

# Turquoise Team

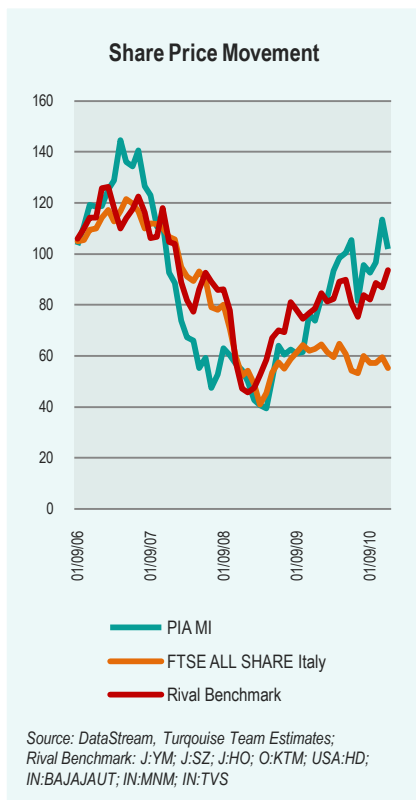
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Motorcycles, bicycles & parts  
S&P GICS: 25102020

January 27<sup>th</sup>, 2011

Ticker: PIA-MI  
Price: € 2.3575

Recommendation: **ACCUMULATE**  
Price Target: € 2.55



## Run, Vespa, Run!

We suggest investors maintain an accumulate stance on Piaggio. Our recommendation is based on the following business and financial forecasts:

- Piaggio is a sound business, with leverage in line with industry and its profitability and efficiency ratios are more stable than competitors.
- Piaggio is a cyclical firm which markets to consumers and intermediaries. The business is exposed to macroeconomic downturns and to the seasonality of the two-wheel market, as well as to foreign currency fluctuations. However, the company is trying to hedge this risk by stocking during low seasons. Additionally, Piaggio has a flexible assembly line that allows it to meet decreasing demand during low seasons. Union bargaining power remains a major concern for the company's future development, especially after the recent turmoil in the car sector (e.g., the Fiat case), and in the light of necessary future turnarounds
- In the two-wheel segment, the company has market leadership in Italy (34.2%) and a significant position in Europe. Moreover, Piaggio successfully entered the Indian light commercial vehicle market and other Asian countries with two-wheel products. To support its future expansion plans, the company has built a plant in Vietnam, which started operation in 2009. This strategy will permit Piaggio to exploit significant cost economies (operating and labour costs). To satisfy the new environmental consciousness, the company has launched the MP3, a new scooter with a hybrid engine.
- In March 2010 the group started an agreement with the Chinese firm, Dongan Power, for the construction of engines for Italian and Indian light commercial vehicles. The agreement concerns the construction of engines for LCV sold in India and Italy and for the future development of hybrid and electric motorcycles with zero/low environmental impact.
- Piaggio has been able to sail safely over the big waves of the 2008 financial crisis. In 2010 the company partially recovered the 12% loss in net sales suffered during the crisis (2007-2009). The operating margin has remained stable at around 7% over the five past years.
- Based on a historical annual growth (2005-2009) of 6.08% with a two-wheels-to-world-GDP elasticity of 1.78, we estimate CAGR of 8.36% for the next five years (2011-2015).
- Trading costs affect investment strategies on Piaggio's stock significantly (see liquidity risk analysis page 10).

Market Profile	
52 Wk High	2.71€
52 Wk Low	1.77€
Average Daily Volume (# shares)	1,291,136
Beta vs FTSE All Share Italy	0.82
Dividend Yield (estimated)	2.75
Shares Outstanding (27/01/2011)	371.794 m
Market Capitalization	876.50 m
Insider Holdings	53.59%
Other Holdings	5.01%
Institutional Holdings	16.62%
Free Float	24.68%
Book Value per Share	1.14
Debt to Total Capital	0.32
Return on Equity	14.33%

Source: Bloomberg, DataStream, Turquoise Team Estimates

Valuation Summary	
DCF	€ 2.55
Monte Carlo Simulation	€ 2.34 - € 3.10
Comparable Multiples	€ 2.80
Comparable M & A Multiples	€ 3.00

	2009	2010E	2011E	2012E	2013E	2014E	2015E
€ Millions							
Revenues	1,486.9	1,550.0	1,665.9	1,796.2	1,943.1	2,109.3	2,297.9
EBIT	104.4	121.6	129.1	144.5	162.0	181.9	204.6
Free Cash Flow	59.9	72.5	71.6	79.4	88.3	98.3	109.6
Net Income	47.4	50.4	66.3	76.4	87.9	101.2	116.5
€ Per Share							
EPS	0.13	0.14	0.21	0.23	0.24	0.27	0.31
DPS	0.06	0.06	0.07	0.07	0.07	0.07	0.07
Returns %							
ROIC	41.67	48.52	54.54%	56.80%	59.06%	61.30%	63.53%
ROE	11.54	11.55	14.12%	14.83%	15.37%	15.78%	16.07%

Source: Piaggio's Consolidated Statements, Turquoise Team Estimates

## What Kind of Stock is Piaggio?

We looked at Piaggio stock characteristics and compared them against the universe of Italian listed firms. The Piaggio Group is a mid cap stock of about 1 bln Euro of market value. With a book to market ratio of 0.45, it can be classified as a growth stock. Piaggio is a dividend paying stock and with a yield of 2.75 is above the median on the Italian Stock Exchange. In the last twelve months the stock has gained great momentum, putting Piaggio in the top quartile of outperforming stocks (momentum is market adjusted). On the financial visibility side, Piaggio has 11 financial analysts' recommendations, which classifies the stock in the top quartile among listed firms on the Italian Stock Exchange. As for volatility, the stock shows an annual average of 35%, which is 46% higher than the average Italian listed stock.

Figure 1: Piaggio – The Stock Style Diagram

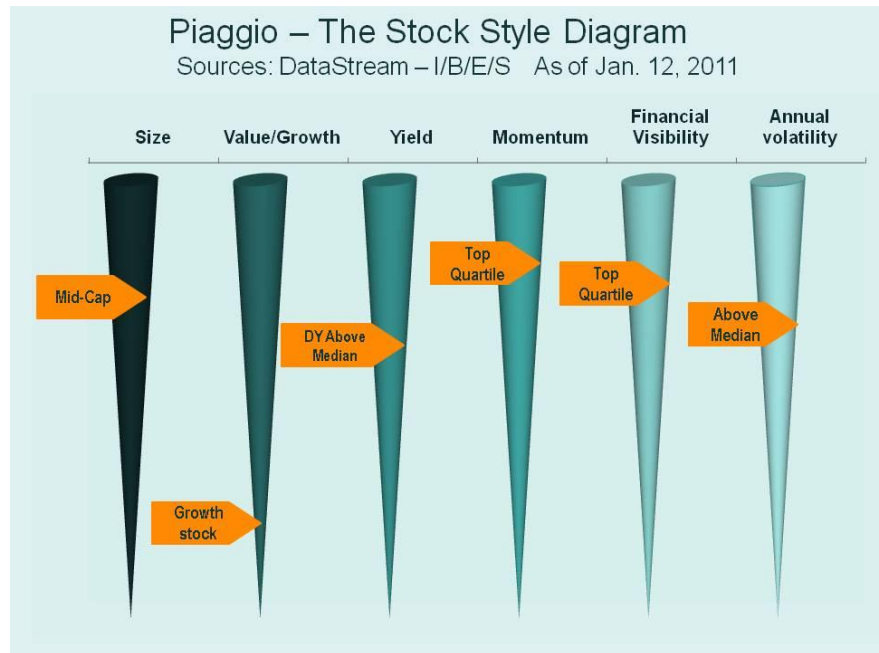


Figure 2: Piaggio Brands



## Business Overview

### What Is This Business All About?

The business was created by Rinaldo Piaggio in 1884. Only in 1946 with the launch of Vespa, did the company achieve its first significant success. In 2001 it acquired a well-known Spanish brand, Derbi, (winner of the 2010 World Championship in Moto GP 125cc). After some roller coaster years Piaggio & C SpA became a prey, and was acquired in 2003 by IMMSI Spa, a holding group controlled by Roberto Colaninno. Under the new management, the company first acquired Aprilia in 2004 (winner of World SBK Championship in 2010), leveraging on the well-known brand, and then went public on the Italian Stock Exchange in 2006.

Today Piaggio is a leading Italian-based company specialized in the production and design of motorcycles, scooters, mopeds from 50cc to 1200cc under the Piaggio, Vespa, Gilera, Aprilia, Moto Guzzi, Derbi and Scarabeo brands. In addition, the company produces commercial vehicles under the Ape and Piaggio Veicoli Commerciali brands. Piaggio distributes its products through a sophisticated sales network, which consists of over 11,000 operators in Europe, 300 dealers in USA, 250 exclusive dealers in India and importers in other countries.

Expansion into Asia was the next move to strengthen its competitive position. To access the Asian market, the Group opened a production plant in India and Vietnam. Additionally, the company entered into a joint venture with the Chinese company, Zongshen, and the Region of Foshan. Furthermore Piaggio & C SpA started investing in environmentally friendly engines and was able to commercialize its first hybrid motorcycle in 2009 (Piaggio MP3 Hybrid). Currently its products are sold nearly all over the world.

