GLOBAL EDITION

Excel Modeling in Corporate Finance

FIFTH EDITION

Craig W. Holden

ALWAYS LEARNING

PEARSON

EXCEL® MODELING IN CORPORATE FINANCE

Fifth Edition

Global Edition

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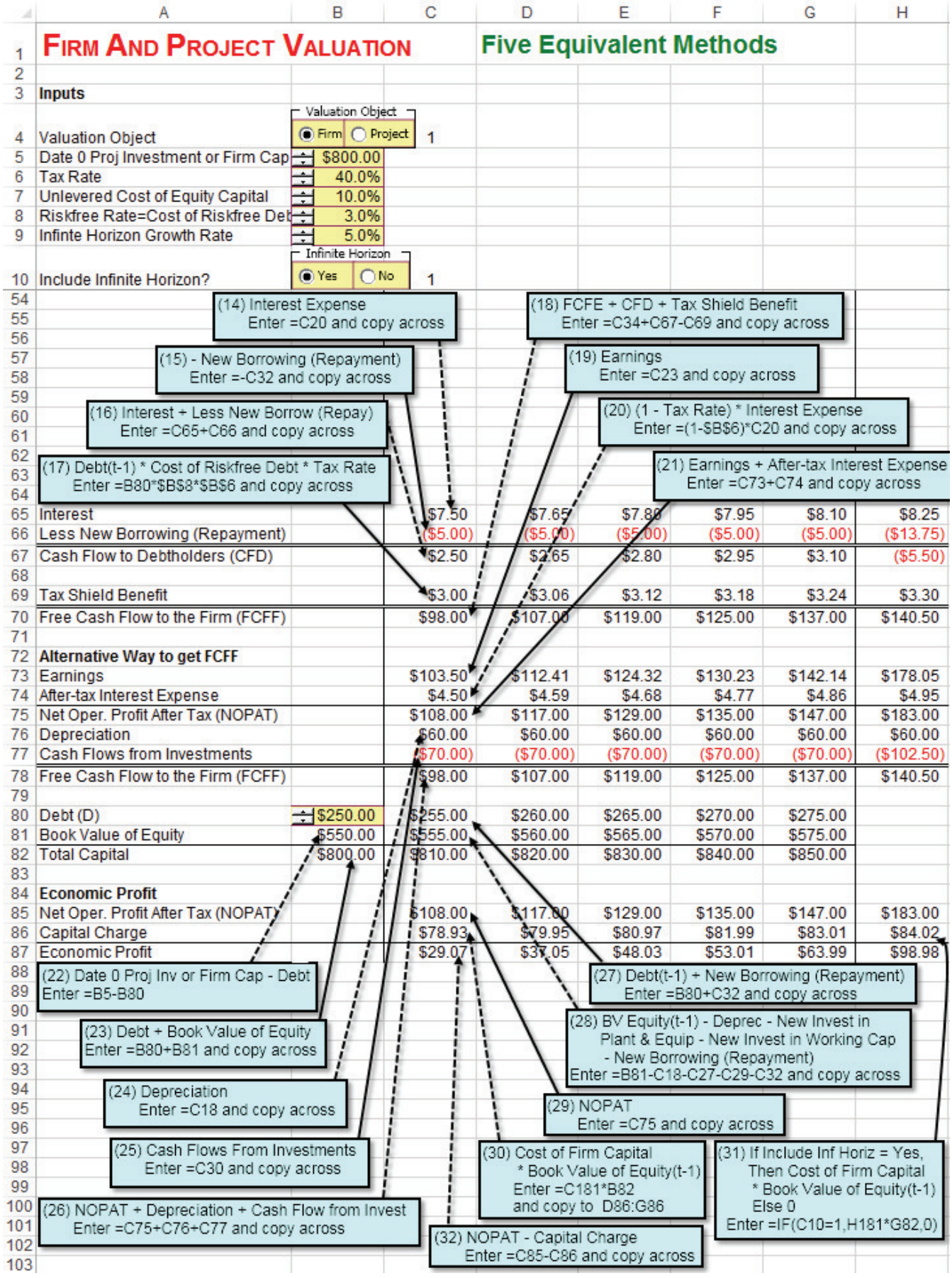
FIGURE 10.2 Firm and Project Valuation–Cash Flows for 5 Equiv Methods.



10.2 Adjusted Present Value

Problem. Given the cash flow streams, compute the current value of the firm and the value added by the firm using Adjusted Present Value.

