

Trends & Opportunities

BUSINESS TRENDS

New Products, Acquisitions Spur Sales - A BakeryNet survey shows that 23 percent of bakeries increase revenues by introducing product items, often through mergers or acquisitions. Large bakers have grown mainly through acquisition, and the industry is consolidating. Because automation is costly and margins in this low-growth business are low, many small operators can't make the capital investments necessary to lower operating costs.

Automation Improves Yield, Quality - More highly automated bakery facilities allow bakers to produce a more consistent product with higher quality. To compete with giants like Sara Lee and General Mills, some small bakeries are upgrading facilities using automation and robot technology. Although costly, automation upgrades allow small bakeries to produce more goods in a shorter time. Automated bakeries are often safer for workers, because the likelihood of accidents, like burns from touching industrial ovens or hot pans, is reduced.

Thrift Stores Sell Retailers' Returns - Bakers taking back goods that haven't been sold by retailers by a prescribed freshness date is an accepted practice in the fresh-baked goods industry. While many bakers discard the returns, some operate retail thrift stores and sell the returned product at discounted prices. Earth Grains operated 500 retail thrift stores prior to its acquisition by Sara Lee; Interstate Bakeries operates 1,500.

INDUSTRY OPPORTUNITIES

Artisan Breads Produce Higher Margins - Changing consumer tastes have given rise to "artisan" or gourmet breads. Smaller bakers with flexible production facilities can capitalize on such developments and on differences in regional and local tastes to produce and deliver a wider variety of products, often at higher margins, than larger bakers.

Par-Baking Popularity Grows - Bakeries are marketing par-baked products to grocery stores and restaurants as a faster and more cost-effective alternative to baking from scratch. In par-baking, products are baked until approximately 90 percent cooked, then immediately flash-frozen. By buying frozen par-baked products from wholesale bakeries, grocery stores and restaurants don't have to hire highly skilled bakers or worry about products spoiling quickly.

Bakeries Enter Online Gift Market - With specialty breads and sweets in gift baskets, along with other items, bakeries can take advantage of the growing Internet gift-buying market. Baker Mrs. Beasley's, which has an extensive online store in addition to several retail stores, does 65 percent of its business in the last three months of the year.

In-Store "Fresh" Baking Profitable - In addition to carrying packaged, branded "commercial" baked products like breads and cakes, many supermarkets have an in-store bakery section selling "fresh baked" breads, rolls, bagels, and other products that have high margins. While customers may believe that these products are baked from scratch at the store, commercial bakeries supply them in the form of prepared dough that is partially baked, then finished at the store, or in the form of fully-baked products that are flash-frozen and thawed at the store.

Demand Rises for Organic Foods - Largely ignored by the bakery industry, the market for organic products is growing at a rate of more than 20 percent a year, according to Organic Consumer Trends. Foods must comply with regulations to bear the organic label, but producers often find compliance difficult due to the length and complexity of the regulations; noncompliance can result in fines as high as \$10,000. In addition to federal requirements, states may establish their own organic labeling programs.

New Products for Fast Food Market - Specialty bakeries are taking advantage of fast food market growth. The Cheesecake Factory, a high-tech, high-volume production bakery chain, formed a joint venture with Nabisco for a new product sold through refrigerated vending machines, which may lead to fast food restaurant distribution.

Extended Shelf Life Techniques - Bakeries are extending product shelf life by increasing levels of enzymes and emulsifiers and using new packaging techniques. New packaging equipment and materials help decrease labor costs, while maintaining quality control. For example, new films and double wrapping techniques seal in moisture, extend product shelf life, and are tamper-evident, so personnel can easily see what items to replace.

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SIC CODES: 2873, 2879

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Consolidation - The agrochemical sector, which has undergone considerable consolidation in recent years, is now dominated by four global companies: Syngenta, Bayer, BASF, and Monsanto. A long downturn in farming has prompted mergers and acquisitions in the crop protection market. These large agrochemical producers are better able to withstand regional shocks such as bad weather, economic crisis, or tighter regulation.

Terrorism, Safety - Ammonium nitrate fertilizer can be a powerful explosive. Inexpensive and plentiful, the chemical has been used in terrorist attacks. The US government now requires better monitoring of ammonium nitrate stocks and sales.

Integrated Pest Management - The EPA encourages farmers to use a variety of methods to control pests, including crop rotation, knowledge of insect life cycles, pest-resistant plant varieties, and biological control measures, in addition to the targeted use of pesticides. Adopting such techniques will probably decrease demand for broad-spectrum pesticides, but increase the use of insect-specific chemicals.

INDUSTRY OPPORTUNITIES

Biological Pesticides - Growth in organic farming and farmers' desire to use less-expensive ways to manage crop pests have increased demand for biological control methods; basically, using bugs to combat other bugs. For example, tiny parasitic wasps are sprayed on fields to attack the glassy-winged sharpshooter, a bug that spreads Pierce's disease on grapes.

Export Markets - World fertilizer consumption, which grew very rapidly in the 1970s and 1980s but was flat during the 1990s, might see a recovery in growth in the current decade. South Asia, Latin America, and especially China currently consume more fertilizer than they produce. The greater intensity of farming in developing countries is likely to require larger amounts of fertilizers and pesticides in the coming years. More intensive farming techniques require that nutrients, especially nitrogen, be added back to the soil, boosting the need for fertilizers.

