Market Overview: Plastic Packaging

Market Highlights & Trends

- PMCF expects the plastic packaging market to grow 4.5% annually over the next four years as a result of innovation in design, growth in end-market applications, substitution for other packaging materials, and improved performance properties.

- Resin price increases in 2004 – 2005 threatened the ability of plastics to compete effectively with other materials, but 2006 saw the resin market stabilize.

- Flexible packaging composes the largest segment of the plastic packaging market at $18.4 billion and will realize growth as multi-layer pouches replace rigid packaging products.

- Rigid packaging will face conflicting market forces – end-market trends are favorable in the beverages and personal care segments, but the threat from flexible pouches will impact rigid container growth in coming years.

- Closures will realize growth through increased demand for tamper-evidence, child-proofing, and innovative dispensing, but the lower end of the market is becoming more commoditized.

- Food and beverage will continue to be the largest end-market for plastic packaging, composing 57.6% of the market. Plastic packaging is expanding its presence in food and beverages through growth in films, plastic bottles, pouches, and other convenience-driven products.

- Pharmaceutical packaging will be a high-growth end-market for plastic packaging due to demographic trends and strong demand for unit dose packaging. Plastic bottles and containers will also realize strong growth in this space.

- Offshore sourcing is a growing threat for producers of monolayer films and rollstock, but many plastic packaging products requiring short lead-timess, strict quality demands, high logistics costs, and a high degree of automation will be mostly insulated from foreign competition.

- Due to high capital expenditures and a consolidated customer base, increased M&A activity is forecasted as large- and medium-sized companies acquire small players to achieve growth initiatives.

- Strong company cash flows and liquid capital markets should result in increased private equity interest and a favorable M&A environment for middle-market players over the next few years.
Market Overview

P&M Corporate Finance ("PMCF") estimates that the overall packaging industry has grown to reach $126 billion in the United States. However, expansion in this space has slowed as the market has matured; further growth in the overall U.S. packaging industry is expected to be just 1.5% - 2.0% over the next several years.

The outlook for plastic packaging, however, is brighter than for the packaging industry as a whole. At present, PMCF estimates that plastic accounts for $38.2 billion of the overall packaging market. PMCF expects the U.S. plastic packaging market to grow at a compound annual growth rate ("CAGR") of 4.5% over the next four years, gaining market share at the expense of paper, metal, and glass packaging. Plastic has many advantages over other materials, such as cost, flexibility, portability, barrier properties, and aesthetics.

The overall growth figure for plastic packaging is not necessarily an accurate representation of the individual segments within the industry, as growth rates can vary greatly between segments. We expect some areas of the industry to realize much faster growth rates, such as blister packaging, flexible pouches, and PET bottles, while rigid bulk packaging and monolayer films will experience much lower rates of growth. Key differentiators between the high-growth and low-growth segments include the level of product innovation and the strength of demand in the related end-markets.
Product Segmentation

For the purpose of this market overview, PMCF breaks down the plastic packaging industry into three primary segments: flexible packaging, rigid packaging, and closures. These three segments each have unique processing techniques, products, and end-markets.

Each segment is further divided into product based sub-segments to better capture the trends and projected growth of specific packaging sectors. Just as each of the three primary segments are differentiated by a number of distinctive product characteristics, these sub-segments are also segregated by distinct features which result in varying growth rates and differing market trends.

While most segments of plastic packaging should realize growth through 2010, blister packaging, pouches, and closures should expect to see the highest growth rates as these products continue to replace more traditional packaging options due to advances in design and functionality.
End-market Segmentation

Each product segment exhibits unique properties and advantages and must be tailored to specific end-markets. Frequently, the trends in these end-markets drive the demand for a particular packaging product. Some of the largest end-markets with favorable outlooks include food and beverage, personal care, medical and pharmaceutical packaging, while the household chemicals and protective packaging end-markets should experience more moderate growth. The presence and growth of plastic packaging in each of these end-markets is illustrated in the graphs below.

As new processing technologies make plastic packaging more cost-effective, barrier-resistant, and aesthetically attractive, opportunities within each of these end-markets will increase. Drivers for plastic packaging in key end-markets are described below.

