Auto Parts & Equipment Manufacturing Industry

**Consumer Discretionary Sector**

### Investment Thesis

The Henry Fund recommends a Market Weight rating for the global auto parts and equipment manufacturing industry. While this industry provides valuable products and services to the ever-important auto industry, recent industry trends and changes in consumer preferences are likely to favor certain suppliers over others.

### Drivers of Thesis

- **Stricter emissions regulations** may provide a boost to certain industry segments, specifically manufacturers of turbochargers and emissions systems.
- **Steady or accelerating growth in real GDP per capita** in North America and Europe is a positive for automobile demand.
- **Industry consolidation** leads to greater economies of scale which will benefit growth among the top suppliers with the best financial position.
- **Low oil prices** effectively increase consumers’ disposable income and are typically a positive for auto sales.

### Risks to Thesis

- **Weaker growth in China, Russia, & Brazil** has the potential to reduce global demand for automobiles as these markets are growing in importance.
- **Rising interest rates** in the United States may put pressure on the consumer and reduce demand for automobiles in that market.
- **Impact of car sharing services** is still uncertain and may have negative implications for future new car production and sales.
- **Consensus industry earnings growth** over the next two years are expected to be lower than the broader market and may continue to depress valuations.

### Industry Description

Companies in the Auto Parts & Equipment industry manufacture components and modules that are ultimately to be included in the production of cars, trucks, SUVs, as well as commercial & off-highway vehicles. Products include transmissions, turbochargers, air conditioning systems, ball bearings, gears, tires, airbags, etc.

Component manufacturers typically have two primary distribution channels: Original Equipment Manufacturers (OEMs) and the aftermarket.

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**12 Month Performance**

[Graph showing performance compared to S&P 500]

**Industry Description**

[Chart comparing performance metrics over time]

**Key Industry Statistics**

<table>
<thead>
<tr>
<th>Metric</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Price/Earnings (TTM)</td>
<td>10.7x</td>
</tr>
<tr>
<td>Price/Sales (TTM)</td>
<td>0.6x</td>
</tr>
<tr>
<td>Price/Book (mrq)</td>
<td>2.7x</td>
</tr>
<tr>
<td>Operating Margin</td>
<td>8.0%</td>
</tr>
<tr>
<td>Profit Margin</td>
<td>5.25%</td>
</tr>
<tr>
<td>Return on Assets (TTM)</td>
<td>6.9%</td>
</tr>
<tr>
<td>Return on Equity (TTM)</td>
<td>24.7%</td>
</tr>
</tbody>
</table>

**Top Competitors**

- **Robert Bosch**
  - Market Cap ($B): N/A (Private)
- **Continental AG**
  - Market Cap ($B): $20.8
- **Delphi Automotive**
  - Market Cap ($B): $19.9
- **Cummins Inc.**
  - Market Cap ($B): $17.8
- **Autoliv Inc.**
  - Market Cap ($B): $9.9
- **BorgWarner Inc.**
  - Market Cap ($B): $7.7

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**Important disclosures appear on the last page of this report.**
EXECUTIVE SUMMARY

The automobile parts & equipment industry is driven by a number of factors, the largest being global automobile production. Other important macroeconomic factors include growth in real GDP per capita, interest rates, income growth, employment growth, oil prices, and consumer confidence.

Competition is primarily based on price and technological advancement. As such, the most successful companies are the ones who make sufficient investments in research and development, operate efficiently, and have achieved global scale.

While regulation has always played a role in the evolution of the auto industry, the rise of hybrid/electric vehicles and a tougher stance by regulators on emission controls have been a driving force for change in recent years. The highly publicized Volkswagen scandal and the escalating requirements of California’s zero emission mandate stand to benefit parts suppliers who manufacture products that reduce emissions and increase fuel efficiency.

Although several current industry trends stand to benefit global auto production, recent reductions in world GDP growth estimates and lower industry earnings growth estimates over the next two years will likely depress share prices. While it is likely that some firms will be able to navigate these challenges better than others, prospects for the industry as a whole seem subdued. For this reason, we are recommending a market weighting.