Replacements for Toxic Products - Phasing out older chemicals that turn out to have unacceptable toxicity provides opportunities for producers of alternative chemicals. In 2005 the US phased-out Methyl bromide, a widely used pesticide that is toxic to humans and has a destructive effect on the ozone layer. Demand for metam sodium, an alternative chemical, is expected to increase substantially.

New Farming Methods - Farming is becoming more scientific, especially with the growth of large industrial farms. Increasingly, farmers will use more specific fertilizers and pesticides to match their exact soil conditions and growing cycles. Farmers are also applying fertilizers and pesticides more efficiently, such as injecting pellets of slow-release chemicals directly into the ground instead of spraying.

Treatments for New Pests - Greater international travel and trade have imported new plant pests into the US, requiring pesticides to control them. For example, soybean aphids, probably imported on ornamental plants from Asia, appeared in US fields. Soybeans, originally imported from China, have thrived in the US partly because they're not afflicted by native pests. Infestation with the new aphids will require new pesticide treatments.

Higher Purity Products for Industrial Uses - Many of the major fertilizers have industrial uses, if the product is sufficiently pure. Bulk fertilizers often have impurities that don't affect their major purpose, but that leave them unsuitable for other uses. Because industrial demand, though smaller than agricultural demand, is steadier, some manufacturers have made the investments necessary to make products with higher grades of purity.

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Supplier Consolidation - The number of US dairy farms declined more than 70 percent between 1990 and 2008, while the average herd size increased about 85 percent. A better regional distribution system enables large dairy farmers to attain economies of scale in milk production unavailable to local farmers.

Consolidation - Many dairy product manufacturers have grown rapidly in the last several years by buying local dairies and creating more efficient production and distribution systems. Dean Foods, the largest company in the industry, grew through more than 40 acquisitions. In many cases, acquiring companies are really buying customers instead of production facilities, and may cut capacity or shift production to more-efficient plants.

More Cheese - Cheese production in the US continues to rise. The demand for cheese in the US has increased more than 180 percent since 1970. Cheese production requires 10 pounds of raw milk per pound of cheese.

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Higher-Margin Products - Profitability can be increased by more efficient production and distribution operations, or by creating products with higher profit margins. Large milk producers like Dean Foods have become the most efficient operators in the commodity segment of the industry, mainly because of their distribution system. Other producers have concentrated on making premium products, like gourmet Italian cheeses, or new products, such as "lite" and low-fat versions. Dreyer's doesn't produce the low-cost ice creams that grocers frequently produce themselves, but only "premium" and "super premium" frozen desserts, and newer products like Starbucks and M&M ice creams. New ice cream products include baked inclusions, no-sugar-added varieties, and sundae cups.

Organic Products - Organic dairy product revenue is now one of the fastest-growing segments of the organic food industry. A substantial market has emerged in the US for organic milk products made from cow milk that hasn't been treated with antibiotics or hormones, and has been fed with corn or other feeds grown without synthetic fertilizers or pesticides. Organic dairy products are more expensive to produce, but command higher retail prices. Consumers are willing to pay a premium for organic foods, making the segment a very profitable part of the industry.

Cultured Product Trends - Cultured dairy products are becoming a value-added trendy food, rather than a commodity. The segment, which includes cottage cheese, dips, sour cream, and yogurt, has revived its dollar and volume sales due to innovative packaging, promotion, processing, and ingredients. Americans are buying cultured dairy beverages, such as drinkable yogurt.

Selling to Kids - Market research indicates children aged six to 12 represent 20 percent of total milk beverage consumption. Significant changes, such as more colorful packaging, plastic single-serve containers, more flavor varieties, and more kid-focused promotions have helped drive the increases. Niche marketing efforts try to position milk as "hip" and "cool" to appeal to kids.

Private-Label Customers - Because they often provide mainly commodity products, dairy producers can readily supply grocers with private-label products, which provide a dependable (though not highly profitable) volume of business. In addition to milk, basic products like yogurt, ice cream, sour cream, and cottage cheese are frequently produced under private labels.

Health Awareness - The aging US population is more aware of the health benefits of dairy products. In particular, post-menopausal women, a segment of the population that will increase rapidly during the next decade, are more likely to increase milk consumption to avoid the possibility of developing osteoporosis.

Extended Shelf Life Using New Bottling Technique - A new bottling technique performed under sterile conditions extends the shelf life of milk, allows it to be stored and shipped at room temperature, eliminates the need for refrigeration, and expands distribution possibilities. The aseptic bottling technique extends shelf life of milk to 180 days, and allows it to be homogenized and pasteurized without preservatives and additives.

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Sugar Substitutes Replacing HFCS - Americans concerned about obesity and diabetes are increasingly turning toward sugar substitutes and sugar-free products. In a 2007 NPD Group study, 20 percent of Americans ate an artificially sweetened, low-sugar, or sugar-free food item at least once in a two-week period, up 6 percent from a similar study five years ago. High fructose corn syrup (HFCS) and overall sugar consumption have both declined slightly over the past decade. Freedonia predicts that the alternative sweetener market will reach \$1 billion by 2010.

Food More Expensive - Prices for edible oils and meal for livestock feed are rising. Feed products like corn gluten meal (a byproduct of wet corn milling) and cottonseed, corn, and soybean cakes are all 50 to 100 percent more expensive than five years ago. On the consumer side, wholesale and spot prices for HFCS have doubled in the past eight years, as has the cost of shortening and cooking oil; soybean and salad oil prices have nearly doubled. The increase in the cost of corn is likely to make a dent in the typical household's food budget: about 13 percent of all items sold in an average grocery store contain wet-milled corn, according to the Corn Refiners Association.

