Reorganizing Financial Statement: NOPLAT & Invested Capital[1]
In-Class Problem[2]

The subject firm in this problem set is Leshkal Industries, Inc., a fictional firm for which hypothetical values have been presented. The Income Statement, Balance Sheet, and Other Financial Information used herein are also used in other In-Class Problems in support of building a body of Corporate Finance In-Class Problems.

As a hedge fund manager interested in securing a major stake in domestic manufacturing firms with exposure to renewable energies, you've become interested in Leshkal Industries, Inc.[3]. You've begun to study the firm and its financials and now want to consider how those financials might be restated to help you separate out the firm's operating value(s) from its overall value. You've noted that this firm receives revenues by manufacturing and selling a line of products as well as selling services. You've also seen that the firm receives revenues from royalties on patents for products it no longer produces and receives rents on a warehouse/production facility from which it moved some years ago.

You've studied the methods of senior consultants at McKenzie & Co. and have chosen to re-envision Leshkal's ROIC based on the firm's operating unit(s). To do this you must first consider Return on Equity (ROE), Free Cash Flow (FCF), Net Operating Income After Tax (NOPAT), Invested Capital (IC) and Return on Invested Capital (ROIC) from a more traditional standpoint without consideration of tax adjustments or focusing on operating activity, before considering modified values. The attached Balance Sheet and Income Statement, in traditional form, will assist you.

a. **Based on the current iteration of Leshkal's financials, what is the firms ROE as of the end of 2014? You should assess this through the Dupont Identity and confirm it through the basic ROE calculation. Be sure to identify and discuss the nature of any inconsistencies between the two ROE valuations.**

$ROE\ \text{(Traditional)} = \frac{NI}{TE}$
$= \frac{363}{2591} = 0.1401$ or 14.01%

$ROE\ \text{(Dupont Identity)} = PM\ x\ TAT\ x\ EM$
$= \frac{NI}{Sales}\ x\ \frac{Sales}{TA}\ x\ \frac{TA}{TE}$
$= \frac{363}{2281}\ x\ \frac{2281}{3588}\ x\ \frac{3588}{2591}$

$= .1594\ x\ .6357\ x\ 1.385$ = .1401 or 14.01%

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[1] This problem and solution set is intended to present an abbreviated discussion of the included finance concepts and is not intended to be a full or complete representation of them or the underlying foundations from which they are built.
[2] This problem set was developed by Richard Haskell, PhD (rhaskell@westminstercollege.edu), Gore School of Business, Westminster College, Salt Lake City, Utah (2015).
[3] Leshkal Industries, Inc. is a purely fictionalized firm. Any similarity to an actual firm is simply coincidental and unintended. The values presented are likewise completely hypothetical and are not intended to represent values for any actual firm or operation.

b. What is the firm's NOPAT without the burden of the firm's interest expense(s)?

In this case NOPAT = $EBIT_{OPERATIONS}$ – Tax.
$EBIT_{OPERATIONS}$ = 2281 – 1620 = 661
NOPAT = 661 – 187 = 474

c. What is ROIC based on the traditional measure?

$$ROIC = \frac{NI}{Total\ Capital}$$

$$= \frac{363}{3588} = .1012 = 10.12\%$$

d. **What is the conceptual difference between NI, NOPAT and NOPLAT.**

NI is simply Net Income, or income after all cash and non-cash expenses have been deducted. NI does not discriminate based on the source of incomes or expenses.

NOPAT is Net Operating Income After Taxes, whereas NOPLAT is Net Operating Income Less Adjusted Taxes. NOPAT is also EBIT – taxes, but is only a true reflection of operating net income if EBIT is restricted to operating incomes and expenses. Further, both are intended only to take operating income into account, but NOPLAT seeks to consider taxes arising from the operating unit, rather than those payable by the firm generally.

e. What is FCF based on the most traditional of measures?

FCF = EBIT – Taxes + Depreciation – Δ Net Working Capital – Capital Expenditures
= 691 + 276 – 187 – 34 - 425
= 321

f. Provide a Reorganized Income Statement for Leshkal Industries, Inc. designed to isolate NOPLAT such that it is an accurate reflection of net operating profits less adjusted taxes. It might be helpful to include a more traditionally formed Income Statement alongside as to show the contrast.

Leshkal Industries, Inc. Reorganized Income Statement (NOPLAT focus) January 1 – December 31, 2014				
GAAP Income Statement			**NOPLAT Reorganization**	
Gross Revenues	2311		Operating Revenues	2281
Operating Expenses	(1344)		Operating Costs	(1344)
Depreciation	(276)		Depreciation	(276)
Gross Profit	691		Operating Profit	661
			Operating Taxes (34%)	(225)
Interest	(141)		NOPLAT	436
Earnings Before Tax (EBT)	550			
			After Tax Non-Operating Income[2]	20
Taxes Paid[1]	(187)		Income Available to Investors	456
Net Income	363			
			Reconciliation with Net Income	
			Net Income	363
			After Tax Interest Expense[3]	93
			Income available to Investors	456

[1] The Effective Tax Rate = Taxes Paid / Earnings Before Taxes. In this case this is equal to 34%.

[2] After Tax Non-Operating Income is equal to Non-Operating Income x (1-tax rate) – this takes into account the value of the tax shield.