INDUSTRY DESCRIPTION

The Auto Parts & Equipment industry is a sub-industry of the broader Auto Parts Industry. Suppliers to OEMs can be grouped into three categories: Tier One (T1) suppliers sell assembled components and systems directly to OEMs; Tier Two (T2) suppliers sell parts to be incorporated into T1 products (i.e. ball bearings, gears, etc.); and Tier Three (T3) suppliers process raw materials (steel, aluminum, etc.) which are then sold to T2 suppliers.

Products

Companies in the Auto Parts Supplier (APS) industry supply a wide variety of parts to OEMs. Products in this industry can be grouped into several categories including electrical & electronic components, steering & suspension, exhaust systems, brake systems, auto body parts & wheels, HVAC parts, airbags, filters, radiators, & other components.

A breakdown of industry products by type is shown in the following table.

<table>
<thead>
<tr>
<th>Auto Parts Supplier Products</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Electrical &amp; Electronic components</td>
<td>25.8%</td>
</tr>
<tr>
<td>Steering &amp; Suspension</td>
<td>14.5%</td>
</tr>
<tr>
<td>Exhaust Systems</td>
<td>14.3%</td>
</tr>
<tr>
<td>Brake Systems</td>
<td>12.6%</td>
</tr>
<tr>
<td>HVAC Parts</td>
<td>9.2%</td>
</tr>
<tr>
<td>Auto Body Parts &amp; Wheels</td>
<td>12.1%</td>
</tr>
<tr>
<td>Filters, Radiators, &amp; Other</td>
<td>7.0%</td>
</tr>
<tr>
<td>Source: IBISWorld</td>
<td></td>
</tr>
</tbody>
</table>

Demand

Demand for auto parts is primarily driven by global automotive production volume and the number of parts required is typically higher in periods where OEMs are producing more vehicles. In turn, demand for vehicles is influenced by several macroeconomic factors including GDP growth, consumer spending, wage/disposable income growth, employment levels, and interest rates. Due to the global nature of this industry, the economic growth of North America, Europe, and the BRIC nations (Brazil, Russia, India, China) tends to be the most influential.

Demand for auto parts is also influenced, albeit to a lesser extent, by the production mix. In periods of economic stability and rising incomes, demand for more expensive trucks and luxury cars is boosted and suppliers margins may realize a slight expansion.

Currently, global light vehicle sales are expected to grow approximately 4.1% annually to a total of 111 million units by 2020.

Supply

Products in this industry are manufactured from a wide variety of raw materials and, as a result, profitability can
be affected by volatile commodity prices. The major industry inputs include steel, nickel, copper, aluminum, & plastic resins. While a limited amount of hedging takes place to help alleviate these costs, suppliers will typically seek to pass increases in input costs through to the OEMs via pass-through provisions in their customer contracts. However, these measures are very often challenged and it is unlikely that increases in the cost of materials will be recouped, particularly given the availability of alternative suppliers.

Industry Stage & Success Factors

The auto parts supply industry is considered a mature industry for two primary reasons: a growth rate that has typically been comparable with the overall global economy and a significant level of M&A activity. Currently, industry top line growth is expected to be 4.4%\(^3\) in 2016 vs. the growth in global GDP of approximately 2.8%\(^3\). While estimates for global growth have recently been revised down to reflect the weaker economic outlook in China, the majority of analysts have not made any changes to their estimates for industry growth so we will have to wait and see what kind adjustments are made as the year progresses.

There are several factors that determine the degree of success that companies in this industry can achieve. Some of the most important include:

- **Degree of globalization** – Driven by the global expansion of OEMs, auto parts suppliers who can capitalize on opportunities in foreign markets will enjoy a larger degree of success. An important component of this factor includes outsourcing manufacturing operations to areas where they can be utilized in the just-in-time manufacturing operations of the OEMs. One of the most important growth markets for these companies is China/the Asia region. Currently, some of the best positioned companies in this region are Continental AG, Delphi Automotive, Autoliv, BorgWarner, and Bosch.

- **Investments in R&D** – Successful companies need to invest sufficient capital into research and development in order to stay ahead of the technology curve and continue to secure design wins and supply contracts. In 2015, top spenders on R&D included Continental AG, Autoliv, WABCO Holdings, Allison Transmission, and BorgWarner.