Exports of Processed Soybean, Corn Rise - The US is exporting more soybean meal, soybean oil, refined fats, and corn products like HFCS and corn starch. Most demand comes from Canada and Mexico, where transportation costs are low, and the two countries can take advantage of tariff-free trade and the low value of the US dollar.

Imports of Non-Soybean Oilseeds Rise - The US is importing more canola oil from Canada, olive oil from Italy, and palm oil from Southeast Asia. Palm oil contains no trans fats, and an increasing number of vegetable oil manufacturers are substituting palm oil for hydrogenated soybean oil. The health benefits of both canola and olive oils have received increased attention in the US, likely leading to the rise in imports.

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Healthy Oils - Edible oil manufacturers are developing new trademarked brands of fats and oil blends containing minimal to no trans fats. Key customers are bakeries, fast food chains, and food processors, which are increasingly substituting trans fats with sunflower and other shelf-stable, trans fat-free oils. Trans fats have received significant negative publicity, and new FDA labeling laws require food processors to disclose levels of trans fats in their products. Some cities (New York in particular) have banned trans fats in all restaurant foods.

Finished Food Products - Edible oil processors are expanding product development capabilities, manufacturing more finished food products for retail sale. New products manufactured by edible oil processors include nutrition bars, energy drinks, and cereals. Products are typically researched and tested in-house and manufactured by a third-party co-packing plant.

Global Expansion - Large edible oil processors are expanding into new international markets. A number of companies are forging joint ventures with European and Asian food manufacturers. Several companies have acquired European food processing plants, expanding their operations to include ethanol, biodiesel, or food oil production. Ventures in emerging edible oil and ethanol markets like China, Brazil, and Argentina may help large processors reach new markets and limit a company's dependence on domestic ethanol production.

Soybean as Aquaculture Feed - Soybean meal is becoming increasingly accepted as an alternative to fish oil and

meal as a food source for farm-raised fish. Most fish meal is made from sardines, anchovy, herring, and menhaden, which are all declining in population due to over-fishing. Solvent-extracted soybean meal is a viable alternative for many species, though the diet of carnivorous fish (trout, salmon, and char) can't exceed 20 percent soybean meal.

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Fruit and Vegetable Processing

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Private-Label Products - Although brand names are valuable in the grocery business for large processors like Heinz and Del Monte, private-label business is usually more profitable for smaller processors with limited capacity to establish a brand. The private-label business has grown rapidly in the past decade, as grocers have found private-label products very profitable. Grocers frequently stock just one or two branded products in a food category, and their own private-label product. Del Monte estimates that private-labels hold 30 to 45 percent of the market in various categories.

Consumption Trends - Consumption of processed fruits and vegetables has changed during the past decade. Per capita US consumption increased 16 percent for potato products, 15 percent for orange juice, 12 percent for non-citrus fruits, 28 percent for fresh vegetables, and decreased 5 percent for canned tomato products.

Value-Added Processing - To increase production efficiencies, more types of advanced food processing now occur in field-side plants, including cooking, blending, and flavoring. Rather than just producing tomato paste for shipment to other food processing plants, some plants now produce finished tomato sauces.

Slow Adoption of Genetically Modified Crops - The number of US genetically modified (GM) crops has increased slowly. Soybeans, corn, and cotton are the most widely grown biotechnology crops in the US. Although GM crops are more resistant to bugs and weeds, US farmers have so far avoided modified tomatoes, potatoes, and sweet corn because major food companies are reluctant to buy them.

Irradiation - The USDA approved the controversial use of irradiation to rid imported fruits and vegetables of unwanted pests. Analysts believe irradiation, which exposes food to low doses of electrons or gamma rays to destroy deadly bacteria, could soon become the dominant form of pest control for imported fruits and vegetables. The irradiation process may be safer and more environmentally friendly than other methods like heat treatment and chemical spraying.

Packaging for Convenience, Safety - Produce consumers are becoming more concerned about food safety and security, expecting high-quality, safe fresh fruits and vegetables. Although surveys currently show that the majority of consumers prefer bulk displays to packaged fresh produce, the trend is changing as shoppers turn more toward packaged produce for convenience.

INDUSTRY OPPORTUNITIES

Dried Products - Sun-dried tomatoes and other dried fruits have become more popular in recent years. Tomatoes and raisins are usually dried in the sun, while prunes and other fruits are dehydrated in processing plants. The US is the world's largest producer of raisins, prunes, and sun-dried tomatoes, with substantial exports.

Packaging - Processors have increased the consumer appeal of many products by using new packaging, especially single-serving packages. Traditional consumer packaging was geared to providing enough product for a family at dinner time, but with a decline in traditional family dinners, smaller containers of fruit and tomato sauce have become popular. Resealable bags for frozen French fries and frozen vegetables have also made these products easier to use at home.

Snack Products - In addition to potatoes, various other vegetables are now produced as fried or baked chips. Demand for snack products has risen faster than overall demand for food products in the US. Salsa, which contains mainly tomatoes, has been one of the fastest-growing snack foods in the US.

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Farm Income Rises - According to the USDA's Economic Research Service, net grain farm income is expected to increase 50 percent in 2008 from its historic 10-year average, due primarily to increased demand for corn for ethanol and sustained high corn prices. A continued rise in farm income for grain producers could encourage a growing number of soybean and vegetable farmers to abandon crops in favor of federally subsidized corn.

