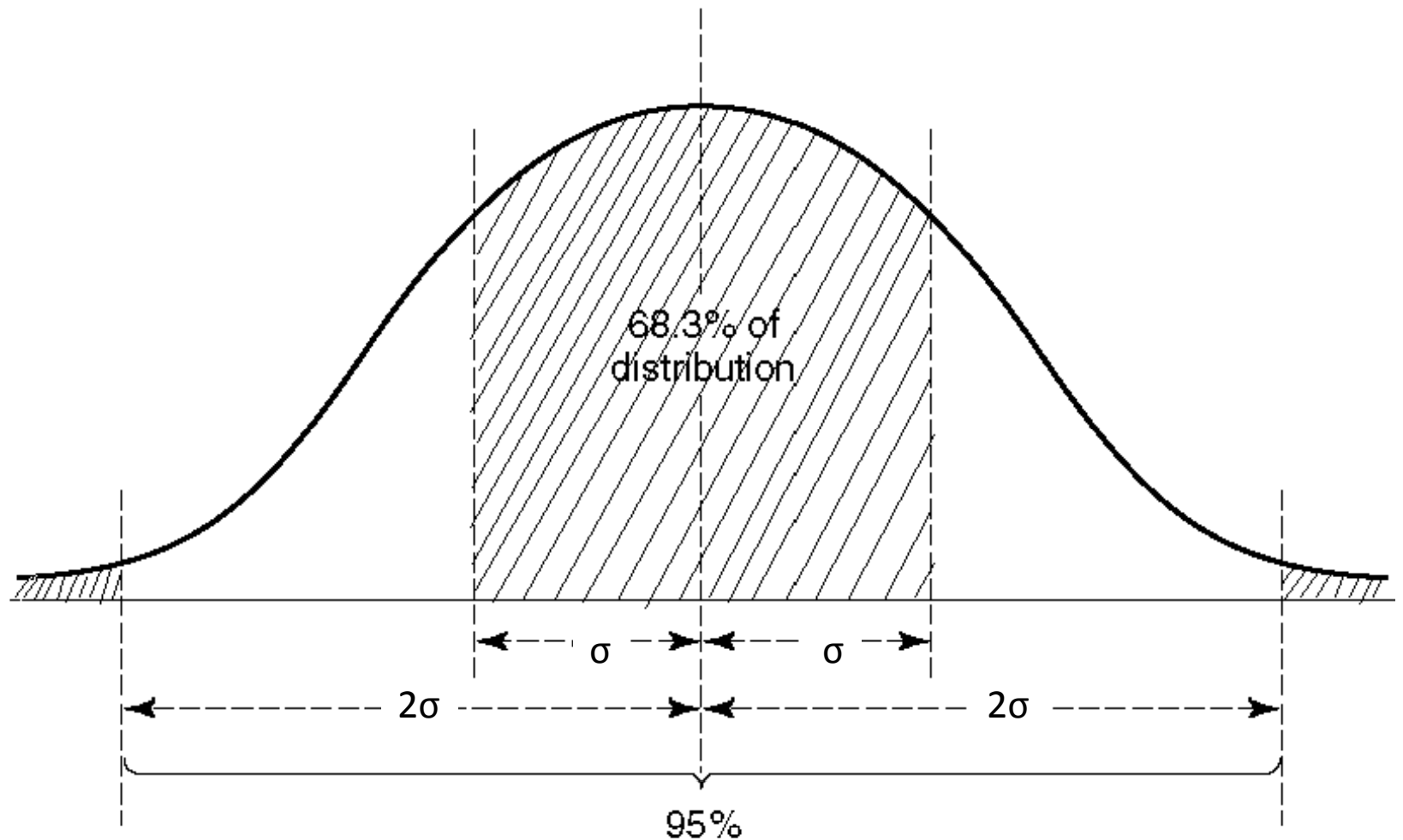


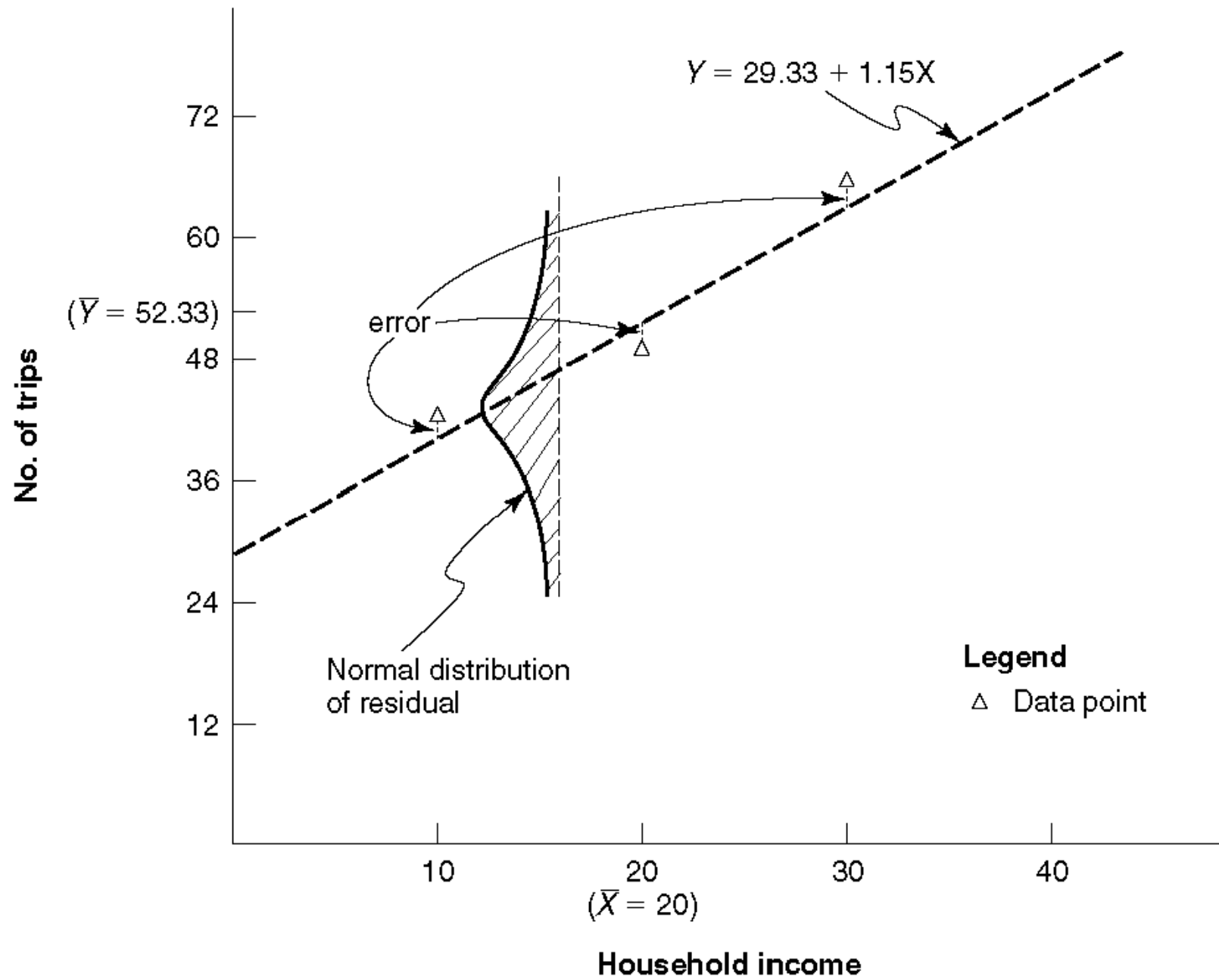
**Figure A2.1** ILLUSTRATING MEAN AND STANDARD DEVIATION IN A NORMAL DISTRIBUTION



