World Motorcycles

Industry Study with Forecasts for 2011 & 2016

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- Germany Motorcycle Demand by Type

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Developing markets will see the fastest growth in motorcycle demand based on rising income levels and the introduction of higher quality machines featuring the latest technologies.

Global demand to rise 6% annually through 2011

Global demand for motorcycles is forecast to advance 6.0 percent annually to 59 million units in 2011, representing $49 billion in manufacturers’ sales. This growth emanates from a mix of developed market incremental improvements and emerging market expansions. Demand for all categories of motorcycles is expected to remain healthy, despite the plateauing of growth in key markets such as China, which is rapidly transitioning away from motorcycles and toward cars for its transportation needs.

Developing markets to see most rapid growth

The most rapid growth will occur in developing markets, where rising income levels and the introduction of higher quality machines featuring the latest technologies will fuel demand. This growth will be tempered in part by the increasing number of restrictions or outright bans on motorcycle use in urban areas in Asia. In developed markets, fuel prices and increasing restrictions on car use in some regions such as Western Europe are stoking interest in the exceptional fuel economy and cost effectiveness motorcycles offer. While the market for large and expensive high displacement motorcycles will also remain moderately strong, concerns regarding future demand have emerged due to the aging of the customer base, especially in the United States and Western Europe.

Two separate markets exist

Two separate motorcycle markets exist. The first centers on the industrialized Triad (the US, Japan and Western Europe), where motorcycles are seen as pleasure vehicles by consumers who already have one or more automobiles. The other, much larger market in unit terms exists in the emerging economies of Asia, Latin America and the Africa/Mideast region, where motorcycles are seen as primary family and work vehicles. These vehicles are cheaper, smaller and much less powerful than Triad motorcycles, and often feature few leading-edge technologies. China has become a powerhouse in terms of both demand for and production of these types of motorcycles. Competitive intensity is increasing, as evidenced by ongoing price wars in China, Vietnam, Indonesia, Thailand and other Southeast Asian markets. In general, the motorcycle industry appears to be on the verge of a major correction as growth rates moderate, which will likely cause numerous players to exit the market or be taken over. While Asia is dominant in terms of unit volume, most key players derive far higher revenues per unit from sales in developed markets such as North America. The clear profitability implications of this difference reveal why so many manufacturers compete so hard to sell machines in North America. Although North America accounted for only three percent of global demand in unit terms in 2006, it comprised 24 percent of global sales revenue.
MARKETS

With an approximate 50 percent share of India’s motorcycle market in 2006, Honda, including its subsidiary Hero Honda, is the leading player in the market. This position seems assured going forward, as Honda increased its total annual motorcycle production capacity in the market significantly in 2007. Hero Honda’s SPLENDOR sold nearly one million units in 2005, and the company introduced its PLEASURE scooter line in late 2005, and its fuel injected GLAMOUR in 2006. Honda Motorcycle & Scooter India sells the ACTIV A scooter in large numbers, and introduced the SHINE light motorcycle in 2006.

Demand for scooters, mopeds and motorbikes will increase 1.4 percent annually to 1.5 million units in 2011, driven by new products and rising income levels. These machines have been popular in India due to their low purchase and operating costs. Many such machines are two-stroke designs, although these are being replaced by environmentally cleaner four-stroke technologies. Demand growth somewhat for scooters, and larger displacement light motorcycles will continue due to four-stroke technologies in scooters, mopeds and motorcycles likely provide less power than did two-stroke designs, and less attractive than light motorcycles.

Demand for light motorcycles will increase 6.7 percent annually to 9.7 million units, as incomes rise and attractive new models are introduced. India is in the midst of a transition from two-stroke motorcycles and three-wheelers to four-stroke technology to combat air pollution, and this shift is helping to generate demand for newer products. Demand for medium and heavy motorcycles will increase 5.9 percent annually to 80,000 units, as new model 250 cc and higher displacement motorcycles are introduced. Demand in this segment is mostly in the medium motorcycle category, with only a relatively small number of 500 cc and above motorcycles being sold.

