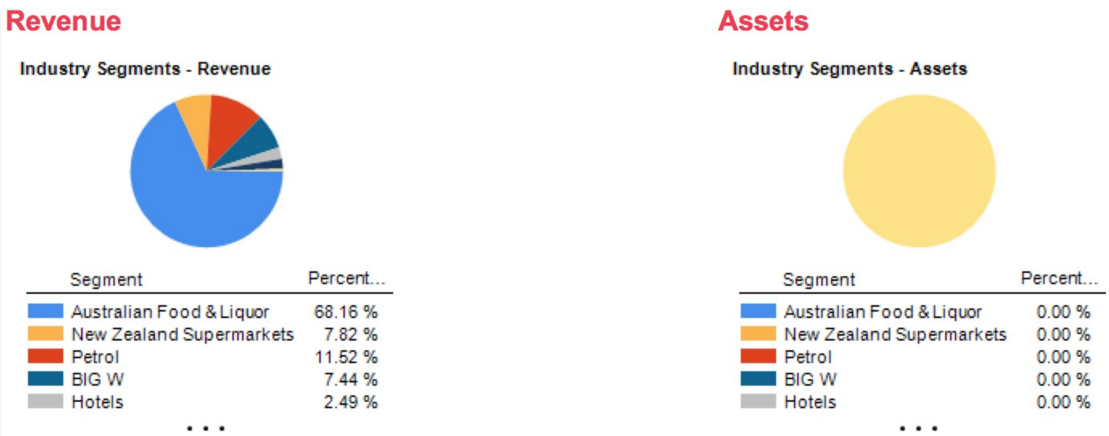
1.0 The nature of the company’s products, activities and business segments.

Woolworths Limited (WOW) is an Australian company that commenced operations in 1924, was listed on the Stock Exchange in 1993 and is currently ranked fourth among the top 2000 companies in the country (IBISWorld, 2013). Its principal income generating activities include retail of food, liquor, petrol, general merchandise through chain store operations as well as hotel, gaming and entertainment operations as indicated graphically:

Figure 1.0.1



SOURCE: IBISWORLD, 2013

Substantial part of the products are sold through Supermarkets and Groceries Stores located across Australia and New Zealand.

The company’s key business segments are:

1.1 Australian Food and Liquor

This is the largest business segment, generating sales revenue of $40 billion in 2013 (Annual Report, 2013:16). The company reported that the high sales volume was driven by price reduction brought about by decrease in costs. It has about 897 Woolworth’s supermarkets stores and 1,355 liquor outlets comprising Cellarmasters an online wine sales channel, BWS, 175 Dan Murphy’s stores.

1.2 New Zealand Supermarkets

In New Zealand, the company generated sales revenue of $5.7 billion through Woolworths Supermarkets, Countdown, Supervalue, Fresh Choice and Foodtown.

1.3 Petrol

Sales revenue generated from this segment amounted to $6.8 billion. Woolworths currently has 613 canopies of which 131 co-branded Woolworths/Caltex as part of a strategic alliance to provide fuel discounts.

1.4 Big W

The general merchandise segment generated sales of $4.4 billion has a discount department store chain, BIG W. It is a leader in multi-option retailing including home wares, clothing, home entertainment products and office supplies.

1.5 Hotels

Sales revenue from hotels, gaming and entertainment operations in 2013 amounted to $1.5 billion. The company has 75% stake in Australian Leisure and Hospitality Group (AHL). The hotel division consists of 326 premium hotels including bars, dinning, gaming, accommodation, and venue hire operations. It is a key enabler of Dan Murphy's and BWS. The diversified and geographic spread of AHL income streams assisted during the year 2013 to counter dampened bar sales experienced across most states.

1.6 Home Improvement

Launched in 2011, Masters was the first home improvement chain to launch online and mobile shopping, enabling clients to conveniently buy home improvement items anytime and anywhere. The Home Improvement operations consist of 26 hardware stores and 31 Masters Stores with sales revenue of $1.2 billion.

