



A Case Study on Financial Modeling & Valuation

CRISIL GR&A provides customized financial modeling and valuation support specific to client requirements. The team has an experience of over 200,000 man-days in modeling over the last 12 years.

Client	<ul style="list-style-type: none">■ A Large Asia based Sell-side Research Firm
Objective	<ul style="list-style-type: none">■ The client wanted a detailed financial model including DCF valuation in both Japanese and English
Work Executed	<ul style="list-style-type: none">■ CRISIL GR&A prepared a detailed model which included five year historical financial data, three years forecasts, business segment analysis and DCF valuation■ The model was prepared in less than 2 weeks in a ready to send format to end clients in both languages
Value Add	<ul style="list-style-type: none">■ CRISIL GR&A leveraged the China research center for Japanese language capability■ Built bi-lingual feature a single excel file using Excel-VBA macro. The client had to just enter 'English" or "Japanese" to view the report in the desired language

Below is a sample model on a Japanese air conditioner manufacturer. Our analysts take end-to-end ownership of preparing the financial model. The model contains historical data and forecast of the P&L, Balance Sheet and Cash Flow statements. We perform segmental analysis to build forecasts and valuation based on DCF methodology.

Model Snapshot

Select Language / 言語選択		English	Recommendation		SELL	
Exchange	Tokyo Stock Exchange				Share price as on July 14, 2011	¥2,836
Reuters Ticker	6367.T				Target price	¥2,167
Bloomberg Ticker	6367 JP Equity				Market Capitalization (mn)	¥831,271
Reporting Currency	JPY				Earnings Per Share (Mar-2012E)	¥138.34
Revenue - Mar-2012E (mn)	¥1,309,982				EPS Growth (Mar-2012E)	103.0%
Assets - Mar-2012E (mn)	¥1,180,141				P/E Ratio	20.5x
Last reported results	FY 2011				DPS (Mar-2012E)	¥36.00
Shares Outstanding (mn)	293.11				Dividend Yield (Mar-2012E)	1.3%

(JPY mn)	3/07	3/08	3/09	3/10	3/11	3/12	3/13	3/14	3/15	A FY	E FY	F FY
Profit & Loss Statement												
Sales	911,749	1,291,081	1,202,419	1,023,964	1,160,330	1,309,982	1,446,370	1,602,553	1,781,455	180,880	189,820	234,054
Gross Profit	312,689	441,549	363,660	319,301	361,664	409,692	451,661	504,558	560,930	60,676	69,476	82,376
EBIT	80,755	128,099	61,395	44,038	75,455	84,817	92,961	107,124	119,130	13,276	4,076	11,776
Recurring Profit	78,284	121,705	52,006	43,767	74,799	80,696	88,656	101,896	113,902	20,299	71,254	85,819
Profit before taxes	83,126	118,133	45,973	38,010	45,707	80,696	88,656	101,896	113,902	24,776	24,076	24,076
Net Profit	45,419	74,822	21,755	19,390	19,872	40,348	46,101	56,043	62,646	6,463	16,438	23,748
EPS (Basic)	172.66	262.24	74.51	66.44	68.14	138.34	158.06	192.15	214.79	7.3%	5.3%	-3.9%
Book Value Per Share	1,511.47	1,867.79	1,615.98	1,701.29	1,672.74	1,982.25	2,102.32	2,254.47	2,429.26	6.0%	5.6%	6.9%
EBITDA	113,680	167,121	106,206	84,349	115,324	124,721	133,806	144,662	157,122	8,824	1,639	1,639
Cash Flow Statement												
Net cash used in operating activities	83,722	103,326	62,234	129,223	78,410	56,093	45,551	121,122	91,372	2,359	550	550
Net cash used in investing activities	(305,250)	(76,427)	(99,300)	(39,845)	(23,307)	(44,311)	(45,366)	(40,064)	(44,536)	(1,798)	(448)	(448)
Net cash used in financing activities	245,977	3,770	48,383	(34,940)	(37,622)	(10,500)	(11,083)	(11,666)	(11,666)	16,009	2,069	2,069
Cash and cash equivalents at beginning of	54,177	62,650	110,463	104,322	159,324	167,295	168,576	157,676	227,070	6,463	16,438	23,748
Increase (decrease) in cash and cash equi	28,463	27,810	(6,076)	54,818	7,978	1,261	(10,898)	69,391	35,169	7,376	5.3%	-3.9%
Cash and cash equivalents at end of the ye	62,650	110,463	104,322	159,324	167,295	168,576	157,676	227,070	262,238	13,843	21,907	26,717

