

THE ECONOMIC VALUE GENERATED METHOD

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In The 21st Century Two Great Trends Will Affect All Businesses

- The Impact Of The Internet
- The Need To Generate Economic Value

Economic value is a way of looking at profits in terms of the balance sheet

- It is a management tool that
- Measures the owners' benefits
- Accounts for the cost of capital
- Reduces effects of accounting differences
- Reflects creation or destruction of wealth

Many large well-known companies do not generate any economic value. Siemens, the international electrical/electronics firm, said last year it would have a positive EVG by 2001!

POOR SHAREHOLDERS!

Profits are earned when a product or service is sold for more than its total cost of production

Economic value is generated when a business has a cash return that exceeds the total cost of the capital employed (often called the capital charge).

There are two similar proprietary measures

- EVA® (economic value added) a registered trademark of Stern Stewart & Co, New York
- CFROI (cash flow return on investment) developed by Holt Value Associates, Chicago

The Economic Value Generated Approach

Economic value generated (EVG) applies to any operation

A convenience store - essentially a cash business

	\$'000
Sales	180
Cost of Sales	<u>105</u>
Gross Profit	75
Operating Costs	<u>50</u>
Operating Profit	25
Interest	<u>5</u>
Pre-Tax Profit	20
Income Tax	<u>5</u>
Net Income	15

If prime rate is 6%, what return should we look for?

Say between twice and three times prime i.e. 12% to 18%; let's use 15%.

Things Went Well!

	\$'000
Our Investment	<u>60</u>
Expected Return (15%)	9
Actual Return	<u>15</u>
Excess	<u>6</u>

We earned \$6,000 more than expected, a 10% abnormal return. This is the economic value generated by the business.

EVG is commonly used for analyzing:

- Acquisitions
- Capital expenditures
- Other internal resource allocations
- Performance goals in corporate plans
- Management's achievements
- Long term incentive arrangements

The Economic Value Generated Approach

It can be applied to:

- A complete organization
- Component firms
- Divisions or departments
- Product lines

For any business activity EVG is the cash return obtained in excess of the investors' capital charge.

Let's look at the terms

Cash Return

Net revenue less:

- Cash operating costs
- Maintenance and capital expenditures
- Taxes paid on operating profit

Capital Charge

- Capital employed multiplied by
- Related after tax returns

Cash return is usually obtained by adjusting net income

- Isolate the operating business
 - Deduct investment income
 - Add back non-operating expenses
 - Exclude capital gains and losses
 - Omit unusual items
 - Extend matching
 - Reverse amortization of goodwill
 - Spread R & D over its economic life
- Shift to cash basis
- Replace depreciation with maintenance capital expenditure
- Eliminate deferred taxes
- Adjust pension expenses
- Normalized financing
- Interest is part of capital charge

The Economic Value Generated Approach

Example of Income Statement adjustments – Major Food Manufacturer Inc.

	\$ million
Reported net income	<u>16.0</u>
<i>Adjustments to obtain cash return</i>	
less interest income after tax	(0.1)
less capital gains after applicable tax	(6.5)
plus increase in deferred taxes	1.6
plus depreciation	6.4
less maintenance capital expenditure	(2.2)
plus amortization of goodwill	1.6
plus difference between R&D expense and 3 year capitalization/write off-net	1.0
less excess of cash contribution over pension charge	(1.3)
plus bad debt accrual in excess of losses	0.4
less accounting changes	(0.6)
plus interest expense less tax at average rate	<u>6.7</u>
<i>Total adjustments</i>	<u>7.0</u>
Cash Return	<u><u>23.0</u></u>

Some components of capital employed

Debt	Equity
Bank Loans	Redeemable Preferred Shares
Commercial Paper	Common Equity Including:
Notes Payable	Retained Earnings
Mortgages	Deferred Taxes
Bonds	
Debentures	
Capital Leases	
Retractable Preferred Shares	

The Economic Value Generated Approach

Capital Employed – Major Food Manufacture Inc.

Case 1

	<i>\$ million</i>		
	Capital	After Tax	Capital
Debt		%	
Operating Bank Loans	45	3.4	1.53
Secured Debt	22	3.6	0.79
Junior Debt	6	4.5	0.27
Capital Leases	<u>17</u>	<u>7.0</u>	<u>1.19</u>
	<u>90</u>	<u>4.2</u>	<u>3.78</u>
Equity			
Preferred Shares	19	6.1	1.16
Common Shares	6		
Retained Earnings (Note 2)	107	10.6	11.98
Deferred Taxes	<u>23</u>	<u>-</u>	<u>-</u>
	<u>155</u>	<u>8.5</u>	<u>13.14</u>
Capital Employed	<u><u>245</u></u>	<u><u>6.9</u></u>	<u><u>16.92</u></u>
Cash Return			23.0
Capital Charge			<u>(16.9)</u>
Economic Value Generated			<u><u>6.1</u></u>

Case 2

	<i>\$ million</i>		
	Capital	After Tax	Capital
Debt		%	
Operating Bank Loans	45	3.4	1.53
Secured Debt	22	3.6	0.79
Junior Debt	6	4.5	0.27
Capital Leases	<u>17</u>	<u>7.0</u>	<u>1.19</u>
	<u>90</u>	<u>4.2</u>	<u>3.78</u>
Equity			
Preferred Shares	19	6.1	1.16
Common Shares	6		
Retained Earnings (Note 2)	107	15.6	17.63
Deferred Taxes	<u>23</u>	<u>-</u>	<u>-</u>
	<u>155</u>	<u>12.1</u>	<u>18.79</u>
Capital Employed	<u><u>245</u></u>	<u><u>9.2</u></u>	<u><u>22.57</u></u>
Cash Return			23.0
Capital Charge			<u>(22.6)</u>
Economic Value Generated			<u><u>0.4</u></u>

Note 1 Tax rate 50%

Note 2 Return uses build-up method, below

The Economic Value Generated Approach

Expected Build-Up Method Equity Return

Build Up Method Equity Return	Case 1	Case 2
	%	%
Risk Free Rate (10 Year Canada's)	5.6	5.6
Equity Risk Premium	7.2	7.2
Size Adjustment	5.8	5.8
Company Specific Risk	2.0	2.0
Anticipated Growth	<u>(10.0)</u>	<u>(5.0)</u>
	<u>10.6</u>	<u>15.6</u>

The equity rate of return varies inversely with the anticipated growth in net income, hence EVG is very sensitive to future growth.

- at 10% growth it is \$3.6 million positive
- at 5% growth it is \$3.2 million negative

In a simplified form, EVG is also helpful for investors using forecasts of growth in earnings per share, current book value and a required equity return.

The concept is that a business is worth the total of its current equity plus the present value of all future EVGs. The implementation is relatively easy. There are 7 steps.

- Forecast growth in EPS for next five years
- Predict eps for each year using this rate
- Determine implied return on equity
 - (EPS divided by beginning book value)
- Establish required rate of return
- Calculate abnormal ROE
 - (implied rate less required return)
- Multiply growth in book value by AROE
- Discount multiplied factor at required rate of return

The result is a price/book value multiple based solely on accounting figures and a required equity return.

Under present conditions, this approach tends to give amounts well below those reflected in stock market prices.