Summing up, Piaggio has well-established brands and a complete product portfolio. In addition Piaggio's market reach extends to both developing and emerging markets making it possible for Piaggio to benefit from the expected growth of the world motorcycle market.

Figure 3 Breakdown of 2010E Revenues

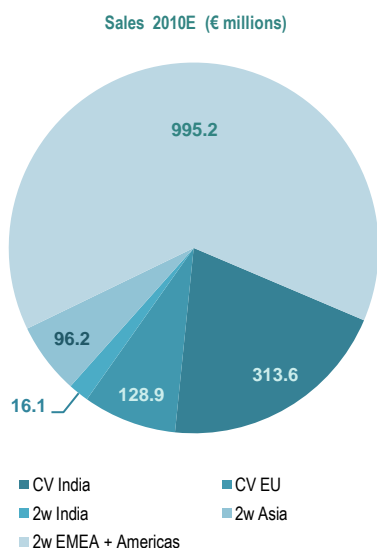


Figure 4: Average Price Per Unit, Geographical Breakdown in € thousand

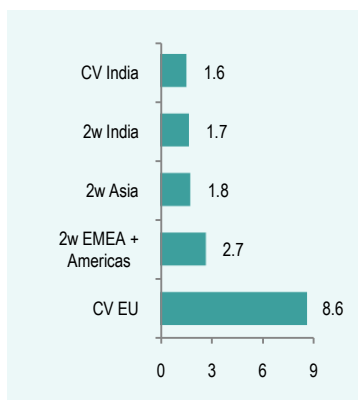


Figure 5: The Product/Market Strategic Matrix

Markets	Products	
	2 Wheels	LCV
EU	Cost leadership	Niche
America	Differentiation	-
Asia	Differentiation	Cost leadership
India	Differentiation	Cost leadership

## Industry Overview and Competitive Positioning

The Piaggio Group operates globally in the light mobility vehicles industry selling its products in more than 50 countries. Particularly it operates in the following markets: two-wheeled vehicles that consist of scooters and motorcycles, and commercial vehicles that consist of both three- and four-wheeled light commercial vehicles.

### Power Two Wheels Market (PTW)

The motorcycle and scooter segment is a very important one for the Piaggio Group and it accounts for 74% of total sales in the 3Q of 2009 and for 69 % of total sales in the 3Q of 2010. From a regional perspective, the European market accounts for 89% of motorcycles sales in the 3Q 2009 and for 86.3% of motorcycles sales in the 3Q of 2010. The Americas and Asia Pacific sales represent about 10-13% of the total turnover of motorcycles.

The European PTW growth is still negative. Starting from the last quarter of 2008, the market has continued to decline from 2008 to 2010 (acem.eu). Taking into account seasonality, the PTW market has declined by more than one third in terms of sold units. Considerable percentage drops were also noticed during the peak seasons in the European market.

According to Datamonitor, Piaggio has a share of 11.2% in the European market. This figure puts Piaggio right after its main competitors: Honda Motors (14.5%), and Yamaha Motor (14.4%). However, the Piaggio Group is the leader in the Italian market. Rivals are Honda Italia and Yamaha Motor. On the Asia-Pacific market, major players are Honda (19.6% of the market share in 2009), Yamaha Motor (18.3% of the market share in 2009) and two Chinese private firms: Jiangmen Dachangjiang (9.7% of the market share) and Chongqing Loncin Industry (8.7% of the market share).

The Asian PTW market has two-digit growth rate expectations, due to increasing demand for improvements in lifestyle and household income. A very high density population and chaotic traffic conditions lead to people buying scooters and motorcycles instead of cars.

Piaggio has already taken the first step to exploit these market opportunities by opening a plant in Vietnam where two-wheeled vehicles are produced and sold both to nearby markets and other Far East countries.

### Light Commercial Vehicles (LCV)

The commercial vehicle segment consists of Piaggio Veicoli Commerciali, Ape, Quargo and Porter. These are three and four wheeled vehicles for both commercial and personal use. The Piaggio Group operates mainly in European and Indian markets. According to corporate announcements, Piaggio is the leading producer of three-wheeled vehicles in India, with a market share of over 40% (2009, 3Q), and the second-largest manufacturer of light commercial vehicles overall in India.

Sales trends in the LCV segment have shown a 35.8% increase in the Indian market, whereas a 20.1% drop was observed in Europe. The increase in sales in India is due to the positive trend in the Indian economy, which grew in 2010, contrary analysts' expectations.

The LCV Indian market is unaffected by brands and names. However, Piaggio's Ape is very well know and popular in India. Piaggio sales are mainly concentrated on the rural parts of India.

### Piaggio Group's Strategy

Piaggio geographical/product mix strategy has been changed several times in recent years. In Europe, the Group is focusing on a cost leadership strategy, trying to reduce operating costs and competing on prices for the 2W. In the LCV segment, the group offers a unique product compared to its competitors. Recently, Piaggio's top management announced a rationalisation decision across EU operations, but few details were provided.

The same strategy is applied for LCV in India and Asia. In order to cut costs, one major issue was custom duties, which can reach up to 90%-100% of the final price. This was in fact one of the main reasons why, in 2009, Piaggio decided to build a manufacturing plant in Vietnam.

To enter the Indian market, the Group is pursuing a different approach. After the success of the LCV, Piaggio is now positioning itself as the premium brand in the market and implementing a differentiation strategy that will allow the firm to avoid competing on prices.

To enter the Chinese market, Piaggio implemented a similar approach. Last June, the firm announced its intention to export and sell the Piaggio Mp3, a high performance scooter, and Vespa in Shanghai, Beijing and in other Chinese cities. It will target high-income consumers by charging the same prices

**Table 1: Competitors' Financial Snapshot**

Million €	Harley Davidson - LTM 9/26/2010	Honda - LTM 30/9/2010
Sales	3,338.2	80,271
EBITDA	407.4	11,381
EBIT	216.9	6,122
Net Income	-18.4	5,407
EV	9,494.9	80,553
EV/Sales	2.8	1.00
EV/EBITDA	23.3	7.10
Debt	4,080.3	35,746
Rating	BBB (S&P)	A+ (S&P)

Million €	KTM - LTM 8/31/2010	Suzuki - LTM 30/9/2010
Sales	460	22,905
EBITDA	55	2,461
EBIT	22	1,176
Net Income	11	411
EV	611	8,461
EV/Sales	1.33	0.37
EV/EBITDA	11.11	3.44
Debt	159	4,399
Rating	na	A (Rating & Inv.)

Million €	Yamaha - LTM 30/9/2010	Kawasaki - LTM 30/9/2010
Sales	11,272	10,802
EBITDA	461	704
EBIT	124	254
Net Income	-231	68
EV	5,485	7,353
EV/Sales	0.49	0.68
EV/EBITDA	11.89	10.45
Debt	2,832	3,383
Rating	A3 (Moody's)	Baa2 (Moody's)

Source: Thomson One Banker, Bloomberg; Turquoise Team Estimates

as in Europe. In addition, closer cooperation with local producers is sought to establish its presence in the market. Examples are the collaboration with the Chinese Region of Foshan and the motorcycle producer Zongshen, as well as cooperation with Dongan Power, of the ChangAn-Hafei Group, one of the major automotive producers in China. The agreement is to manufacture engines for LCV sold in India and Italy and for the future development of hybrid and electric motorcycles with zero/low environmental impact.

In the American continent, Piaggio is established only in the 2 wheel sector, where it currently has around 30% of the scooter market share. Although the sector is relatively small, Piaggio's strategy is to remain in the market with a differentiation strategy, thus not competing on the same ground as brand leaders such as Harley Davidson.

### Piaggio Group vs. Competitors

The motorcycle industry is a cyclical business. The sector is highly fragmented and strongly related to macroeconomics and seasonal trends. Very large players and dozens of emerging firms compete in a business which is growing steadily in Asia, yet it is shrinking in developed countries. Among all competitors we selected those with a similar geographical and product scope of Piaggio: these are Harley Davidson, Honda Motor, Yamaha Motor, Suzuki Motor, Kawasaki Heavy Industries and KTM. The key current figures of these companies are summarized in table 1.

During the three-year period 2007-2009, the economic crisis hit the volumes of all these competitors, which are now facing a very tough cycle. Against this backdrop, Piaggio has shown a relatively better performance, thanks to its efficient cost-reduction policy and the Italian government's sponsored subsidies for motorcycles in 2009, which allowed both margins and profitability to remain relatively stable through the rough waters of 2007-2009.

Asset management analysis shows that industry operational efficiency is quite volatile and affected by macroeconomic dynamics. Piaggio's rivals show negative NWC, an outcome of destocking activities and receivable policies. Piaggio NWC's strategy seems to follow these industry trends (See Appendix C).