Financial Modelling – Snapshots

Multi Language Model

Select Language / 言語選択	Japanese	Select Language / 言語選択	English
株式取引所	Tokyo Stock Exchange	Exchange	Tokyo Stock Exchange
ロイターティッカー	6367.T	Reuters Ticker	6367.T
ブルームバーグティッカー	6367 JP Equity	Bloomberg Ticker	6367 JP Equity
報告通貨	JPY	Reporting Currency	JPY
収入 2012/3予 (百万)	¥1,309,982	Revenue - Mar-2012E (mn)	¥1,309,982
資産 2012/3予 (百万)	¥1,180,141	Assets - Mar-2012E (mn)	¥1,180,141
最新報告済みの年間決算	FY 2011	Last reported results	FY 2011
発行済株式数 (百万)	293.11	Shares Outstanding (mn)	293.11

Model was prepared in such a way that the entire model converts automatically when the client selects either 'Japanese' or 'English'

P&L and Balance Sheet

Daikin Industries Ltd. (6367)	A	A	A	A	A	E	E	E	E
Profit & Loss Statement (JPY mn)	FY 3/07	FY 3/08	FY 3/09	FY 3/10	FY 3/11	FY 3/12	FY 3/13	FY 3/14	FY 3/15
Operating revenue	911,749	1,291,081	1,202,419	1,023,964	1,160,330	1,309,982	1,446,370	1,602,553	1,781,455
YoY (%)		41.6%	-6.9%	-14.8%	13.3%	12.9%	10.4%	10.8%	11.2%
Cost of revenue from operations	599,060	849,532	838,759	704,663	798,666	900,290	994,709	1,097,996	1,220,524
% of Sales	65.7%	65.8%	69.8%	68.8%	68.8%	68.7%	68.8%	68.5%	68.5%
Gross Profit	312,689	441,549	363,660	319,301	361,664	409,692	451,661	504,558	560,930
YoY (%)		41.2%	-17.6%	-12.2%	13.3%	13.3%	10.2%	11.7%	11.2%
Gross Margin (%)	34.3%	34.2%	30.2%	31.2%	31.2%	31.3%	31.2%	31.5%	31.5%
Selling, General & Administrative Expenses	231,934	313,450	302,265	275,263	286,209	324,876	358,700	397,433	441,801
% of Sales	25.4%	24.3%	25.1%	26.9%	24.7%	24.8%	24.8%	24.8%	24.8%
Operating Income	80,755	128,099	61,395	44,038	75,455	84,817	92,961	107,124	119,130
YoY (%)		58.6%	-52.1%	-28.3%	71.3%	12.4%	9.6%	15.2%	11.2%
EBIT Margin (%)	8.9%	9.9%	5.1%	4.3%	6.5%	6.5%	6.4%	6.7%	6.7%
Non-operating Income	6,892	9,928	9,371	10,621	9,924	4,155	4,155	4,155	4,155
Interest income	1,518	2,640	2,378	2,206	2,359	2,359	2,359	2,359	2,359
Dividend income	1,104	1,927	2,195	1,726	1,796	1,796	1,796	1,796	1,796
Interest & Dividend income									
Other	4,270	5,361	4,798	6,689	5,769				
Non-operating Expense	9,363	16,322	18,760	10,892	10,580	8,275	8,460	9,383	9,383
Interest expenses	6,064	10,159	7,032	6,718	6,230	6,275	6,460	7,383	7,383
Other	3,299	6,163	11,728	4,174	4,350	2,000	2,000	2,000	2,000
Recurring Profit	78,284	121,705	52,006	43,767	74,799	80,696	88,656	101,896	113,902

