Recommendation: SELL **Target Price until 06/30/2015: $181**

1. Reasons for the Recommendation

My expectation for PPG's stock price is to be sluggish for the coming years. This opinion is based on different points that I raised during my analysis of the company.

PPG's return since December 7, 2012 is very high: 63.80%. The S&P 500's return for the same period was only 34.93%.

However, several other qualitative reasons make me believe that PPG's stock price will fall in the coming years.

First, PPG is highly exposed to the risk of raw materials inflation. The coatings business (split into two segments) is by far the most important activity of PPG. Currently, 93% of its total revenues are made by the coatings business. 70% to 80% of the costs of goods sold of these two segments are titanium dioxide purchases, depending on the year. An increase in the price of titanium dioxide would affect the profitability of PPG.

Until now, PPG's actions are not very effective to minimize this risk. Most of its titanium dioxide procurement strategy relies on one company: Henan Billions Chemicals Co. PPG made a long-term purchase agreement with this Chinese company, to secure the prices of this raw material. On the other hand, if Henan Billions Chemicals was facing a bankruptcy, this would have a strong negative impact on PPG. My analysis of the financial ratios of this company highlighted many warning flags, including a very low ROE (1.10%) and ROA (0.36%), and only 12.3% of shares are held by institutions. However, since this company is only quoted on the Chinese stock market, the usual characteristics of a risky stock may be different.

Today, PPG is still trying to find more suppliers. They made an agreement with Argex Titanium Inc., but this agreement only concerns research and development for manufacturing pigment at a lower cost, and with lower titanium dioxide consumption. It is not about purchasing titanium dioxide from them.

The risk increased with the divestiture of its full Commodity Chemicals segment, sold to Georgia Gulf in January 2013. This segment used to produce a part of the titanium dioxide needed by the coatings segments. As of today, PPG Industries entirely relies on its suppliers. It does not produce any of it by itself anymore.

In addition, PPG is highly involved into architectural coatings manufacturing (about 29% of its revenues in 2013, accounted under the Performance Coatings segment). Despite the housing and construction market recovering from the 2008 recession, the results of this business are still behind the other segments of the firm, with an EBITDA margin of 12.1% in 2013 (compared to 15.5% for total PPG in 2013). This is due to fewer competitive advantages for this segment. Indeed PPG is not competing on the prices of its products, but on their quality and technological leadership. However, customers from this segment make their decisions based on price, this industry being a more commoditized market.

Finally, on March 31, 2014, PPG proceeded to the separations of its Transitions Optical business and sun lens business, selling it to Essilor International for $1.5 billion. Theses activities were part of the Optical and Specialty Materials segment of PPG, which represented 8.37% of PPG activities in 2013, in terms of net sales. Transitions Lenses is the primary product of the segment (63% of the revenue in 2013). As a result, the segment will be a minor and completely new segment (made up of specialty materials activities), after this divestiture. Yet, the segment was the most profitable of PPG. The EBITDA margin of the Optical and Specialty Materials segment was 29.2% in 2013 versus 15.5% for the whole company. The market penetration of Transitions Lenses keeps increasing. It has also strong growth prospects, driven by the launch of the last generation of Transitions Lenses in North America.

On the other hand, PPG is currently proceeding to a shift in its portfolio. It is focusing on its coating activity. In 2004, the coatings segments were making 56% of PPG's revenues. In 2014, it is 93%. To do so, the company is having a strong acquiring activity, along with a lot of divestitures (including the previously mentioned separations of the Commodity Chemicals segment and of the Transitions Optical business). This focus will be beneficial for PPG. Indeed, the paint and coatings manufacturing industry benefits from many positive points. This industry is low capital intensive. In addition, it is consolidated, and a strong growth is expected for the coatings industry. Hence, it has a high growth potential. This promises a strong long-term organic growth.

For all these reasons, my recommendation is to sell PPG's owned shares, to secure the high gains that we realized, and to prevent from the short-term expected fall. We could consider monitoring this stock in order to eventually repurchase shares of PPG stock later, and take advantage of the long-term expected rise.

2. Company Analysis

PPG is the largest producer of paintings and coatings. It operates globally, with 150 manufacturing facilities in more than 60 countries. It also distributes glass and other specialty materials at a lower scale. Its total sales were $15,108 million in 2013, and its net income from continuing operations was $1,156 million.

It has three business segments (since Q1 2014): Performance Coatings (55.2% of its total revenues in 2014), Industrial Coatings (37.5%), and Glass (7.3%). Therefore, the firm is highly concentrated on its coatings activity, representing 93% of its total revenues in 2014.

<u>Strengths and opportunities</u>

PPG is a low capital-intensive company (with average capital expenditures of about 2.5% of sales). Therefore, its prices are low, and are a competitive advantage. This allows PPG to control most of the coatings industry market shares (about 17.3%).