Plastic Packaging Industry Trends

The ability to appease ever-changing consumer demands requires packaging manufacturers remain flexible and quickly adapt to industry trends. Processing and technological advancement have become such an important facet of the plastic packaging industry that they are now less of a differentiating factor, and more of a required characteristic of the space. End-market use drives demand for many plastic packaging manufacturers and with an increasing number of brand names flooding the market place there is a heightened importance placed on brand distinction; changes in consumer lifestyles are demanding packaging improvements in safety and convenience; and a number of new products hit the shelves each year, which require new features and improved functionality. To address all these demands, a majority of research and development efforts in the plastic packaging space are currently devoted to innovations that help to differentiate products: convenience packaging, improved barrier protection, packaging design initiatives, smart packaging, and environmentally-friendly alternatives.
Convenience

Consumer lifestyle changes have recently resulted in an increased emphasis on convenient, on-the-go packaging options, especially in the food and beverage industries. Characteristics which cater to these preferences include light weight, portability, and durability. Now that plastic has achieved a number of protective capabilities on par with glass and metal substitutes, it has begun to differentiate itself as the best option for new product innovation due to its wide range of applications.

Flexible plastic packages, such as stand-up pouches, have recently been gaining market share at the expense of some rigid packaging alternatives. Similar to films, less resin is used in manufacturing, which lowers production costs. In addition, flexible packaging requires significantly lower transportation costs and less customer shelf space than rigid packaging. Pouches also offer lightweight portability, effective single-serving options, and extensive marketing capabilities. The market demand for pouches in the U.S. could rise by as much as 15% annually over the next several years. Products already packaged with pouches encompass a wide range, anywhere from StarKist tuna fish to Arm & Hammer baking soda.

Pouch packaging is not a new technology; in fact, it has been used since the 1960’s by the U.S. Army. However, improved barrier properties, combined with current consumer life-styles and a growing demand for ready-to-eat (RTE) products have resulted in a surge of demand. Retort pouches are popular for these kinds of applications. In the retort process, the pouch is filled, sealed, and then retorted through a thermal process that cooks or sterilizes the product. Plastic pouches now have shelf-life comparable to that of metal or glass containers, and also have the advantage of being suitable for microwave preparation, which caters to a convenience driven consumer base. Companies who can effectively capitalize on the advantages of pouch packaging in the near future are expected to capture market share in this high-growth space.

Barrier Protection

Recent trends in the plastic packaging industry have led flexible packaging producers towards the manufacture of thinner gauge films due to the material reduction advantages. Product pricing is an important competitive factor because most of these products are high volume, low margin items, which has led to commoditization and a lack of differentiation in most film, sheet, and bag. With resin costs accounting for approximately two-thirds of the cost of goods sold, keeping raw material costs to a minimum has become a priority.

Coinciding with the push towards thinner gauge plastics is increasing customer demand for improved performance and barrier protection. In addition, products used to package foods, beverages, and pharmaceuticals need to comply with legislative requirements of state and federal health and safety authorities. The food and beverage industry is focused on manufacturing thinner gauge film with high barrier protection, and the pharmaceutical industry is determined to realize continued improvement of child-resistant and tamper evident closures. Producing packaging that provides for better performance and protection is a major objective driving innovation in the space.
Flexible films can be produced with very little resin, which reduces production costs when compared to other packaging materials. Coextrusion technologies have enabled manufacturers to combine various resins in order to achieve a highly effective barrier, while at the same time producing thinner gauge films that cost less to the manufacturer. However, combining two or more materials in the package has created recycling problems for many coextruded films.

Two specific packaging technologies that have been recently gaining momentum are modified atmosphere packaging (MAP) and nanotechnology. The MAP technique involves the practice of altering the composition of the internal atmosphere of a package in order to improve a product’s shelf life. This trend is most common in foods, but is also used in pharmaceutical packaging. Nano-composites are plastics that have fillers dispersed throughout the resin which reduces permeability in the resulting film. Nanotechnology offers enhanced barrier protection, increased shelf life, and light-weight design. These developments have significant potential in improving the barrier performance of plastic packaging films and creating new markets for plastic packaging.

**Differentiation through Design**

Plastic packaging is unique in that it allows for a variety of design capabilities. Design innovation resulting in both aesthetic and functional value helps to differentiate end-market products on the shelf. Due to the large number of end-market products on the shelves today, design elements have become an increasingly important distinguishing characteristic in the eyes of the consumer.