Grain Exports Rise - US corn, wheat, and rice exports have increased 80 percent over the past five years. Egypt, Japan, and Nigeria, the top three wheat export markets, have nearly doubled in size over the past five years. Corn exports to Korea, the third-largest export market, are 15 times higher today than five years ago. A growing middle class in China and India has led to higher demand for US grain. The depreciation of the US dollar has made US corn and wheat much less expensive in the international market.

More Corn Used for Ethanol Production - Ethanol now accounts for 30 percent of total domestic corn use, up from 5 percent 10 years ago. The US ethanol sector is adding over 6 billion gallons to its total capacity, mostly in Minnesota, Iowa, and Nebraska. Corn used for other food, seed, and industrial uses - namely corn syrup, starch, and sweetener - has remained flat. Lower-cost biomass ethanol from switchgrass or rice straw is years away from being commercially viable.

Operating Costs Rise - Seed, fertilizer, electricity, fuel, and machinery are getting more expensive for US grain farmers. One-third of all grain producers lose an average of \$20,000 per farm. Many farmers believe that the increased yield from genetically modified seed is essentially wiped out by higher operating and overhead costs. Operating costs, for items such as seed, fertilizer, and gas, have risen 50 to 80 percent over the past three years.

Corn Acreage Displacing Wheat, Soybeans - Farms on a traditional corn-soybean crop rotation are increasingly shifting to a corn-corn-soybean pattern. Some farms are taking a chance on abandoning crop rotation, believing that higher payouts are worth the increased risk of disease or poor yield. A number of farms are abandoning wheat entirely in favor of federally subsidized corn. Because demand remains high for both soybeans and wheat, prices have risen for both commodities as farmers turn to corn.

INDUSTRY OPPORTUNITIES

Tropical Maize - Tropical maize, a type of grain corn grown in the tropics, may prove a viable Midwest crop. The plant produces 25 percent more sugars for biofuel than conventional corn. Because it's earless, it requires much less fertilizer and less processing at the ethanol plant. Tropical maize can be planted, cultivated, and harvested using traditional crop machinery.

Wheat Straw for Cellulosic Ethanol - Wheat straw and other crop wastes are being tested to produce cellulosic ethanol, an environmentally efficient alternative to traditional corn-based ethanol. The US Department of Energy will invest nearly \$400 million in six US biorefinery projects over the next four years. Though the refining process is more complex, cellulosic ethanol produces more energy than traditional.

New Soil Nitrogen Test for Higher Yields - A new test to determine nitrogen levels in soil may benefit both corn producers and the environment. Historically, nitrogen levels have been tested using the yield-based method, where

producers apply nitrogen for each bushel of estimated yield. Producers consistently over-fertilize fields, causing environmental damage from nitrogen runoff. The Illinois Soil Nitrogen Test examines natural nitrogen levels in the soil to more accurately assess the optimal nitrogen fertilizer rate.

New Industrial Uses for Grains - Researchers are testing new applications for corn-based polylactic acid (PLA) as well as new corn- and wheat-based polymers like isosorbide. PLA can be made into fibers for woven and non-woven fabrics. A tire company has introduced a line of tires that includes micro-droplets of corn starch to reduce tire weight and rolling resistance. Other new applications for wheat and corn starches include cosmetics, packaging, and pharmaceuticals.

Direct Sales - Ethanol plants are expanding capacity and coming online throughout the upper Midwest. Ethanol companies are often willing to buy corn directly from farmers, if quality is high and the corn is mold-free. Selling directly to ethanol plants or food processors is a significant shift in a corn farmer's business model, which traditionally relied on sales to a grain elevator or cooperative.

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Two-Tier Market - While big nurseries are supplying mainly big-box retailers, smaller growers are the main suppliers of independent garden centers and retail nurseries. Proximity and high product quality are more important to these customers than low price, because their customers are most interested in quality and the breadth of retail selection.

Product Diversification - To even demand through the year, many nurseries produce plants, like Easter lilies and poinsettias, that have demand at times other than late spring. Large producers may also sell related products like soil, sod, and Christmas trees. Other growers produce a range of soil mixtures made from peat moss, sand, bark, sawdust, lime, perlite, vermiculite, and other materials (including mulched product waste).

Organic Fertilizers - Organic fertilizers, integrated pest management, and beneficial bacteria are becoming more common as replacements for toxic pesticides. Expanding environmental regulations and worker safety concerns will probably result in more growers turning to "sustainable" production methods.

Compost Replacing Peat - A large segment of the ornamental nursery industry depends on peat moss as a major constituent of their potting mix; however, in recent years, environmental concerns and the cost of peat have escalated. Many states have laws to reduce waste inputs, particularly organic residuals going to municipal landfills, to encourage recycling and the use of commercial compost produced from yard trimmings. Many nurseries receive composting materials from local waste management companies or local businesses, which may use herbicides that could damage nursery plants.

More Container-Grown Plants - Container-grown plants can be sold year-round, allowing growers to respond rapidly to changing market demands, and the labor savings can be significant, since no digging is required. Today, containers come in a large selection of sizes, styles, colors, and weights, each offering growers an option to meet their specific application.

Hydroponic Gardening - Some growers are considering hydroponics as an alternative to using pesticides like methyl bromide, which is being banned in the US. Hydroponic nurseries grow plants in water instead of soil. Hydroponic techniques require less pesticide, produce more plants in a shorter time, and allow plants to be grown in smaller more urban spaces.