Soluton Strategy. Take the Free Cash Flow to the Firm and discount at the Unlevered Cost of Equity Capital to obtain the Value of the Unlevered Firm. Take the Tax Shield Benefit and discount at the Cost of Riskfree Debt to obtain the Value of the Tax Shield. Sum the Value of the Unlevered Firm and the Value of the Tax Shield to get the Value of the Firm. Subtract Date 0 Capital to get the Value Added by the Firm.

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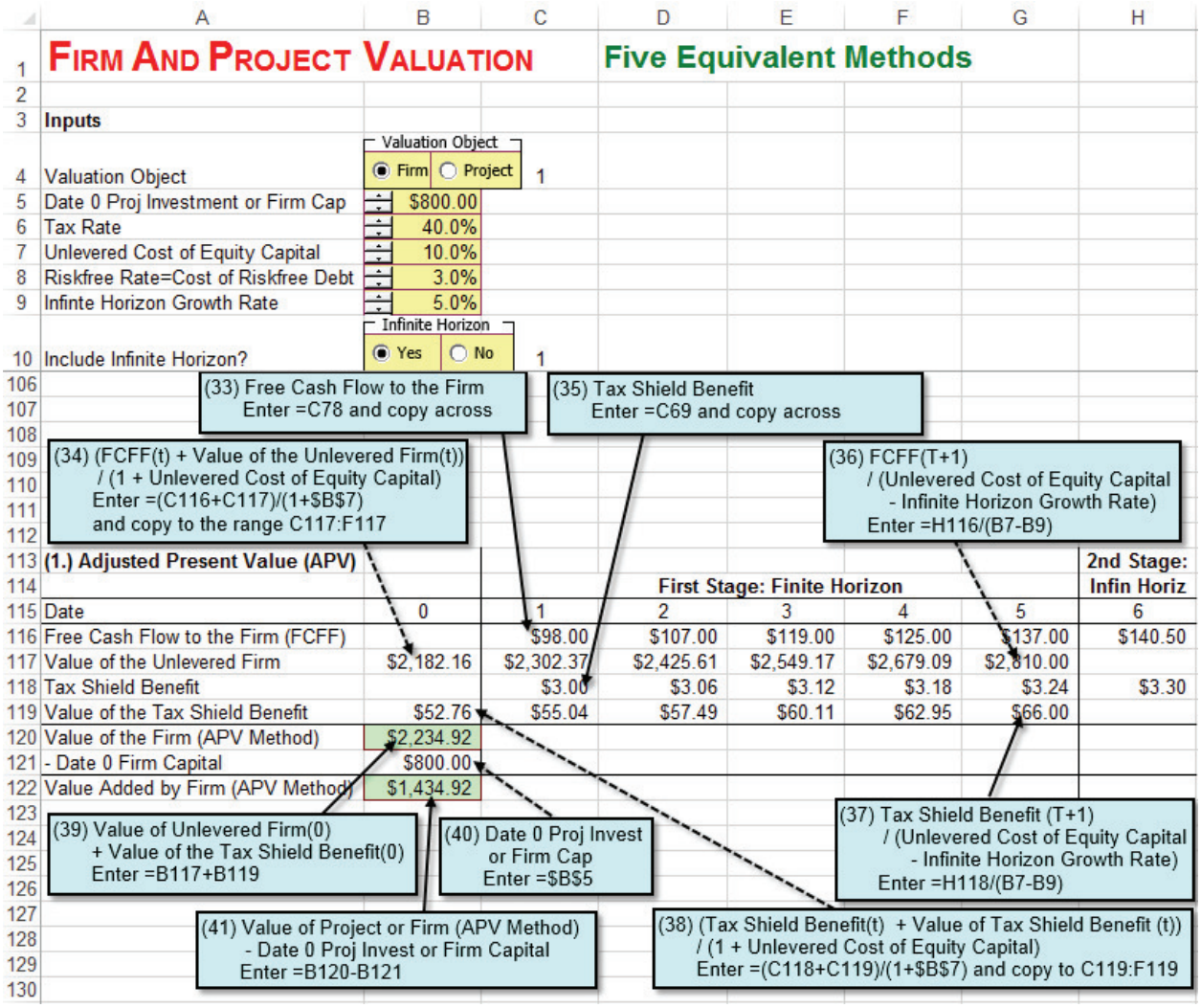
FIGURE 10.3 Firm and Project Valuation – Adjusted Present Value.