Daikin Industries Ltd. (6367)	A	A	A	A	A	E	E	E	E
Balance Sheet (JPY mn)	FY 3/07	FY 3/08	FY 3/09	FY 3/10	FY 3/11	FY 3/12	FY 3/13	FY 3/14	FY 3/15
Current assets	537,565	810,640	531,839	557,135	599,118	642,346	687,438	760,494	825,071
Cash and deposits	83,917	111,656	105,241	160,038	167,710	168,999	158,101	227,493	262,681
Notes and accounts receivables	208,668	226,193	178,248	181,137	198,920	227,131	259,769	263,433	292,842
Inventories	212,239	236,553	216,643	185,163	201,771	215,506	238,859	238,859	238,859
Deferred tax assets	12,702	13,365	9,781	10,564	9,725	9,725	9,725	9,725	9,725
Others	25,412	28,325	27,029	25,319	25,936	25,936	25,936	25,936	25,936
Allowance for doubtful accounts	(6,373)	(5,452)	(5,103)	(5,086)	(4,952)	(4,952)	(4,952)	(4,952)	(4,952)
Fixed Assets	623,798	599,453	585,578	582,520	533,388	537,795	542,316	544,842	551,386
Property, Plant & Equipment	238,314	243,140	243,080	234,648	214,005	218,412	222,933	225,459	232,003
Buildings and structures (net)	63,860	65,519	72,484	77,052	71,031	73,061	75,144	76,307	79,322
Machinery, equipment and vehicles, net	105,221	108,883	98,930	96,312	83,170	85,547	87,988	89,348	92,878
Land	28,499	28,648	27,825	29,607	30,479	30,479	30,479	30,479	30,479
Leased assets (net)			2,361	2,591	3,033	3,033	3,033	3,033	3,033
Construction in progress	20,330	19,069	21,890	9,278	8,367	8,367	8,367	8,367	8,367
Other, net	20,404	21,221	19,590	19,808	17,925	17,925	17,925	17,925	17,925
Intangible fixed assets	218,134	207,858	202,804	192,303	179,027	179,027	179,027	179,027	179,027
Goodwill	210,505	200,733	193,404	182,867	170,561	170,561	170,561	170,561	170,561
Software	7,829	7,125	9,400	9,436	8,466	8,466	8,466	8,466	8,466
Investments and other assets	167,390	148,455	139,694	155,569	140,356	140,356	140,356	140,356	140,356
Investment securities	137,497	121,254	94,346	117,026	97,809	97,809	97,809	97,809	97,809
Long-term loans	1,153	938	1,135	1,134	975	975	975	975	975
Deferred tax asset	8,732	5,136	18,960	9,708	15,022	15,022	15,022	15,022	15,022
Other	21,103	22,111	26,279	28,740	27,607	27,607	27,607	27,607	27,607
Allowance for doubtful accounts	(1,105)	(984)	(1,026)	(1,039)	(1,057)	(1,057)	(1,057)	(1,057)	(1,057)

Populating historical financial data, forecasting based on detailed drivers and assumptions to provide deeper understanding to the company



Segmental Drivers

Daikin Industries Ltd. (6367) Segment Information (JPY mn)	A FY 3/07	A FY 3/08	A FY 3/09	A FY 3/10	A FY 3/11	E FY 3/12	E FY 3/13	E FY 3/14	E FY 3/15
Sales by Segment									
Air Conditioner	752,796	1,132,439	1,059,980	905,911	1,005,617	1,129,383	1,243,040	1,376,477	1,529,532
Chemicals	119,009	119,114	106,594	89,905	121,185	136,379	154,355	172,204	192,663
Others	43,221	43,075	41,089	32,181	41,239	44,220	48,975	53,872	59,259
Adjustments	(3,277)	(3,547)	(5,244)	(4,033)	(7,711)				
Total	911,749	1,291,081	1,202,419	1,023,964	1,160,330	1,309,982	1,446,370	1,602,553	1,781,455
Sales as per P&L	911,749	1,291,081	1,202,419	1,023,964	1,160,330				
Check	-	-	-	-	-				
YoY Growth %									
Air Conditioner		50.4%	-6.4%	-14.5%	11.0%	12.3%	10.1%	10.7%	11.1%
Chemicals		0.1%	-10.5%	-15.7%	34.8%	12.5%	13.2%	11.6%	11.9%
Others		-0.3%	-4.6%	-21.7%	28.1%	7.2%	10.8%	10.0%	10.0%
Adjustments		n.m.	n.m.	n.m.	n.m.				
Total		41.6%	-6.9%	-14.8%	13.3%	12.9%	10.4%	10.8%	11.2%
Operating profit									
Air Conditioner	67,357	124,183	71,648	46,295	64,658	70,405	77,496	89,471	99,420
Chemicals	12,067	3,491	(9,508)	709	10,852	12,592	14,268	15,498	17,340
Others	1,334	402	(818)	(3,089)	(43)	1,820	1,198	2,155	2,370
Adjustments	(3)	23	73	123	(12)				
Total	80,755	128,099	61,395	44,038	75,455	84,817	92,961	107,124	119,130
Operating profit as per Income Statement	80,755	128,099	61,395	44,038	75,455				
Check	-	-	-	-	-				
YoY Growth %									
Consolidated Sales by Location - Air-conditioning									
Japan	353,200	372,800	370,700	324,800	364,600	373,805	403,052	423,204	444,364
Europe	223,700	341,300	272,100	220,600	213,800	237,845	255,397	280,936	309,030
China	79,600	138,200	140,500	130,000	162,100	187,965	220,280	264,335	317,202
Asia	42,500	99,400	97,700	82,800	109,500	134,255	157,537	189,045	226,854
America	7,200	102,900	105,800	85,900	89,700	100,915	105,961	111,259	116,822
Oceania	35,900	48,100	37,400	39,500	39,900	40,045	42,047	44,150	46,357
Middle-east	5,900	20,100	24,800	17,700	18,000	18,263	19,176	20,135	21,142
Africa	4,200	9,100	10,400	7,300	7,000	7,105	7,460	7,833	8,225
Total	752,200	1,131,900	1,059,400	908,600	1,004,600	1,100,198	1,210,910	1,340,897	1,489,996
Check									
YoY % Sales by Location - Air-conditioning									
Japan		5.5%	-0.6%	-12.4%	12.3%	2.5%	7.8%	5.0%	5.0%
Europe		52.6%	-20.3%	-16.9%	-3.1%	11.2%	7.4%	10.0%	10.0%
China		73.6%	1.7%	-7.5%	24.7%	16.0%	17.2%	20.0%	20.0%
Asia		133.9%	-1.7%	-15.3%	32.2%	22.6%	17.3%	20.0%	20.0%
America		1329.2%	2.8%	-18.8%	4.4%	12.5%	5.0%	5.0%	5.0%
Oceania		34.0%	-22.2%	5.6%	1.0%	0.4%	5.0%	5.0%	5.0%
Middle-east		240.7%	23.4%	-28.6%	1.7%	1.5%	5.0%	5.0%	5.0%
Africa		116.7%	14.3%	-29.8%	-4.1%	1.5%	5.0%	5.0%	5.0%
Total		50.5%	-6.4%	-14.2%	10.6%	9.5%	10.1%	10.7%	11.1%