INDUSTRY OPPORTUNITIES

Positive Consumer Demographics - The most avid gardeners are older Americans, who are projected to account for a larger percentage of the US population. The number of adults 65 and over is expected to grow from 13 percent of the US population in 2010 to nearly a fifth of the population by 2030, potentially increasing demand for nursery products. The exercise involved in gardening offers health benefits for older adults such as improved hand and upper body strength.

Automation for Mass Production - Greenhouses have had to automate to allow for mass production. Computers help regulate humidity, ventilation, and temperature, and track every pot, pack, and flat of plants. Even with automation, the nursery business is still labor-intensive; labor needs vary with the season.

Breeding New Varieties - Producers with R&D capabilities can breed and patent new plant varieties with unusual

coloration and other characteristics, and can command higher prices. Monrovia says it can take eight years to research, develop, and nationally distribute a new type of plant. Only about one plant in 50 under observation at Monrovia will be selected for a new variety.

Expansion of B2B Internet Sales - Plants (unlike bulbs and seeds) are difficult to sell over Internet sites because of concerns about quality. But B2B sales are expected to grow rapidly as buyers seek a greater variety of plants (often from small specialty producers). Some nurseries also sell their products through other e-commerce sites such as Amazon.com. A more highly developed transportation system is also increasing the range of profitable distribution for many producers.

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Snack Foods Manufacturing

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Chip Revenues Rise, Volume Flat - Overall revenues in the snack food industry are rising slightly, but most of this growth is from product price increases due to rising commodity costs. Sales volume is flat or declining for most product categories. Potato, corn, and tortilla chips all have had flat or increasing revenues in recent years, with declining sales volume. Pork rinds, pretzels, and ready-to-eat popcorn have all dropped in both revenue and volume sales.

Shrinking Display Space - To brighten and de-clutter the retail shopping experience, supermarkets are reducing the number of merchandising displays. Open space and freedom of movement are replacing cumbersome pyramid stacks and end-caps. Snack food manufacturers have less opportunity to promote products, making the snack aisle of the grocery store once again the primary arena for product competition.

Private-Label Category Grows - Market share for private-label snacks has increased despite overall category stagnation. Private-label products account for around 5 percent of total potato and tortilla chip sales, 10 percent of pretzel sales, and over 25 percent of snack nuts. Private-labels tend to do better in segments with lower sales volume and brand dominance (nuts, pretzels) than in the highly competitive chip industry. Private-labels have benefited by going upscale, blurring the traditional distinction between them and branded products.

Productivity Rises, Employment Flat - Fully integrated inventory systems, direct store delivery programs, and rapid prototyping have helped increase productivity of snack food manufacturers. Industry productivity has increased 25 percent over the past decade; output per worker has risen over 40 percent. Total industry employment has remained steady at around 42,000 employees.

Healthier Products - Manufacturers are creating new snack products that include healthier ingredients. The industry's fastest-growing category is chips made with blended fruits and vegetables. Flat Earth chips are made with a half a serving of fruit or vegetables in every serving, no trans fats, and low sodium. Other new products include low-sodium chips, baked chips, and oat bran pretzels.

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Boosting Convenience Store Sales - Manufacturers have paid too little attention to maximizing the sales potential of snack foods at convenience stores (c-stores) and drugstores. As grocery stores consolidate and reduce merchandising space, snack makers are revisiting their c-store sales strategy. C-stores and gas station markets make their money on impulse purchases like snacks, candy, and soda. Companies that can figure out how to promote and sell to c-stores may find that this sales channel can help boost sagging sales. Salty snacks account for only 3 percent of in-store c-store revenues.

Reinventing Nuts - High in Omega-3s, tree nuts are one of the few true healthy snacks; however, the product category has lacked innovation for many years. Planters has extended its brand into new candy bars and chocolate-covered products, potentially eroding the message that tree nuts have nutritional value. Frito-Lay may be well-positioned to capitalize on the stagnant nut category: its TrueNorth line includes all-natural mixed nuts and sweet nut crisps and clusters.

Promoting Sustainability - Even though snacks are an indulgence, companies can capitalize on the growing interest in

sustainability and reduced carbon footprints. Manufacturers can highlight "green" manufacturing processes, domestically sourced raw materials, and other sustainable business endeavors. Some brands are better suited to project a sustainable image: a veggie chip line is more likely to convey this message than a bag of nacho cheese corn chips.

Spicier Flavorings - Manufacturers are creating new spicy snacks, responding to consumer interest in spicy and ethnic flavors and a growing Hispanic and Asian population. Hispanics comprise 15 percent of the US population, one-third of whom are under 18 - a key demographic for snack food manufacturers. Popular chip flavors include chipotle, habanero, wasabi, and tequila and lime.

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SIC CODES: 2873, 2879

NAICS CODES: 3253

Trends & Opportunities

BUSINESS TRENDS

Consolidation - The agrochemical sector, which has undergone considerable consolidation in recent years, is now dominated by four global companies: Syngenta, Bayer, BASF, and Monsanto. A long downturn in farming has prompted mergers and acquisitions in the crop protection market. These large agrochemical producers are better able to withstand regional shocks such as bad weather, economic crisis, or tighter regulation.

Terrorism, Safety - Ammonium nitrate fertilizer can be a powerful explosive. Inexpensive and plentiful, the chemical has been used in terrorist attacks. The US government now requires better monitoring of ammonium nitrate stocks and sales.