Date	0	1	2	3	4	5	6
Free Cash Flow to the Firm (FCFF)		$98.00	$107.00	$119.00	$125.00	$137.00	$140.50
Value of the Unlevered Firm	$2,182.16	$2,302.37	$2,425.61	$2,549.17	$2,679.09	$2,810.00	
Tax Shield Benefit		$3.00	$3.06	$3.12	$3.18	$3.24	$3.30
Value of the Tax Shield Benefit	$52.76	$55.04	$57.49	$60.11	$62.95	$66.00	
Value of the Firm (APV Method)	$2,234.92						
- Date 0 Firm Capital	$800.00						
Value Added by Firm (APV Method)	$1,434.92						

The value of the firm is $2,234.92. This is the amount of money you would be willing to pay if you were going to buy the firm on Date 0, since the Date 0 Firm Capital is already sunk into the firm. Considering that the firm is currently using $800.00 in capital, the (Net Present) Value Added by the Firm is $1,434.92.

10.3 Free Cash Flow To Equity

Problem. Given the cash flow streams, compute the current value of the firm and the value added by the firm using Free Cash Flow to Equity.

Soluton Strategy. Take the Free Cash Flow to Equity and discount at the Levered Cost of Equity Capital to obtain the Value of Equity. Take the Cash Flow to Debtholders and discount at the Cost of Riskfree Debt to obtain the Value of Debt. Sum the Value of Equity and the Value of Debt to get the Value of the Firm. Subtract Date 0 Capital to get the Value Added by the Firm.

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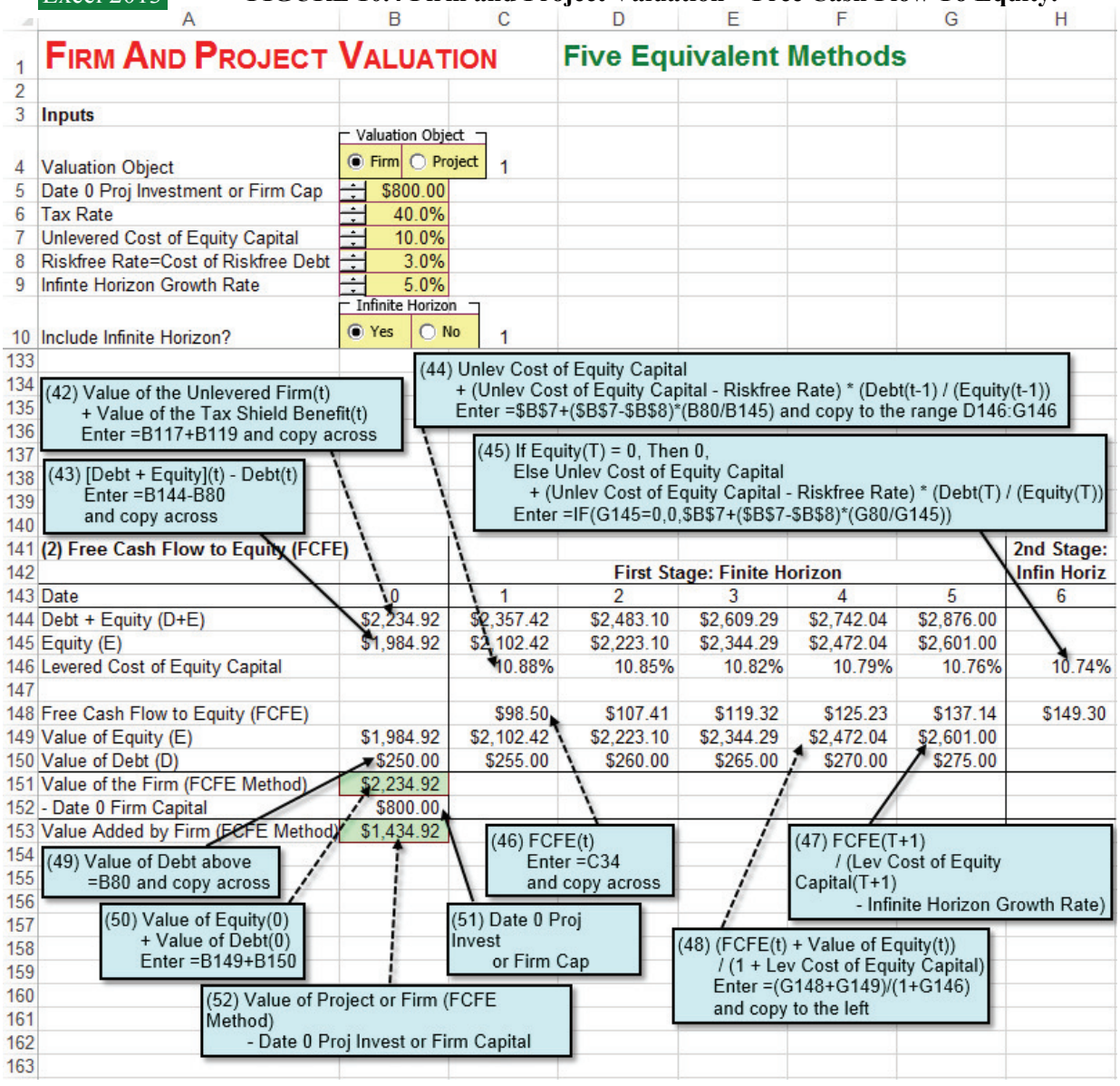
FIGURE 10.4 Firm and Project Valuation – Free Cash Flow To Equity.