- **Effective cost controls** – As the industry becomes increasingly global and as new, low-cost, regional suppliers enter the market, success may come down to who can operate more efficiently in order to meet the annual price reductions demanded by the OEMs. Based on 2015 results, some of the companies who are executing successfully in this area are BorgWarner, Delphi Automotive, Continental AG, and Hyundai Mobis.

**Costs**

As mentioned in the previous section, purchases of raw materials are a major factor in the industry’s profit structure. Steel, which accounts for 68% of total purchases\(^1\), is particularly important as it is the primary input in a wide variety of products.

After raw materials purchases, the next most important cost is labor and administrative expenses. Most companies in this industry spend between 8% - 12% on SG&A expenses\(^3\), the largest operating line item. Additionally, much of the labor force in this industry is unionized and the influence of these unions tends to keep wages high. This can have negative consequences during times of economic strife but can also help boost margins during expansions or recoveries due to the tendency for revenue to grow at a faster rate than wages.

Finally, as the pressure to increase fuel efficiency ramps up, APSs are coming under increasing pressure to develop technologies that can help the OEMs achieve this goal. This requires that firms continually invest in research and development in order to stay ahead of the technology curve.
Increased Globalization & OEM Portfolio Rationalization

The financial crisis of 2008 had a devastating impact on the auto industry, particularly in the United States. Light vehicle sales declined from 16.2 million in 2007 to a low of 10.1 million in 2009 (-38%) and many major OEMs were on the verge of bankruptcy.

Ultimately, the American manufacturers were saved by the actions of the US government who, through an $80 billion dollar investment, effectively saved the industry from collapse. In the aftermath of these events, the both Chrysler and General Motors (GM) implemented significant restructuring programs in an attempt to restore profitability and return to growth. In addition to reducing their labor force and cutting benefits, the US automakers eliminated several lines of vehicles in order to focus exclusively on their most popular and highest margin brands. For example, GM effectively reduced the number of brands carried by 50% by terminating their Pontiac, Saturn, Hummer, and Saab brands while retaining Chevrolet, Cadillac, Buick, & GMC due to their popularity in the US and abroad. Also, while the Detroit 3 (Ford, GM, Chrysler) shuttered domestic assembly plants and increased the capacity utilization of the ones that remain in an attempt to grow profits at a more sustainable rate, foreign-headquartered auto manufacturers moved their production facilities to the US. In turn, the US automakers have started major pushes into foreign markets, particularly Europe and the BRIC nations.

This trend has significant implications for the auto parts supply industry. Namely, as part of their cost reduction efforts, OEMs are demanding more from their suppliers. These demands require that the suppliers produce not just parts, but entire systems or modules (i.e. an entire interior). The pressure to meet these expectations is even greater as foreign suppliers enter the market.

Industry Consolidation

As previously mentioned, in order to facilitate just-in-time manufacturing, OEMs prefer to select suppliers that are in close proximity to their assembly plants. This preference may lead these companies to consider local suppliers (particularly in China and India, where local firms typically have a cost advantage) as they roll into new model year vehicles. In order keep pace with the global growth strategies of their biggest customers, auto parts suppliers are also expanding their operations overseas, primarily through the acquisition of smaller, regional companies. In addition, as the major OEMs continue to consolidate their supplier base, T1 suppliers are buying up smaller competitors to increase their product offerings and hopefully regain some bargaining power.

In 2015, auto parts suppliers closed over 200 deals for a total of about $48 billion, marking six consecutive years of increased M&A activity. However, about $29 billion of that value is the result of Johnson Controls spin-off of their auto interiors business. Excluding that transaction, the total would be a more on-trend $19 billion. Popular acquisition targets include companies who manufacture safety systems, improve fuel efficiency, and who design infotainment/electronics systems. ZF Group’s acquisition of TRW Automotive, BorgWarner’s acquisition of Remy International, and Harman’s acquisition of Symphony Teleca and Red Band Software are prime examples of these preferences.
Ride/Car Sharing

The last several years have seen the rapid rise of ride or car sharing services such as Uber, Lyft, Zipcar, and Car2Go. Uber and Lyft operate much like conventional taxi cab services, allowing passengers to arrange a one-time ride on short notice typically through a mobile application while Zipcar offers hourly or daily car rentals. Consumers have flocked to these services due to their higher levels of customer service, accessibility, and convenience, much to the dismay of the taxi and auto manufacturing industries. Given the rise in popularity, analysts and executives have begun to attempt to estimate the impact on vehicle ownership. Currently, several industry sources\(^7,^8\) have indicated that the proliferation of these services will have a significant negative impact on vehicle ownership, reducing the number of privately owned vehicles by as much as fifteen for every one shared car\(^8\) on the road. However, some believe these estimates may be overstated\(^6\), as higher utilization rates may increase replacement demand. While the jury is still out on the exact impact, this trend remains a potentially powerful force that is worth considering.