Integrated Pest Management - The EPA encourages farmers to use a variety of methods to control pests, including crop rotation, knowledge of insect life cycles, pest-resistant plant varieties, and biological control measures, in addition to the targeted use of pesticides. Adopting such techniques will probably decrease demand for broad-spectrum pesticides, but increase the use of insect-specific chemicals.

INDUSTRY OPPORTUNITIES

Biological Pesticides - Growth in organic farming and farmers' desire to use less-expensive ways to manage crop pests have increased demand for biological control methods; basically, using bugs to combat other bugs. For example, tiny parasitic wasps are sprayed on fields to attack the glassy-winged sharpshooter, a bug that spreads Pierce's disease on grapes.

Export Markets - World fertilizer consumption, which grew very rapidly in the 1970s and 1980s but was flat during the 1990s, might see a recovery in growth in the current decade. South Asia, Latin America, and especially China currently consume more fertilizer than they produce. The greater intensity of farming in developing countries is likely to require larger amounts of fertilizers and pesticides in the coming years. More intensive farming techniques require that nutrients, especially nitrogen, be added back to the soil, boosting the need for fertilizers.

Replacements for Toxic Products - Phasing out older chemicals that turn out to have unacceptable toxicity provides opportunities for producers of alternative chemicals. In 2005 the US phased-out Methyl bromide, a widely used pesticide that is toxic to humans and has a destructive effect on the ozone layer. Demand for metam sodium, an alternative chemical, is expected to increase substantially.

New Farming Methods - Farming is becoming more scientific, especially with the growth of large industrial farms. Increasingly, farmers will use more specific fertilizers and pesticides to match their exact soil conditions and growing cycles. Farmers are also applying fertilizers and pesticides more efficiently, such as injecting pellets of slow-release chemicals directly into the ground instead of spraying.

Treatments for New Pests - Greater international travel and trade have imported new plant pests into the US, requiring pesticides to control them. For example, soybean aphids, probably imported on ornamental plants from Asia, appeared in US fields. Soybeans, originally imported from China, have thrived in the US partly because they're not afflicted by native pests. Infestation with the new aphids will require new pesticide treatments.

Higher Purity Products for Industrial Uses - Many of the major fertilizers have industrial uses, if the product is sufficiently pure. Bulk fertilizers often have impurities that don't affect their major purpose, but that leave them unsuitable for other uses. Because industrial demand, though smaller than agricultural demand, is steadier, some manufacturers have made the investments necessary to make products with higher grades of purity.

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QUARTERLY UPDATE **10/12/2009**

SIC CODES: 2021, 2022, 2023, 2024, 2026

NAICS CODES: 3115

Trends & Opportunities

BUSINESS TRENDS

Supplier Consolidation - The number of US dairy farms declined more than 70 percent between 1990 and 2008, while the average herd size increased about 85 percent. A better regional distribution system enables large dairy farmers to attain economies of scale in milk production unavailable to local farmers.

Consolidation - Many dairy product manufacturers have grown rapidly in the last several years by buying local dairies and creating more efficient production and distribution systems. Dean Foods, the largest company in the industry, grew through more than 40 acquisitions. In many cases, acquiring companies are really buying customers instead of production facilities, and may cut capacity or shift production to more-efficient plants.

More Cheese - Cheese production in the US continues to rise. The demand for cheese in the US has increased more than 180 percent since 1970. Cheese production requires 10 pounds of raw milk per pound of cheese.

INDUSTRY OPPORTUNITIES

Higher-Margin Products - Profitability can be increased by more efficient production and distribution operations, or by creating products with higher profit margins. Large milk producers like Dean Foods have become the most efficient operators in the commodity segment of the industry, mainly because of their distribution system. Other producers have concentrated on making premium products, like gourmet Italian cheeses, or new products, such as "lite" and low-fat versions. Dreyer's doesn't produce the low-cost ice creams that grocers frequently produce themselves, but only "premium" and "super premium" frozen desserts, and newer products like Starbucks and M&M ice creams. New ice cream products include baked inclusions, no-sugar-added varieties, and sundae cups.

Organic Products - Organic dairy product revenue is now one of the fastest-growing segments of the organic food industry. A substantial market has emerged in the US for organic milk products made from cow milk that hasn't been treated with antibiotics or hormones, and has been fed with corn or other feeds grown without synthetic fertilizers or pesticides. Organic dairy products are more expensive to produce, but command higher retail prices. Consumers are willing to pay a premium for organic foods, making the segment a very profitable part of the industry.

Cultured Product Trends - Cultured dairy products are becoming a value-added trendy food, rather than a commodity. The segment, which includes cottage cheese, dips, sour cream, and yogurt, has revived its dollar and volume sales due to innovative packaging, promotion, processing, and ingredients. Americans are buying cultured dairy beverages, such as drinkable yogurt.

Selling to Kids - Market research indicates children aged six to 12 represent 20 percent of total milk beverage consumption. Significant changes, such as more colorful packaging, plastic single-serve containers, more flavor varieties, and more kid-focused promotions have helped drive the increases. Niche marketing efforts try to position milk as "hip" and "cool" to appeal to kids.

Private-Label Customers - Because they often provide mainly commodity products, dairy producers can readily supply grocers with private-label products, which provide a dependable (though not highly profitable) volume of business. In addition to milk, basic products like yogurt, ice cream, sour cream, and cottage cheese are frequently produced under private labels.