TABLE VI-5
INDIA MOTORCYCLE SUPPLY & DEMAND

<table>
<thead>
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<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Population (million persons)</td>
<td>937</td>
<td>1028</td>
<td>1111</td>
<td>1194</td>
<td>1277</td>
</tr>
<tr>
<td>GDP/capita</td>
<td>2300</td>
<td>2720</td>
<td>3620</td>
<td>4800</td>
<td>6070</td>
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<tr>
<td>Gross Domestic Product (bil 2005$)</td>
<td>2157</td>
<td>2798</td>
<td>4020</td>
<td>5735</td>
<td>7750</td>
</tr>
<tr>
<td>Light Vehicle Demand (000)</td>
<td>650</td>
<td>760</td>
<td>1510</td>
<td>2290</td>
<td>3180</td>
</tr>
<tr>
<td>light vehicles/000 persons</td>
<td>0.7</td>
<td>0.7</td>
<td>1.4</td>
<td>1.9</td>
<td>2.5</td>
</tr>
<tr>
<td>motorcycles/000 persons</td>
<td>3.3</td>
<td>4.1</td>
<td>7.6</td>
<td>9.4</td>
<td>9.9</td>
</tr>
<tr>
<td>motorcycle/light vehicle</td>
<td>4.8</td>
<td>5.5</td>
<td>5.6</td>
<td>4.9</td>
<td>4.0</td>
</tr>
<tr>
<td>Motorcycle Demand (000)</td>
<td>3100</td>
<td>4200</td>
<td>8400</td>
<td>11200</td>
<td>12600</td>
</tr>
<tr>
<td>+ net exports &amp; sales from inventory</td>
<td>85</td>
<td>290</td>
<td>282</td>
<td>843</td>
<td>1182</td>
</tr>
<tr>
<td>Motorcycle Production (000)</td>
<td>3185</td>
<td>4490</td>
<td>8682</td>
<td>12043</td>
<td>13782</td>
</tr>
</tbody>
</table>

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Polaris Industries Incorporated
2100 Highway 55
Medina, MN  55340
763-542-0500
http://www.polarisindustries.com

Sales:  $1.7 billion (2006)
Geographic Sales:  (2006, as percent of total) US 74%, Canada 12%
and Other Countries 14%
Key Products:  cruising, touring, sport bikes and standard motorcycles

Polaris Industries designs, engineers and manufactures motorcycles, snowmobiles, all-terrain vehicles, parts and accessories. The Company also markets a line of recreational apparel under the POLARIS brand name.

The Company produces cruising, touring, sport bikes and standard motorcycles under the VICTORY brand name. In 2006, the VICTORY line accounted for sales of $113 million. Typically, VICTORY utilize Polaris’ FREEDOM V-twin engines, which have engine displacements of up to 1,721 cubic centimeters. The line includes VEGAS, VEGAS JACKPOT, KINGPIN, HAMMER and 8-BALL. In January 2007, Polaris introduced the VICTORY VISION motorcycle, which is the Company’s first luxury touring model. According to the Company, Polaris’ primary competitors for cruising and touring motorcycles are Harley-Davidson (US), Bayerische Motoren Werke (Germany), Honda Motor (Japan), Kawasaki Heavy Industries (Japan), Suzuki Motor (Japan) and Yamaha Motor (Japan).

Motorcycles and other products are made at a 23,220-square-meter site in Spirit Lake, Iowa, and at a 57,140-square-meter plant in

TABLE VI-6
INDIA MOTORCYCLE DEMAND BY TYPE (thousand units)

<table>
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</tr>
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<tbody>
<tr>
<td>Population (million persons)</td>
<td></td>
<td></td>
<td>777</td>
<td>999</td>
<td>999</td>
</tr>
<tr>
<td>motorcycles/000 persons</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Motorcycle Demand</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Scooters, Mopeds &amp; Motorbikes</td>
<td>3100</td>
<td>4200</td>
<td>8400</td>
<td>11200</td>
<td>12600</td>
</tr>
<tr>
<td>Light Motorcycles</td>
<td>1290</td>
<td>1300</td>
<td>1350</td>
<td>1450</td>
<td>1500</td>
</tr>
<tr>
<td>Medium &amp; Heavy Motorcycles</td>
<td>1790</td>
<td>2850</td>
<td>6990</td>
<td>9670</td>
<td>10900</td>
</tr>
<tr>
<td>$/motorcycle</td>
<td>470</td>
<td>520</td>
<td>570</td>
<td>620</td>
<td>670</td>
</tr>
<tr>
<td>Motorcycle Demand (mil $)</td>
<td>1465</td>
<td>2172</td>
<td>4750</td>
<td>6900</td>
<td>8400</td>
</tr>
</tbody>
</table>

“Demand for motorcycles in India will increase 5.9 percent annually to 11.2 million units in 2011, driven by rising incomes and the continued motorization of the subcontinent. Motorcycle demand remains strong, and continues to rise in per capita terms.”

--Section VI, pg. 139
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<table>
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<th>Phone</th>
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**Name**

**Title**

**Company**

**Division**

**Street**

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Industries analyzed by Freedonia include:

- Chemicals
- Plastics
- Life Sciences
- Packaging
- Building Materials
- Security
- & Electronics
- Industrial Components & Equipment
- Automotive & Transportation Equipment
- Household Goods
- Energy/Power Equipment

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