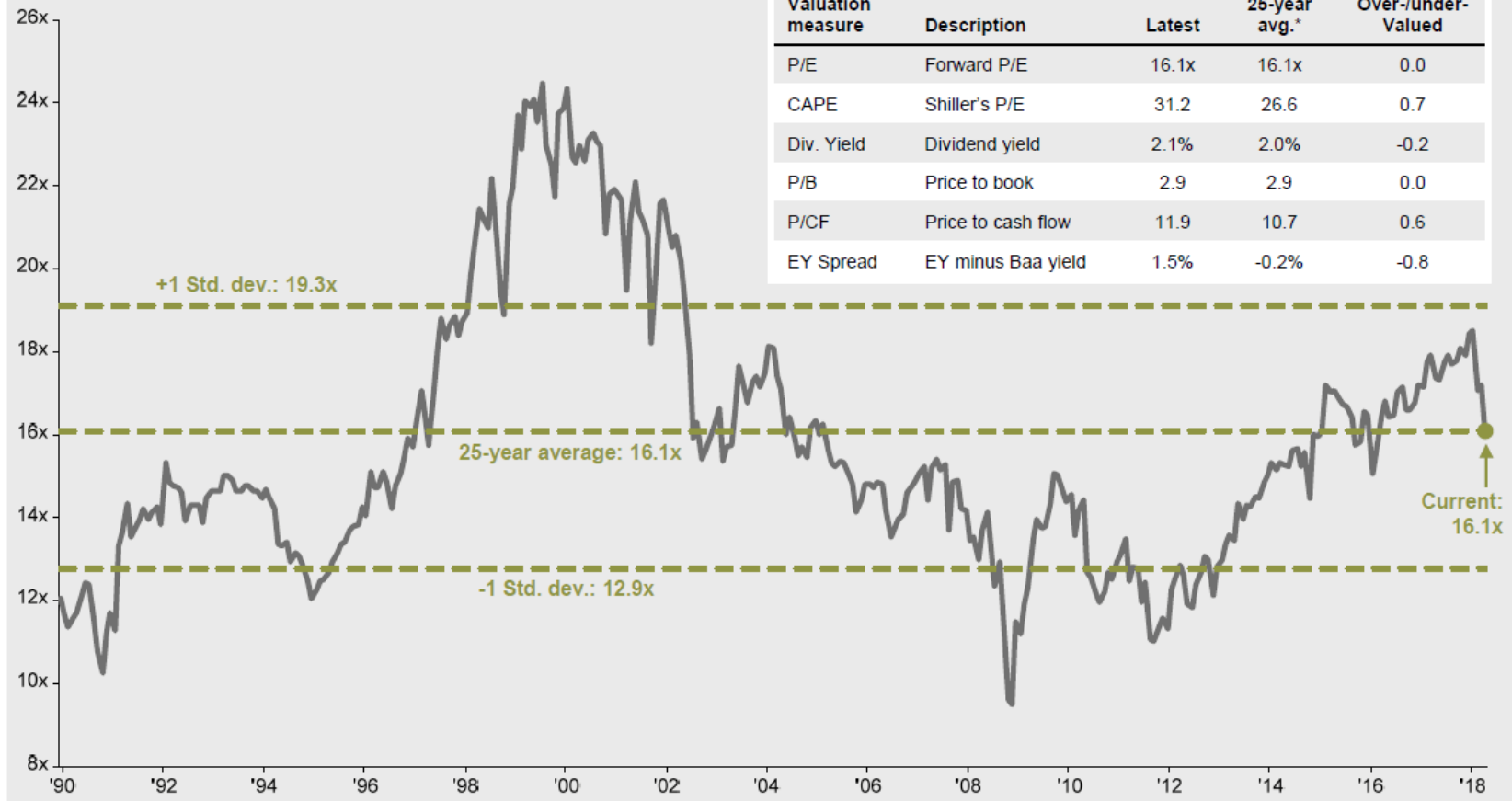


S&P 500 Index: Forward P/E ratio



Source: FactSet, FRB, Robert Shiller, Standard & Poor's, Thomson Reuters, J.P. Morgan Asset Management.

Price to earnings is price divided by consensus analyst estimates of earnings per share for the next 12 months as provided by IBES since December 1989, and FactSet for April 30, 2018. Average P/E and standard deviations are calculated using 25 years of FactSet history. Shiller's P/E uses trailing 10-years of inflation-adjusted earnings as reported by companies. Dividend yield is calculated as the next 12-month consensus dividend divided by most recent price. Price to book ratio is the price divided by book value per share. Price to cash flow is price divided by NTM cash flow. EY minus Baa yield is the forward earnings yield (consensus analyst estimates of EPS over the next 12 months divided by price) minus the Moody's Baa seasoned corporate bond yield. Std. dev. over-/under-valued is calculated using the average and standard deviation over 25 years for each measure. *P/CF is a 20-year average due to cash flow data availability.

Guide to the Markets – U.S. Data are as of April 30, 2018.