

# The Italian Sports Car Cluster



Aaron Bigbee - Francisco Irarrazaval - Felipe Raddatz - Adam Ross - Aparna Sarma  
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# I. Country Analysis

## Historical Background

Although Italy's territory has been in the center of historical events for over three thousand years, the modern country of Italy has only existed since the late 19<sup>th</sup> century. The modern country began with the defeat of Napoleon in 1815 and it ended after the Franco Prussian war in 1871. The parliamentary government that was then established came to an end in the early 1920s, when Benito Mussolini established a fascist dictatorship. He later made an alliance with Nazi Germany that led to Italy's defeat in World War II. In the year 1946, a democratic republic was set up, and Italy experienced a sustained period of strong economic growth.

After WWII, Italy became a charter member of NATO and was involved from the outset in the creation of the European Community. Italy joined the European Monetary Union in 1999.

Located in southern Europe, extending from the Alps to the central Mediterranean Sea, the country enjoys a privileged location at the center of Europe. This location has influenced and enriched Italy's culture, while helping create a long and diverse legacy of art. Among its population are small groups of German and French natives, and smaller groups of Slovene-Italians in the north and Albanian-Italians and Greek-Italians in the south. The predominant religion is Roman Catholic with mature Protestant and Jewish communities and a growing Muslim immigrant community. This diversity further enriches Italy's artistic legacy.

## Political and Judicial Background

The 1948 Constitution established a bicameral parliament, and a complete separation of the nation's three powers: executive branch, legislative and judiciary. Parliament members are elected for five-year periods directly by Italian citizens. The minimum voting age is 18 for the lower camera and 25 for the senate. Italian Presidents are elected for seven years by members of the parliament. The president nominates the prime minister, who proposes the other ministers; both officials require the support of both cameras.

“The President of the Republic represents the unity of the nation and has many of the duties previously given to the king of Italy. The president serves as a point of connection between the

three branches of power: he is elected by the lawmakers, he appoints the executive, and is the president of the judiciary. The president is also the commander in chief of armed forces”<sup>1</sup>

Members of Parliament used to be elected by proportional representation (PR) in multi member electoral districts. This system produced a highly fragmented legislature and high rates of government turnover. From 1945 to 1993, there were a total of fifty-two governments, which on average lasted less than a year in office.

In August 1993, after a period of political turmoil, a new electoral system was adopted. 75% of the representatives would be elected using a single member representative by district, while the remaining 25% would be elected by PR. After the adoption of the new electoral system, things seem to have improved, but not as much as expected. “Italy has had eight governments over the course of the past eleven years, which on average have lasted a little more than a year in office.”<sup>2</sup> In 1999 and 2000 there were two referendums attempting to eliminate the 25% of the chamber seats being filled through PR, but both were not approved due to low voter turnout. Nevertheless, polls indicate that there is an increasing frustration among the Italian citizens with the instability of their political system, so an eventual reform is likely to happen.

The Italian constitution grants total independence to the judges. Nevertheless, reality seems to have been radically different: “In 1992, a number of public prosecutors, succeeded in breaking down the wall of silence and complicity that had concealed widespread corruption perpetrated for years by Italian politicians, civil servants and entrepreneurs to finance political parties. Well-known businessmen, top-ranking political leaders and ministers had to face the shame of imprisonment; even a former prime minister avoided imprisonment only by leaving the country and living abroad. This was dubbed by journalists the *Clean Hands* campaign.”<sup>3</sup>

After the *Clean Hands* campaign, prosecutors and magistrates (mainly from Milan) achieved historical rates of approval, and political parties lost voter confidence. The Christian Democrats, a perennial government power, and the Socialists were dissolved. New political parties were created to take their place.<sup>4</sup>

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<sup>1</sup> Wikipedia: “Politics of Italy”.

<sup>2</sup> Ibid.

<sup>3</sup> Kessler (2004).

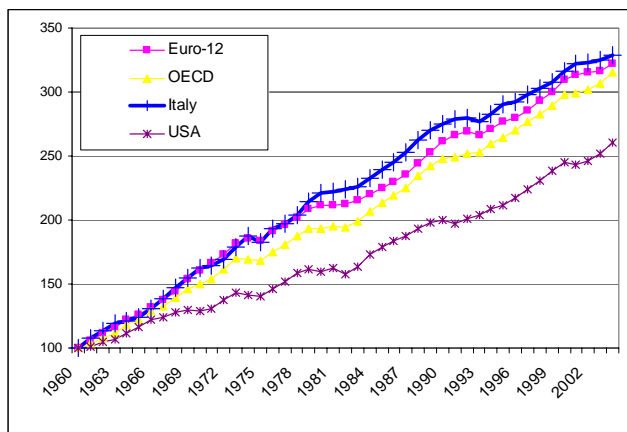
<sup>4</sup> Ibid.

## Recent Economic Performance

"Italy has very serious economic problems. It needs an injection of free-market, liberal, economic reforms." -Alberto Alesina, Chairman of Harvard Economics Department<sup>5</sup>

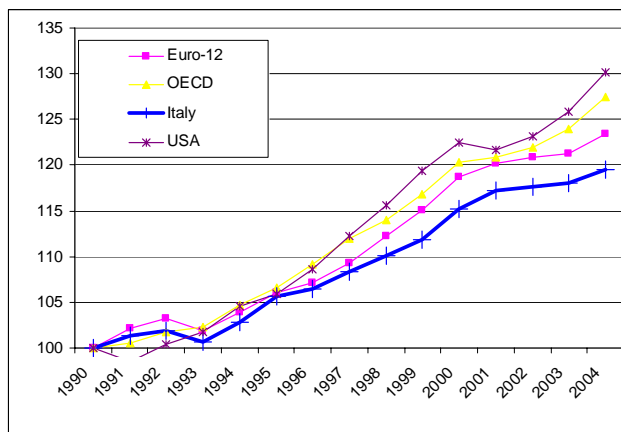
Italy's long run performance, measured by growth in GDP per capita, appears on-par with peer countries since 1960 (Exhibit 1). However, a closer look at the last 15 years seems to indicate that Italy is falling behind (Exhibit 2). Italy's annual growth in GDP per capita from 1990 to 2004 is a mere 1.29%, compared with the 1.52% of Euro-12 and the 1.90% achieved by the U.S. This is why *The Economist* refers to Italy as "Europe's laggard."<sup>6</sup> Why is this happening? The proximate cause pointed out by most onlookers is productivity. Data indicates that Italy is not only failing to increase its productivity, but is even becoming less so: labor productivity fell by 0.1% annually in the period 2000-04.<sup>7</sup>

**EXHIBIT 1:** Real GDP per capita, 1960-2004  
(1960=100)



Source: World Bank Development Indicators

**EXHIBIT 2:** Real GDP per capita, 1990-2004  
(1990=100)



Source: World Bank Development Indicators

In 2005, Italy had a fiscal deficit of 4.3% of GDP. Authorities are targeting 3.5% for 2006 and below 3% by 2007 (which is the Euro Zone maximum limit). This adjustment will be achieved mostly by expenditure cuts and strict implementation of budget controls. Total governmental

<sup>5</sup> Alesina (2006).

<sup>6</sup> *The Economist* (Nov 2005).

<sup>7</sup> As measured by GDP per hour worked. Groningen Growth and Development Centre.

outstanding debt exceeds 100% of GDP. While the fiscal deficit and overall debt levels have not increased the interest rate so far, but are likely to do so in the coming years.<sup>8</sup>

Inflation has been an enormous issue in Italy's past. The country struggled with chronically high inflation throughout the 1980s and early 90s. With the adoption of the euro in 1999, however, the country gave up monetary autonomy and now enjoys a strong, stable currency.