Electric Cars and ZEV Mandates

In recent years, the popularity of electric cars has grown as consumer preferences are beginning to shift. This trend is expected to continue as battery technology improves, electric cars become cheaper, and auto manufacturers begin to produce a wider variety of models. Current forecasts call for global sales of electric vehicles to reach 5.1 million units by 2020 (10.5% CAGR)\(^2\).

The proliferation of electric vehicles is being helped along by state regulators as well. For example, under the Clean Air Act, the state of California was granted the right to set their own emissions standards. One of the most significant components of California’s standards is a mandate that automakers produce and deliver a certain percentage battery-electric, fuel cell, and plug-in hybrid vehicles (called “zero emission vehicles” or ZEVs). The current version of the mandate requires that, by model year 2025, 15% of all vehicles delivered for sale in the state be ZEVs\(^9\). Currently, nine other states have either adopted at least a portion of California’s ZEV program.

The impact of these regulations on the auto parts industry will likely depend on the specific products manufactured by each company. Demand will likely be the highest for companies who specialize in the manufacture of the electronic components that are unique to electric vehicles.

Volkswagen Emissions Scandal

Late in the third quarter of 2015, German automaker Volkswagen rocked the industry with the announcement that they had been cheating emissions tests on several models of cars. The news sent their stock crashing over 30%\(^10\) and resulted in VW’s first sales drop since 2002. Although the final number is not set, the company is rumored to be facing between $18 and $90 billion in fines and penalties.

While the immediate impact of the scandal has been negative for auto parts suppliers (particularly those who do a significant amount of business with VW), the long term effects should be a net positive for the industry. As regulators crack down on the auto OEM industry, demand for parts that reduce emissions (i.e. turbochargers) is expected to rise.

MARKETS AND COMPETITION

Overall, competition in the auto parts industry is very high. Many companies offer similar products and almost none dominate any one product category. For example, of the top ten largest publicly-traded suppliers, there are at least two companies operating in each of the following categories: interior products, powertrain systems, safety products, electrical components, and heating/cooling. Also, all of these companies mention that they face competition from privately held, regional suppliers.

With so many companies making competing products and only few OEMs (there are only three in the US) to buy them, buyer power is enormous. A common industry practice is for suppliers to include pass-through provisions in their customer contracts in an attempt to hedge their input costs by allowing the parts suppliers to pass through any increases in raw materials to the manufacturers. However, the OEMs almost always challenge these provisions and rarely compensate the suppliers for an increase in raw material prices. Also, the OEMs typically demand annual price reductions. If suppliers do not comply, it is relatively easy for them to switch to a new supplier.

While raw material prices (particularly steel) are certainly important to auto parts suppliers, contracts to acquire
many of these products are traded on exchanges like the London Metals Exchange (LME). The biggest risk to the auto parts suppliers is that during times of abnormally low commodity prices, capacity may be cut, leading to a shortage in the market. However, with prices of most major commodities expected to increase in the future, the risk of this happening is relatively low.

Lastly, there is a moderate risk that new competitors will enter the market and increase competition, especially in less developed and faster growing markets. While this is certainly possible, it may prove difficult as these new competitors will have to enter as a low-cost leader and invest heavily in R&D in order to establish themselves. However, regional factors are also at play. While it may be tougher for a potential competitor to break into the U.S. auto parts supply industry, we have already seen the successful entry of several Chinese suppliers.

The takeaway from the information above is that competition in the auto parts supply industry relies primarily on two factors: price and technological innovation. When combined with a global network, the companies who can execute on these two factors will be the most successful. A few of the top companies in this regard are Honeywell, BorgWarner, Delphi Automotive, Continental AG, and NSK Ltd.