A major trend in packaging design is the use of shrink-sleeve labeling. Shrink-sleeves are most often produced with PVC, but can also be produced from PETG (Polyethylene Terephthalate Glycol Co-monomer) and OPS (Oriented Polystyrene), which have different shrink characteristics and may be more appropriate for certain applications. Using this type of labeling provides 360-degree design capabilities that allow for maximum utilization of the container surface for optimal graphic visibility. In markets where product differentiation is limited, shrink-sleeves can offer a high-end, attention-grabbing design that distinguishes the product from others on the shelf.

Packaging that enhances functionality of a product can also have an impressionable effect on the consumer, and plastic holds an advantage over some substitute materials, with its ability to be formed into any number of shapes that compliment or improve product usage. The production of dual-chamber containers, where two products mix as they are dispensed, is one example of a product design gaining popularity. In addition, packaging attributes that address the needs of on-the-go lifestyles such as single-use pouches, handles for easy carrying, and reclosable openings will continue to grow.
Packaging technology could possibly realize its most influential innovations through smart packaging. Smart packaging encompasses a wide range of technologies including films that indicate product freshness, as well as security inks used to protect against counterfeiting in the pharmaceutical sector. Perhaps the most significant technological advancement currently evolving is radio frequency identification (RFID).

The use of RFID tags in packaging is increasing for all end-markets; however, a majority of current activity can be seen in the food & beverage and pharmaceutical sectors. Over the next several years, an increased focus on security and anti-counterfeiting measures in the pharmaceutical industry should stimulate significant developments in RFID technologies. Congress has even stepped in to protect against fraudulent and counterfeit drugs. On March 1, 2006, Congressman Dan Burton introduced a bill that would require track-and-trace technology, such as RFID tags, to be on all prescription drug packages by 2010. This bill could have a tremendous impact on the demand for smart technology in pharmaceutical packaging and the mere fact that legislative action has been taken suggests that RFID will play a crucial role in packaging for the foreseeable future.

It is estimated that the market for smart technology in packaging should grow to nearly $5 billion by 2011 and reach $14 billion by 2014. As electronic printing technologies improve and smart packaging technologies become more economically viable, interoperable RFID products will allow for improved inventory management, logistics, and supply chain management on a global scale.

Wal-Mart is two years into the world’s most ambitious effort to implement RFID technology and is making significant headway with its Next Generation logistics initiative. The company kicked-off their RFID program in 2004 with suppliers that included Gillette, Hewlett-Packard, Johnson & Johnson, Kimberly-Clark, Kraft Foods, Nestlé Purina PetCare, Procter & Gamble, and Unilever, and has already begun to realize a return on its investment with improved sales of promotional display items and a sizable reduction in product stock-outs. By first quarter 2007, Wal-Mart will have over 1,000 locations with the ability to receive tagged products and more than 600 suppliers supporting some level of RFID technology. Wal-Mart installations utilize Generation 2 protocol, which is now considered standard among leading organizations.

**Green Packaging**

Environmental concerns influence the packaging industry, as indicated by increasing pressure on regulatory agencies from lobbyist groups. Standards for recycling are becoming more stringent, and pressures to reduce the amount of material in packaging are mounting.

This pressure is an additional factor that is causing a shift away from rigid packaging in favor of flexible options. Flexible packaging uses less material for the same
application, and frequently the resins used in flexible packaging are more easily recycled. A plastic pouch will typically use 50% less material than a rigid plastic container or bottle for the same application, and up to 75% less material (by volume) than a glass container or bottle.

Wal-Mart is also playing a large role in promoting environmentally-friendly packaging initiatives along the supply chain. In 2006 the Company unveiled its “packaging scorecard” system, which is aimed at reducing packaging material across its global supply chain by 5% by 2013. The system, is scheduled to be shared with over 60,000 of the company’s global suppliers on February 1, 2007, will allow suppliers to evaluate themselves relative to other suppliers on a number of different environmental metrics, and also view top rated packagers who can help them meet Wal-Mart’s requirements. Those companies ranked at the top of the list will become the preferred suppliers. Beginning February of 2008, the retail giant will begin to use the packaging scorecard to gauge its worldwide supply base, with targeted savings of $3.4 billion in packaging costs per year. To view the online scorecard system for suppliers visit www.scorecardlibrary.com. To view the system built for packagers visit www.marketgate.com/packaging.