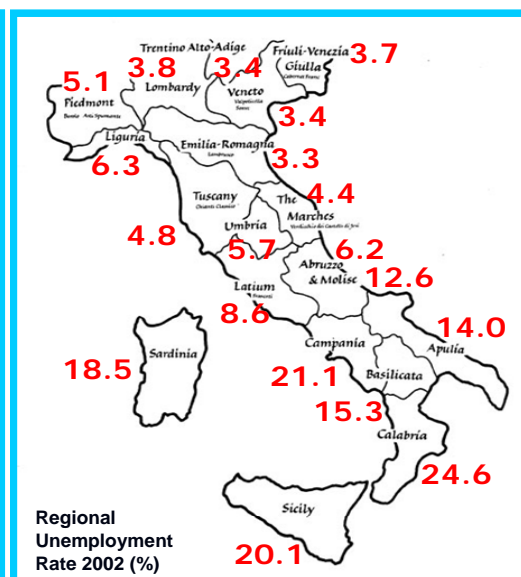
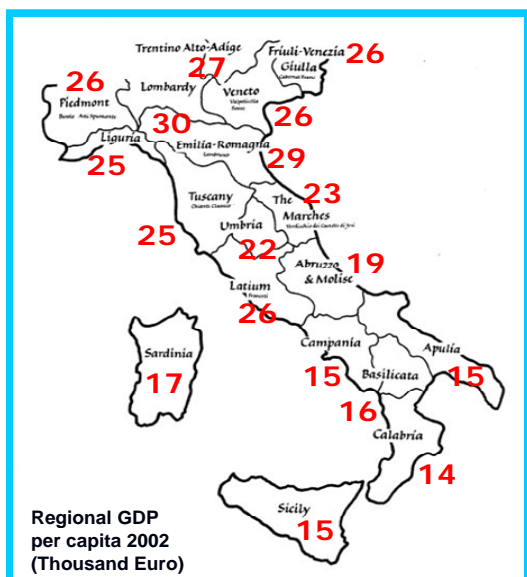
The Italian population has remained constant at 58.1 million for the last 3 years. Nevertheless, labor force participation has increased, due to population replacement by foreign immigrants. Immigration is a "new phenomenon" in Italy<sup>9</sup>, the country having been for many years a net supplier of emigrants. Unemployment rates have fallen from 11.4% in 1998 to 7.7% in Q3 2005, the result of a successful government initiative to reform the labor market and wages in 2000.<sup>10</sup>

### Differences between Northern and Southern Italy

An interesting characteristic of Italy is the significantly different economic performance in northern regions versus the southern ones. Northern Italy has a significantly higher level of income and lower rate of unemployment (see Exhibits 3 and 4). Furthermore, Northern Italy is among the richest regions in all of Europe, when measured by disposable income (see Exhibit 5).

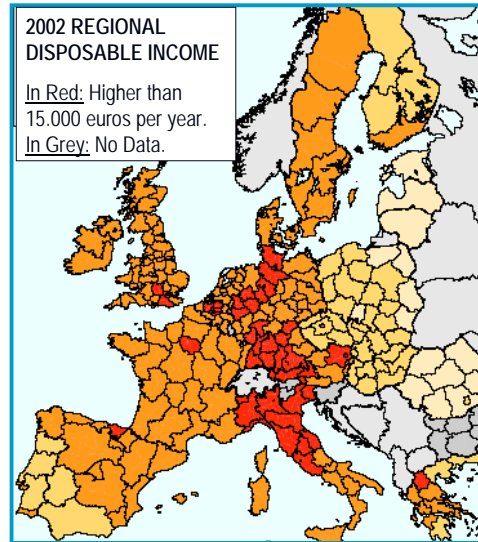
**EXHIBIT 3:** Regional GDP per Capita 2002

**EXHIBIT 4:** Regional Unemployment Rate 2002



<sup>8</sup> IMF (March 2006).  
<sup>9</sup> Bertozzi (Nov 2002).  
<sup>10</sup> IMF (Feb 2006).

**EXHIBIT 5:** Regional Disposable Income, Europe 2002.



Source: Eurostat

## Italian Clusters

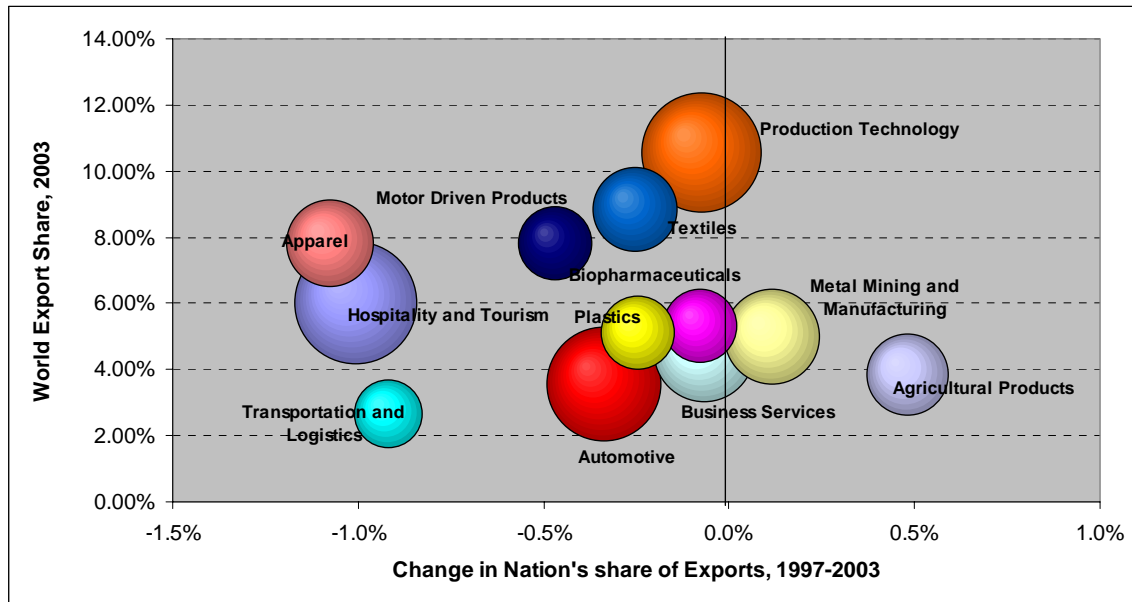
Exhibit 6 shows the composition of Italy's biggest clusters in terms of export value, according to the International Cluster Competitiveness Project (ICCP). Included in the graph are 12 clusters, all of which had an export value of more than \$10 billion in 2003.

Italy's agricultural and metal, mining and manufacturing clusters have experienced the most growth over recent years. Italy's largest clusters, production technology, hospitality and tourism, and automotive, have been stagnant or declining. Other findings include:

- Exports of goods, including automotive, are sent mostly to Europe (72%).
- Italy's natural resources exports account only for 0.5% of its GDP and 2.4% of exports.
- Italy has the most industrially-diversified exports in the ICCP sample, measured by the lowest percentage of exports concentrated in the Top 50 Industries (42%).
- Italy has significant strength at the cluster level in world markets (Table 1): Seven Italian clusters are among the top 3 in the world, and 15 are in the top 5 (from a sample of 42 clusters), giving Italy a 17% and 36% share. Similar strength exists with sub-clusters.

- The automotive cluster is the third largest in the country. Exports of \$28 billion in 2003. Ranked 10<sup>th</sup> in the world.

**EXHIBIT 6:** Italy Exports portfolio by Cluster, 1997-2003



Source: International Cluster Competitiveness Project.

**TABLE 1:** Italy: World position among ICCP Clusters and Subclusters. 2003

Type	Total clusters/ subclusters in sample	Italy: Number positioned in the Top 3 worldwide	Italy: Number positioned in the Top 5 worldwide
ICCP Clusters	42	7	15
ICCP Sub-Clusters	231	64	96

Source: Business Competitiveness Index 2005

## II. Business Environment

Italy is among the richest countries in the world, with development indicators comparable to its European peers and the OECD average. However, data on Italy's business environment

illustrates a different picture. Table 2 shows the latest results from the leading indicators on business environment.