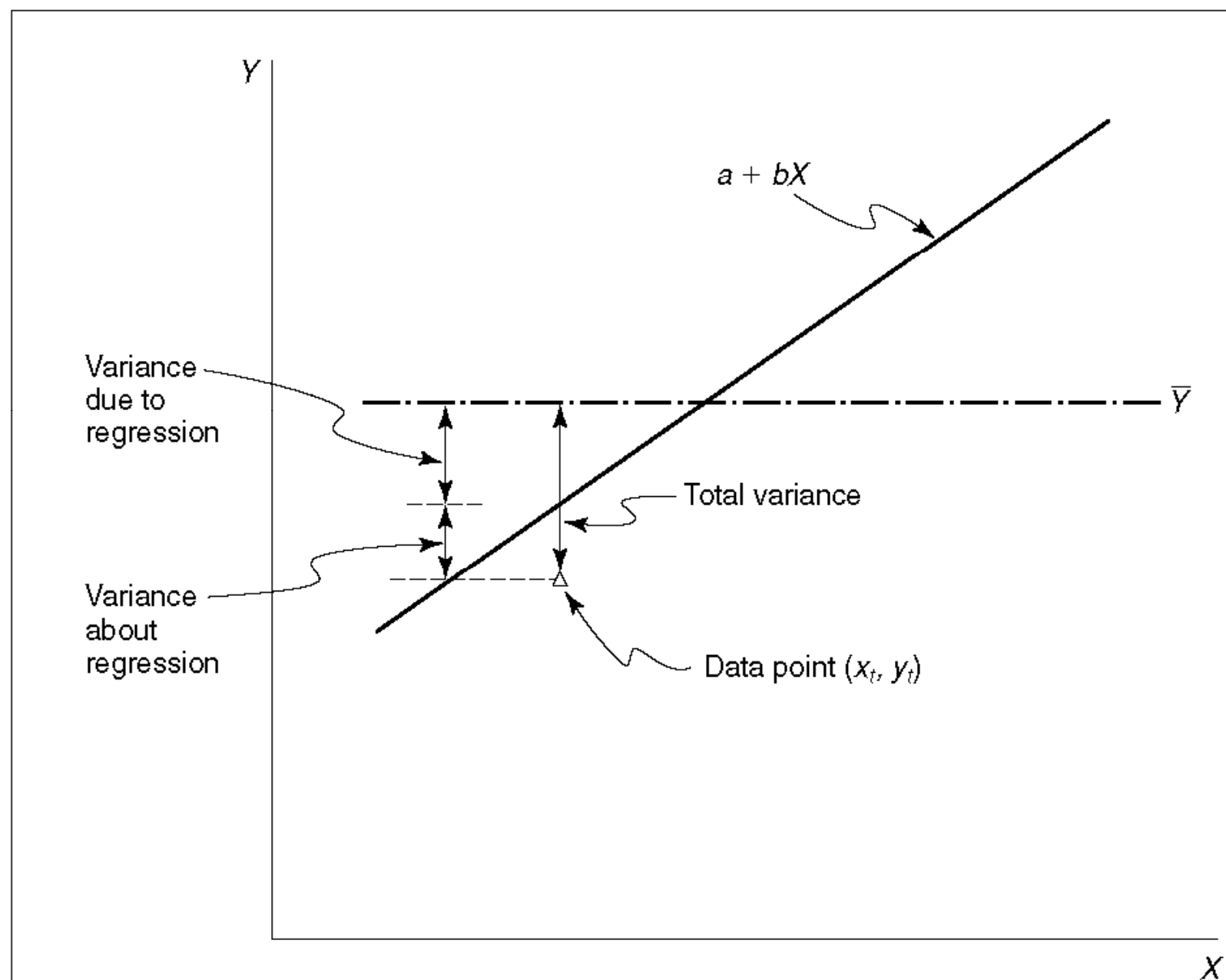
**Table A2.1** DATA FOR THE REGRESSION EXAMPLE