2.0 Information relating to the aims, forward planning and corporate strategies enunciated by the company

2.1 Aims

Woolworths has a philosophy of demonstrating corporate leadership by doing “the right thing” with a view to delivering sustainable growth and continuous improvement of its practices. In this regard it is building a world class retail team that would support the drive to ensure that customers are provided with high quality products. Additionally, the company has a target investment of the equivalent of 1% of pre-tax profits channeled towards supporting communities in the areas of:

- Sustainability and environment;
- Health and wellbeing;
- Education and employment;
- Rural and regional communities.

It also utilizes the London Benchmark Group (LBG) base for contribution to communities through:

- Cash donations from the business
- Customer and staff fundraising
- In-kind donations and support
- Staff time and management costs

Woolworths makes food donation in partnership with food relief charities in both Australia and New Zealand include Foodbank, OzHarvest, SecondBite, FareShare, Churchlands, House of Hope and The Salvation Army to collect food for their stores and provide meals for people in need in the communities.

2.2 Forward Planning

The company is in the process of rolling out new “green stores”, retrofitting existing stores with green technology, and making wholesale changes to supply chain, logistics and support operations.

In furtherance of its commitment to responsible and sustainable retailing, the company made some key environmental sustainability targets including:

2.3 Corporate Strategies

The ultimate goal of the company is provide customers with the best possible value, convenience and choice. Its growth plan is built on four key strategic priorities (Annual Report, 2013: 5-6):

i. Extend leadership in food and liquor.

ii. Maximize shareholder value:

    In furtherance of this objective, the Consumer Electronics Division comprising Dick Smith electronics, Tandy consumer electronic retail chains and Coma Brand (a joint with TATA in India) was sold to give way for the creation of SCA property group.

iii. Maintain track record of building new growth businesses:

    The company is seeking to grow the on-line retail business and plans to achieve $1 billion in on -line sales in 2014.

iv. Put in place the enablers for a new era of growth:

    In recognition of the fact that customer satisfaction is key to the success of the business, the company has invested in an enterprise dedicated to identifying consumer expectations and demand patterns.

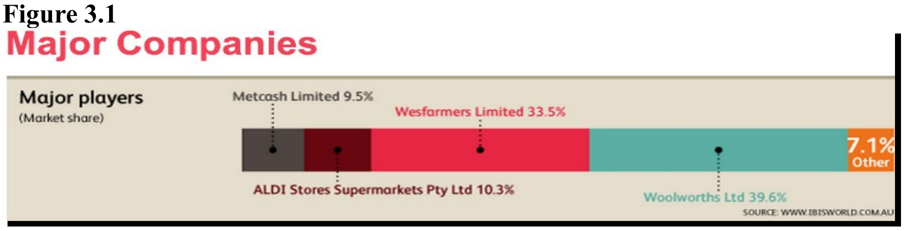
Another strategy of Woolworths is commitment to protecting the safety, health and welfare of employees, customers, contractors, visitors and community hence the 'Destination Zero' initiative. The program is intended to achieve zero harm to people, environment and community arising from the activities of the business.

3.0 Industry Structure, Domestic Economic Conditions and the Impact of International Environment

3.1 Industry Structure

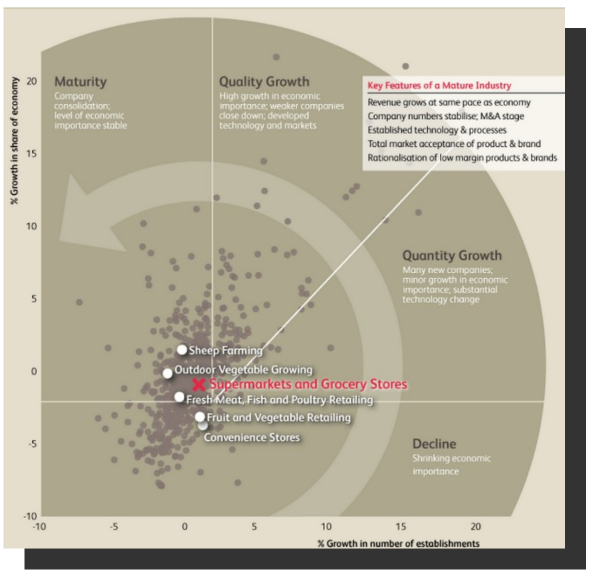
The Supermarkets and Grocery Stores Industry in Australia is considered to be among the most fiercely competitive and most concentrated. About 90% of sales are generated by four major players led by Woolworths with Westfarmers in second place then Metacash and ALDI (IBISWORLD, 2013):

