Summary of Speaker Presentations
Young & Partners Senior Chemical Executive Seminar
"Strategic, Financial, and Shareholder Issues for Chemical Executives"
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John Roberts, Senior Vice President, Buckingham Research Group

Summaries of the Speaker Presentations

(These summaries were prepared by Young & Partners and were not reviewed by the speakers.)

Current Chemical Strategic, M&A and Financial Trends

Peter Young, President, Young & Partners

Thus far through three quarters of 2004, the earnings picture for the chemical industry has improved considerably since last year, even with the uncertainties associated with higher oil prices. Unfortunately, the stock price performance of the industry has been more variable with certain chemical sectors doing well, and others faring rather poorly.

On the M&A front, dollar volume is well ahead of last year' pace with $21 billion in transactions already completed through the first nine months, equal to the $21 billion completed in all of 2003. With 58 transactions completed during the first three quarters of 2004, Young & Partners expects the number of completed M&A transactions in 2004 to be stronger than 2003. This very active and liquid M&A market is driven by the strategic need of many chemical companies to sell non-core businesses, the attractiveness of current valuations to buyers, and the aggressiveness of financial buyers. Acquisitions by financial buyers now account for 29% of the number of deals and 46% of the dollar volume through nine months of 2004, largely in line with the volume in 2003. We are seeing a mateerial increase in M&A valuations this year after three years of trough multiples.

On the capital markets side, debt issueance has continued to be high, driven by M&A financing needs and the trend of credit rating upgrades. Equity issuance has been very low, despite talk of a potential burst in offerings in 2004 that occurred earlier in the year. Only four equity offerings were completed through the first nine months, only one of which was an IPO. A weak overrall IPO market, coupled with the market's negative view of chemicals, are the drivers.

Strategic and Regulatory Opportunities and Challenges in Chemicals

Thomas E. Reilly, Jr., President and CEO, American Chemistry Council

The chemical industry has recently gone through very challenging times. The strong dollar, terrorism, the recession, overcapacity, dumping, and reversal of the US raw material cost advantage in natural gas are just some of the issues faced by the industry. As a result, a third of the chemical bonds were downgraded, 3% of the companies went bankrupt, stock valuations are below revenues, and companies are thinly capitalized, resulting in loss of control by chemical executives.

The US recovery, on the other hand, has been good for the chemical industry. Volumes are up by 6% to 9%, and overall revenue is up 13% to 15%. Companies with substantial international operations and/or large export positions are benefiting the most. A major issue in the US has been the lack of an effective energy policy. The European chemical industry is likely to source raw materials from Russia after Putin signs the Kyoto treaty. Olefins will be produced in the Middle East. Intermediates and fine chemicals will be produced in China. The Chinese government is committed to supporting growth of the domestic chemical industry and adopting policies to develop energy sources, including nuclear plants.

In the US and Europe there are efforts are being made to "deselect" scores of chemicals. The forward-looking position on this trend is to practice product stewardship. The industry must be mobilized to actively participate in research to develop sound science that results in rational decision making. On the other hand, companies must be fully prepared to "deselect" chemicals if rational science comes down against them.

Overall global growth is expected to be substantially higher than that of US GDP, as a result of a combination of the East Asian growth and an effort to bring people over the poverty line, globally defined as income threshold of $1 per day. To achieve this objective, we need energy and chemicals. The essential nature of chemicals makes their use unavoidable. But who will benefit will ultimately be a matter of product stewardship.

Celanese: From Spin-off, Through Public, to Private

Claudio Sonder, Chairman of the Board of Management, Celanese AG
David Weidman, Chief Operating Officer and Chairman-Elect, Celanese AG

Celanese has gone through an extraordinary set of transformations since its spin-out from Hoechst. Each step of the way has created shareholder value and revitalized the company. The company has executed a clearly defined strategy that followed three steps: (a) divestiture of non-core businesses, (b) restructuring and portfolio optimization, and (c) focus on growth and productivity. Since 1999, Celanese has made investments of Euro 1 billion in external growth and Euro 1.3 billion in internal growth. At the saem time, non-core businesses were sold and the proceeds amounted to Euro 1.3 billion. Celanese's success stories include rapidly changing attitudes based on six sigma and substantial reductions of maintenance costs and working capital requirements. Since 1998, financial discipline has led to over Euro 1billion in debt reduction. As a result of these initiatives, the stock has outperformed both global peers and the DAX.