The company stresses its innovation and product development activity, with a large amount dedicated to research and development (R&D represents 3.23% of revenues in 2013), but also through agreements with other companies, such as Argex Titanium (as mentioned in the previous section).

PPG provides a high return of cash to shareholders ($1.35 billion in 2013), through buy-back and dividends. Since October 2011, PPG is pursuing a share repurchase program of 10 million shares (today, 2.2 million can still be repurchased through this program). This type of program is not uncommon in the history of PPG. The company currently pays a dividend of $2.42 per share. The dividends increase each year (by 8 cents in 2013), for 42 years. It is expected that PPG will continue to raise them in the future. This shareholder-friendly policy is not done to the detriment of cash reinvestment in the company.

PPG benefits from a good profitability. Its EBITDA margin was the highest compared to its main competitors, with 15.5% in 2013 (13.5% on average for its competitors). Every profitability ratio is also above the average of its main competitors. We could expect that the profitability will decrease due to PPG’s divestiture of its optical business (as explained in the previous section), which was very profitable (EBITDA margin of 29.2%), as mentioned in the previous section of this document. But it will be partially offset by its new focus on its coatings activity in the long run.

Finally, PPG operates worldwide. This prevents a regional economic downturn to affect PPG’s results significantly. In addition to this global presence, PPG is enhancing its geographic profile by increasing its activity in emerging regions for the last ten years. In 2004, Eastern Europe, Asia, and Latin America were 12% of total sales of PPG. In 2013, they represented 29% of the sales. These markets are expected to provide a faster growth of PPG’s profits.

<u>Weaknesses and threats</u>

As mentioned in the first section of this document, PPG has weak results on its architectural coatings business compared to its other segments and to its competitors, despite the housing market recovery. This is due to fewer competitive advantages on this business, too much focus on high quality and not enough on low prices.

PPG is involved in many lawsuits. The most significant lawsuits concern personal injury due to asbestos exposure (PPG's liability: 825 million), and environmental matters: PPG must remediate 61 polluted sites, the most important being the former chromium plant in Jersey City, New Jersey, contaminated by hexavalent chromium (PPG's estimated liability: $221 million, but still defending).

PPG Industries is an active and global acquirer (9 acquisitions since 2010, worth $2.25 billion), including the acquisition of the North-American Architectural Coatings segment of Akzo-Nobel for $1.05 billion. This allows the firm to get a better control of market shares, along with an emerging market expansion. This acquiring activity increased in the last years. As a result of continuous acquisitions, PPG revenues are slightly inflated. A part of the firm's revenues' growth is from these new acquisitions. The organic growth was on average approximately 6.1% for the last two years, compared to 7.3% total growth. It gives a false impression to the market of a faster growing company than it really is. This important acquiring activity also exposes PPG to the difficulty of integrating these new businesses, along with a possible excessive premium paid for these acquisitions.

PPG's international operations expose it to two main threats. A change in currencies exchange rates would have a big impact on PPG's results. These global activities also expose PPG to economic, political, social, and legal risks. The second big threat is the high competition that PPG experiences from emerging regions. Foreign companies benefit from competitive labor costs and raw material costs.

Other threats include an exposure to changing health and environmental regulations, and a possible raw material inflation, which I discussed in the first section.

Finally, PPG stock price seems overvalued: its current P/E ratio is $24.6, compared to a current P/E ratio of $16.6 for its industry. It seems too expensive for a cyclical firm. In my opinion, the market overreacted to the focus on coatings.

3. Industry Analysis

I did not include the optical industry analysis in this section, because of the recent separation of PPG's optical business. After a short analysis of the glass industry, I will focus more on the coatings industry, due to its important share in PPG's portfolio.

Glass

Glass industry had an average annual growth of -1% from 2008 to 2013. Its revenue was $24 billion and its profit was $768.1 million in 2013.

The products of this industry are glass products, made from purchased glass, such as building and automotive components or appliances (45.9%), glass containers (20.8%), pressed or blown glass products (19.1%), and flat glass (14.2%).

The market share concentration of glass product manufacturing industry is low. In 2013, the four largest firms accounts for a little more than 31% of industry revenue. Compagnie de Saint-Gobain is the biggest company, and owns 14.7% of market shares, with $52.8 billion sales in 2013. Owens-Illinois Inc. is the second, with 8.2% of market shares and $6,855 million sales in 2013.

The competition is medium among the firms in this industry. The main competitive factors are different depending on each industry segment. However, prices are one of the main competitive factors across every segment, even if its importance is reduced by the existence of long-term purchase contracts.

Glass industry sales are expected to grow at an average annualized rate of 1.34% to $25.7 billion each year from 2013 to 2018. The demand should improve, because of the expected growth of downstream markets, such as building and automotive markets. The consumer spending should also expand, which should help the sales of the glass container segment. However, product substitution (plastics industry) will keep harming this last segment.