Bioplastics are also beginning to make headway in the plastics packaging space as biopolymers have recently begun to gain significant attention industry-wide after years of undelivered promises surrounding biodegradable and eco-friendly materials. One of the most influential biopolymers currently marketed is NatureWorks’ corn-based polylactic acid (PLA.) PLA offers packaging manufacturers a cost-competitive, renewable option to replace traditional petroleum-based plastic materials. PLA uses 68% fewer fossil fuel resources than traditional plastics in its manufacturing and is the world’s first greenhouse-gas-neutral polymer. In addition, current research shows NatureWorks PLA can exist in the present North American infrastructure with the existing commercial systems for recycling PET and HDPE.

Spartech Corp. has recently announced the production of Rejeven8, made from 95% NatureWorks PLA and is said to better match properties of traditional PET. Some manufacturers are already beginning to use PLA in thermoformed and shrink wrap packaging applications. By doing so, retailers are able to differentiate themselves on the shelves, by catering to an increasingly eco-friendly consumer base.
Competitive Landscape

The competitive dynamics of the plastic packaging market differ greatly between large players and small players. Each segment of the industry has several large players that make up a significant share of the market, but within each of these segments, smaller players have found ways to carve out a specific niche. PMCF estimates that there are over 1,200 players serving North America in the plastic packaging space, and the vast majority of the companies generate less than $30 million in annual revenue. Larger players tend to use their scale to invest in technology and to gain a cost advantage over smaller players on high-volume products. While these cost pressures have been a problem for some small players, many companies have differentiated themselves to customers by focusing on customer service, efficient lead times, or custom product niches. The market dynamics and basis of competition for companies of any size differs by segment.

Flexible Packaging

In the flexible packaging segment, the top five competitors account for 38% of the market, with Bemis, Amcor, and Pliant as the market leaders. Over 95% of companies in this space generate less than $100 million in revenue, yet these companies make up just 32% of total market revenue. The composition of the flexible packaging segment by company revenue is shown in the diagram below:

In the flexible packaging segment, the market leaders have a strong presence in high-volume product lines over which to spread the fixed costs of capital investments. Larger players gain a competitive advantage in these areas through operational efficiency and investment in processing technology and capabilities. Although the largest players will continue to dominate the high-volume product areas, small and mid-size companies have often found success by carving out unique market niches with customers. Bags and film products used in custom applications that require fast turnaround times are better served by smaller manufacturers, and there are numerous small players that deal only in these markets.
Rigid Packaging

Rigid packaging has several players with more than $1 billion in revenue. Consolidated Container, Graham, and Plastipak are some of the top competitors in rigid packaging. Companies larger than $1 billion in revenue compose nearly 50% of the market.

Caps & Closures

The largest players have a strong presence in the plastic beverage container sub-segment because these are frequently very high-volume products. Cost pressures in rigid packaging make it difficult for small players to compete on high-volume products, but small- and medium-sized competitors frequently focus on niche products for household chemicals, personal care products, food, or automotive retail products. Smaller players can differentiate themselves in these areas through value-added services such as shrink-sleeve labeling and custom design.

Source: Capital IQ, PMCF Estimates, Company Data

The largest players in the closures segment typically also have significant revenue from rigid packaging

Source: Capital IQ, PMCF Estimates, Company Data
The caps and closures segment will see consolidation as it becomes more commoditized and the ability to produce high volumes with a low cost structure becomes more important. Standardization of closures leaves less room for smaller players because lead times are less important for stock products. Additionally, large end-customers are looking to consolidate their supplier base and deal with fewer, larger suppliers. Only the most innovative, custom products will remain attractive niches for smaller players in this segment.

M&A Outlook

Plastic Packaging M&A

The plastics sector saw a record year for M&A activity in 2006, and there are few signs of slowdown in first half of 2007. Increased corporate cash flow and an attractive, fragmented industry have encouraged more plastic packaging companies to turn to acquisitive growth as they explore strategic alternatives. Through both mergers and acquisitions companies of all sizes are seeking to benefit from economies of scale, enhanced product line breadth, purchasing power, geographic presence, and customer diversification across an increasingly global market. Add to that the fact that industry valuation multiples are at the highest levels they have been in recent years, and it is no surprise that more owners of middle-market packaging companies are entertaining options to sell or recapitalize their businesses.