As above, the Value of the Firm is $2,234.92 and (Net Present) Value Added by the Firm is $1,434.92.

10.4 Free Cash Flow to the Firm

Problem. Given the cash flow streams, compute the current value of the firm and the value added by the firm using Free Cash Flow to the Firm.

Soluton Strategy. Take the Free Cash Flow to the Firm and discount at the Cost of Firm Capital (WACC) to obtain the Value of Firm. Subtract Date 0 Capital to get the Value Added by the Firm.

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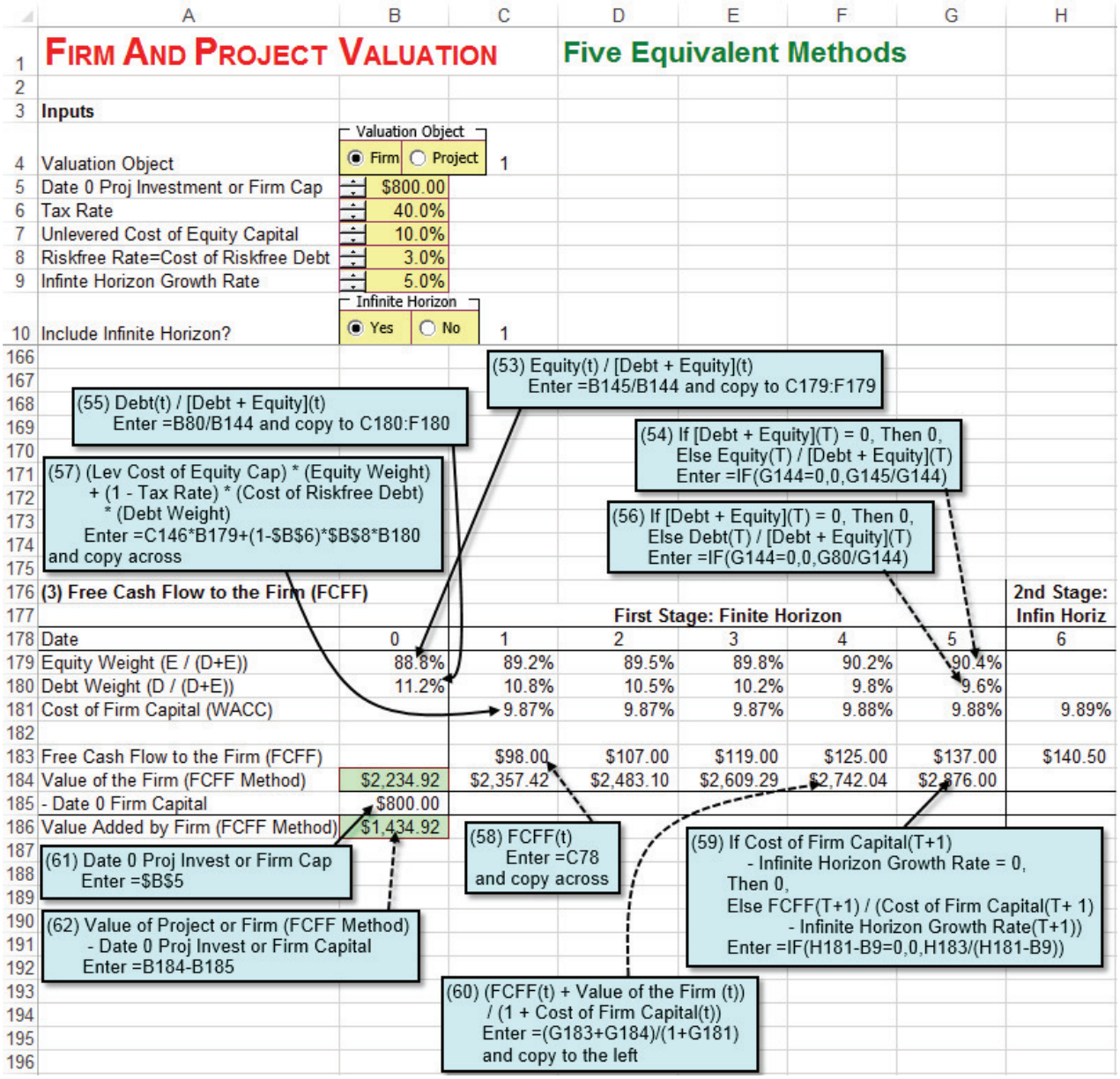
FIGURE 10.5 Firm and Project Valuation – Free Cash Flow To The Firm.