Blackstone has now acquired Celanese for Euro 3.1 billion. Under new ownership, Celanese will continue to execute on its growth and productivity improvement plan, and will have access of much needed growth capital.

The Petrochemical Industry in China – Pros and Cons

Jeffrey Lipton, President and CEO, NOVA Chemicals Corporation

Is China going to take over the world in petrochemicals? They key to answering that question is to look at global demand and producer economics.

According to forecasts, there will be no investment in polyethylene in North America in the foreseeable future. Producers are reluctant to build capacity because North America's feedstock cost advantage has been steadily reduced in the past four years. Operating rates, on the other hand, are expected to exceed 90% post-2004.

On a worldwide basis, ethylene cash costs are lowest in Saudi Arabia, followed by Western Canada. They are the highest in China. As a result of this raw material cost advantage, producers are investing in polyethylene capacity in the Middle East.

Delivered polyethylene to China, including duties and tariffs, is least expensive coming from Saudi Arabia and Western Canada, and most expensive coming from Western Europe. If duties and tariffs were to be lifted, China would become to high cost producer of polyethylene delivered domestically. China has an expected polyethylene demand CAGR of 9%, which will result in a demand gap of 16 billion pounds by 2008. Even accounting for announced polyethylene projects in the Middle East, China's demand gap is still 2.4 billion pounds.

On the other hand, China has a comparative advantage in labor costs, so it would make most sense for Chinese activities to focus on the most labor intensive steps of the polyethylene supply chain. Ethylene and polyethylene are not labor

intensive and are capital intensive, plus China does not have a raw material cost advantage. For those reasons, it makes more sense for Chinese companies to focus on downstream investments in polyethylene production, namely in converted products.

In summary, to make best use of its resources, China should: (a) exploit its competitive strengths, (b) utilize the competitive strengths of other regions, (c) build long-term supply relationships, and (d) make investments in the more labor-intensive polymer conversion activities.

Nanotechnologies: An Investor's Perspective

Josh Wolfe, Managing Partner, Lux Capital

Nanotechnology is the purposeful engineering of matter under 100 nanometers in size to achieve desired properties and functions. Nanostructures can have profound effects on new applications in areas such as electronics, computing, smart materials, energy, optoelectronics, and life sciences. At that size, quantum and physical properties make materials behave in a way that is fundamentally different relative to what we are used to. There is no such thing as a "nanotechnology market", but there *is* nanotechnology value chain. This chain involves nanomaterials (nanoscale structures in unprocessed form), nanointermediates (intermediate products that incorporate nanoscale features), and nano-enabled products (finished goods that incorporate nanotechnology).

Over $8.6 billion will be spent in nanotechnology R&D in 2004. 80% of companies engaged in nanotech R&D are startups. The market for nanotechnology is projected to reach $1 trillion by 2015. This year, nanotech product revenue will account for $158 billion. Only 8% of it will be based on "new, emerging innovations". Nanotech startups at the top of the ranks are beginning to generate annual revenues in the range of $10-20 million. According to Lux Capital's research, if you look at the top five players, three are in specialty chemicals, one is in pharmaceuticals, and one is in semiconductor capital equipment. Large corporations are partnering with nanotech startups to access new technology while mitigating risk. As a result of all this activity, nanotechnology is projected to become "commonplace" sometime around 2010 and 2014.

Douglas W. Jamison, Managing Director, Harris & Harris Group, Inc.