Within the sector, Piaggio is the firm with the lowest weight of fixed assets over total assets, while the asset turnover is in line with the industry average. Using DuPont analysis, we uncover the main differences between Piaggio's strategy and that of its competitors. Although the leverage structure is similar among all players considered, the return-on-equity of competitors shows decreasing rates in the 3-year period, while Piaggio's values have remained quite stable, maybe due to the government-sponsored subsidies mentioned above. The sector is characterized by an average low profit margin, mostly affected by the high costs of materials and personnel, often taking up to 85% of sales. Within this business framework, industry asset turnover should be kept high in order to preserve volumes over margins. However, despite low margins, average asset turnover ratios have not been as high as we should expect. That could be explained by a mixed strategy, which seems to be blending differentiation and price competition. An industry outlier is Harley Davidson, which positions its high brand motorcycles at the upper end of the high-powered motorbike segment.

Piaggio focuses on exploiting its brand, the "made-in-Italy" premium in some segments, while pursuing a pure commodity-strategy in lower ends segments.

Industry average leverage ratios increased during the period 2007-2009, with significant spikes in Yamaha and KTM. However, business cycle risk forces firms in the motorcycle sector to maintain a prudent leverage ratio and support a reasonable credit rating. Piaggio's position seems to be in line with its competitors' ones and its long-term strategy could strengthen the company's competitiveness.

## Company Analysis

### Should We Bet on The Jockey Or Should We Bet On The Horse?

#### The Jockey: Piaggio's Management

Piaggio is part of global motorcycle history and fame. The successes achieved so far (the latest in 2010 with Derbi and Aprilia) are the result of a management team which has been able to translate competences and technologies into products and markets. Nowadays it is controlled and managed by Mr. Roberto Colaninno, who has shown he possesses the necessary skills and competence to successfully face challenges. Colaninno's holding company, IMMSI, controls 53% of equity and voting rights, and he is the acting President and CEO. We looked at the key people, finding that with Colaninno's entry, an HR empowering process was put in place. Further, he recruited high profile managers in order to support strategic development. In 2003 the firm started the "Piaggio Way" program, which aims to spot internal youngsters with high potential. We looked at Piaggio's top management market visibility by checking how industry and financial press comment about company strategy and management decisions. We found that there is one prominent personality: Mr. Colaninno

is the only profiled manager in the domestic and international press. See Appendix E and F for data and details.

### The Horse

Piaggio's business concept is built around: highly visible brands, income time-varying products and internationalization.

**Brand management:** Household names such as Piaggio, Vespa, Scarabeo, Moto Guzzi, Aprilia, to name but a few, are important assets and key drivers of value creation.

**Income time-varying products:** As countries go through different stages of economic development, consumers look at motorcycles from different angles. In the first phase, motorcycles are essentially means of transportation. In the second one, with an upper income/wealth level, people start considering motorcycles as inferior goods and switch to more expensive goods, such as automobiles. Later, in the last phase, motorcycles are seen as luxury goods which are bought to satisfy other needs and respond to other requirements, like comfort, design, utilities, fashion, emotions and status symbol. Each stage opens a window of opportunities for Piaggio's business, which is taking advantage of the first and third phase in different areas of the world.

**Internationalization:** Macroeconomic cycles are not synchronized across the world. This requires an international diversification strategy in order to smooth sales and earnings across countries and business cycles. Piaggio is expanding mostly across emerging Asian markets where economic growth is expected to be higher in future years.

## Financial Analysis

### Revenue Growth

Our estimate of future sales relies on a historical annual growth (2005-2009) of 6.08% with a two-wheels-to-world-GDP elasticity of 1.78. The company's revenues originate mainly from the European two-wheel vehicle segment, with a contribution of 61% in 2009. However, because of market saturation, there will be no significant future growth potential in Europe. Emerging Asian markets, currently dominated by the commercial vehicle segment (19% of total sales in 2009), will be the source of the company's future growth. Over the next five years, Piaggio is planning to increase its presence in the Asian market in order to expand sales and maintain a competitive advantage. The recent economic downturn caused a drop in Piaggio's of 12% in sales (2007-2009). However, the company recovered gradually, thanks to the Italian government's sponsored subsidies for motorcycles in 2009 and further expansion in Asia, which has been supported by the construction of a new production plant in Vietnam. In the last year, Piaggio's sales have slightly recovered from the economic downturn, and we believe Piaggio's competitive standing is now ready to take advantage of the world economic recovery and of a buoyant motorcycle market. In the long-term, growth in Asia will probably compensate for the potential lower sales in mature markets.

### Cost Cutting

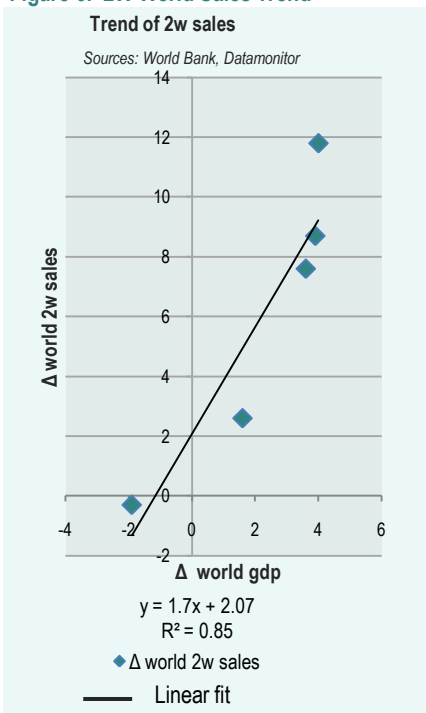
Although Piaggio experienced a drop in sales during the recent macroeconomic slowdown, it was able to achieve a modest increase in net income. The improvement in profitability has been generated by operating cost reductions and lower financial charges. The largest impact originated from a reduction in the cost of materials and services (both about -7% in 2009). This could be related to lower production costs in the Vietnamese plant and by exploiting temporary job contracts. Our forecast hypothesizes that total operating costs will remain at the historical level of 2010 until 2015 (76.6% of sales). Lower financial charges are expected because of the ongoing deleveraging and better refinancing conditions.

Table 2: Abridged Income Statement

(thousand €)	2008	2009	2010E	2011E	2012E	2013E	2014E	2015E
Total sales	1,570,060	1,486,882	1,550,000	1,665,940	1,796,217	1,943,147	2,109,286	2,297,856
EBITDA	189,051	200,799	207,210	219,664	237,559	257,766	280,646	306,653
EBIT	94,511	104,421	121,626	129,067	144,478	161,971	181,868	204,584
Pretax profit	59,633	74,093	95,652	107,276	123,625	142,190	163,641	188,356
Net income	43,331	47,419	50,408	66,329	76,437	87,916	101,179	116,460

Source: The Piaggio Group's Consolidated Statements, Turquoise Team Estimates

Figure 6: 2W World Sales Trend



### Asset Management

Intangibles are the most important of Piaggio's assets. The weight of intangibles over total assets is 40%, which is much higher than the industry average. The largest proportion of intangible assets is related to Aprilia's acquisition in 2004 (about 66% in 2009), and from capitalization of a large portion of its R&D expenses. We forecast only a small increase in intangible assets due to R&D expenditures on hybrid technology. Further, CAPEX could be required for expanding production sites and the creation of a spare parts warehouse in Pontedera (Piaggio's historical production site in Italy).

### Capital Structure Strategy

Piaggio's total leverage ratio is in line with the industry average, and the long-term debt to equity ratio is 104%, which peaked last year. Long-term debt increase could probably be driven by cash requirements, due to the tight liquidity position in 2008 (cash ratio is 7%). The cash increase in 2009 could be linked to the effects of the financial crisis, which forced many firms to desperately search for liquidity. Piaggio's bond will mature in 2016, and we forecast the company could exploit a better financial position by raising funds at better credit conditions and financing organic growth. In our valuation framework (See below Table 6), we assume that Piaggio's minimum cash balance will remain relatively stable at 9.9% of sales. Net working capital has been negative over the last years, and this trend will probably continue in the future. Therefore we estimate that the working capital and the working capital funding will remain at 34.5% and 41.1% of sales respectively.

Table 3: Abridged Balance Sheet

(thousand €)	2008	2009	2010E	2011E	2012E	2013E	2014E	2015E
Cash	39,985	200,239	153,607	165,095	178,005	192,566	209,030	227,718
Fixed Assets	904,973	896,378	906,616	920,200	947,369	977,237	1,010,209	1,046,795
NWC	(141,257)	(116,473)	(101,726)	(109,335)	(117,885)	(127,529)	(138,432)	(150,808)
Total Assets	803,701	980,144	958,496	975,960	1,007,489	1,042,274	1,080,807	1,123,704
Financial Debt	405,480	556,342	509,106	485,833	466,505	438,914	401,759	353,631
Minority Interests	1,454	2,141	1,604	1,777	1,961	2,187	2,461	2,791
Total shareholders' equity	396,767	421,661	447,786	488,350	539,022	601,173	676,587	767,282
Total Debt, Equity & minority interests	803,701	980,144	958,496	975,960	1,007,489	1,042,274	1,080,807	1,123,704

Source: The Piaggio Group's Consolidated Statements, Turquoise Team Estimates

### Dividend policy

Since 2007 Piaggio has been paying regular annual dividends. In 2008 it doubled its DPS and since then it has remained stable. It is not common for a growth play to pay dividends. We understand Piaggio is using dividend policy to cater to institutional investors. Our forecast assumes a constant dividend per shares of € 0.07.