**TABLE 2:** Italy's GDP and Leading Business Environment Indicators

Indicator	Italy's Rank	Total Sample
GDP Per Cap. PPP – The World Bank	19	159
Business Competitiveness Index – Institute for Strategy and Competitiveness	38	116
Growth Competitive Index – World Economic Forum	47	117
Economic Freedom – The Heritage Foundation	42	150
Ease of Doing Business – The World Bank	70	155

Sources: Various, as Indicated.

Italy ranks surprisingly low in many areas related to doing business, and when we look at its BCI ranking (in Exhibit 7) versus per-capita GDP, we see that here, too, Italy is a large outlier. The results from these analyses suggest a challenging question: *How does Italy achieve such high levels of income with a relatively poor business environment?*

**EXHIBIT 7:** Predicting GDP using the Business Competitiveness Index

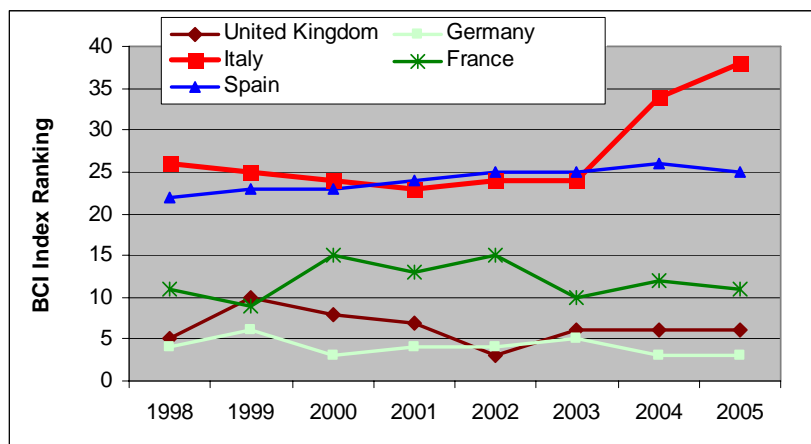


Source: Institute for Strategy and Competitiveness



There are a few possible reasons, all of which likely play a role. The first is that the worsening business environment is a relatively recent phenomenon and therefore isn't yet reflected at a macroeconomic (GDP) level. Exhibit 8 shows that the decline in BCI ranking has really only happened since 2004. If this is true, Italy should be urgently concerned about repairing this and maintaining its ability to generate economic growth going forward (keeping in mind that the results could simply be a reflection of discontent with the Berlusconi administration's policies).

**EXHIBIT 8:** BCI Index Ranking, Selected European countries, 1998-2005.



*Source: Institute for Strategy and Competitiveness*

The second possibility is that Northern Italy is being dragged down by Southern Italy. I.e., the substantial differences between Northern and Southern Italy mean that the averages are masking a quite healthy business environment in the North and a quite unhealthy one in the South.

The third possibility is that the Italian clusters might simply be less affected by government policies than other countries. Italy may have a relatively poor business environment, but it is possible that individual clusters and firms still thrive under such a regime. Indeed, if we look at the results at the microvariables using the BCI index the best issues seem to relate to firms, while the worst relate mostly to “macro” issues (see Tables 3 and 4). The data from Table 1, indicating the strength of Italy's clusters and sub-clusters in world markets, also supports this hypothesis.

Further, the national diamond in Exhibit 9 shows that Italy's worst rankings appear under “factor conditions” and “context for firm strategy and rivalry” (average rankings of 51 and 47 respectively), while better results are achieved among “demand conditions” and “related and supporting industries” (average rankings of 32 and 27). Given that the business environment

tends to affect factor conditions and firm context more, this also seems to lend credence to the third hypothesis.

**TABLE 3:**

Italy: Best Microvariables results from BCI

Type	Variable Name	Rank
Company Operations and Strategy	Value chain presence	8
Company Operations and Strategy	Nature of competitive	14
Company Operations and Strategy	Capacity for innovation	19

Source: Business Competitiveness Index 2005

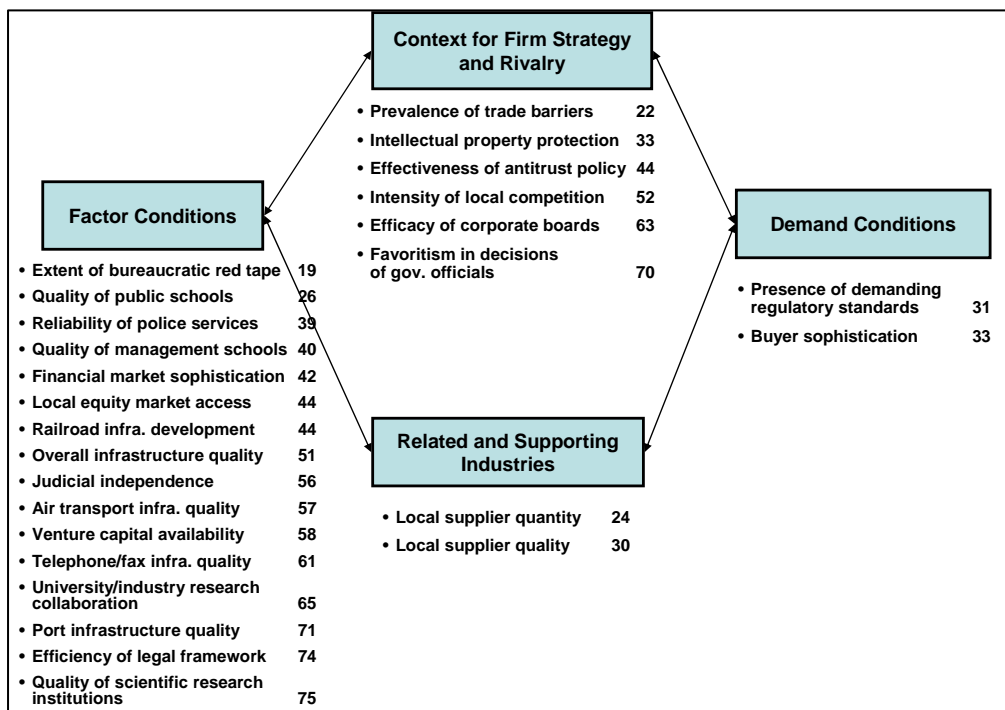
**TABLE 4:**

Italy: Worst Microvariables results from BCI

Type	Variable Name	Rank
Business Environment: Firm strategy and	Favoritism in decisions of govt. officials	70
Business Environment: factor conditions	Port infrastructure quality	71
Business Environment: factor conditions	Efficiency of legal framework	74
Business Environment: factor conditions	Quality of scientific research institutions	75
Company Operations and Strategy	Reliance on professional mgmt	87

Source: Business Competitiveness Index 2005

**EXHIBIT 9:** National “Diamond”, with rankings of Microvariables from BCI Index.



Source: Institute for Strategy and Competitiveness

Another interesting phenomenon in Italy's business environment is the prevalence of small-medium enterprises (SMEs), particularly in manufacturing. Two-thirds of Italian manufacturing workers are in firms with fewer than 100 employees, versus 37% in the U.S. and 31% in Germany. Italy has more SMEs than any other country in Europe—more than 50% more than Germany, the next largest.<sup>11</sup> *The Economist* argues that a globalizing world puts a premium on size, so that Italy's SME legacy will be forced to change.

