

## SILICON VALLEY BANCSHARES

Form 424B3

November 18, 2003

[QuickLinks](#) -- Click here to rapidly navigate through this document

Filed Pursuant to Rule 424(b)(3)

Registration No. 333-107994

## PROSPECTUS SUPPLEMENT DATED NOVEMBER 18, 2003

(To Prospectus Dated September 30, 2003)

## SILICON VALLEY BANCSHARES

\$150,000,000

(aggregate principal amount)

Zero Coupon Convertible Subordinated Notes due June 15, 2008 and the Common Stock  
Issuable Upon Conversion of the Notes

This Prospectus Supplement, together with the Prospectus listed above, is to be used by certain holders of the above-referenced securities or by their transferees, pledgees, donees or their successors in connection with the offer and sale of the above referenced securities.

The table captioned "Selling Securityholders" commencing on page 38 of the Prospectus is hereby amended to reflect the following additions and changes:

Name	Principal Amount at Maturity of Notes Beneficially Owned That May Be Sold	Percentage of Notes Outstanding	Number of Shares of Common Stock That May Be Sold(1)	Percentage of Common Stock Outstanding(2)
American Investors Life Insurance Co.	600,000	*	17,842	0.1%
AmerUs Life Insurance Company	2,200,000	1.5%	65,422	0.2%
Dodeca Fund, L.P.	975,000	*	28,994	0.1%
IL Annuity and Insurance Co.	10,200,000	6.8%	303,321	0.9%
Inflective Convertible Opportunity Fund I, L.P.	25,000	*	743	0.0%
TQA Master Plus Fund, Ltd.	3,290,565	2.2%	97,853	0.3%

\*

Less than 1%.

(1)

Assumes conversion of all of the holder's notes at a conversion price of approximately \$33.6277 per share of common stock. However, this conversion price will be subject to adjustment as described under "Description of Notes Conversion Rights." As a result, the amount of common stock issuable upon conversion of the notes may increase or decrease in the future.

(2)

Calculated based on Rule 13d-3(d)(i) of the Exchange Act using 34,729,225 shares of common stock outstanding as of October 31, 2003. In calculating this amount, we treated as outstanding the number of shares of common stock issuable upon conversion of all of that particular holder's notes. However, we did not assume the conversion of any other holder's notes.

QuickLinks

PROSPECTUS SUPPLEMENT DATED NOVEMBER 18, 2003 (To Prospectus Dated September 30, 2003)