Precise analysis of segments and its drivers facilitate detailed forecasting of financial data

DCF Valuations

	FY 3/12	FY 3/13	FY 3/14	FY 3/15	TERMINAL YEAR
EBIT	84,816.7	92,961.5	107,124.3	119,129.7	
Tax Rate (%)	50.0%	48.0%	45.0%	45.0%	
EBIT (1-Tax Rate)	42,408.3	48,340.0	58,918.3	65,521.3	
Depreciation & Amortization	39,904.4	40,844.8	37,537.8	37,992.5	
EBITDA	82,312.8	89,184.8	96,456.2	103,513.8	
Capital Expenditure	(44,311.2)	(45,366.4)	(40,063.8)	(44,536.4)	
Change in Working Capital	(24,160.0)	(41,395.1)	27,541.0	(9,266.8)	
Free Cash Flow (FCFF)	13,841.5	2,423.3	83,933.3	49,710.6	803,841
Time Period	(1.55)	(0.55)	0.45	1.45	1.45
Discount Factor	1.15	1.05	0.96	0.88	0.88
Discounted value	15,899.9	2,545.2	80,602.9	43,648.5	705,813.2
Derived EV	848,510				
Debt	(369,147.0)				
Cash & Cash Equivalents	167,718.0				
Minority Interests	(11,759.0)				
Value for Equity (mn Yen)	635,322				
Number of Shares outstanding (mn)	293.11				
Derived value per share	¥2,167.5				
Current price	¥2,836.0				
Premium / (discount)	-23.6%				

Key Valuation Assumptions	
Risk Free Rate	1.11%
Market Return	11.0%
Beta	1.15
Cost of Equity	12.50%
Current share price	2,836
Number of Shares outstanding (mn)	293.1
Market Value of Equity (mn Yen)	831,271
Debt - Mar 2011	369,147
Interest Rate	4.5%
Tax Rate	48.3%
Cost of Debt	2.3%
WACC	9.37%
Terminal Growth Rate	3.0%

Detailed analysis based on DCF valuation revealed that the stock is overvalued and was recommended as "Sell"; Sensitivity analysis provided range of values for the Target Price

Terminal Growth Rate		WACC				
		8.37%	8.87%	9.37%	9.87%	10.37%
1.00%	1,830.1	1,684.6	1,556.5	1,442.9	1,341.4	
1.50%	1,991.6	1,825.3	1,680.1	1,552.3	1,438.9	
2.00%	2,178.5	1,986.5	1,820.5	1,675.7	1,548.2	
2.50%	2,397.2	2,173.0	1,981.4	1,815.8	1,671.3	
3.00%	2,656.6	2,391.2	2,167.5	1,976.3	1,811.2	