Nanotechnology is the creation of useful materials and devices at the nanoscale level and the exploitation of novel properties and phenomena seen at that scale. By creating nanoscale structures, it is possible to control the intrinsic properties of materials. Nanotechnology is not a single scientific discipline, investment, or market space. Rather, it is a collection of enabling and potentially disruptive technologies. Industries that are likely to be the most affected include telecommunications, microelectronics and computing, energy, specialty chemicals, healthcare, textiles, automotive, biotechnology, and industrial machinery.

Nanotechnology currently is driven by substantial funding from governments (both worldwide and in the US), venture capital, and R&D of major international corporations. Venture capitalists are looking at potential investments hoping to exploit unique opportunities. Certain technologies collapse multiple complex manufacturing steps into much fewer and simpler steps. Other opportunities involve substantial asymmetries of risk and return. Realizing the potential of other technologies lies mainly in successful partnerships of large and small companies, each of which brings different skill sets and capabilities to the ultimate creation of a successful product.

The chemical industry cannot rely on "throwing nanotechnology over the transom" and seeing successful results. Most likely, the partnership model could lead to both successful defensive and offensive strategies for savvy industry players.

The Role of Financial Buyers in the Chemical Industry

Ron Sheldon, Director, Advent International plc

Advent has been investing in European chemicals for 20 years. Currently chemicals represent 11% of Advent's Western European deals. Most of these investments are in Germany, followed by France, the UK, and the Netherlands.

Advent believes that capital markets will continue to put pressure on chemical companies to rationalize operations and to focus on their core activities. In this environment, financial sponsors play an important role as buyers of chemical assets. The current focus of corporate buyers on specialties makes financial players especially important as buyers of intermediates and commodities.

However, private equity investors have been cautious when it comes to chemical investments. Typical concerns are the industry's cyclicality, capital intensity, poor return on capital, potential environmental liabilities, and notoriously difficult exits. Advent's investment thesis in chemicals is to: (a) buy at a low point in the economic cycle, (b) "buy and build", (c) identify consolidation opportunities, and (d) identify cost reduction opportunities. Since IPOs are scarce in the chemical industry, a trade sale is the likely best exit option. A secondary sale to another financial buyer is possible, but unlikely to result in a premium return.

Peter Young, President, Young & Partners

Prior to 2000, industrial buyers generally outbid financial buyers. However, as the chemical M&A market peaked in mid-1999, industrial buyers began to retreat and financial players stepped in. Financial buyers have been particularly successful with diversified assets, where industrial buyers have had concerns over business fit, and with pure-play assets where anti-trust considerations prevented major industrial players from bidding.

Although there is a general belief that financial players have achieved premium returns over the past few years, it is probably too early to tell whether the group as a whole has been successful. There have been only a handful of exits where the owner made attractive returns. There are a dozen or more cases where the company either went bankrupt or went through a major restructuring process. Of the 85 deals completed by financial buyers over tha last five years, over 70 are in the "unknown" category with regard to the succsss of the investment.

Industrial players who are sellers are likely to consider financial players as "friends" if the industrial company is selling a diversified business or a business where anti-trust considerations block logical industrial buyers. Industrial buyers who missed the opportunity to buy a specific business for timing reasons, may find the business up for sale again is the buyer was a financial player because they are ultimate sellers of any asset they buy. On the other hand, industrial buyers may view financial players as "foes" because they push prices up, or set a floor for the price. Further, if businesses purchased bya financial player runs into financial difficulties, disruptions in pricing are more likely to occur that affect the other industrial competitors as the company faces pressure to generate cash to service debt. Finally, the role of financial players could at times delay consolidation because they buy businesses would otherwise have been absorbed by competitors.

The Global Economic Outlook

Allen Sinai, President and Chief Global Economist, Decision Economics, Inc.

Our approach to forecasting is to provide a basic forecast for the coming year, discuss the scenarios under which this forecast will not be realized, and assign probabilities to these events.