Health Awareness - The aging US population is more aware of the health benefits of dairy products. In particular, post-menopausal women, a segment of the population that will increase rapidly during the next decade, are more likely to increase milk consumption to avoid the possibility of developing osteoporosis.

Extended Shelf Life Using New Bottling Technique - A new bottling technique performed under sterile conditions extends the shelf life of milk, allows it to be stored and shipped at room temperature, eliminates the need for refrigeration, and expands distribution possibilities. The aseptic bottling technique extends shelf life of milk to 180 days, and allows it to be homogenized and pasteurized without preservatives and additives.

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SIC CODES: 3523

NAICS CODES: 333111

Trends & Opportunities

BUSINESS TRENDS

Productivity Gains - In response to cyclical demand and foreign competition, farm equipment manufacturers have cut their labor costs by introducing greater automation. In the past 10 years, industry labor productivity grew 40 percent. The greater use of capital-intensive manufacturing has encouraged the growth of large companies that can make the necessary capital investments.

Emergence of Gentleman Farmer Market - An increase in the number of "gentleman farmer" 10- to 50-acre properties has spurred demand for small tractors and ATVs. Such properties are normally not farmed with serious commercial intent, but require equipment for basic land management.

Changing Market Segments - While the market for tractors has remained fairly stable in recent years, other market segments have changed. From 1997 to 2002, demand declined 40 percent for harvesting machinery, but was up 40 percent for haymaking machinery and 15 percent for turf and grounds care equipment.

INDUSTRY OPPORTUNITIES

Manufacturers Expand into ATV, Utility Vehicle Markets - ATVs and utility vehicles (such as the Deere "Gator") are becoming increasingly popular as working vehicles on farms. Farm machinery manufacturers are designing and manufacturing equipment to be used on/with smaller vehicles, and distributors are increasingly carrying smaller vehicle equipment accessories.

Tractors, Combines Equipped with GPS - GPS is now accurate and inexpensive enough to have practical farm uses, although it's most effective on large farms. When introduced, GPS was added to the largest tractors and combines by third parties; now, however, its economic worth has been proven, and manufacturers are offering GPS as an option. As the technology has matured, GPS has increasingly been offered on midsized systems of 100 horsepower.

Faster Growth in International Markets - Because of the lower degree of mechanization of agriculture in many foreign countries, demand for farm equipment is growing faster abroad than in the US. The largest US manufacturers have foreign production facilities that serve international markets. Additionally, exports of US-made farm equipment grew 40 percent in the last five years.

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Fruit and Vegetable Processing

QUARTERLY UPDATE **10/12/2009**

SIC CODES: 2033, 2034, 2035, 2037

NAICS CODES: 3114

Trends & Opportunities

BUSINESS TRENDS

Private-Label Products - Although brand names are valuable in the grocery business for large processors like Heinz and Del Monte, private-label business is usually more profitable for smaller processors with limited capacity to establish a brand. The private-label business has grown rapidly in the past decade, as grocers have found private-label products very profitable. Grocers frequently stock just one or two branded products in a food category, and their own private-label product. Del Monte estimates that private-labels hold 30 to 45 percent of the market in various categories.

Consumption Trends - Consumption of processed fruits and vegetables has changed during the past decade. Per capita US consumption increased 16 percent for potato products, 15 percent for orange juice, 12 percent for non-citrus fruits, 28 percent for fresh vegetables, and decreased 5 percent for canned tomato products.

Value-Added Processing - To increase production efficiencies, more types of advanced food processing now occur in field-side plants, including cooking, blending, and flavoring. Rather than just producing tomato paste for shipment to other food processing plants, some plants now produce finished tomato sauces.

Slow Adoption of Genetically Modified Crops - The number of US genetically modified (GM) crops has increased slowly. Soybeans, corn, and cotton are the most widely grown biotechnology crops in the US. Although GM crops are more resistant to bugs and weeds, US farmers have so far avoided modified tomatoes, potatoes, and sweet corn because major food companies are reluctant to buy them.

Irradiation - The USDA approved the controversial use of irradiation to rid imported fruits and vegetables of unwanted pests. Analysts believe irradiation, which exposes food to low doses of electrons or gamma rays to destroy deadly bacteria, could soon become the dominant form of pest control for imported fruits and vegetables. The irradiation process may be safer and more environmentally friendly than other methods like heat treatment and chemical spraying.

Packaging for Convenience, Safety - Produce consumers are becoming more concerned about food safety and security, expecting high-quality, safe fresh fruits and vegetables. Although surveys currently show that the majority of consumers prefer bulk displays to packaged fresh produce, the trend is changing as shoppers turn more toward packaged produce for convenience.

INDUSTRY OPPORTUNITIES

Dried Products - Sun-dried tomatoes and other dried fruits have become more popular in recent years. Tomatoes and raisins are usually dried in the sun, while prunes and other fruits are dehydrated in processing plants. The US is the world's largest producer of raisins, prunes, and sun-dried tomatoes, with substantial exports.

Packaging - Processors have increased the consumer appeal of many products by using new packaging, especially single-serving packages. Traditional consumer packaging was geared to providing enough product for a family at dinner time, but with a decline in traditional family dinners, smaller containers of fruit and tomato sauce have become popular. Resealable bags for frozen French fries and frozen vegetables have also made these products easier to use at home.

Snack Products - In addition to potatoes, various other vegetables are now produced as fried or baked chips. Demand for snack products has risen faster than overall demand for food products in the US. Salsa, which contains mainly tomatoes, has been one of the fastest-growing snack foods in the US.

