What do we mean by Margin of Safety?

What do we mean by Margin of Safety?

- This is one of Warren Buffets core investing principles
- Essentially, if the market value of the company is 30% less than the intrinsic value, you have a 30% margin of safety
- The intrinsic value is calculated using a Discounted Cash Flow model

What do we mean by Margin of Safety?

- "If you understood a business perfectly and the future of the business, you would need very little in the way of a margin of safety. So, the more vulnerable the business is, assuming you still want to invest in it, the larger the margin of safety you'd need. If you're driving a truck across a bridge that says it holds 10,000 pounds and you've got a 9,800 pound vehicle, if the bridge is 6 inches above the crevice it covers, you may feel okay; but if it's over the Grand Canyon, you may feel you want a little larger margin of safety." Warren Buffett

What do we mean by Margin of Safety?

- The Margin of Safety calculation is not difficult providing you understand the principles we have been discussing in the course
- We have included a MOS Calculator in Excel Format with this lecture.

What do we mean by Margin of Safety?

- Lets do this calculation for Apple Inc
- First we need to put in some basic inputs
- Initial Cash Flow - Cash generated from Operating Activities

	Apple Inc	2018	
Initial Cash Flow:		US$77,434	
Growth Rate:			
Years:	1-5	11.6%	
	6-10	4.0%	
Terminal Growth Rate:		2.0%	
Discount Rate:		5.0%	
Shares Outstanding:		5,000,109	
Debt Level:		US$102,519	
Margin of Safety:		30%	

What do we mean by Margin of Safety?

- Revenue growth between 2017 and 2018 was 11.6%
- We have assumed a more modest 4% in the second period of 5 years

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What do we mean by Margin of Safety?

- The Terminal Growth Rate is 2%
- The Discount Rate is a modest 5%
- The Discount Rate should be derived from the WACC

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What do we mean by Margin of Safety?

- From the 10K we know that there are 5 million fully diluted shares in issue
- Term Debt - current and long term is just over $102m

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What do we mean by Margin of Safety?

- We are aiming for a target 30% margin of safety

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What do we mean by Margin of Safety?

- The model calculates the discounted cash flows for the 10 year period
- The Terminal Value cash flow
- The PV of the 10 year cash flows

	Apple Inc	2018	
Year	Flows	Growth	Value
1	US$ 86,416	12%	US$ 82,301
2	US$ 96,441	12%	US$ 87,475
3	US$ 107,628	12%	US$ 92,973
4	US$ 120,113	12%	US$ 98,817
5	US$ 134,046	12%	US$ 105,028
6	US$ 139,407	4%	US$ 104,028
7	US$ 144,984	4%	US$ 103,037
8	US$ 150,783	4%	US$ 102,056
9	US$ 156,814	4%	US$ 101,084
10	US$ 163,087	4%	US$ 100,121
Terminal Year		US$166,349	
PV of Year 1-10 Cash Flows:		US$976,920	
Terminal Value:		US$3,404,123	
Total PV of Cash Flows:		US$4,381,044	

What do we mean by Margin of Safety?

- The Terminal Value
- The Total PV of all the Cash Flows

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What do we mean by Margin of Safety?

- From the Total PV of Cash Flows we can calculate an Intrinsic Value Per Share

	Apple Inc	2018	
Total PV of Cash Flows:		US$4,381,044	
Number of Shares:		5,000,109	
Intrinsic Value (IV):		US$85.57	
Margin of Safety		US$59.90	
Stocks Current Share Price		US$54.76	
Margin of Safety - Intrinsic Value Versus Actual Share Price		36%	

What do we mean by Margin of Safety?

- The 30% Margin of Safety assumption gives us a $59.90 value per share

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Margin of Safety - Intrinsic Value Versus Actual Share Price		**36%**	

What do we mean by Margin of Safety?

- The Actual Stock price is noted here
- This shows that on the basis of these assumptions the stock is trading at a 36% discount to the current share price
- On this basis, we would buy the shares

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What do we mean by Margin of Safety?

- The objective is to only purchase companies which are undervalued by the market and this approach ensures that you have plenty of margin for error, i.e. Margin of Safety

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