The US economy is in good shape. We are moving into the fourth year of recovery and GDP growth is nearly 5%, in real terms. We do not believe that this level of robust growth will be repeated in 2005. Our current projection for the GDP growth in 2005 is 3% to 3.5%. This level is by no means weak. It is more in line with history, but not at the same level as in 2004.

The main reasons for the slowdown are: (a) the effects of the tax cuts that already have lifted the economy are now diminishing, (b) interest rates, that have been kept very low for an extended period of time, are picking up and will continue to pick up at a slow pace, and (c) the continued rise in oil and other energy costs is taking its toll on US and global consumers and businesses.

The supply/demand balance of light sweet crude is very tight. Although refining capacity exists, it takes a long time get it online. This slow process, combined with the price increases, makes the cost of energy a burden to most sectors of the economy. Interest rates will continue to go up to a point where they neither stimulate nor restrain the economy. This process is deliberately slow. In the short term, you can expect a 0.25% increase in November. These factors will result in a downshifting of corporate profits in 2005.

We assign a 65% probability that this scenario will be realized. This level of confidence is relatively high compared to forecasts in other years. Our view is somewhat weaker than concesus opinion that shows 2005 growth to be in the range of 3.5% to 4%.

If this scenario is not realized, the economy will likely be worse. We are concerned that current levels of growth in East Asia are not sustainable. China will have to slow down. Growth, by historical standards, is out of bounds. Interest rates, in real terms, are negative. There is a possibility that China will go into a sudden downturn, which will surely affect the US economy. Finally, the combination of a fading tax stimulus and high energy costs may have unforeseen effects, making the downside risk more likely than any upside.

Biotechnology and the Chemical Industry: A New Wave?

Brent Erickson, Vice President – Industrial and Environmental Section, Biotechnology Industry Association

Industrial biotechnology is important for innovation and technology advancement. It can help accelerate chemical process innovation and introduction of new products. It is not energy intensive and uses widely available feedstocks. Also, although advancing rapidly, industrial biotechnology is still in its infancy.

Industrial biotechnology is likely to involve shorter R&D cycles, lower capital expenditures, lower material costs, new functionalities, and better environmental performances. Such processes would involve lower costs, better sustainability profile, and likely be less controversial than other cutting-edge technologies. An example of process improvement via industrial biotechnology is the production of Vitamin B2. The traditional multi-step chemical process can be replaced by a single fermentation step based on a genetically modified micro-organism. This process reduces solid waste by over 70%, waste-to-water by 66%, air emissions by 50%, and production costs by 50%. Areas with great potential include biocatalysts and biocatalytic nanocomposites (a combination of enzyme technology and nanotechnology).

Areas where industrial biotechnology is rapidly penetrating include biopharmaceuticals, biopolymers, ethanol, adipic acid, detergents, lubricants, and fragrances. Today, about 5% of global chemical production is based on biotech processes. By 2010, analysts predict, 20% of chemical production (worth $280 billion) will involve biotech processes.

Larger players with broad skills in biotechnology are most likely to capture the full value of these new processes. Smaller players can benefit through partnerships.

Jay M. Short, Ph.D., President and CEO, Diversa Corporation

Today, 5% of chemicals are produced based on biotech processes. By 2010, analysts estimate that 30% of all chemicals (60% of all fine chemicals and 30% of all specialty chemicals) will involve biotech processes.

Diversa's core competencies include genomic discovery, protein evolution, metabolic path engineering, heterologous expression, microbial fermentation, and plant expression. Diversa's patented technologies capitalize on biodiversity, directed evolution, high throughput screening, and host engineering. These competencies and technologies enable Diversa to effectively either identify an existing enzyme or engineer one that is suitable for producing a particular molecule.

Markets likely to benefit from biotech include fiber modification, oils and nutrition, and animal care. New processes will involve lower chemical costs and less waste. Quality, yield, efficiency, purity, performance improvements are among the many benefits. New products will involve novel chemistry, better performance, and will be based on renewable resources. Earlier this year, Diversa commercialized enzymes for paper and textile processing that follow the same principles and are achieving these kinds of benefits.