Peer Comparisons

The table on the next page shows some operating statistics for a collection of some of the larger public and private auto parts suppliers. As can be seen, many of the companies are relatively in-line with the averages. However, there are a few stand outs that, in our opinion, are better positioned and likely to outperform going forward. These companies are all positioned to take advantage of the long-term trends currently playing out in the auto industry (fuel efficiency, hybrid/electric vehicles, interconnected vehicles, autonomous vehicles, active safety) and are executing on the success factors mentioned earlier (global presence, investment in R&D, cost controls). Additionally, these companies all have moderate leverage compared to the industry average, allowing more flexibility in making acquisitions.

- **BorgWarner Inc.** – Strong position in turbocharger technology and hybrid/electric vehicles, above average margins, and reasonable leverage.
- **Honeywell** – Produces turbochargers, strong margins, reasonable leverage.
- **Continental AG** – Has a presence in hybrid/electric vehicles, autonomous driving, active safety, and connectivity, strong margins, and reasonable leverage.
- **Autoliv** – Presence in active safety, strong margins, and reasonable leverage.
- **Mitsubishi Electric Corp.** – Various fuel efficiency products, strong margins, and low leverage.

**ECONOMIC OUTLOOK**

As mentioned before, demand for auto parts is driven by demand for automobiles. Auto sales are typically strongest during times of stable economic growth and expanding consumer wealth which can be measured by real GDP per capita. Due to the global nature of OEM strategy, an examination of the trends in real GDP per capita in the United States, the European Union, and the BRIC nations can provide a valuable backdrop for gauging potential demand. Additionally, factors such as interest rates, income/employment levels, global oil prices, and consumer confidence can be very influential as well.

**United States**

![US Real GDP Growth and Auto Sales (Annual) 1990 - 2015](image)

In the United States, auto sales are typically the best during stable periods of real GDP growth. In 2008, auto sales suffered a steep decline as unemployment spiked and consumers lost access to credit. Since then, sales have recovered to higher levels than ever. Going forward, the CBO projects that real GDP will grow between 1.8% and
2.5% out to 2020\textsuperscript{48}. Accordingly, IHS Automotive expects auto sales in the US to grow 1.8% in 2016\textsuperscript{11}.

Another potential concern is that wage growth over the last 6 – 7 years has been subdued by post-recession standards. However, the year-over-year growth rate in wages accelerated to a more normal 4% - 5.5% in 2014/2015\textsuperscript{11}. Additionally, although the most recent gain in non-farm payrolls was below expectations, the growth was healthy and in-line with the current trend. While some argue that these metrics are not as strong as they should be, they are far from levels that would seriously impair demand for automobiles.

One potential negative worth considering is the probability of rising interest rates. Late last year, the Federal Reserve raised their overnight benchmark rate (the fed funds rate) for the first time in a decade. Based on comments from the Fed, our team expects a gradual rise in the fed funds rate to 1.25% over the next two years and a subsequent rise in the 10-year Treasury rate to 3.25%. If this expectation materializes, it may put pressure on some consumers’ financial ability to purchase cars.

Finally, while by no means a deciding factor, consumer confidence can give us an indication of the willingness of consumers to purchase automobiles. Our team expects near-term confidence to continue to decline moderately.
from its current 96.5 level, reflecting recent misses in real GDP and non-farm payrolls. However, over a longer (two year) timeframe we expect confidence to return to more normal levels.

Europe

In 2015, the European Union accounted for 22.2% of global auto production and, as a result, their economic output exerts a significant influence on the global auto industry. Coming off several years of weak economic growth, real GDP per capita in the EU is expected to grow 1.8% in 2016 and maintain around that rate out to 2020. While the specific impact on the auto industry will certainly be more regional, this trend indicates a healthy contribution from the EU to global production.

Part of the driving force behind these growth expectations is the monetary policy being pursued by the European Central Bank (ECB). In December, the ECB cut their overnight lending rate deeper into negative territory (-0.3%) and announced the continuation of their quantitative easing program. The intent of negative rates is to encourage banks to lend more to consumers for purchases. While the overall impact of these unprecedented rate decisions is still under debate, intuition would indicate that this policy will be a positive for large purchases, such as automobiles.