## Valuation

### Baseline Model: Main Assumptions

We started constructing our baseline DCF model by estimating the elasticity of world two-wheel sector growth against world GDP growth. We then collected the global economic forecast from Morgan Stanley Economics Research and Economy Watch. We estimated world two-wheel growth rates for the next five years and used in our top line of the DCF model. Total operating, labor, depreciation and amortization costs have been estimated based on historical averages (2007-2010). Expected costs of debt are estimated using the bond price. We computed the yield to maturity of Piaggio's only outstanding bond (2016-1Dec, 7%) as 5.89% (source: Bloomberg 13.01.2011). Corporate taxes are hypothesized to be 38.17%, consistent with the 2007-2010 average (see table 6).

For expected changes in the balance sheet over the next five years (2011-2015), we made the following assumptions:

- Intangible asset annual growth 1%;
- PP&E over sales ratio equal to a constant 15.6%;
- NWC over sales ratio equal to a constant 34.5%;
- Accounts payable funding equal to a constant 41.1%;
- Financial assets equal to a constant ratio (0.9%) over total assets;
- Financial debt annual repayments are constructed as a moving average across past four years;

- Total shareholder equity (E) is equal to past (E-1)+fiscal year net income – paid dividends;
- Minority interest is assumed to be a constant 0.36% over shareholder equity (E);
- Cash is assumed to be 9.91% of sales;
- We model financial long-term debt as a **plug in**. Financial debt long-term is max(Total Assets- Total Liabilities, 0);

### Discounted Cash Flow Model

We computed free cash flows in the standard way as: NOPAT ± Depreciation/Amortization ± ΔNWC ± CAPEX. Terminal Value (TV) in 2015 is estimated through the standard Gordon Constant Growth Model, assuming expected WACC of 10.15% (See below for WACC Model and Computation Details) and steady long-term growth rate of 3%.

$$TV = \frac{FCF_T(1+g)}{WACC - g}$$

Table 4: Terminal Value Assumptions

FCF Growth Rate "g"	3%
WACC	10.15%

Source: Turquoise Team Estimates

### Piaggio's Cost of Capital (WACC)

Piaggio's expected weighted average cost of capital is constructed using the following assumptions:

#### Cost of Equity

- Market Beta: we used the median industry asset beta and relevered it using Piaggio's expected debt/equity ratios (in sensitivity analysis we also used standard OLS beta estimates against Italian Stock Market Index-FTSE ALL Share Italy);
- Risk Free Rate: we used the YTM of a highly liquid long-term maturity Italian government bond (BTP 1.11.2023);
- Market Risk Premium: we used the last century's geometric mean of the European Equity Premium over long-term bonds (See A.Damodaran web site: [www.stern.nyu.edu](http://www.stern.nyu.edu));
- Above inputs are inserted in a standard CAPM one factor model to obtain the expected return on equity.

#### Cost of Debt

- We computed the yield to maturity of Piaggio's only outstanding bond (2016-1Dec, 7%) as 5.89% (source: Bloomberg 13.01.2011); and we assumed this value to be the expected cost of debt E( $r_d$ );
- Expected corporate taxes ( $\tau_c$ ) are hypothesized to be 38.17%, consistent with the 2007-2010 average.

#### Debt/Equity Market Weights

- We computed expected debt/equity market weights (2011-2015) generated by our own valuation spreadsheet.

#### Global Cost of Capital Aspects

- In our sensitivity analyses we investigated the impact on Piaggio's business of investing and raising funds in international capital markets. Consequently, we used in our ICAPM a global risk free rate (US 30Y T-Bonds), historical global equity premium (See A.Damodaran web site: [www.stern.nyu.edu](http://www.stern.nyu.edu)), and Piaggio market beta against MSCI World Index.

Table 5: DCF Valuation Summary

Valuation (in million €)	
NPV of Free Cash Flows	330,881
Terminal Value	1,577,781
Estimated Enterprise Value	1,303,786
Debt Adjustment	(355,499)
Piaggio Equity	948,287
WACC	10.15%
Target Price	2.55

Source: Turquoise Team Estimates

### Sensitivity Analyses

Running the baseline model allowed us to identify three key drivers of Piaggio's fair value: TV perpetual growth rate, unlevered industry beta and WACC. We ran a sensitivity analysis in order to appreciate how the sensitivity of fair value is influenced by parameter changes.

### Monte Carlo Simulation

The Monte Carlo Simulation is a more comprehensive approach in order to research – simultaneously – the effect of many more key variables on Piaggio's fair value. To this end, we defined a list of Monte Carlo inputs (See Table 6).

Table 6: Model Starting Assumptions

	2011E	2012E	2013E	2014E	2015E	TV
Sales Growth rates	7.5%	7.8%	8.2%	8.6%	8.9%	
Equilibrium LT growth rate						3.0%
Operating costs ratio	76.6%	76.6%	76.6%	76.6%	76.6%	
Personnel costs ratio	15.7%	15.6%	15.6%	15.6%	15.5%	
Minimum cash balance			← 9.9%	→		
Working capital			← 34.5%	→		
Working capital funding			← 41.1%	→		
WACC			← 10.2%	→		

We started from our baseline DCF. We then considered four additional scenarios for Piaggio's 2011-2015 CAGR sales. The first assumes sales will be driven by Italian GDP growth rate. In the second scenario sales are forecasted to be linked to the European two-wheel annual growth rate. And in the third scenario we incorporated figures provided by Piaggio's Strategic Plan 2010-2013 (23 September, 2010). Lastly, we considered a hypothetically extreme case of a constant 8% annual growth rate.

For the operating costs we estimated as a lower bound scenario an annual increase, ranging from 76.6% to 78.5% of sales, starting in 2011. In the second case we assumed that operating costs will increase at a lower rate. The average scenario is again our baseline model and for the last scenarios we assumed a declining ratio starting from 2011.

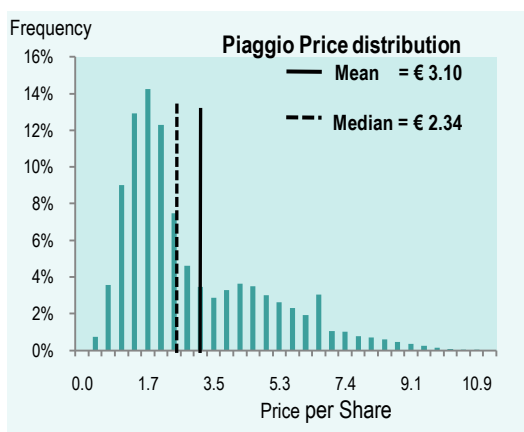
The labour costs' range of variation will be from declining ratios (labour costs/sales) on two very optimistic scenarios, to the base model which assumes personnel costs ranging from 15.68% to 15.52%, to a pessimistic hypothesis of an increasing labour cost ratio (up to 17.1% of total sales).

Our simulation considers the importance of cash strategy for value creation. We hypothesize that Piaggio will maintain a cash balance to total sales of about 7% to 11%. For working capital to sales ratio we assumed a range between 33% and 37%, consistent with the observed 2010 average figure of 34.5%. Similarly, we thought that a working capital funding between 38% and 43% could be consistent with recent corporate decisions. The most relevant parameters which significantly affect the fair value are WACC and the long-term growth rate. We assume the long-term growth rate will range between 2% and 3.5%. As WACC we estimate different values based on different asset beta assumptions. Market beta range values are drawn from a distribution that has industry median asset beta to standard regression estimates against alternative market indexes. Overall, WACC rates range between 6.16% and 11.46%.

With these input parameters (look at Table 7) we were able to obtain some 390,000 fair values estimates, ranging from a low of €0.3 to a high of €10.9. We then computed distribution mean and median values, resulting in €3.1 and €2.34 respectively. The picture below shows the Monte Carlo simulation and the obtained empirical distribution.

Table 7: Parameter Range of Variation within the Monte Carlo analysis

Figure 7: Monte Carlo Simulation – Piaggio fair value empirical distribution



	Min			Max
<b>Sales Growth rates</b>				
2011	1.1%	6.2%	7.5%	8.0%
2012	1.5%	6.2%	7.8%	8.0%
2013	1.4%	6.2%	8.2%	8.0%
2014	1.3%	6.2%	8.6%	8.0%
2015	1.2%	6.2%	8.9%	8.0%
<b>Equilibrium LT growth rate</b>	2.00%	2.50%	3.00%	3.50%
<b>Operating costs ratio</b>				
2011	76.6%	76.6%	76.6%	76.6%
2012	77.3%	77.0%	76.6%	76.4%
2013	77.5%	77.2%	76.6%	76.2%
2014	77.9%	77.5%	76.6%	76.0%
2015	78.5%	78.0%	76.6%	75.8%
<b>Personnel costs ratio</b>				
2011	15.7%	15.7%	15.7%	15.7%
2012	16.0%	15.9%	15.6%	15.4%
2013	16.4%	16.2%	15.6%	15.1%
2014	16.8%	16.4%	15.6%	14.8%
2015	17.1%	16.6%	15.5%	14.5%
<b>Minimum cash balance</b>	11.0%	10.0%	9.9%	7.0%
<b>Working capital</b>	37.0%	35.5%	34.5%	33.0%
<b>Working capital funding</b>	38.0%	39.5%	41.1%	43.0%
<b>WACC</b>	11.4%	10.8%	10.2%	6.2%

From the picture (see figure 7), it is clear that the empirical distribution is skewed to the right, indicating a high upside potential of Piaggio's share price. We think that this estimates (mean of 3.10 and median of

2.34) are an acceptable result given Piaggio's value drivers, which we highlighted in this report. In the last four years a clear path to increase margins and improve operational efficiency has been in the front line. In addition, Piaggio is expanding in Emerging Asia, by leveraging the Vietnamese production plant which enjoys lower labour and general costs. Moreover, the company has addressed higher European labour costs by exploiting temporary contracts. From the financial strategy point of view, we uncovered a healthy EBIT, which has helped Piaggio to contain leverage and increase its coverage ratio. Additionally, we estimated the Merton-KMV default risk Model and we found that Piaggio's fair bond rating is currently underestimated. Specifically, we showed that the current BB rating does not completely reflect the sound financial position Piaggio is enjoying. A BBB rating would be more in line with Piaggio's current financial position.