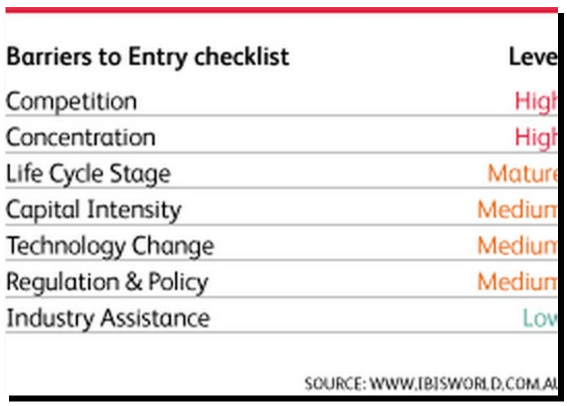
Figure 3.1



The IBISWorld report for 2013 indicates that the industry is at the mature phase of the business life cycle with revenue growing at a steady rate of 2.4% (estimated to grow at compounded rate of 2.3% in the next five years) and stability in number of players:

Figure 3.1.1



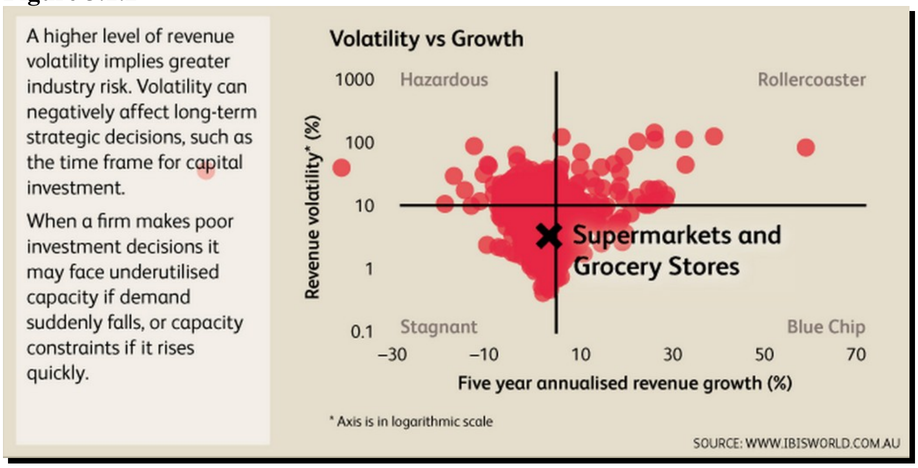


Barriers to Entry checklist	Level
Competition	High
Concentration	High
Life Cycle Stage	Mature
Capital Intensity	Medium
Technology Change	Medium
Regulation & Policy	Medium
Industry Assistance	Low

SOURCE: WWW.IBISWORLD.COM.AU

The number of competitors in the industry are not expected to increase significantly due to high cost of purchasing franchise licence and setting up a new store; difficulty in securing appropriately sized sites; near absence of product differentiation which fuels price wars amongst the dominant players.

Figure 3.1.2



3.2 Domestic Economic Conditions

Given the nature of products sold by the industry there is a close link between growth of sales and the level of expenditure by individuals and households within the economy. Therefore, the important economic conditions that affect the industry as identified by IBISWorld include:

i. Real house hold disposable income
ii. Consumer sentiment index

There are other domestic factors such as population and level of demand from cafes, restaurants and take away food services that also influence the direction of the industry.