[3] After Tax Interest Expense is equal to Interest x (1-tax rate).

g. **Provide a Reorganized Balance Sheet for Leshkal Industries, Inc. designed to isolate Invested Capital. It might be helpful to include a more traditionally formed Income Statement alongside as to show the contrast.**

Leshkal Industries, Inc.						
Reorganized Balance Sheet (Invested Capital focus)						
As of December 31						
GAAP Balance Sheet				**Invested Capital Reorganization**		
	2013	**2014**			**2013**	**2014**
Assets				Inventory	393	422
Current Assets	642	708		Net Current Accounts[1]	(147)	(156)
Fixed Operating Assets	2546	2695		Cash & Securities	84	98
Other Assets	185	185				
Total Assets	3373	3588		Fixed Operating Assets	2546	2695
				Invested Operating Capital	2876	3059
Liabilities						
Current Liabilities	543	540		Other Assets	185	185
Mortgages	200	177		Total Funds Invested	3061	3244
Bonds	331	280				
				Reconciliation of Total Funds Invested		
Common Stock	500	550		Interest Bearing Debt[2]	762	653
Retained Earnings	1799	2041		Common Stock	500	550
Total Liabilities & Owners Equity	3373	3588		Retained Earnings	1799	2041
				Total Funds Invested	3061	3244

[1] Net Current Accounts = A/R – A/P

[2] Interest bearing debt includes the firm's credit line

It might be important to think about the real difference between the calculated balances here. The difference between Invested Capital (operating) and Total Funds invested is the firm's other assets (non-operating assets). The difference between Total Funds Invested and Total Liabilities & Owners Equity (which we often accept as Total Funds Invested) is Accounts Payable. Accounts Payable can't really be thought of as invested capital since these balances are the result of an "investor's" decision (they're the result of trade terms). There's no expectation of gain (interest) and you wouldn't think about having extended terms to a customer as an "investment" per se.

h. **Provide a reorganized Balance Sheet for Leshkal Industries, Inc. designed to isolate Free Cash Flow such that it is an accurate reflection of cash flow from operations. It might be helpful to include a more traditionally formed Income Statement alongside as to show the contrast.**

Leshkal Industries, Inc.				
Reorganized Cash Flow Statement (FCF focus)				
January 1 – December 31, 2014				
GAAP Cash Flow			**FCF Reorganization**	
Net Income	363		NOPLAT	436
Depreciation	276		Depreciation	276
Δ A/R (increase)	(13)		Gross Cash Flow from Operations	712
Δ Inventory (increase)	(29)		Δ Working Capital	(34)
Δ A/P (decrease)	32			
Cash Flow From Operations	629		Capital Expenditures	(425)
			Free Cash Flow from Operations (FCF)	253
Capital Expenditures	(425)			
Δ Other Assets	0		After Tax Non-Operating Income	20
Cash Flow From Investing	(425)		Δ Other Assets	0
			Cash Flow Available to Investors	273
Δ Long Term Debt (decrease)	(74)			
Δ Common Stock (decrease)	50		**Reconciliation of Cash Flow Available to Investors**	
Dividends	(121)		After Tax Interest Expense	93
Cash Flow From Financing	(145)		Δ Current Assets	66
			Δ Debt (Long, Short & Credit Line)	42
Starting Cash	84		Δ Common Stock	(50)
Δ Cash	14		Dividends	121
Ending Cash	98		Cash Flow Available to Investors	272

There is a $1 difference in my reconciliation as a result of rounding issues.

i. With the rearranged financial Statements, what differences do you see in ROE, ROIC, and FCF? ***You'll need to calculate each and compare them to the initial values you calculated in parts a, b, c, and e.***

$$ROE \text{ (For Operations)} = \frac{NOPLAT}{TE}$$

$$= \frac{436}{2591} = 0.1683$$

= 16.83% > than initial ROE = 14.01%

NOPLAT = 436 < initial NOPLAT = 504

$$ROIC = \frac{NOPLAT}{Invested\ Capital\ (operations)}$$

$= \frac{436}{3059}$ = .1425

= 14.25% > initial ROIC = 10.12%

FCF (operations) = 253

< initial value = 321

Leshkal Industries, Inc.
Balance Sheet
Year Ending December 31

	2013	2014		2013	2014
Current Assets			Liabilitites		
Cash & Securities	84	98	Accounts Payable	312	344
Accounts Receivable	165	188	Credit Line	231	196
Inventory	393	422	Total	543	540
Total	642	708			
			Long Term Debt		
Fixed Assets			Mortgages	200	177
Buildings	1,579	1,668	Bonds	331	280
Equipment	819	864	Total	531	457
Technology	148	163			
Total	2,546	2,695	Owner's Equity		
			Common Stock	500	550
Other Assets			Preferred Stock	-	-
Patents Held	125	125	Accumulated Retained Earnings	1,799	2,041
Rental Property	60	60	Total	2,299	2,591
Total Assets	3,373	3,588	Total Liabilities and Owner's Equity	3,373	3,588

Additional Financial Information

Stock Value		
Shares Outstanding	500	550
12/31 Price per Share	13.51	15.84
P/E Multiple	22.00	24.00
EPS	0.614	0.66
Market Value (Market Cap)	6,754	8,712
Book Value / Liabilities	1,074	997

Leshkal Industries, Inc.
Income Statement
January 1 - December 31

	2013	2014
Income		
Product Sales	1452	1,664
Services	568	617
Royalties	20	20
Rent (net)	9	10
Total Income	2,049	2,311
Expenses		
COGS	716	807
Sales & Marketing	240	270
Administration	236	267
Depreciation	242	276
Total Expenses	1,434	1,620
Interest Paid	--	
General Interest	107	109
Bond Interest	43	32
Total Interest Paid	150	141
Taxable Income	465	550
Tax (34%)	158	187
Net Income	307	363
Distribution of Earnings		
Dividends (Common)	95.6	121
Addition to Retained Earnings	211	242