As above, the Value of the Firm is $2,234.92 and (Net Present) Value Added by the Firm is $1,434.92.

10.5 Dividend Discount Model

Problem. Given the cash flow streams, compute the current value of the firm and the value added by the firm using a Dividend Discount Model.

Soluton Strategy. Take the Dividends and discount at the Levered Cost of Equity Capital to obtain the Value of Equity. Take the Cash Flow to Debtholders and discount at the Cost of Riskfree Debt to obtain the Value of Debt. Sum the Value of Equity and the Value of Debt to get the Value of the Firm. Subtract Date 0 Capital to get the Value Added by the Firm.

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FIGURE 10.6 Firm and Project Valuation – Dividend Discount Model.

	A	B	C	D	E	F	G	H
1	**FIRM AND PROJECT VALUATION**			**Five Equivalent Methods**				
2								
3	**Inputs**							
4	Valuation Object	Valuation Object: (•) Firm ( ) Project	1					
5	Date 0 Proj Investment or Firm Cap	$800.00						
6	Tax Rate	40.0%						
7	Unlevered Cost of Equity Capital	10.0%						
8	Riskfree Rate=Cost of Riskfree Debt	3.0%						
9	Infinte Horizon Growth Rate	5.0%						
10	Include Infinite Horizon?	Infinite Horizon: (•) Yes ( ) No	1					
199								
200	(65) (Dividend(t) + Value of Equity(t)) / (1 + Levered Cost of Equity Capital) Enter =(C207+C208)/(1+C146) and copy to the range C208:F208		(63) Dividend Enter =C35 and copy across		(64) Dividend(T+1) / (Lev Cost of Equity Capital(T+1) - Infinite Horizon Growth Rate(T+1)) Enter =H207/(H146-B9)			
201								
202								
203								
204	**(4) Dividend Discount Model (DDM)**							**2nd Stage:**
205			**First Stage: Finite Horizon**					**Infin Horiz**
206	Year	0	1	2	3	4	5	6
207	Dividend		$98.50	$107.41	$119.32	$125.23	$137.14	$149.30
208	Value of Equity (E)	$1,984.92	$2,102.42	$2,223.10	$2,344.29	$2,472.04	$2,601.00	
209	Value of Debt (D)	$250.00	$255.00	$260.00	$265.00	$270.00	$275.00	
210	Value of the Firm (DDM Method)	$2,234.92						
211	- Date 0 Firm Capital	$800.00						
212	Value Added by Firm (DDM Method)	$1,434.92						
213	(67) Value of Equity(0) + Value of the Debt(0) Enter =B208+B209			(66) Value of Debt above Enter =B80 and copy				
214								
215								
216	(68) Date 0 Proj Invest or Firm Cap Enter =B5		(69) Value of Project or Firm (DDM Method) - Date 0 Proj Invest or Firm Capital Enter =B210-B211					
217								
218								

As above, the Value of the Firm is $2,234.92 and (Net Present) Value Added by the Firm is $1,434.92.

10.6 Residual Income

Problem. Given the cash flow streams, compute the current value of the firm and the value added by the firm using Residual Income.