Households	Household income $X$ (in thousands)	No. of trips per week $Y$	Estimated no. of trips $\hat{Y}$	Error $\epsilon$
Jones	30	65	63.833	1.167
Browns	20	50	52.333	-2.333
Robinsons	10	42	40.833	1.167

**Figure A2.2** REGRESSION LINE OF EXAMPLE



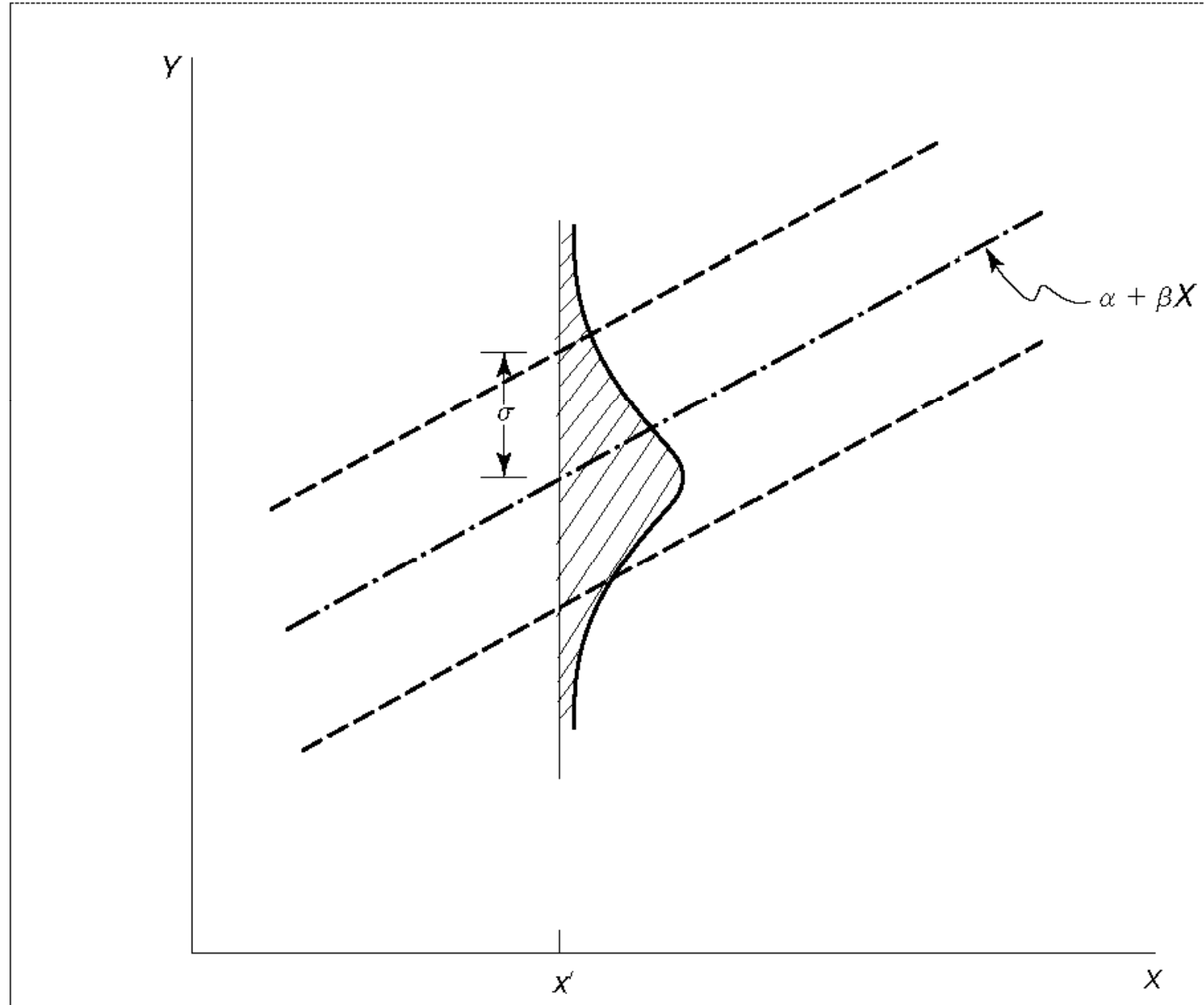
**Figure A2.3** ANALYSIS OF VARIANCE AS APPLIED TO LINEAR REGRESSION