Coatings

In 2013, the global coatings market revenues were $136.72 billion, with an annual growth rate of 7.1% between 2009 and 2013. The consumption volume increased at an annualized rate of 5.8% from 2009 to 2013, to reach a total of 39.8 million tonnes in 2013.

This industry produces paints, wood finishes and various coatings. These coatings can either have a decorative purpose, or a protective purpose, to preserve surfaces from wear, weather and corrosion. The major products manufactured by this industry are paints and lacquers, but also putties, fillers or paint removers.

These products can be classified among four main categories. The largest one is the architectural coatings, which accounts for 51% of total revenues of the industry. They are used for exterior and interior solvent-borne and waterborne paints, do-it-yourself furniture finishes, and architectural protective coatings. The subprime mortgage crisis slowed the demand for this sector, due to the drop of the construction sector. However, since 2011, the segment's demand rose. It will probably keep growing for the next five years, as long as the commercial and residential construction keeps recovering from the 2008 recession.

The second largest category is the industrial coatings production (25%). These are paints applied to various goods manufactured by industrial sectors, such as aerospace and car industries, but also paper, electrical insulators, and furniture industries. As well as the architectural coatings industry, the 2008 recession had a significant impact on this industry, because of the drop of new car's demand. It has now recovered from it.

Special-purpose coatings (13%) is sold to industries seeking for durability and protection, like marine paints, roof coatings, traffic markings, or aerosol paints.

Miscellaneous coatings (11%) encompasses a range of products associated to paint, such as paint removers, putties, or thinners, but not proper paint.

The raw materials needed by this industry are dye and pigment, which are made from organic chemicals (i.e. petroleum based) and inorganic chemicals (which is mostly made up of titanium dioxide).

The customers of this industry are end-user industries, such as automobile, marine, and aerospace manufacturers, construction industry, and industrial designers. But beyond companies, customers can also be individuals who buy paints from retail stores.

The competition in this industry is high. Largest companies benefit from economies of scale and brand reputation. The main competitive factor is the price of products, especially in the architectural segment. Indeed, less value of quality is needed for the products of this segment. On the opposite, in the industrial coatings segment, the main competitive difference is the product's technical performance.

The major companies are PPG Industries Inc. (17.3% of market shares), the Valspar Corporation (9.4%), and the Sherwin-Williams Company (6.1%).

In North America, the coatings industry's revenues were $24.7 billion in 2013. They are expected to rebound in the next five years. On the opposite, the profit margins will be more flat. The demand will keep recovering from the 2008 recession especially for the construction market, which was deeply harmed by this crisis, and which is tightly linked to the paint industry performance. On average, the construction market should rise up to 11.8% each year until 2018. The industrial production is also still recovering, and is expected to rise at an annual rate of 2.8% for the next five years. This growth will have a positive impact on the coatings industry, because of the paint that manufacturers will need. Nevertheless, the profits are expected to grow at a much lesser rate. The cost of the raw materials needed by coatings industry is likely to rise. For example, the oil price should increase by 2% each year until 2018. The weak competition among suppliers will prevent them from lowering their prices, and the full impact will have to be borne by the paint companies. The second factor that will lower the profits is the slow expected growth of industry exports, due to the strong dollar and to the slower recovery of overseas markets.

The Asian market revenues were $65.37 billion in 2013, with an annual growth rate of 9.4% from 2009 to 2013. The market is expected to slow down for the next five years, with an annual growth rate of 6.7% between 2013 and 2018. The market value is expected to be $90.59 billion in 2018.

The European market had revenues of $30.02 billion in 2013, with an annual growth rate of 4.8% from 2009 to 2013. This growth rate is forecasted to decrease from 2013 to 2018 to 3.3% annually. The revenues will reach the value of $35.35 billion in 2018.

Globally, the market is forecasted to decelerate at the growth rate of 5.3% from 2013 to 2018, to drive the market from a value of $136.72 billion in 2013 to $177.02 billion in 2018

Appendix: into valuation using multiples

	2007A	2008A	2009A	2010A	2011A	2012A	2013A	2014F	2015F	2016F
Stock Price	72.39	58.17	48.53	68.7	84.43	106.16	156.93	179	181	224
Diluted EPS	3.56	1.2	0.8	3.66	6.68	11.14	22.28	15.72	5.87	6.52
Sales	10681	14012	10966	11989	13156	13515	15112	15111	15944	16257
P/E	20.33	48.48	60.66	18.77	12.64	9.53	7.04	11.41	30.92	34.34
P/S	1.13	0.68	0.73	0.95	1.02	1.22	1.51	1.63	1.48	1.68

** Analyst's own calculations. Source of basic data: company's 10-K; Yahoo! Finance*

Sources

Reasons for my Recommendation and Company Analysis

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Industry Analysis

Global

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