### **III. The Italian Sports Car Cluster**

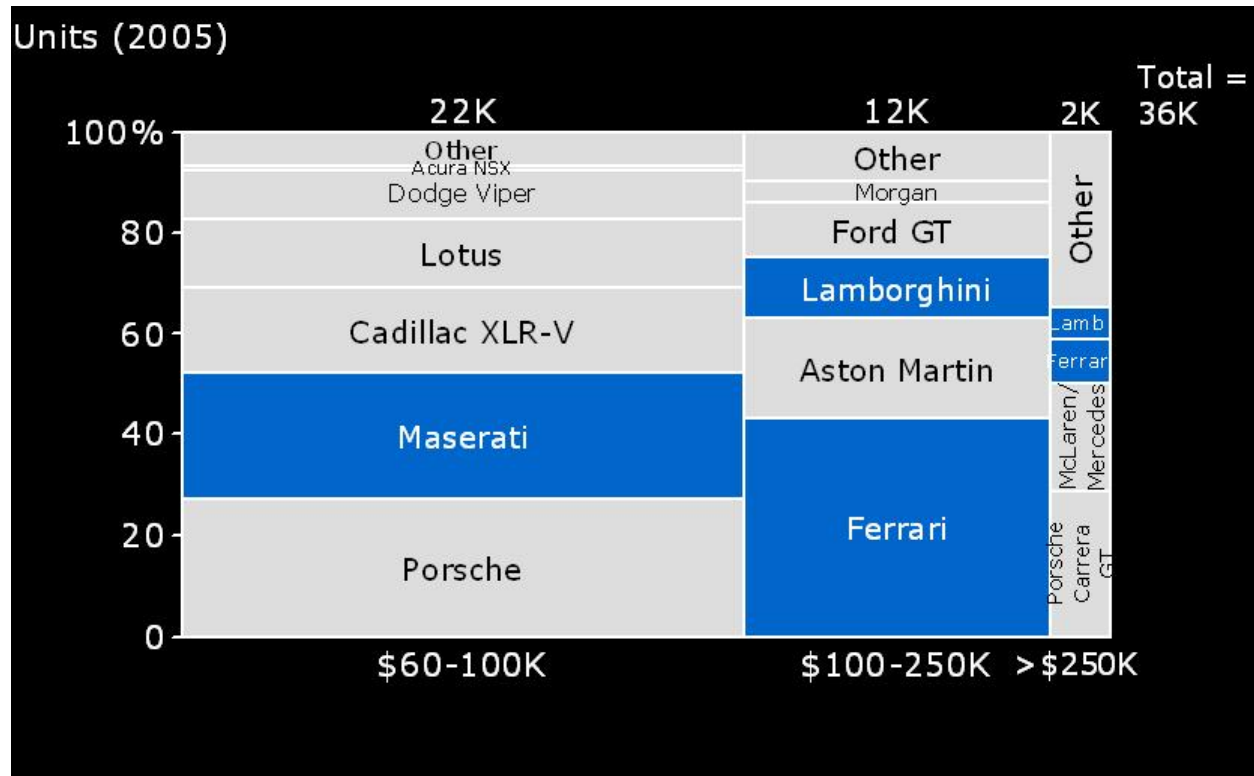
#### **Cluster History and Key Firms**

Modena, Italy, the home of the Italian sports car cluster, is known as the "international capital of sports cars." It is the birthplace of Ferrari, Lamborghini, Maserati and De Tomaso. The first three of these (De Tomaso no longer manufactures cars) comprise the core of the cluster we will be analyzing. All three companies have their headquarters within a 15-km radius of one another. This small geographic area produces a surprisingly large portion—nearly a third, overall—of the high end sports car units sold worldwide every year (see Exhibit 10). Note that the total size of the market is small, consisting of merely 36,000 units a year (or \$5-6B).

#### **Exhibit 10: Market Map of High-end Sports Cars**

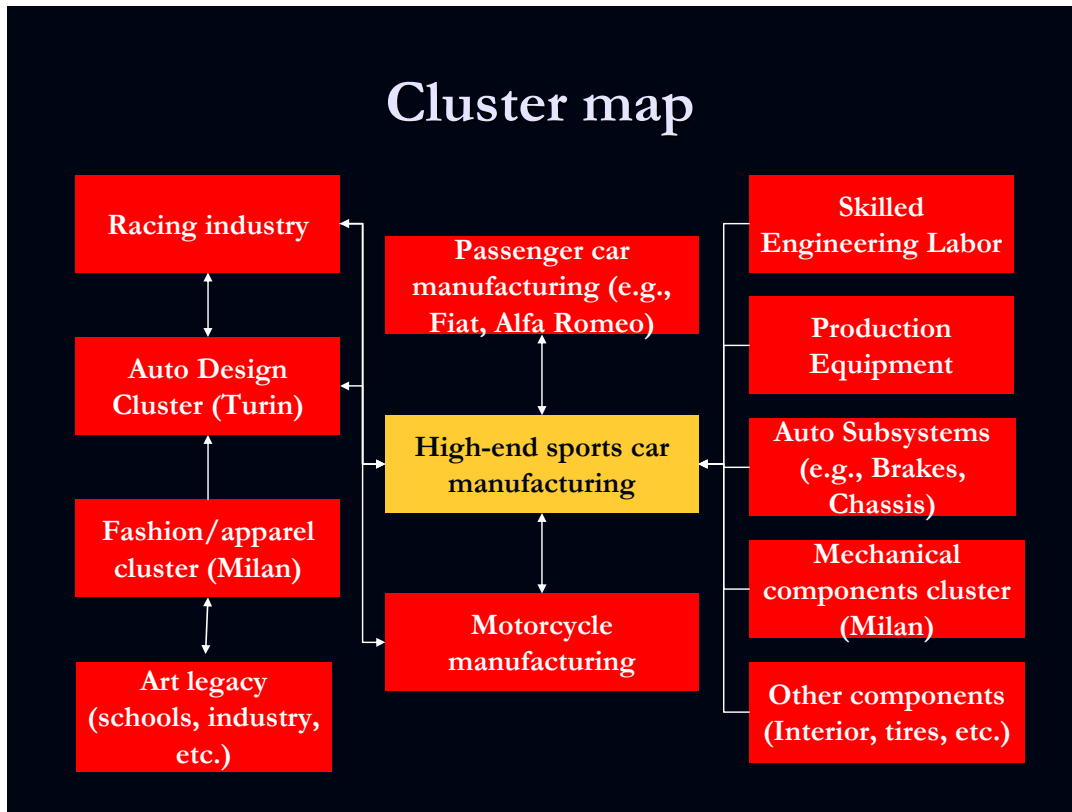
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<sup>11</sup> *The Economist*, Nov 2005.



While we will primarily focus on the sports car manufacturers, the broader cluster includes a number of car manufacturing and related industries such as design firms, racing clubs and auto supply manufacturers (see cluster map below).

Exhibit 11: Cluster Map



### Fiat

Fabbrica Italiana Automobili Torino, one of the oldest surviving car makers in the world, serves as both the historical and the present anchor firm in Italy's broader sports car cluster. It was founded in 1999 in the town of Turin, 150 miles from Modena, during a period of dynamic industrial expansion. Fiat initially produced diversified products such as commercial vehicles, marine engines, trucks, trams, taxicabs and ball bearings. However, during World War 1, Fiat increased its industrial capacity to become a primary supplier of Army trucks, airplanes, ambulances, machine guns and submarine engines.<sup>12</sup>

Since the 1970s, Fiat's fortunes have steadily declined. In addition to strikes, an oil crisis, and some unsuccessful product designs, the company saw its local market share decline after Italy's entrance into the European Union. Due to problems in quality control and decreased sales, Fiat had to cease operations in the United States. In spite of this, Fiat has historically been the most powerful automobile firm in Italy, and has exercised this by acquiring other companies. In 1969,

<sup>12</sup> AutoZine

Fiat reached an agreement with Enzo Ferrari to take over a majority share of Ferrari's stock. Fiat acquired Lancia in 1978 and Alfa Romeo in 1986.

Further consolidation took place in 1993, when DeTomaso sold its 50% share of Maserati to Fiat. The remaining 50% was bought in 1997. Thus, since the 70's, Fiat has acquired Lancia, Ferrari, Alfa Romeo and Maserati, hence controlling over 90% of local production.<sup>13</sup>

### Alfa Romeo

Before the arrival of Ferrari, Alfa Romeo was known as the most prestigious sports car brand, due to its unparalleled success on the race track. Alfa's racing team became world famous in the 1920's, after manufacturing a string of sports cars that dominated international competition.<sup>14</sup>

The company was established in 1910 by a group of Italian car enthusiasts in the Portello district of Milan, a mere 110 miles from Modena. After going bankrupt in 1933, Alfa was bought by a state-owned company operated by the Italian government. The government grew tired of subsidizing the loss-making operation, and ultimately it was sold to Fiat in 1986.