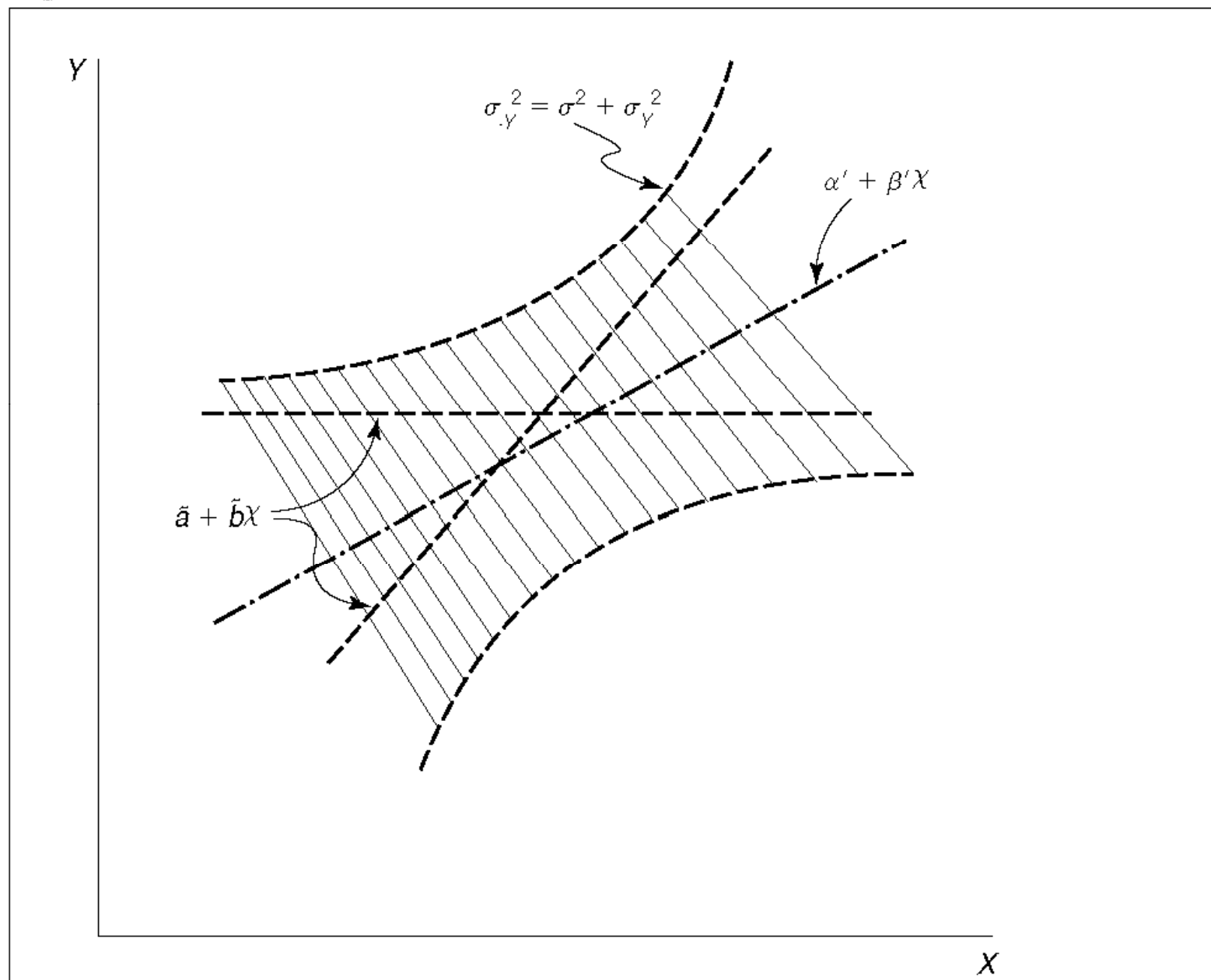
**Table A3.2**    EXAMPLE ANALYSIS – OF -VARIANCE    TABLE