Table 8: Comparable EV Multiples

	Enterprise Value (in million €)			Price Per Share (in €)		
	Median	High	Low	Median	High	Low
EV / Sales	1.173,5	3.165,0	687,3	2,2	7,6	0,9
EV/ EBITDA	1.880,9	4.572,5	935,1	4,1	11,3	1,6
EV / FCF	1.178,7	1.847,1	403,8	2,2	4,0	0,1

Source: Thomson One Banker. DataStream. Turquoise Team Estimates

### Estimating Fair Value Using Comparable Firms

We looked at industry implicit firm values, by computing market multiples of Piaggio's listed competitors. We selected standard multiples from Datastream and Thomson One Banker databases, and we summarized our research in the table below (see Table 9). From this analysis, we observed that Piaggio's share price could be as low as 1.38 using the price to book multiple and as high as 5.33 when using the forward price-to-EBITDA multiple. However, the midpoint of estimated average fair value is between our mean and median Monte Carlo estimates.

Table 9: Comparable Multiples

	Total MV (in million €)			Price Per Share (in €)		
	Average	Low	High	Average	Low	High
Forward P/E	777.85	534.83	1,955.33	2.09	1.44	5.26
P/B	917.50	512.30	1,644.77	2.47	1.38	4.42
P/EBITDA	1,429.06	762.53	1,983.00	3.84	2.05	5.33

Source: Thomson One Banker. DataStream. Turquoise Team Estimates

Additionally, we compute a range of competitors' Enterprise Value multiples that take into account the capital structures of the peers. In line with previous results the median is not far from our estimated price per share. Results are shown in Table 8.

### Estimating Fair Value Using Comparable Industry M&A Deals

We also looked at completed M&A transactions, where the buyer acquired full control of a target firms belonging to the Piaggio industry (see Appendix H for list of deals). We identified completed deals by searching Thomson One Banker M&A database, and we summarized our research in the table below (see Table 10). Using this approach we uncovered that Piaggio's firm value could range from a low of € 0.76 using the P/E multiples, to a high of € 63.09 when using the price-to-sales ratio. It is important to reiterate that this approach obviously generates much higher firm value because implicitly industry M&A multiples reflect the price paid to transfer full control.

Table 10: M & A Industry Multiples

	Total MV (in million €)			Price Per Share (in €)		
	Median	Low	High	Average	Low	High
EBIT Mult	1,356.19	746.99	4,820.95	3.65	2.01	12.97
EBITDA Mult	1,040.82	457.93	7,131.13	2.80	1.23	19.18
P/E	834.83	283.75	9,873.11	2.25	0.76	26.56
P/S	1,227.60	382.85	23,456.15	3.30	1.03	63.09

Source: Thomson One Banker. DataStream. Turquoise Team Estimates

## Risk Analysis

### Corporate Risks

#### Business/Industry Risk

The two- and three-wheel markets are highly cyclical and affected by macroeconomic volatility. When we estimated the two-wheels-to-world-GDP elasticity, we found that the regression  $R^2$  explains 85% of world two-wheel sales growth variability. This result clearly shows that the motorcycle, LCV and moped businesses are highly exposed to macroeconomic risk.

#### Default Risk

The risk of default has an impact on cost of debt and in turns on cost of capital, so we used the Merton-KMV Model to have a better understanding of Piaggio's default risk. The Piaggio Group has an outstanding bond issue of €150m face value with an S&P BB rating. Piaggio's bond rating was recently upgraded last May by Moody's and last November by S&P. To assess the credit risk of Piaggio bonds, we ran the Merton-KMV

**Table 11: Merton-KMV model**

In the Merton Model the firm's equity is a call option on the assets of the company. We have to define:

$V_0$  = Value of the company's assets today

$V_T$  = Value of the company's assets at time T

$E_0$  = Value of the company's equity today

$E_T$  = Value of the company's equity at time T

$D$  = Amount of debt interest and principal to be paid at time T

$\sigma_V$  = Volatility of assets (assumed constant)

$\sigma_E$  = Instantaneous volatility of equity

Value of equity:  $E_0 = V_0 N(d_1) - D e^{-rT} N(d_2)$

$$d_1 = \frac{\ln(V_0/D) + (r + \sigma_V^2/2)T}{\sigma_V \sqrt{T}}, \quad d_2 = d_1 - \sigma_V \sqrt{T}$$

Probability of default =  $N(-d_2)$

model, which estimates Piaggio's (risk neutral) probability of default using historical stock prices (time series: 11/07/06 - 15/01/11). The model's required inputs are: a) Piaggio total market cap; b) historical stock return volatility; c) bond maturity; d) debt nominal value; e) stock dividend yield; f) risk-free interest rate (See Table 9). According to the model estimates, Piaggio Group has a 5.5% cumulated probability of default for the next 5 years, which is consistent with a BBB - rating, whereas S&P currently gives Piaggio a BB rating. If these estimates should be confirmed by rating agencies in the future, this would mean good news for Piaggio's cost of capital.

#### Political Risk

Piaggio operates in countries exposed to political risk and social unrest, such as India, Vietnam and China. These risks may affect Piaggio's business significantly.

#### Stock Investment Risks

##### Information Risk

In principle, abnormal stock returns and abnormal trading volume should be affected by the arrival of new information. We analyzed the Piaggio Group's excess stock returns and trading volume to find out whether stock price movements were mostly driven by current events. Appendix I shows a picture that represents Piaggio's stock price changes on the arrival of news. The interesting result is that it moves in expectations of the arrival of new information. On average we estimated that the average price run-up is 1.5 trading days, earlier than the disclosure of public information. Further, it is interesting to highlight that in our sample the highest excess return is observed when no news arrived for Piaggio stock. This factor is relevant, and should be considered when investing in such a stock. To illustrate, a money manager willing to start a long position in Piaggio stock will be exposed to considerable information risk.

##### Liquidity Risk

Piaggio's common stock is a relatively liquid security among mid-caps. However, in order to maximize the investment return of Piaggio's stocks, care should be taken on designing a proper trading strategy. We researched Piaggio's liquidity risks by analyzing high-frequency data kindly provided by the Market Analysis Department of the Italian Exchange. More specifically, we obtained order and transaction data of Piaggio's CLOB (Consolidated Limit Order Book) for the most intensive trading days of the last three months. At the outset it should be noticed that Piaggio's stock is not assigned a market maker ("designated specialist"), therefore trading is the outcome of only public limit and market orders. We selected five key trading days, which were characterized by concomitant news arrival and abnormal trading volume. We focused on a crucial question that a typical money manager should address when executing an investment strategy. What is the price impact I have to suffer if I want to trade, say, 100,000 Piaggio shares? The answer to this question can be worked out with the help of the "implementation shortfall", which basically computes the average price impact of a block trade given a reservation price and second-by-second CLOB trading conditions. From our selected trading days, the average price impact to buy a block of 100,000 Piaggio shares is estimated to be 117 bp (1.17%), while it took 133 bp (1.33%) to sell an equal number of shares (see Appendix J). The asymmetry between buy and sell price impact reflects the relatively buoyant market we observed recently on Piaggio shares. Finally, two caveats are in order: a) our estimates are to be considered a lower bound of Piaggio "implicit" trading costs, as they come from the most liquid trading days we identified in the last recent months; b) our liquidity risk analysis could access trading data from Italian exchange only. As it is well known, trading on Italian Stocks is gradually switching to MTFs and dark pools such as Chi-X and Turquoise. If Piaggio stock trading would be increasingly moving to those parallel markets, we expect liquidity risk and implicit costs to become smaller.