In 2005, Fiat placed Maserati under the control of Alfa in an effort to encourage the sharing of platforms and components in the future. Alfa's sales have been on the rebound in recent years and reached as high as 180,000 in 2004. However, Alfa Romeo models no longer compete in the sports car market. Since Alfa terminated its racing team in the 1930's, it has mainly focused on sedans and passenger cars.

### Maserati

Maserati was founded in 1926 by the Maserati brothers in Modena. In 1947, the Maserati brothers lost control of the company due to financial troubles. For nearly three decades it only produced race cars, which finally won the GP world championship in 1957.

In 1993, Fiat took over a 50% stake in Maserati and repositioned the brand as a sportier version of the Lancia. Maserati models were priced in the lower-tier segment of the high-end market that comprises cars priced \$60-\$100K.

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<sup>13</sup> Ibid.

<sup>14</sup> Ibid.

In 1999, Fiat asked its Ferrari division to take over the remaining 50% ownership of its former arch-rival Maserati and upgrade the cars and production process. In addition to doing this, Ferrari improved the quality of the Maserati brand and refined its image. In 2005, Fiat took back Maserati and re-organized it under Alfa Romeo.

### Ferrari

Ferrari is the most recognized sports car manufacturer in the world, mainly because of its success on the race track. Since Enzo Ferrari established the company in 1929, Ferrari has raced in various categories including Formula 1, Formula 2, GT racing and endurance racing. Most notable is the Formula 1 team, which has won 8 constructor titles on its way to becoming the most winning team of all time.<sup>15</sup>

After serving in World War I, Enzo found work as a test driver in Turin in 1918. In 1920, he moved to Alfa Romeo and established a career that took him from test driver to the post of Director of the Alfa Racing Division. In 1929 he founded Ferrari with the purpose of organizing racing for its members. The company continued to help Alfa Racing, until after World War II, when it began to develop its own cars.

Since 1969 Ferrari has been a subsidiary of Fiat. In terms of production capacity, it is smaller than Porsche, but bigger than Lamborghini and Lotus. Ferrari sales have continued to increase steadily since 1998 (see Exhibit 12 below). All facilities are located in Maranello, including factory, development center, F1 team and the famous test track.

### Lamborghini

Lamborghini is the only sports car brand that rivals the prestige of Ferrari. The company was started in 1963 when Ferruccio Lamborghini, a successful Modena tractor maker and sports car enthusiast, had an argument with Enzo Ferrari over some problems he was having with his Ferrari. Lamborghini decided to build his own plant and make cars to compete with Ferrari.

He built a new advanced factory 15km away from Maranello and employed famous Italian engineers to design the new cars. In 10 years, Lamborghini had designed and manufactured the

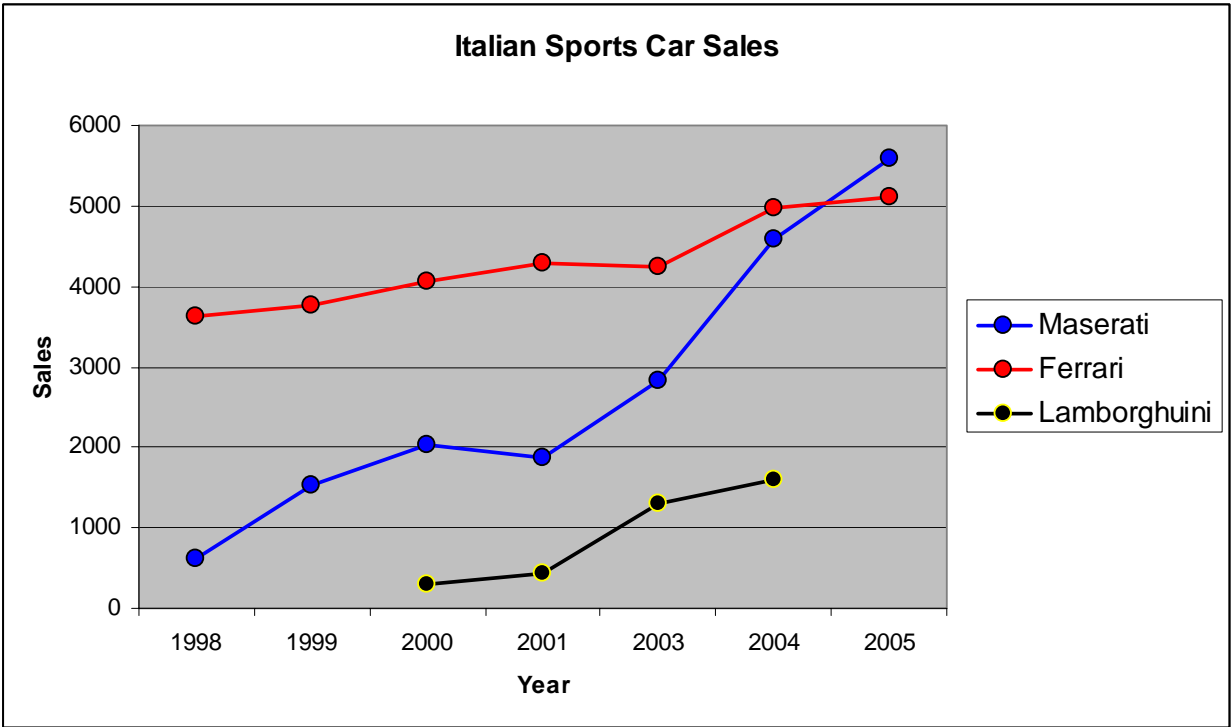
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<sup>15</sup> Wikipedia: "Ferrari"

famous Miura and Countach, both of which are considered among the greatest super cars of all time.

Like many other sports car firms, Lamborghini frequently suffered losses due to a lack of cost control, as well as the rising and falling popularity of his vehicles. Lamborghini finally sold the factory in 1972 and production was stopped for 2 years. After shifting hands a few times, Lamborghini was bought by Volkswagen and put under its Audi subsidiary in 1998. Given VW's financial strength and quality standards, sales have been strong for recent Lamborghini models.

**Exhibit 12:** Italian Sports Car Sales



*Source: Company websites, Fiat Group Financials*



## **Cluster Diamond**

All segments of the cluster diamond are relevant in this case, but we believe that demand conditions and legacy factors—particularly the racing legacy and successful fashion and art clusters—were the initial causal factors for the emergence of the cluster.

### Demand Conditions

There are three factors that explain the strength of the demand conditions in the cluster:

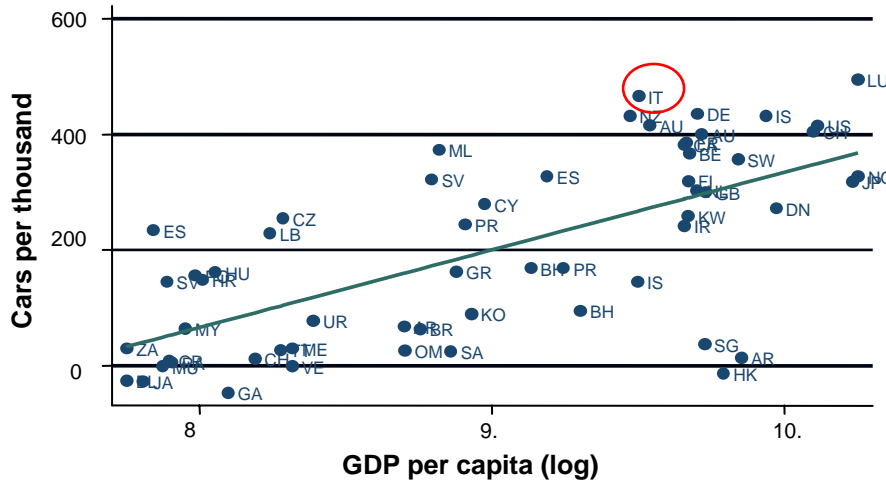
#### *1. Racing Legacy*

Italy was the home of both Gran Turismo and Formula 1 racing, the two most prominent forms of car racing before the birth of NASCAR in the US. These forms of racing have historically been the driving force behind car innovation and the burgeoning of the sports car industry. Grand Turismo in particular was made famous in Italy by two premier GT races, the Targa Florio in 1906 and the Mille Miglia in 1927. Such races featured the debuts of sports cars by Ferrari, Porsche and Maserati. Formula 1 had its first official race in Turin in 1946 and has historically been dominated by Italian teams, with Alfa Romeo in initial years and Ferrari in the last decades. Today, three of the 18 worldwide Formula 1 races are held within a 300 km radius of Modena: Monaco, San Marino, and Monza, Italy.

