES MARKET LAW (LEY DEL MERCADO DE VALORES), TO MEXICAN INSTITUTIONAL AND QUALIFIED INVESTORS.**

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*This press release contains forward-looking statements and information that are necessarily subject to risks, uncertainties, and assumptions. The terms of the transactions described herein are subject to change and such change could be significant. No assurance can be given that any such transactions will be consummated on the terms described herein or on other terms, or as to the ultimate terms of any such transactions. CEMEX assumes no obligation to update or correct the information contained in this press release due to changes from time to time in the terms of any such transactions or for any other reason.*

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