In view of the foregoing, deficit cutting measures outlined in the Australian budget delivered on May 13 2014 may further compound the unemployment problem facing the country and increase the cost of living in which case the industry could be negatively affected. It is estimated that consumer sentiment would decline due to concerns about unemployment while household sizes may shrink leading to decline in population.

Figure 3.2.1

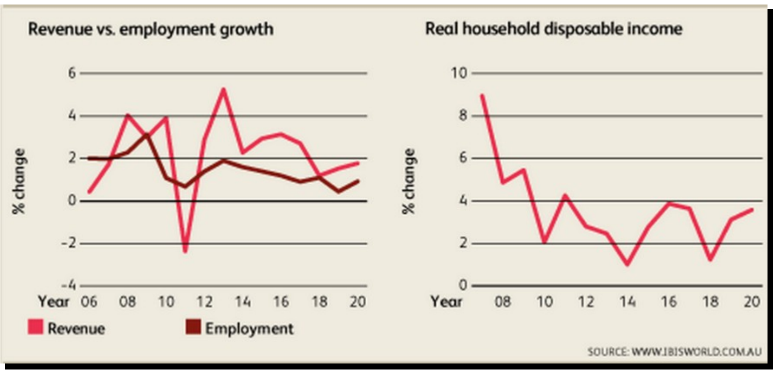
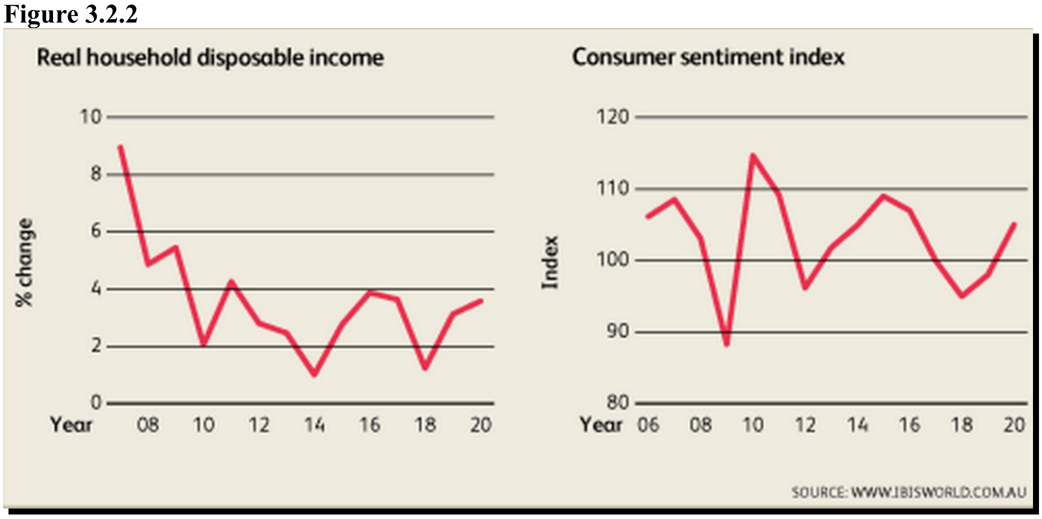


Figure 3.2.2



3.3 Impact of International Environment

Although Australia largely escaped the devastating effect of the global financial crisis, this notwithstanding, the country's reliance on the export of natural resources especially to China, points to the possibility of a slowdown in the economy if demand from China declines. In the event of such an occurrence, the disposable income available to households could be impacted negatively which may in turn affect the level of sales income derivable by the company.