Soluton Strategy. Take the Economic Profit and discount at the Cost of Firm Capital (WACC) to obtain the Value of Economic Profit. Add the Date 0 Book Value of the Firm to get the Value of the Firm. Subtract Date 0 Capital to get the Value Added by the Firm.

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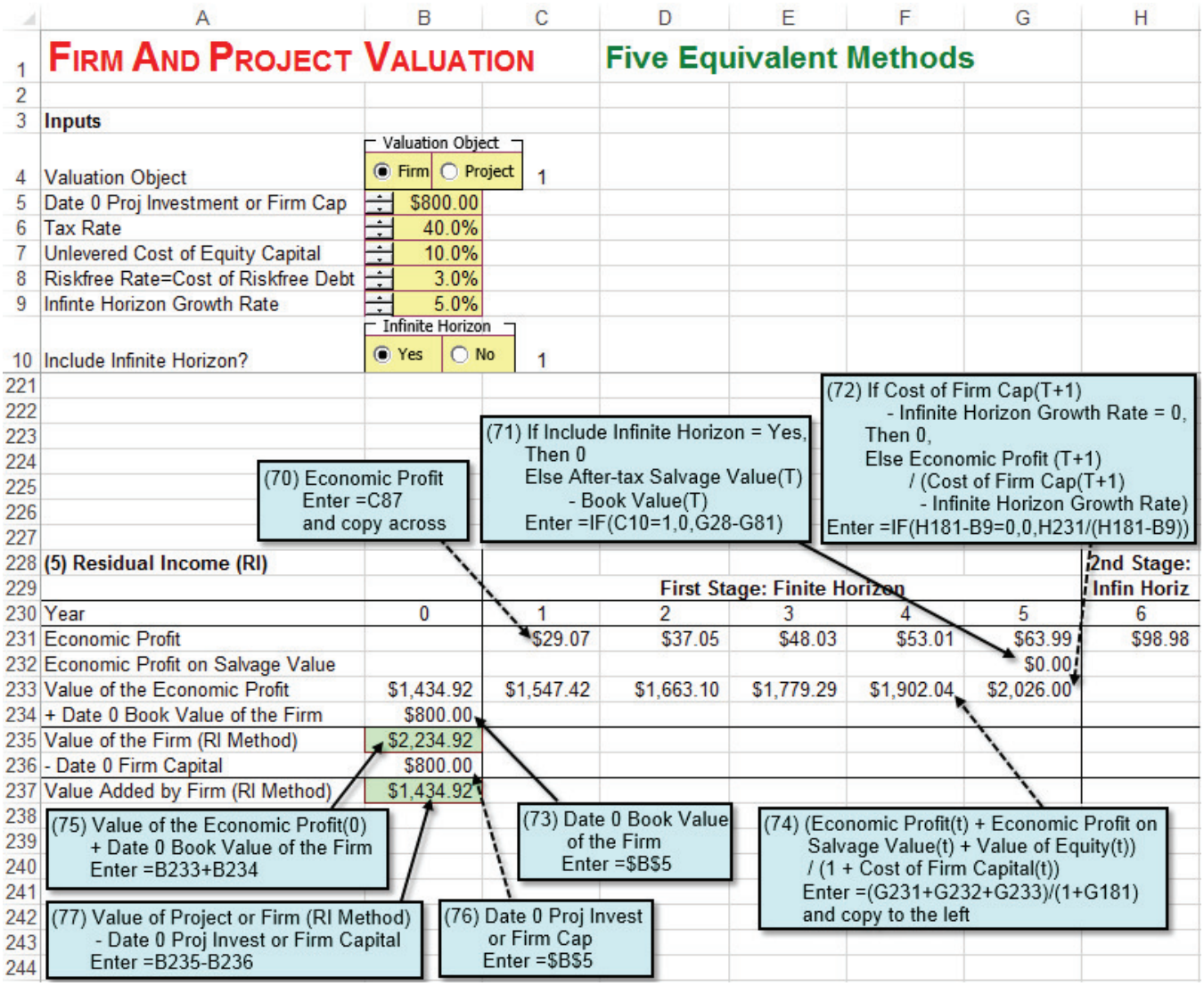
FIGURE 10.7 Firm and Project Valuation – Residual Income.



As above, the Value of the Firm is $2,234.92 and (Net Present) Value Added by the Firm is $1,434.92.