## APPENDIX

### APPENDIX A – Financial Statements

#### Income Statement

Income Statement (in thousand €)							
	2009	2010E	2010E	2012E	2013E	2014E	2015E
<b>Total sales</b>	<b>1,486,882</b>	<b>1,550,000</b>	<b>1,665,940</b>	<b>1,796,217</b>	<b>1,943,147</b>	<b>2,109,286</b>	<b>2,297,856</b>
Cost of materials	(871,653)	(922,351)					
Cost of service	(272,065)	(260,929)					
<b>Total operating cost</b>	<b>(1,143,718)</b>	<b>(1,183,280)</b>	<b>(1,275,500)</b>	<b>(1,375,244)</b>	<b>(1,487,739)</b>	<b>(1,614,940)</b>	<b>(1,759,316)</b>
Salaries	(242,916)	(243,713)					
<b>Total personnel costs</b>	<b>(242,916)</b>	<b>(243,713)</b>	<b>(261,278)</b>	<b>(280,994)</b>	<b>(303,204)</b>	<b>(328,286)</b>	<b>(356,718)</b>
Other operating costs and incomes	100,551	84,204	90,502	97,579	105,561	114,587	124,831
<b>EBITDA</b>	<b>200,799</b>	<b>207,210</b>	<b>219,664</b>	<b>237,559</b>	<b>257,766</b>	<b>280,646</b>	<b>306,653</b>
Depreciation & amortization	(96,378)	(85,584)	(90,598)	(93,081)	(95,795)	(98,778)	(102,069)
<b>EBIT</b>	<b>104,421</b>	<b>121,626</b>	<b>129,067</b>	<b>144,478</b>	<b>161,971</b>	<b>181,868</b>	<b>204,584</b>
Financial income /charges	(28,820)	(25,963)	(21,790)	(20,853)	(19,780)	(18,227)	(16,228)
Non-op income gains and losses	(1,508)	(12)		-	-	-	-
<b>Pretax profit</b>	<b>74,093</b>	<b>95,652</b>	<b>107,276</b>	<b>123,625</b>	<b>142,190</b>	<b>163,641</b>	<b>188,356</b>
Taxes	(26,674)	(45,243)	(40,948)	(47,188)	(54,274)	(62,462)	(71,896)
Earnings before minorities	47,419	50,408	66,329	76,437	87,916	101,179	116,460
Elimination of intercompany invest							
<b>Net income</b>	<b>47,419</b>	<b>50,408</b>	<b>66,329</b>	<b>76,437</b>	<b>87,916</b>	<b>101,179</b>	<b>116,460</b>

Source: The Piaggio Group's Consolidated Statements, Turquoise Team Estimates, Consensus

#### Balance Sheets

Balance Sheet (in thousand €)							
	2009	2010E	2011E	2012E	2013E	2014E	2015E
<b>ASSETS</b>							
Cash	200,239	153,607	165,095	178,005	192,566	209,030	227,718
Working Capital	468,203	535,216	575,250	620,235	670,970	728,338	793,451
<b>Total current assets</b>	<b>668,442</b>	<b>688,823</b>	<b>740,345</b>	<b>798,240</b>	<b>863,536</b>	<b>937,368</b>	<b>1,021,169</b>
Intangible assets	641,254	644,370	650,814	657,322	663,895	670,534	677,239
Land, PP&E and other long-term investments	250,654	236,654	254,356	274,246	296,680	322,046	350,837
Other financial assets	4,470	25,592	15,031	15,801	16,662	17,629	18,719
<b>Total assets</b>	<b>1,564,820</b>	<b>1,595,439</b>	<b>1,660,545</b>	<b>1,745,609</b>	<b>1,840,773</b>	<b>1,947,577</b>	<b>2,067,964</b>
<b>LIABILITIES</b>							
Working Capital funding	584,676	636,942	684,586	738,120	798,498	866,770	944,259
Financial debt next year payment	113,178	130,081	125,458	119,285	114,931	107,239	97,486
Financial debt long-term	443,164	379,025	360,375	347,221	323,984	294,520	256,145
<b>Total liabilities</b>	<b>1,141,018</b>	<b>1,146,048</b>	<b>1,170,418</b>	<b>1,204,626</b>	<b>1,237,413</b>	<b>1,268,529</b>	<b>1,297,891</b>
Capital			447,786	488,350	539,022	601,173	676,587
Net income			66,329	76,437	87,916	101,179	116,460
Dividend payment	(22,533)	(22,5348)	(25,765)	(25,765)	(25,765)	(25,765)	(25,765)
<b>Total shareholders' equity</b>	<b>421,661</b>	<b>447,786</b>	<b>488,350</b>	<b>539,022</b>	<b>601,173</b>	<b>676,587</b>	<b>767,282</b>
Minority interest	2,141	1,604	1,777	1,961	2,187	2,461	2,791
<b>Total shareholders' equity and minority interest</b>	<b>423,802</b>	<b>449,390</b>	<b>490,127</b>	<b>540,983</b>	<b>603,360</b>	<b>679,048</b>	<b>770,073</b>
<b>Total shareholders' equity and liabilities</b>	<b>1,564,820</b>	<b>1,595,439</b>	<b>1,660,545</b>	<b>1,745,609</b>	<b>1,840,773</b>	<b>1,947,577</b>	<b>2,067,964</b>

Source: The Piaggio Group's Consolidated Statements, Turquoise Team Estimates

Cash Flow Statements (in thousands €)

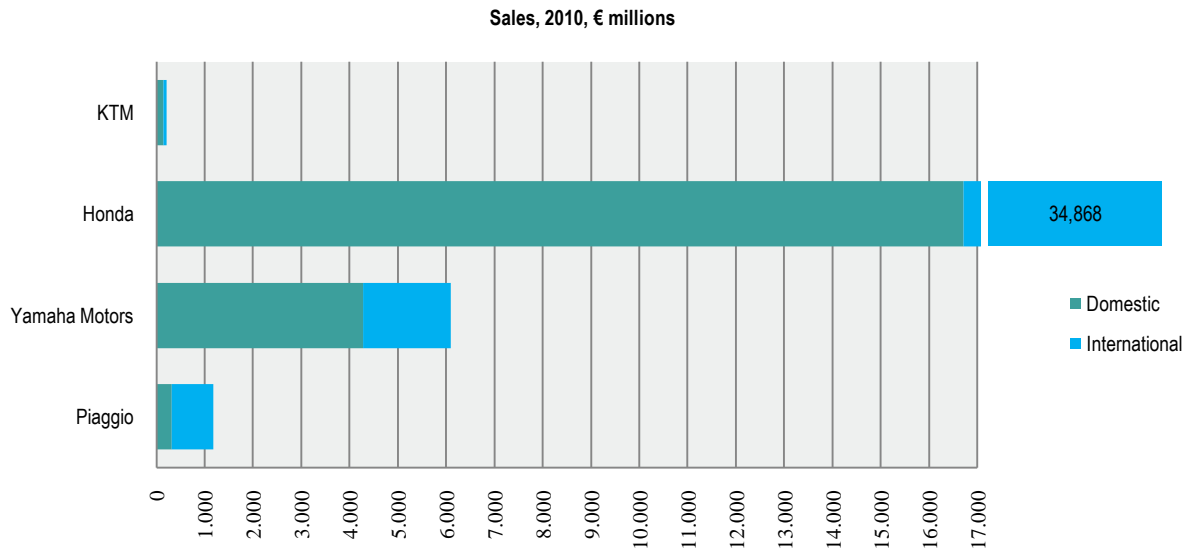
	2011E	2012E	2013E	2014E	2015E
<b>Total sales</b>	<b>1,665,940</b>	<b>1,796,217</b>	<b>1,943,147</b>	<b>2,109,286</b>	<b>2,297,856</b>
Change	7.48%	7.82%	8.18%	8.55%	8.94%
<b>EBITDA</b>	<b>219,664</b>	<b>237,559</b>	<b>257,766</b>	<b>280,646</b>	<b>306,653</b>
Change	6.01%	8.15%	8.51%	8.88%	9.27%
Margin	13.19%	13.23%	13.27%	13.31%	13.35%
Depreciation & amortization	-90,598	-93,081	-95,795	-98,778	-102,069
<b>EBIT</b>	<b>129,067</b>	<b>144,478</b>	<b>161,971</b>	<b>181,868</b>	<b>204,584</b>
Change	6.12%	11.94%	12.11%	12.28%	12.49%
Margin	7.75%	8.04%	8.34%	8.62%	8.90%
Taxes	-40,948	-47,188	-54,274	-62,462	-71,896
<b>Nopat</b>	<b>88,119</b>	<b>97,290</b>	<b>107,696</b>	<b>119,406</b>	<b>132,688</b>
Change	15.36%	10.41%	10.70%	10.87%	11.12%
Less Inc in NWC	-7,609	-8,550	-9,643	-10,904	-12,376
Less Capex	114,743	119,479	124,802	130,783	137,565
Plus Dep&Amort	90,598	93,081	95,795	98,778	102,069
<b>Free Cash Flow</b>	<b>71,583</b>	<b>79,441</b>	<b>88,333</b>	<b>98,305</b>	<b>109,567</b>
Perpetual Growth rate					3.00%
Discount rate					10.15%
Terminal Value					1,577,781
<b>Free Cash Flow with Terminal Value</b>	<b>71,583</b>	<b>79,441</b>	<b>88,333</b>	<b>98,305</b>	<b>1,687,349</b>
Discount rate	10.15%				
<b>PV of FCF</b>	<b>1,303,786</b>				