The World Bank estimates that China will continue to contribute significantly to world economic growth as shown below:

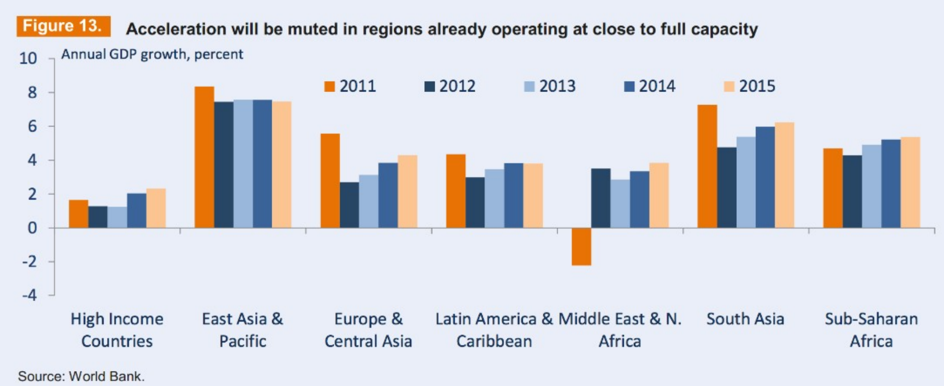


Figure 13. Acceleration will be muted in regions already operating at close to full capacity

Source: World Bank.

4.0 Evaluation of the Intrinsic Value of Woolworths Limited

Following analysis of the monthly historical prices of Woolworths Limited and S&P200 (July 2003 to June 2013), we ran the regression model to estimate the beta (β) of the company. For this purpose, the Australian 10-year bond yield (3.85%) was used as the risk free rate. The expected return of the market was calculated as the average monthly return of the S&P200. Based on CAPM, we calculated the cost of equity of the company using the equation: $\mathbf{r_E = r_f + \beta[E\,(r_M) - r_f]}$, as shown in the table below:

	Simple monthly return	**Log monthly return**
Beta (β)	0.5114	0.5097
Expected market return *$E(r_M)$*	5.28%	4.34%
Cost of equity r_E	4.58%	4.10%

The company's annual report over a 5-year period from 2009 to 2013, indicated growth in dividend payments and is forecasted to produce a constant dividend stream in the long-term. In addition to the fact that the company is at the maturity phase of its life cycle, it did not disclose any plans to undertake elaborate investments capable of significantly increasing revenue generation. Given these facts, we concluded that the single-stage model for both Dividend Discount model and Constant growth FCFE Model would be most appropriate for evaluating the equity value of the company.

4.1 Dividend Discount Model

- **Gordon Growth Model:** The company's dividend growth rate was computed as shown in the table below:

Date	Dividends	Total dividend paid per year	Growth rate
18/03/2013	0.62		
10/09/2012	0.67	1.29	4.03%(*)
19/03/2012	0.59		
12/09/2011	0.65	1.24	4.20%
21/03/2011	0.57		
13/09/2010	0.62	1.19	9.17%
22/03/2010	0.53		
07/09/2009	0.56	1.09	13.54%
23/03/2009	0.48		
01/09/2008	0.48	0.96	15.66%
20/03/2008	0.44		
31/08/2007	0.39	0.83	25.76%
22/03/2007	0.35		
04/09/2006	0.31	0.66	20.00%
27/03/2006	0.28		
01/09/2005	0.27	0.55	14.58%
24/03/2005	0.24		
30/08/2004	0.24	0.48	14.29%

22/03/2004	0.21		
04/09/2003	0.21	0.42	

Computed dividend growth rate: (*) 4.03% = (1.29-1.24)/1.24

Applying this growth rate to compute to the GGM resulted in equity value of:

$$V_0 = \frac{D_0(1+g)}{r-g} = \frac{D_1}{r-g}$$

V_0 = 1.29 x (1+ 0.0403) / (0.0458 – 0.0403) = A$ 243.9

The resulting equity value of AUD 243.9 appeared unusually high. As a result, we made the assumption that the company's dividends would grow at a rate equivalent to the 2.8% annual growth rate of the Australian economy in 2013. Applying this growth rate to the formula resulted in equity value of:

V_0 = 1.29 x (1.0.028) / (0.0458 – 0.028) = A$ 74.37

4.2 Cash Flow to Equity Discount Model

$$FCFF = CFO + Int(1 - \text{Tax Rate}) - FCInv$$

Constant growth FCFE Model: To compute the Free Cash Flow to the Firm (FCFF) we used the equation below:

$$FCFE = FCFF - Int(1 - \text{Tax Rate}) + \text{Net Borrowing}$$

And the Free Cash Flow to the Equity (FCFE) is calculated by using the formula:

The Australian corporate tax rate of 30% was applied in the computations.