Average packaging multiples shot up to 7.2x EBITDA in 2006, a 7.5% increase over the 2005 average. A significant driver of this increase has been the liquidity of the debt markets, and availability of equity capital provided by financial buyers. Flooded with excess equity, a great number of financial players have shown interest in plastic packaging – a relatively non-cyclical, growing industry. As more and more money chases deals in the space, competition between strategic and financial buyers grows strong and perpetuates high valuations. With record fundraising in 2006, private equity activity doesn’t appear to be dying off anytime soon. It should not be surprising to see many of 2007’s largest deals result from financial sponsorship, as equity groups continue to take advantage of liquid capital markets.
Deal Activity by Segment

The packaging industry saw increased levels of transaction volume across all sectors in 2006. Acceleration in raw material and energy costs led to significant consolidation as packaging manufacturers sought increased scale and a gain greater geographical presence. The past year was especially active in more fragmented sectors such as rigid packaging and closures. Margin pressures, coupled with greater bargaining power from an increasingly consolidated customer base, resulted in a number of strategic acquisitions in these areas.

Rigid Packaging – This segment has seen the most M&A activity over the past two years, with a number of transactions coming by way of acquisition in the bottle manufacturing space. Geography is a key driver in the rigid segment due to the need for close customer proximity. Bottles and rigid containers are not typically efficient to ship because they have a large amount of empty space, so a local presence helps to keep logistics costs low. Also contributing to an increase in deal activity is the commodity-like nature of many rigid packaging options. Producers of low margin, ubiquitous packaging products are facing pressures as raw material and energy prices have risen. It has now become imperative to expand core capabilities and invest heavily in R&D in order to remain competitive. This results in an increased focus on growth initiatives, including acquisitive growth.

Flexible Packaging – M&A in the flexible packaging segment has been driven by potential growth opportunities and diversification plays. With high growth forecasted in pouches, flexible packaging companies that do not have a strong presence in this segment should look towards acquisition as a means of quickly gaining expertise and capability in this area. Global diversification will also drive a significant jump in deal activity in coming years. Cheap manufacturing costs in Asia and a global customer base will drive this trend. In some of the more commoditized segments of the market, production volume is an important driver as producers seek to spread fixed costs over a greater revenue base. Additionally, food producers and plastic sheet producers looking to vertically integrate have joined the market for acquisitions in flexible packaging. Faribault Foods, for example, reportedly purchased SoftPac Industries’ fruit juice division due to its presence in stand-up pouches.
Caps & Closures – Closures also saw increased transaction activity in 2006. For niche manufacturers, territorial coverage and customer diversification have acted as catalysts for consolidation; however, lack of a clear market leader and increased commoditization have been the primary drivers of M&A for much of this segment. As caps and closure products have become more standardized and high-volume, the advantages of scale are now significant. The opportunity for medium-sized players to merge with a large, established competitor could offer potential cost-savings and a competitive advantage in the market. In addition, as customization and design continue to shift some of the emphasis away from commoditized products, look for an increase in deal activity due to an influx of large players hoping to differentiate their product lines through the acquisition of smaller, innovative players.

Conclusion

While growth in the overall packaging market has slowed, plastic packaging should continue its growth due to advances in several key product areas. Pouches and blister packaging will be two of the key product areas for growth, driven by increased use in the food and beverage and pharmaceutical industries, respectively. With plastic packaging outpacing the overall market, substitution for metal, glass, and paper packaging still has a major impact on the market today. Products that were once packaged in glass jars, metal cans, or paperboard boxes are now being converted to plastic pouches, shrink films, or blister packs.

The innovation and product development that have lead to the expansion of the plastic packaging industry are shaping the competitive landscape, as well. With advancements in the industry, firms are seeking growth through new product development, geographic expansion, and strategic acquisitions. In addition, middle market plastic packaging manufacturers have become an attractive option for financial buyers focused on investing in consolidating sectors and in markets where growth can be sustained through economic and financial market cycles.

For some plastic packaging manufacturers the crucial element of success is to find a niche market in which to operate, for others it is to achieve global scale to effectively service a multi-national customer base, and for still others it is the ability to transform what was historically a mere expense of selling a product into a means of actually enhancing value of the product itself. Whatever the basis for success, the plastic packaging industry continues to grow and change. New product advancements are constantly underway and plastics continue to make market share gains on substitute materials such as glass, paper and metal. Plastic packaging companies should continue to thrive as the industry maintains growth in coming years.
P&M Corporate Finance, LLC

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