Source: The Piaggio Group's Consolidated Statements, Turquoise Team Estimates

APPENDIX B

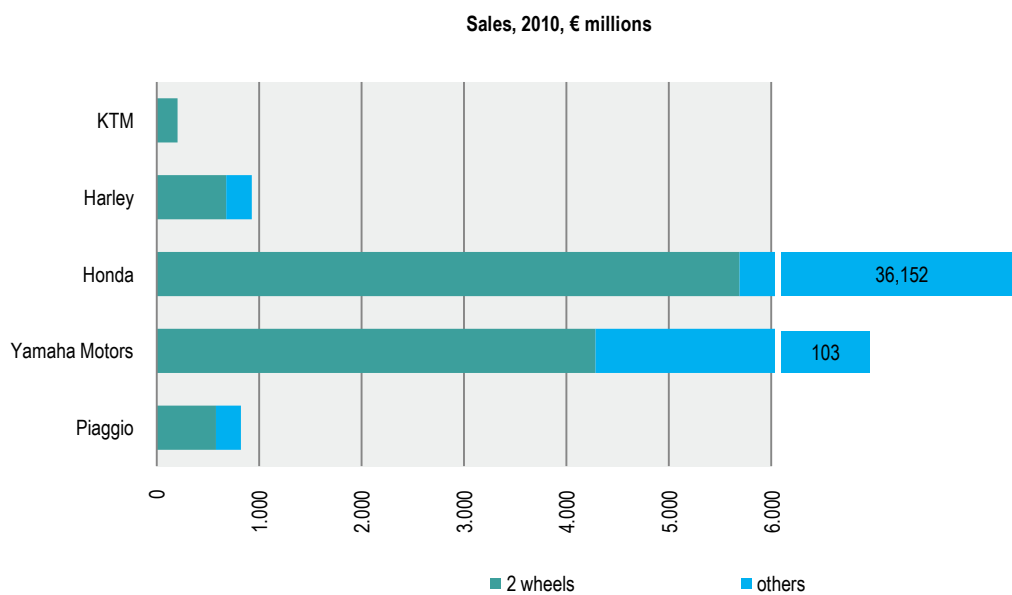
Motorcycle industry - Breakdown of 1H 2010 sales (Domestic vs. International)

Source: Corporate Accounts Segment Data



Motorcycle industry - Breakdown of 1H 2010 sales (Two wheels vs. Others)

Source: Corporate Accounts Segment Data



APPENDIX C - Peers' Ratio Analysis

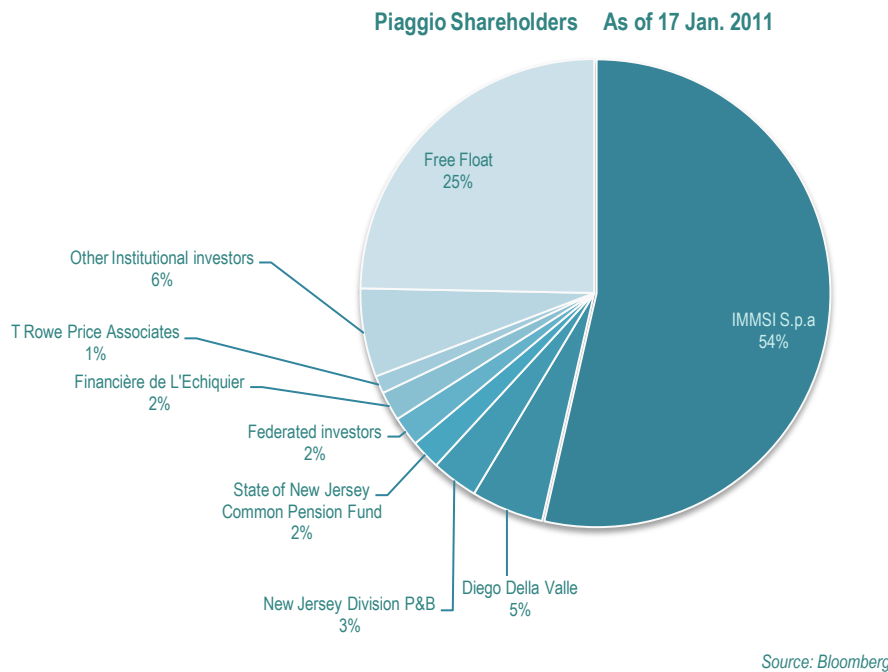
Competitors key ratios (Average 2007-2009)	Piaggio	Kawasaki	Harley Davidson	Honda	Suzuki	Yamaha	KTM
Gross Profit Margin	30.24%	14.34%	39.76%	10.00%	23.86%	22.72%	28.65%
Operating Margin	7.04%	2.39%	15.03%	4.69%	3.35%	1.61%	-1.32%
Net Income Margin	3.12%	3.39%	8.35%	3.34%	1.46%	-4.86%	-4.19%
ROS	7.04%	2.39%	15.03%	4.69%	3.35%	1.61%	-1.32%
ROA	5.67%	2.90%	9.13%	2.40%	2.47%	-0.37%	-0.39%
Net Working Capital (billions €)	-0.12	1.99	-0.23	-4.05	-4.22	1.39	0.097
Fixed Asset Turnover	1.77	3.30	4.65	2.49	3.31	3.48	2.02
Total Asset Turnover	1.09	0.86	0.85	0.86	1.29	1.29	1.07
<b>DUPONT ANALYSIS</b>							
Total assets/ Equity	3.36	4.58	3.13	2.68	2.65	1.55	1.72
Sales/ Assets	1.09	0.86	0.85	0.86	1.29	0.93	0.78
(EBIT - Taxes)/ Sales	0.05	0.03	0.09	0.03	0.02	0.02	0.03
(EBIT - Taxes - Interests)/ (EBIT- Taxes)	0.60	0.46	0.95	1.43	0.77	0.32	0.33
ROE	11.56%	11.33%	24.03%	7.90%	5.21%	4.56%	5.36%

Source: Piaggio, Kawasaki, Harley Davidson, Honda, Suzuki, Yamaha, KTM Financial Statements

APPENDIX D - Swot Analysis

SWOT Analysis	
Strengths	Weaknesses
<ul style="list-style-type: none"> <li>Expertise in engine production and product design</li> <li>Leading and differentiated brands</li> <li>Large network of dealers</li> <li>Solid financial position</li> <li>Growing operational efficiency</li> </ul>	<ul style="list-style-type: none"> <li>Low brand cohesion</li> <li>Dependence on dealers for distribution</li> <li>High- cost of components and personnel</li> <li>Corporate governance issues</li> <li>Decreasing profitability in EU</li> </ul>
Opportunities	Threats
<ul style="list-style-type: none"> <li>Growing Asian market for 2 wheels and LCV</li> <li>Government incentives to sustain Italian economy</li> <li>Visibility through motorbike racing</li> <li>Joint ventures with Chinese partners</li> </ul>	<ul style="list-style-type: none"> <li>Economic downturns</li> <li>Exposed to fashion and seasonal cycles</li> <li>Appreciation of domestic currency</li> <li>Strong competition from emerging and established players</li> <li>Pressure of unions (Italy, Spain)</li> </ul>

APPENDIX E - Ownership structure



APPENDIX F - Piaggio's People Market Visibility

	Press: Positive comments	Press: negative comments	Press: neutral comments	Source
<b>Roberto Colaninno (President and CEO)</b>	8	2	36	Belfast Telegraph, Wall Street Journal, The Globe and Mail, Financial Times, Il Sole 24 ore, Corriere della Sera, The Times, The International Herald Tribune, The Times, The Guardian, The Sun, The Evening Standard, The Independent, The Daily Telegraph, Milano Finanza
<b>Matteo Colaninno (Vice President)</b>		neglected		
<b>Michele Pallottini (CFO)</b>			1	Il Sole 24 ore
<b>Other managers</b>		neglected		

APPENDIX G - Expected Financial Ratios

	2010E	2011E	2012E	2013E	2014E	2015E
<i>Turnover</i>						
Fixed Asset Turnover	1.72	1.82	1.92	2.02	2.12	2.23
Total Asset Turnover	0.98	1.02	1.05	1.08	1.11	1.14
<i>Profitability</i>						
EBITDA (thousands €)	227,210.4	219,664.3	237,558.5	257,766.0	280,646.4	306,652.8
EBIT (thousands €)	121,626.4	129,066.6	144,477.9	161,970.7	181,868.3	204,583.6
Operating Margin	7.85%	7.75%	8.04%	8.34%	8.62%	8.90%
Net Income Margin	3.25%	3.98%	4.26%	4.52%	4.80%	5.07%
ROS	7.85%	7.75%	8.04%	8.34%	8.62%	8.90%
ROE	11.55%	14.12%	14.83%	15.37%	15.78%	16.07%
ROA	4.79%	5.41%	5.71%	6.01%	6.30%	6.61%
<i>Solvency</i>						
Debt to total Capital	0.32	0.29	0.27	0.24	0.21	0.17
Long-term Debt to Equity	0.84	0.74	0.64	0.54	0.43	0.33
Debt to EBITDA	2.60	2.26	2.00	1.76	1.50	1.23
<i>Liquidity</i>						
Current Ratio	0.90	0.91	0.93	0.95	0.96	0.98
Cash Ratio	0.20	0.20	0.21	0.21	0.21	0.22
<i>Others</i>						
Working Capital (thousands €)	-101,726.31	-109,335.44	-117,885.47	-127,528.51	-138,432.19	-150,808.03
Intangibles to Total Assets	40.39%	39.19%	37.66%	36.07%	34.43%	32.75%