We figures for purchase of PPE were obtained from the company's cash flow statement. The resulting free cash flow to equity exhibited negative growth rate as shown in the table below thereby hindering the establishment of a meaningful growth rate. Consequently, we assumed that the FCFE will grow at the rate of the Australian economy of 2.8%.

Item	06/04	06/05	06/06	06/07	06/08	06/09	06/10	06/11	06/12	06/13
Net Operating Cashflows	1,262,300,000	1,221,000,000	1,705,100,000	2,294,200,000	2,654,000,000	2,604,200,000	2,759,900,000	2,991,100,000	2,873,800,000	2,719,900,000
Interest Expense	57,400,000	164,100,000	266,800,000	262,000,000	230,800,000	235,200,000	238,500,000	300,000,000	318,300,000	410,100,000
Interest Expense (1- tax rate)	40,180,000	114,870,000	186,760,000	183,400,000	161,560,000	164,640,000	166,950,000	210,000,000	222,810,000	287,070,000
Payment for Purchase of PPE	-718,700,000	-1,180,500,000	-1,411,700,000	-1,131,000,000	-1,748,100,000	-1,678,200,000	-1,817,700,000	-2,123,200,000	-2,140,700,000	-1,970,100,000
Free Cash Flow to the Firm (FCFF)	**583,780,000**	**155,370,000**	**480,160,000**	**1,346,600,000**	**1,067,460,000**	**1,090,640,000**	**1,109,150,000**	**1,077,900,000**	**955,910,000**	**1,036,870,000**
Proceeds from Borrowings	9,716,300,000	10,882,700,000	11,089,200,000	10,097,100,000	6,334,000,000	13,619,300,000	12,833,800,000	13,349,200,000	12,361,900,000	5,974,500,000
Repayment of Borrowings	-9,850,400,000	-9,570,200,000	-10,010,200,000	-11,096,600,000	-6,466,200,000	-13,458,500,000	-12,347,700,000	-11,590,900,000	-12,830,800,000	-6,501,800,000
Net borrowings	-134,100,000	1,312,500,000	1,079,000,000	-999,500,000	-132,200,000	160,800,000	486,100,000	1,758,300,000	-468,900,000	-527,300,000
Free Cash Flow to the Equity (FCFI	**409,500,000**	**1,353,000,000**	**1,372,400,000**	**163,700,000**	**773,700,000**	**1,086,800,000**	**1,428,300,000**	**2,626,200,000**	**264,200,000**	**222,500,000**
Growth Rate of FCFE		230.40%	1.43%	-88.07%	372.63%	40.47%	31.42%	83.87%	-89.94%	-15.78%

The equity value was calculated by using the formula:

$$\text{Equity Value} = \frac{FCFE_1}{r-g} = \frac{FCFE_0(1+g)}{r-g}$$

We arrived at equity value of AUD 10.28 as shown in the table below. This was considered to be unusually low.

	Based on table 1
r_E	0.0458
G	0.028
Equity value	A$ 12,850,000,000
Number of shares in 2013	1,250,200,000
Value per share	A$ 10.28

Concerned about the outcome of the computation we decided to derive the figures for purchase of PPE by adjusting the changes in value for PPE with the depreciation and amortization figures as shown in the table below.