#### *2. Italian Affinity for Cars*

As we can see from Exhibit 13, given Italy's level of GDP per capita, it has an extremely high penetration of cars per thousand. In fact, Italy has the second highest absolute car penetration behind Luxembourg.

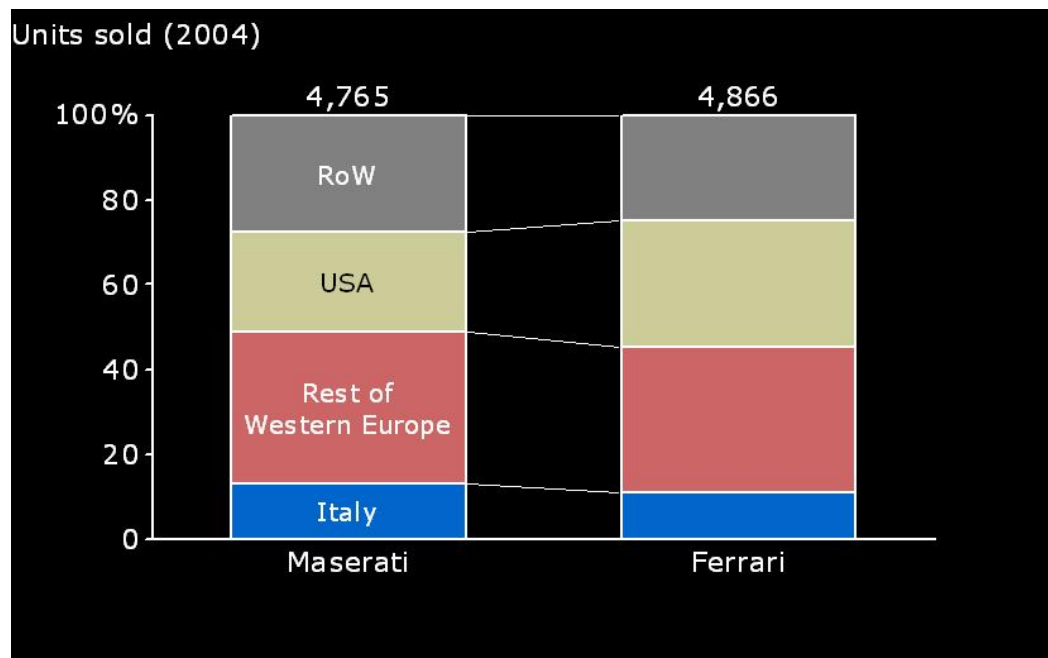
**Exhibit 13: Cars per capita vs. GDP per capita**



**3. Access to Large Markets for Sports Cars**

Due to its geographic location and its affinity for cars, Italy has a strategic advantage in serving the key markets for sports cars. Italy represents nearly 10% of sales for both Maserati and Ferrari (see Exhibit 14 below). Additionally, the largest market for each brand is Western Europe, which is easily serviced from Northern Italy.

**Exhibit 14: Sales by geography**



Source: Fiat 2005 Investor Presentation, Fiat Group Financials (Form 20-F)

## Context for Firm Rivalry and Strategy

As a natural outcome of the close proximity of these sports car companies, as well as their small size and legacy of family involvement, the history of the big three firms is closely related. Their rivalry, therefore, springs from their competition not only in the marketplace, but much more importantly on the race track and at the personal level.

### *1. Ferrari and Alfa Romeo*

Enzo Ferrari began his career at Alfa Romeo in 1920, where he rose to be the Director of the Alfa Racing Division. He quit in 1929 to establish his own company, with the sole purpose of racing. Enzo continued to be involved with Alfa's racing team until 1947, when his company produced the first car bearing the Ferrari name. Ferrari had signed a non-competition agreement with Alfa during this time, and therefore was explicitly able to compete with Alfa only after World War II.

### *2. Ferrari and Lamborghini*

Enzo Ferrari and Alfa Romeo's rivalry was not nearly as fierce as that between Ferrari and Ferruccio Lamborghini. While Ferrari maintained close ties with Alfa Romeo even after his resignation in 1929, Lamborghini was set up with the sole purpose of competing against Ferrari. Ferruccio Lamborghini established his company 15 km. from Maranello in 1963, after receiving his famous challenge from Enzo. This rivalry, built by the strong personalities of both Ferrari and Lamborghini, fed both firms' competitive drive and innovation.

### *3. Boutique Firms*

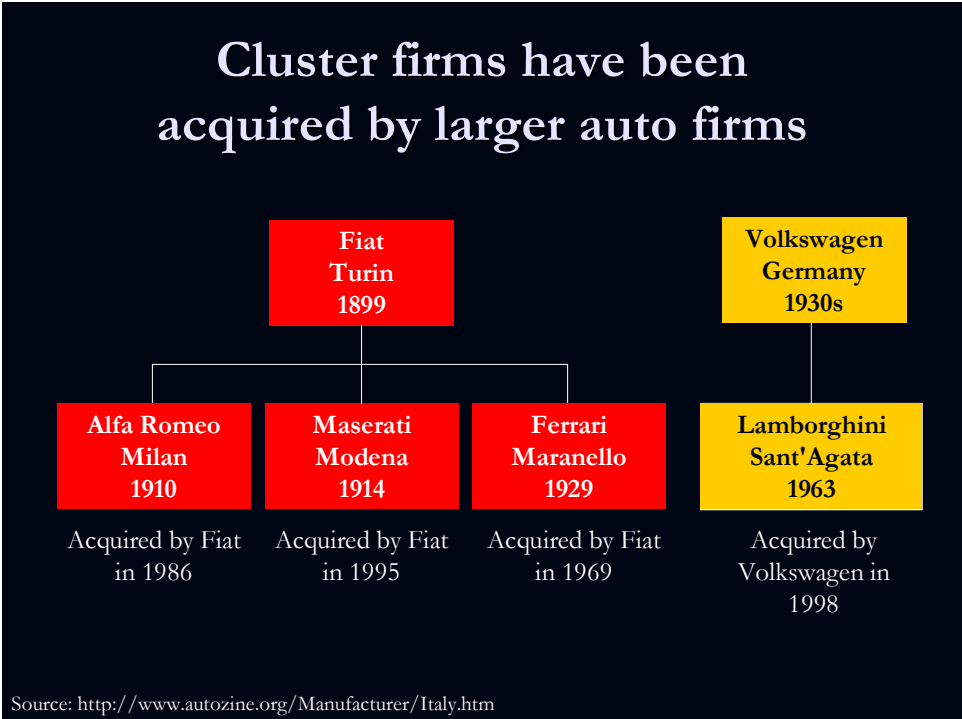
The context in which Italian sports car manufacturers operate is extremely dynamic. While the three major players have maintained a steady presence since their establishment (with the exception of production stoppages at Maserati in the past), there are several boutique firms which have rapidly risen to prominence, and then fallen, usually with the death of their founders. One example of such a firm is De Tomaso, which was set up by Alejandro de Tomaso, an Argentine who fled his country to move to Italy in 1955. He built his first sports car in 1963 (in Modena), and sold an estimated 9,500 cars until 1990 through a partnership with Ford. As he grew older, however, the company suffered from a lack of leadership and vision, and was eventually dissolved when de Tomaso died in 2003.