Another example of biotechnology on an industrial scale is ethanol production from corn refining. Today's corn refining is based on a suboptimal process. Diversa's enzyme increases efficiency and permits processing at more extreme conditions. The concept of an integrated, corn-based, biorefinery is the subject of a collaboration of DuPont, Diversa, NREL, John Deere and MSU, funded by the DOE. The key objective of the project is to design an integrated process that employs multiple feedstocks and mutliple output streams. Just as in a traditional refinery, higher value co-products will improve the overall process economics.

Increasing Profitability Through Product and Customer Portfolio Management

Robert J. Shaw, Managing Director, BearingPoint, Inc.

BearingPoint has developed a Business Life Cycle Management (BLCM) tool as a method to improve profitability. The method utilizes data mining techniques to segment products and customers into an A/B/C classification. This segmentation modeling approach helps in identifying hidden costs associated with marginal customers and products. It also helps in directing product development investments where they are most impactful.

The central concept of this approach is that SG&A transactional costs need to be allocated by transaction, not volume. The ultimate product of BLCM is to reduce the number of unprofitable products in a portfolio and to develop customers from the "C" category into more profitable A and B categories. Also, the process helps companies making decisions about matching customer service levels with the profitability of each account.

Ron Kiskis, President, Chevron Oronite Company LLC

Chevron Oronite employed the BLCM technique to make substantial improvements related to customer life cycles (CLC), product life cycles (PLC), and supply chain management processes by reducing costs and capital employed. The project was helpful in redefining Oronite's strategies with respect to product and customer portfolio issues.

In terms of CLC improvements, Oronite streamlined "C" customer accounts by contracting the services of a third party distributor. For other lower profitability accounts, Oronite standardized lead times, established minimum order sizes and instituted web-based ordering. For higher profitability accounts, Oronite rolled out a new order management system that improved service standards.

In terms of PLC improvements, Oronite eliminated support for certain low volume, low margin products and established more rigorous business analysis tools to monitor volume and margin issues on an ongoing basis.

Overall results of the BLCM initiative included improvement of return on capital by 100% and profit after tax by 50%. Total annual cost was reduced by $100 million. Oronite achieved a record year and motivation is high and focused on profitable growth.

Providing Earnings Guidance: Best Practices

John Roberts, Senior Vice President, Buckingham Research Group

The new regulations that have been adopted were not designed to reduce earnings disclosures. Rather, it was the intention of regulators to to make disclosures non-selective. Public companies, however, have reduced the earnings guidancethey are providing. Companies that do not provide guidance frequently point to following reasons why they have done so: (a) general counsel advises against it, (b) the practice of earnings guidance focuses on the short term rather than the long term, and (c) it is not management's "job" to provide such guidance.

However, First Call makes available earnings projections, whether provided by management or not. Companies that do not provide guidance miss an opportunity to provide input to this process. If companies are followed by many analysts, statistically the projections tend to be accurate. Unfortunately, the universe of chemical companies is large and coverage is sparse. Analysts have limited time to develop their own forecasts for all the chemical companies, so they tend to forecast a handful of companies where it is deemed that there are "dynamic" developments. For the rest of the companies, analysts tend to discuss difference in product lines and competitive advantages and leave management to provide earnings guidance. Lack of coverage leads to inaccurate earnings forecasts, thereby increasing stock volatility and reducing shareholder value.

If you do not provide earning guidance, what can you do to help analysts covering your company. Companies that do not provide earnings guidance can be helpful to analysts by presenting financials in a format that is readily readable and analyzable by analysts. Certain companies, such as Ashland and industrial gas companies, make available in the company website variables that are critical in forecasting financial performance.

Another approach would be to provide rolling four quarter earnings estimates. This approach would provide guidance on future performance on a continuous basis. The smoothing effect of the four quarter estimate would take away the concerns regarding seasonality. No chemical company currently provides such guidance, but it should be considered.