Item	06/04	06/05	06/06	06/07	06/08	06/09	06/10	06/11	06/12	06/13
Net Operating Cashflows	1,262,300,000	1,221,000,000	1,705,100,000	2,294,200,000	2,654,000,000	2,604,200,000	2,759,900,000	2,991,100,000	2,873,800,000	2,719,900,000
Interest Expense	57,400,000	164,100,000	266,800,000	262,000,000	230,800,000	235,200,000	238,500,000	300,000,000	318,300,000	410,100,000
Interest Expense (1- tax rate)	40,180,000	114,870,000	186,760,000	183,400,000	161,560,000	164,640,000	166,950,000	210,000,000	222,810,000	287,070,000
NCA - PP&E	2,467,600,000	3,552,600,000	4,055,800,000	4,623,000,000	5,638,800,000	6,653,900,000	7,639,100,000	8,620,300,000	9,589,000,000	9,246,100,000
Depreciation and Amortisation	-407,600,000	-461,000,000	-522,200,000	-589,300,000	-650,100,000	-729,400,000	-797,700,000	-857,900,000	-883,700,000	-965,500,000
Investments in fixed capital		1,546,000,000	1,025,400,000	1,156,500,000	1,665,900,000	1,744,500,000	1,782,900,000	1,839,100,000	1,852,400,000	622,600,000
Free Cash Flow to the Firm (FCFF)		-210,130,000	866,460,000	1,321,100,000	1,149,660,000	1,024,340,000	1,143,950,000	1,362,000,000	1,244,210,000	2,384,370,000
Proceeds from Borrowings	9,716,300,000	10,882,700,000	11,089,200,000	10,097,100,000	6,334,000,000	13,619,300,000	12,833,800,000	13,349,200,000	12,361,900,000	5,974,500,000
Repayment of Borrowings	-9,850,400,000	-9,570,200,000	-10,010,200,000	-11,096,600,000	-6,466,200,000	-13,458,500,000	-12,347,700,000	-11,590,900,000	-12,830,800,000	-6,501,800,000
Net borrowings	-134,100,000	1,312,500,000	1,079,000,000	-999,500,000	-132,200,000	160,800,000	486,100,000	1,758,300,000	-468,900,000	-527,300,000
Free Cash Flow to the Equity (FCFE)		987,500,000	1,758,700,000	138,200,000	855,900,000	1,020,500,000	1,463,100,000	2,910,300,000	552,500,000	1,570,000,000
Growth rate of FCFE			78.10%	-92.14%	519.32%	19.23%	43.37%	98.91%	-81.02%	184.16%

The resulting growth rate for the FCFE still exhibited negative growth in some years thereby complicating the process of arriving at an average growth rate. Consequently, we applied the growth rate for the Australian economy to arrive at equity value for the firm as shown in the table below:

	Based on table 2
r_E	0.0458
G	0.028
Equity value	A$ 90,671,910,112
Number of shares in 2013	1,250,200,000
Value per share	A$ 72.73

	Based on table 1	**Based on table 2**
r_E	0.0458	0.0458
G	0.028	0.028
Equity value	A$ 12,850,000,000	A$ 90,671,910,112
Number of shares in 2013	1,250,200,000	1,250,200,000
Value per share	A$ 10.28	A$ 72.73

Overall the computed equity value of Woolworths using DDM and FCFE was:

Model	**Intrinsic value of WOW in 2013**
Dividend discount model(DDM)	A$ 74.37
Cash flow to equity discount model(FCFE)	A$ 72.73

Ideally the two valuation models should arrive at the same equity value. However, difference may arise due to the fact that the figures used for both computations are not exactly same. Additionally, the DDM is premised on the understanding that dividends are the only cash flows received by Stockholders while FCFE uses a more expansive definition to measure what a Company can afford to pay out as dividends. The FCFE model is best for valuing firms for takeovers or in situations that have a reasonable chance for a change in corporate control. Since the controlling stockholders can change the dividend policy, they are interested in estimating the maximum residual cash flow after meeting all financial obligations and investment needs.

Comparison of the real WOW price in 2013 and the value of WOW from DDM & FCFE:

The price of the company as at June 30 2013 was AUD32.8 according to the disclosure in the company's 2013 annual which is less than the DDM value of AUD 74.37 and FCFE value of AUD 72.73. This computed valuations indicated that Woolworths was undervalued (a good buy). Information suggesting that our valuation pointed to the right direction came from the fact that two or three months after the fiscal year end, the value of WOW in the market increased.