There are several other boutique firms operating in Italy which make a small number of extremely expensive, limited edition models. These firms may make a handful of cars in one year but then not manufacture any more for another few years. These firms tend not to have the staying power enjoyed by the larger firms, particularly now with corporate ownership..

4. *Acquisitions by Large Firms*

In recent years, there have been a series of acquisitions in the Italian sports car cluster, resulting in its consolidation under larger auto firms. The first of these acquisitions occurred in 1969, with Fiat buying Ferrari. Fiat went on to solidify its stake in this industry by acquiring Alfa Romeo in 1986 and Maserati in 1995. Lamborghini was acquired by Chrysler in 1987, and then by Volkswagen in 1998. Exhibit 15 shows the current ownership structure.

**EXHIBIT 15:** Consolidation of the Cluster



Although the cluster firms now function as subsidiaries of Fiat and Volkswagen, the relationship does not necessarily conform to the stereotype of corporate takeovers of small firms, where the latter’s culture and vision is fundamentally altered by the larger firm. Fiat has allowed Ferrari to retain its autonomy, as can be seen from the continuation of Ferrari’s policy to cap the maximum number of cars produced annually. From a revenue standpoint, Fiat (and Ferrari) would stand to gain substantially by easing this constraint, but there seems to be an understanding within Ferrari

and at the higher levels at Fiat, that this would not be in the long-term interests of Ferrari, which prides itself on its exclusivity. However, it should be noted in this context that as a result of the joint ownership of Ferrari and Maserati, Fiat has repositioned Maserati so that it no longer competes directly in the same price segment as Ferrari (Exhibit 10). Observers believe that Fiat and Maserati's access to the resources of Fiat have enabled them to survive cyclical and demand slumps better, and thus not share the fate of smaller firms which are more likely to go out of business during a downturn.

### Factor Conditions

Two main factor conditions contributed to the emergence of this cluster. The first was the historical legacy of small-medium manufacturing enterprises in Italy. As discussed above, Italy has the strongest SME tradition in the industrialized world, by a long shot. It seemed natural to the entrepreneurs in this cluster to undertake manufacturing on their own, building small businesses constructing highly-specialized products. This tradition also meant that banks were familiar and comfortable with financing arrangements for small manufacturing firms.

The second factor condition was the availability of skilled professionals in design and engineering in the area. Bologna, which is 25 miles from Modena, was home to Europe's oldest university, and the University of Bologna is known for producing qualified engineers. Milan and Florence both boast a number of top-rated design and architectural institutions.

### Related and Supporting Industries

Related and supporting industries are extremely important to this cluster. The industries involved are depicted on the cluster map above (Exhibit 11). Because sports car manufacturers live and die by creative and innovative design, the most important supporting industry is the auto design cluster. Ten of the top design firms in the world are located in Turin and all three cluster manufacturers have close relationships to one or more of these. The most well-known is the relationship between Ferrari and Pininfarina, which dates back 50 years.

Other industries play supporting roles as well. The racing industry (as mentioned before) has its roots in Italy: several Formula One Gran Prix races take place within a relatively small radius of Modena. Another industry that supports the strong demand for racing is motorcycle production.

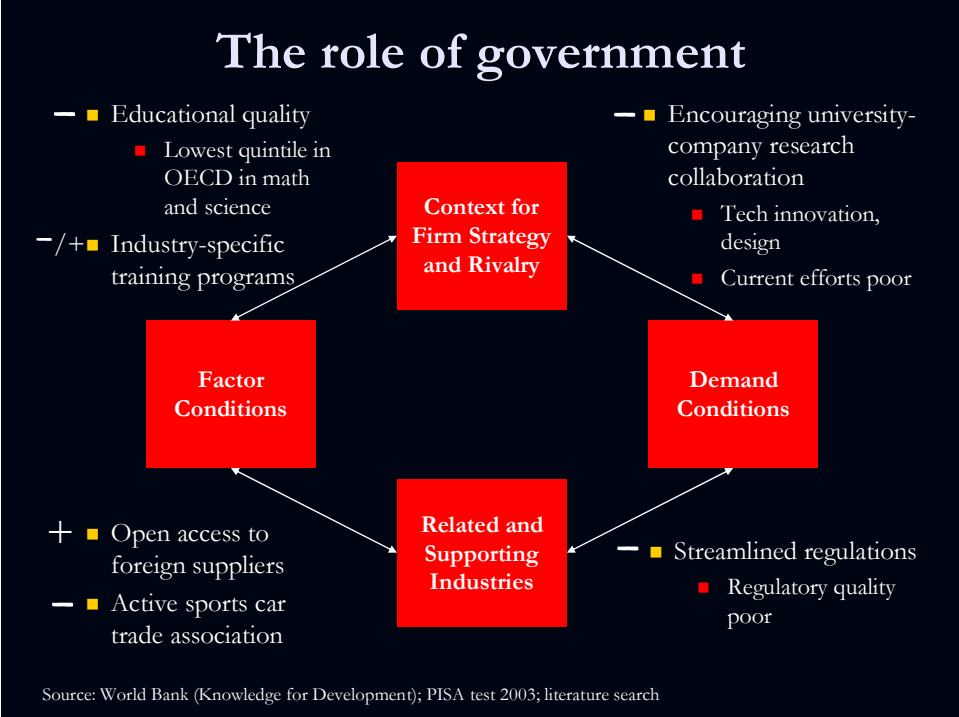
At least 10 well-known motorcycle manufacturers, including world leaders like Ducati and Piaggio, are headquartered in Northern Italy.

Less directly related, but no less important, are the fashion and art industries. Milan is the fashion center of Italy (and one of the leaders in the world) and Florence, another city in the north, is considered by many to be the intellectual and artistic home of Italy. The country’s rich artistic legacy dates back centuries. These legacies are believed to provide the basis for a high standard for design and engineering in sports cars.

**Role of Government/IFCs**

The role of government vis-à-vis the cluster diamond is depicted in Exhibit 16. To date, the cluster has developed without the explicit support or nurturing of the government. However, that is not to say that government should not be more involved in ensuring its continued growth—particularly in light of some of the problems that Italy is facing. We will address what we believe government can do in the Recommendations section below.

**EXHIBIT 16:** The Role of Government



Many of the above functions which we fault the Italian government for not undertaking could be performed by an IFC for this cluster. Designing and planning training programs for auto

engineers and designers requires a level of expertise and experience which is lacking in the government and in academic institutions, and therefore cannot be successful without the input of the industry. An IFC which draws members from the cluster could provide the ideal forum for linkages to take place between educators and the private sector. In this way, a crucial component of the future success of this cluster would be ensured, and would have the benefit of input and insight from the cluster.

A similar partnership between the cluster and the regional government would also be needed in order to undertake the promotion and marketing activities described above, and again an IFC would be the ideal facilitating agency to initiate and further a close working relationship between the two sides.

## **IV. Strategic Challenges**

### **Global challenges to industry**

In spite of the recent growth in the industry, sports car companies face several challenges.

#### *Demand Cyclicalities and Unpredictability*

While the highest-end fashion goods tend to be somewhat shielded from cyclical economic downturns, they are nonetheless subject to a large degree of unpredictability in demand<sup>16</sup>. High-end sports cars are no different, and are perhaps even more exposed to demand downturns given their somewhat larger fixed capital investments. This phenomenon may explain two features of this industry. One, independent sports car companies appear to under-produce (vis-à-vis optimal levels), presumably fearing the consequences of large capital expenditures in a projected downturn. Second, the more well-known sports car companies have been acquired by larger auto firms. The smaller firms' immunity to economic cyclicalities may help smooth sales during a broader economic downturn, and the larger firms' access to capital and human resources likely reduces the costs of distress to smaller firms in the event of a luxury-good down cycle.