BRIC Nations

As a counter to the relatively optimistic outlook in the United States and Europe, the BRIC nations (Brazil, Russia, India, and China) represent potential areas of weakness as they represent approximately one-third of global auto production. The biggest potential threat to the industry seems to be coming from the growth concerns in China, where GDP per capita has been revised down to 5.6% growth in 2016 and is expected to moderate further to 5% by 2019. This is in contrast to the 6.5% annual target set by the country’s leaders and historical Y/Y growth of 6% - 9% over the last five years. In 2015, China accounted for 24.2% of the total passenger car production so this data is causing some serious concerns about the global fallout from a slowdown in the world’s second largest economy.

Meanwhile, sanctions against the Russian government and an economic crisis in Brazil have pushed both countries well into recession territory. Current 2016 GDP per capita forecasts indicate a -1% and -1.8% contraction for these two countries, respectively. Both are expected to return to growth by 2020 but, until then, it is highly likely that they will put a moderate amount of downward pressure on auto production as they accounted for a combined 4.6% of total production in 2015.

Possibly the only bright spot in this nation group is India whose real GDP per capita is forecast to increase from 6.3% in 2015 to 7.1% in 2020. In 2015, India accounted for 4.6% of global auto production and, as the economy continues to expand, I would expect that its contribution will grow as well.

Global Oil Prices

Beginning in June 2014, an abundance of supply and subdued demand has sent the price of WTI oil tumbling from over $100/barrel to less than $30, a level many never expected to see again. Currently, many industry experts are beginning to adopt the stance that prices will remained low for the foreseeable future and the Henry Fund team agrees. The majority of our analysts expect oil to remain in the $40 - $50 range over the next two years. Additionally, the average price of gasoline in the U.S. has fallen 20% in the last year alone. This action effectively increases the disposable income of consumers and is typically good for auto sales. Assuming a sustained drop in prices does not spark a recession, these lower gas prices and the greater levels of purchasing power among consumers should be a positive for the auto industry.

CATALYSTS FOR GROWTH

Like the broader consumer discretionary sector, the auto parts & equipment industry outperforms during periods of strong economic growth. Additionally, stronger automobile production will drive higher levels of demand for the industry’s products. Going forward, some of the more important catalysts for growth include the following:

- Sustained GDP per capita growth in the United States, Europe, and the BRIC nations
- Higher levels of wage and income growth among consumers
- Strengthening labor market and employment figures
- Availability of consumer credit
- Sustained low oil and gasoline prices
INVESTMENT POSITIVES

- Increasing regulation and demand for electric vehicles may drive demand for more fuel efficient technology. Parts suppliers who manufacture products that help reduce emissions and improve fuel economy as well as manufacturers of electronic components will likely benefit from an uptick in demand.
- Industry consolidation may help larger and more financially stable companies achieve higher growth rates.
- Low oil prices increase consumer incomes which has the potential to increase auto sales.

INVESTMENT NEGATIVES

- Interest rate increases in the United States may hamper consumers’ ability to purchase autos.
- Reduced global economic outlook.
- Proliferation of car sharing services may have a net negative impact on global auto sales.

VALUATION

While we are still awaiting final numbers for a few companies, earnings in the auto parts supplier industry are expected to have grown 5.6% in 2015. Additionally, the industry is expected to grow earnings by 10.7% in 2016. These numbers are below the 11% - 15% rates realized in 2013 and 2014, respectively. Meanwhile, analysts currently expect the S&P 500 to grow earnings 15% in 2016 and early estimates indicate 16% growth in 2017. When compared to the 10.7% growth in 2016 industry earnings and the expected 13% growth in 2017 combined with a slowdown in global GDP growth, it is not hard to see why the industry’s market capitalization has fallen 29% over the last twelve months vs. a 10.5% decline in the broader index.

Currently, the 2016 forward P/E multiple on the auto parts and equipment industry is 9.65x compared to 15.4x for the S&P 500. While this may seem cheap at first glance, I believe some kind of discount is warranted given the slower growth over the next two years.

KEYS TO MONITOR

The following are some important factors to monitor going forward:

- Federal Reserve/ECB key rate decisions
- Trends in oil prices
- Global GDP reports
- Global employment reports
- Total automobile sales

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