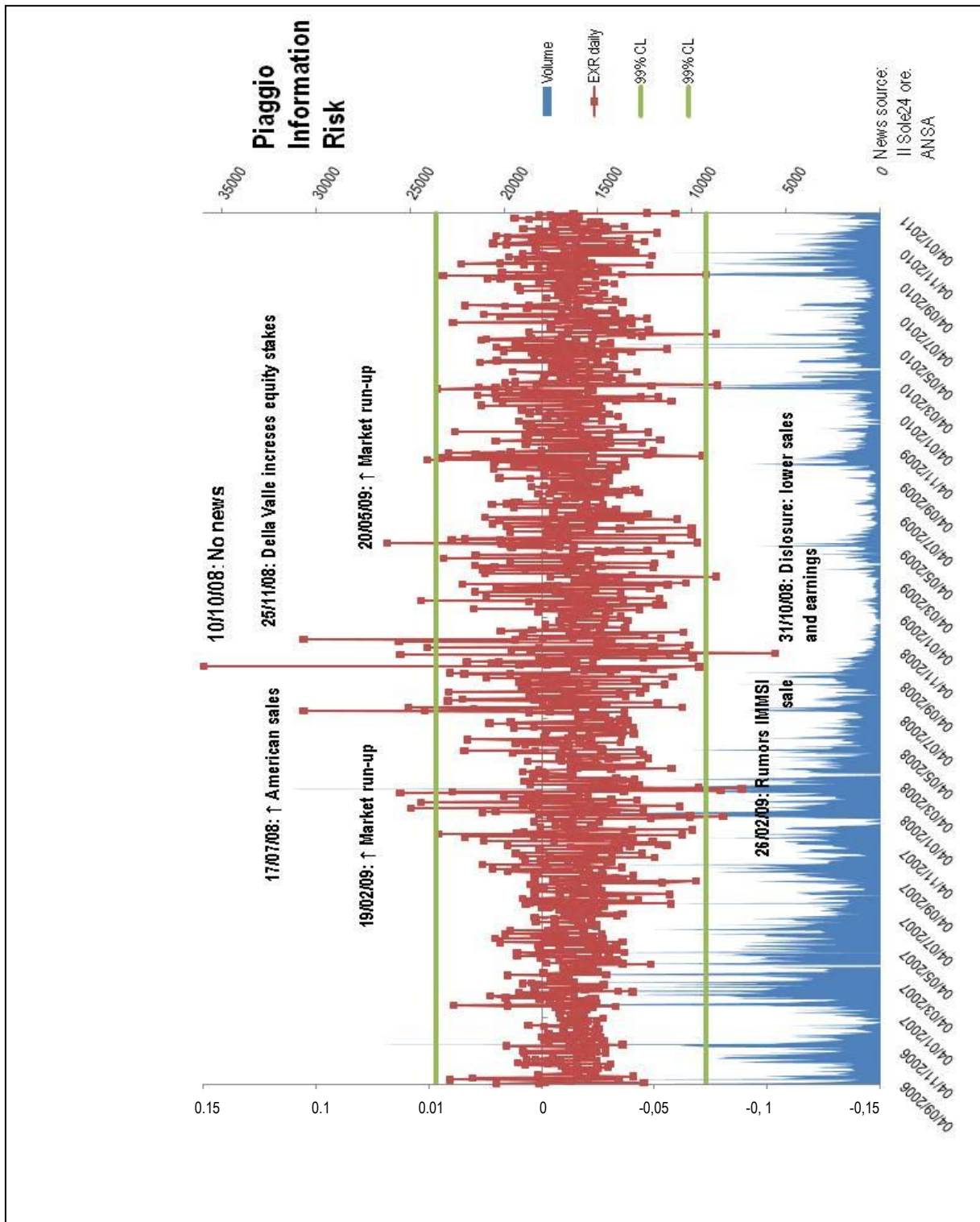
Source: The Piaggio Group's Consolidated Statements, Turquoise Team Estimates

APPENDIX H - Comparable Industry M & A Deals (26 Industry Deals)

Target Name	Acquirer Name	Date Effective	Target Public Status	Value of Transaction (\$ min)	Target Multiples			P/S
					EBIT Multiple	EBITDA Multiple	P/E	
<u>KTM Power Sports AG</u>	Bajaj Auto International	04.16.2010	Public	40.41	-	10,841	-	0.754
<u>Suzuki Motor Corp</u>	Volkswagen AG	01.15.2010	Public	2,527.43	23.266	6.393	195.864	0.442
<u>Kheic Motor Co Ltd</u>	Mahindra & Mahindra Ltd	09.30.2008	Public	25.94	-	-	-	-
<u>Ducati Motor Holding SpA</u>	Performance Motorcycles SpA	12.19.2008	Public	589.64	-	34.415	42.831	1.425
<u>ZAP Co</u>	Al Yousuf Group	11.12.2007	Public	5.00	-	-	-	-
<u>S&amp;T Motors Co Ltd (WAS 44913F)</u>	S&T Corp	10.09.2007	Public	13.70	-	-	-	1.452
<u>Yamaha Motor Co Ltd</u>	Mitsui & Co Ltd	05.22.2007	Public	200.06	6.545	4.677	10.901	0.579
<u>KTM Power Sports AG</u>	Cross Industries AG	02.20.2007	Public	76.81	7.428	4.673	12.352	0.818
<u>LML Ltd</u>	Merrill Lynch Capital Markets	06.14.2006	Public	5.58	-	-	-	1.041
<u>Ducati Motor Holding SpA</u>	Investor Group	03.27.2006	Public	47.46	-	31,221	-	0.792
<u>KTM Power Sports AG</u>	Polaris Industries Inc	08.11.2005	Public	78.07	16.217	11.887	19.207	2.022
<u>Zhejiang Qianjiang Motorcycle</u>	Mega Ocean Enterprise Ltc	08.15.2005	Public	29.41	5.911	4.65	12.07	0.298
<u>CROSS Holding AG</u>	Spin Capital Investment AG	01.22.2004	Public	20.98	4.196	2.982	5.629	0.735
<u>Ei Chor China Motorcycle Co</u>	CP Pokphand Co Ltd	06.23.2003	Public	20.90	-	-	14.449	3.141
<u>Suzuki Motor Corp</u>	General Motors of Canada Ltc	01.18.2001	Public	521.18	14.974	5.023	22.993	0.339
<u>Yamaha Motor Co Ltd</u>	Toyota Motor Corp	03.07.2000	Public	97.44	4.784	2.61	19.927	0.488
<u>KTM Sportmotorcycle AG</u>	CROSS Holding AG	08.17.1999	Public	100.07	16.611	12.748	18.674	1.308
<u>Suzuki Motor Corp</u>	General Motors Corp	09.21.1998	Public	312.74	13.197	5.483	20.92	0.393
<u>Excelsior-Henderson Motorcycle</u>	Investor	09.03.1998	Public	10.00	-	-	-	-
<u>Steyr-Daimler-Puch AG</u>	Magna International Inc	03.24.1998	Public	311.32	-	12,076	24.662	0.382
<u>Indent Rowan Group</u>	Investor Group	05.22.1997	Public	6.98	-	-	-	1.034
<u>Revel Industries</u>	Plastic Omnium(Burelle Hldg)	10.27.1995	Public	95.16	3.605	2.21	8.134	0.639
<u>LML Ltd</u>	Piaggio Adriatica(Piaggio)	10.05.1990	Public	5.00	-	-	58.901	0.247
<u>Harley-Davidson Inc</u>	Investor Group	12.12.1989	Public	11.14	5.251	4.132	12.819	15.133
<u>Norfolk Group PLC</u>	Minty PLC	07.31.1989	Public	26.30	-	-	10.676	0.962
<u>Harley-Davidson Inc</u>	Harris Associates LP	08.16.1989	Public	13.02	3.776	2.972	9.22	11.095
	Mean			199.7	9.7	9.4	28.9	2.0
	Median			34.9	6.5	5.0	16.6	0.8
	NOB				13	17	18	23

Source: Thomson One Banker

APPENDIX I - Piaggio Information Risk



Source: DataStream, Il Sole 24, ANSA, Turquoise Team Estimates

APPENDIX J – Piaggio Liquidity Risk and Trading Cost Analysis

Trading Day	Average Weighted B-A midquote spread (%)	Average CLOB imbalance (%)	Average Implementation Shortfall (basis points) on 100,000 shares	
			Buy Orders	Sell Orders
2010-Jun-7	0.26	60.20	109.78	134.19
2010-Jun-28	0.28	-8.59	194.76	330.84
2010-Sep-21	0.25	-16.08	109.96	80.55
2010-Sep-23	0.22	33.99	81.61	81.87
2010-Oct-13	0.20	-41.41	90.16	42.20
Final estimates			117.25	133.93

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