#### *Threat of New, Small Entrants*

The high-end nature of these cars means typically that customers consider price a secondary factor. This has a couple of effects. For one, shipping costs are significantly less as a percent of

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<sup>16</sup> E.g., see Kemp (1999).

revenue than for cheaper cars. New sports car companies can and do ship cars from literally anywhere in the world. For example, the \$550,000 Saleen S7, of which there are only a few in existence, was started in 2000 in a small garage in California, and now ships a handful of cars every year to customers around the globe.

Secondly, the enormous premiums charged for these vehicles means new entrants typically do not need scale to compete. The ultra high-end of this business is filled with tiny companies that make 10 or fewer cars per year, custom built for clientele or simply produced by firm with 1-2 employees that adds components to a base models of other cars.

These dynamics, while having been present for a long time, appear to have recently spurred an influx of new competitor models: Ferrari in 2004 claimed to have 25,000 competitor units in its top 7 markets, versus only 7,600 five years earlier.<sup>17</sup>

#### *Maintaining Brand Equity and Design Leadership*

As with any fashion good, high-end sports cars must defend their brands against overextension. Ferrari has led the way in the Italian cluster, restricting sales to only a few thousand a year and carefully extending the brand to other products, most of which are exclusively available through Ferrari retail stores.

In this industry in particular, the notion of the brand is closely linked to technological performance and design. It is interesting, therefore, that these firms typically outsource their design-which is tested and proven on the Formula One race track. Firms therefore constantly struggle to keep a leadership position there. Ferrari has been one of the most successful along this dimension.

### **Cluster Challenges**

#### *Competing as Units of Larger Firms*

All of the three main companies in the cluster are now owned by larger auto firms: Ferrari and Maserati by Fiat, and Lamborghini by VW. Some of the demand factors that drive this were discussed above. The problem with that is obvious: can a small manufacturing company with a legacy of family ownership, which competes on design innovation, maintain its edge in a larger,

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<sup>17</sup> Fiat 20-F SEC filing 2005



more bureaucratic environment? Fiat has allowed Ferrari (as VW has with Lamborghini) to operate quite independently, injecting capital when needed but otherwise allowing management to function autonomously. On the other hand, with Maserati, Fiat has been much more hands-on, re-positioning it into the luxury-car segment (though some models are still sports cars) and pushing marketing aggressively into the U.S.

### *Reduced Competitiveness*

Another problem is that Fiat owning both Maserati and Ferrari may lead to reduced competitiveness. Years ago Fiat re-positioned Alfa Romeo away from the high-end sports car customer, and now it appears to be doing the same with Maserati, a company which was once Ferrari's arch rival. Further, Fiat owns most of the major components suppliers in the Milan cluster. If a key success factor was indeed this competitiveness, Fiat's ownership of most of the value chain could spell trouble for the future of the cluster. One real mitigating factor to this is the independence of the highly competitive auto design cluster in Turin, which helps the auto manufacturers maintain an edge in their most important dimension of competition.

### *"Hollowing Out" by Foreign Suppliers*

In some markets, notably Western Europe, automotive suppliers are being dispersed to areas with lower labor-costs, thereby in a sense "hollowing out" the local auto industry.<sup>18</sup> While traditional auto firms like Fiat are experiencing this because of more intense competition, sports car manufacturers appear to be less prone to this. Design and branding, rather than price, are the key areas of competition, so there isn't as much focus on wringing costs out of the system. Further, given the greater need for custom components, foreign suppliers (like Alcoa, recently) are more likely themselves to move a small operation to Modena to supply the manufacturers. Thus the hollowing-out effect in this cluster is not yet a major concern.

## **V. Recommendations**

### **Country/National Government Level**

The government needs to take several steps to support the cluster.

- Intervene on further merger/acquisition activity in cluster, and take a closer look at whether Fiat ownership is affecting cluster efficiency.

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<sup>18</sup> E.g., see Sadler (1999).

- Clearly, there are synergies in Fiat owning Ferrari and Maserati: earnings smoothing, access to capital, retail overhead cost savings; these must be weighed against the harm done by reducing competition.
- Government should certainly be concerned that Fiat owns nearly all of the components cluster; Fiat's supply chain is already experiencing some "hollowing out" and will likely experience more unless these firms again have to compete. This will have a negative effect on the sports car manufacturers, nearly all of whom rely on the Milan components cluster.
- Encourage university-research and technical collaboration
  - Collaboration between business and universities is notoriously bad in Italy. Given the importance of design and technological performance, the government could head an exploratory effort to bring design/engineering from universities together with counterparts in industry.
- Attract new sports car firms to Modena area
  - For example, VW purchased the rights to produce the Bugatti brand several years ago, and Bugatti at one time had a factory in Modena. If VW is intent on building a plant somewhere, then attracting it to the area would only benefit the cluster, bringing in new competition and attracting more suppliers, human resources, and tourists to the area.
  - The government could even support entrepreneurs to revive now-defunct cluster brands (like DeTomaso) that would more likely be successful now in the presently strong global demand environment

Finally, while improving Italy's overall business environment could only be helpful to the cluster, we don't see this as crucial to the cluster's survival. The cluster has not been particularly hurt by low GDP growth since it exports most of its production; and low productivity growth in Italy has been a phenomenon outside of manufacturing firms. Some of the microvariable problems—e.g., poor educational quality or a lack of research institutions—are solved by sourcing specialized labor and technological expertise from abroad. Others, like governmental favoritism or an unstable political situation, matter most when firms are heavily reliant on subsidies or beneficial treatment, which this cluster isn't. The nature of the competition in this industry—on product differentiation, rather than cost—means that many of the negative macro conditions do not impact our cluster as much as it might some others that compete more on a cost basis. That

said, the parent auto companies—notably Fiat—are undoubtedly affected by the “macro” environment, something that could have a real, albeit indirect, effect on the cluster.

### **Cluster Level**

The cluster itself has been doing quite well in recent years. The three firms collectively grew 21% in volume from 1999-04, mostly driven by Maserati’s successful expansion into the U.S. The future, however, is by no means secure. There are several steps that firms in the cluster can take to shore up the cluster’s position.

First, as a group, the sports car cluster should develop an institute for collaboration—a sports car industry association—which would enable them to coordinate and collaborate on key issues. Currently none exists. While representatives of Fiat are perhaps better positioned to act as liaisons with the Italian government, this association could work to promote Italian sports cars abroad. Specifically, this association could assist in the following:

- Develop “museum of Italian sports cars” that would spur tourism and support brand
- Market tourism to Modena area
  - The uniqueness of having three of the best-known names in sports cars within 15 km of each other would be a sure-bet tourist package for car enthusiasts. This would support all brands’ images.
- Reach out to local universities to build ties with academics and career services departments

Finally, there are several things that each firm can do individually to shore up their positions:

- Ferrari: Ferrari’s biggest problem is that it continues to operate as if it were a stand-alone, independent manufacturer, under-pricing and under-producing while using the argument that it is preserving the brand. While certainly brand over-extension is a worry, Ferrari is far from damaging this, and even admits that it is now losing market share in many key markets. Profits are clearly being left on the table, particularly in emerging markets. Fiat should become more hands-on here, and start ramping up sales in markets like Russia and China, which have sizeable wealthy populations interested in fashion and luxury goods.

- Maserati: Maserati has grown at a 50% CAGR over the last 5 years; it has thrived under Fiat's brand re-direction and is expanding aggressively into the U.S. However, it is not yet profitable. Maserati's problem is that it is now no longer resembles a real sports car company; the bulk of its sales are in the luxury car market, competing with high-end BMW and Mercedes-Benz cars. It probably needs to stop selling sports cars and focus on expanding around its new core.
- Lamborghini: Lamborghini has also been growing strongly over the last four years (since it began producing after a long stop), but overall volume is still small. Further, Lamborghinis have a reputation among car enthusiasts as flashy cars with little substance underneath the hood. One reason for this is that Lamborghini doesn't race on the F1 circuit. It seems that this would be a logical synergy for the company to pursue; it could partner with a successful team (e.g., Renault) and collaborate with them on design. This would help them push the technology envelope, keeping up with Ferrari, and extend their brand, which is probably the least well known of the three main cluster firms.

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