Source of variation	Degree of freedom	Sum of squares	Mean square	<i>F</i> -ratio
Due to regression	1	246.500	246.500	32.388
About regression	1	8.167	8.167	
Total	2	272.667		

**Figure A2.4** PREDICTION BANDS FOR A “TRUE” REGRESSION LINE



**Figure A2.5** CONFIDENCE BANDS FOR AN ESTIMATED REGRESSION LINE



**Table A2.3** CALIBRATION RESULTS OF THE FORWARD REGRESSION PROCEDURE

Step		1	2	3
Independent variables		Total employment	Housing land use, Total employment	Housing land use, Total employment, Housing density
New variable		Total employment	Housing land use	Housing density
Partial correlation coefficient of new variables		0.5861	0.5133	0.3290
Partial <i>F</i> -value		20.9306	13.953	4.6139
Multiple correlation coefficient ( <i>R</i> )		0.5861	0.71863	0.75422
Standard error Average <i>Y</i> observations		0.7957	0.6916	0.6616
Analysis of variance	<i>F</i> -ratio (for the whole equation)	20.9306	20.831	16.7121
	Confidence interval <sup>a</sup>	$F(1, 40, 0.99) = 7.31$	$F(2, 39, 0.99) = 5.20$	$F(3, 38, 0.99) = 4.35$

<sup>a</sup>  $F(v_1, v_2, 0.99)$  where  $v_1$  is the degree-of-freedom for the numerator and  $v_2$  for the denominator.



**Table A2.4** CORRELATION MATRIX FOR CALCULATING PARTIAL-CORRELATION

	Home-based non-work trips (Y)	Total employment (X <sub>1</sub> )	Housing land use (X <sub>2</sub> )	Housing density (X <sub>3</sub> )
Home-based non-work trips (Y)		0.5861	0.2492	0.1213
Total employment (X <sub>1</sub> )			-0.2600	0.0188
Housing land use (X <sub>2</sub> )				-0.2610
Housing density (X <sub>3</sub> )				

Table A2.5 - Example of partial- $F$  for forward regression<sup>(a)</sup>

Source of variation	Degree of freedom	Sum of squares	Mean square	$F$ -value
Total (corrected)	41	$1.95392 \times 10^8$		
due to regression   $b_0$	2	$1.00920 \times 10^8$	$5.04602 \times 10^7$	$2.08310 \times 10^{(b)}$
due to $b_1$   $b_0$	1	$6.71205 \times 10^{7(c)}$	$6.71205 \times 10^7$	$2.09306 \times 10$
due to $b_2$   $b_1, b_0$	1	$3.38000 \times 10^{7(d)}$	$3.38000 \times 10^7$	$1.39531 \times 10^{(e)}$
Residual	39	$9.44723 \times 10^7$	$2.42237 \times 10^6$	

<sup>a</sup> Unless indicated otherwise, all figures are from the analysis-of-variance table of  $Y = f(X_1, X_2)$ .

<sup>b</sup>  $F$ -value for the entire regression  $Y = f(X_1, X_2)$ .

<sup>c</sup> From the analysis-of-variance table of  $Y = f(X_1)$ .

<sup>d</sup> Computed from Equation A2.14.

<sup>e</sup> Partial- $F$  for  $b_2$  due to  $X_2$ .