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QUARTERLY UPDATE 11/2/2009

SIC CODES: 7336, 8099

NAICS CODES: 541430

Trends & Opportunities

BUSINESS TRENDS

Slow Industry Growth - The US graphic design services industry hasn't grown as fast as similar businesses or the national economy during periods of economic expansion. The number of graphic design firms increased 8 percent in a recent five-year period, while the interior design industry grew almost 20 percent. Both industries are part of the professional services sector, which experienced a 15 percent growth in number of firms. During the same period, graphic design industry revenue grew only a fourth as fast as the nation's economy. Competition from online graphic design firms, low-cost offshore agencies, and in-house designers inhibit domestic startups.

Fluctuating Employment, Wage Levels - Industry employment and wages have fluctuated significantly over the past decade. While the early 2000s recession saw workforce cuts and rising wages, the late 2000s recession brought declines in both worker numbers and wages. Employment at graphic design firms climbed steadily from 2003 to 2007 before slipping in 2008; wages rose from 2001 through 2006 before receding. Economic downturns force many businesses to cut back on advertising and graphic design spending.

Developing Message Content - In addition to visual content and layout, full-service graphic design firms increasingly are meeting client needs for text. Complex design projects require researching client offerings, audiences, and competitors, which also helps develop written messages. Most design firms don't have writing expertise in-house, because copywriting isn't a traditional graphic design service, so they subcontract that to professional copywriters.

Ongoing Technical Innovation - The shift to digital graphic design has transformed the industry, enabling new competition, processes, and services. Continual innovation requires designers to keep current with new technology that makes processes easier and faster. New technologies, such as wireless devices and podcasting, create new marketing venues and demands for graphic design services.

INDUSTRY OPPORTUNITIES

Strategic Design - Leading graphic design firms are shifting focus to strategic design to support client corporate communication strategies. Rising competition -- particularly at the low-end from overseas outsourcing, online services, printers, and do-it-yourself graphics software -- has led design firms to develop value-added service offerings at the high end. Because strategic design closely aligns with client competitive market goals, design firms best-suited to take advantage of the opportunity are those whose designers and account staff also have marketing and business management education or experience.

e-Commerce Website Design - Technically astute graphic design firms are adding transactional websites (e-commerce) to their services, helping client sales efforts. E-commerce site contribution to total US retail sales is increasing rapidly, doubling its share in a recent five-year period. E-commerce sites require ongoing updates of product images, text, and layout, in support of client companies marketing strategies.

Design for Electronic Video Media - An expanding market for video media, including movies and TV, DVDs, electronic games, and wireless devices, creates opportunities for graphic design firms. Firms that specialize by medium, like DVDs, or by industry, such as film production, can establish branding as experts. Animation and experience in interactive and made-for-the Internet media are becoming important to clients.

Global Market - Technology has enabled graphic design firms to service clients internationally, and some design firms have offices abroad. Clients with international audiences require graphic design firms that have cross-cultural savvy and multi-lingual capabilities. Design firms that establish international offices often do so to service an existing major client, an industry concentration, or to take advantage of their designers' global experiences.

Superior Customer Service - Providing the best responsiveness to clients is a differentiating factor in services businesses like the graphic design industry. Better service involves listening more attentively to clients and paying more attention to details, being flexible and creative, conducting effective product or audience research, offering clients choices, and meeting due dates and budgets. Smaller firms that focus on a small number of clients can often provide more responsive service than larger companies.

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Fabricated Metal Parts Manufacturing

QUARTERLY UPDATE 11/16/2009

SIC CODES: 3400

NAICS CODES: 332

Trends & Opportunities

BUSINESS TRENDS

Varying Demand Cycles - Demand for metal products is affected by varying demand in customer industries. In the last five years, US production increased 24 percent for industrial equipment and 15 percent for defense and space equipment, but decreased 24 percent for household appliances and 11 percent for automobiles and parts.

Customers Moving Overseas - Many metal products customers, like auto companies and appliance manufacturers, have moved production abroad to take advantage of lower labor costs and position themselves to sell products to a growing international market. Unless their US suppliers move with them, these customers buy from local manufacturers, especially if they use just-in-time inventory management.

Low Consolidation - Consolidation hasn't occurred in this industry except among producers of commodity items like cans, where large production economies of scale can be achieved. Few economies are available by combining manufacturers of specialized products.

New Powder Metal Applications - The US makes more parts from metal powder than does any other country. Powder metal parts are often cheaper to produce, and in some cases are lighter or have better performance characteristics. The light weight of powder metal parts is particularly attractive in automotive applications: SUVs and light trucks contain up to about 65 pounds of powder metal parts per vehicle.

INDUSTRY OPPORTUNITIES

New Manufacturing Materials - New metal alloys with desirable physical properties allow manufacturers to upgrade existing products and introduce new ones. Such alloys have been especially useful for products that must operate in extreme conditions, such as inside engines and in cooling applications. However, the use of new materials requires a large prior investment in engineering and testing.

Greater Complexity of Final Products - As machinery and other products become more sophisticated in function and design, the parts used to build them generally also become more complicated, requiring more engineering and tighter manufacturing specifications. Manufacturers that can invest in modern fabricating technology will be able to increase market share.

New Production Methods - New rapid prototyping methods produce delicate parts good for sizing and ergonomic studies. Lasers have growing applications in metal parts manufacturing, such as laser cutters used in sheet metal industries. New fabrication technology for metal parts, like laser-assisted arc welding, can rapidly produce part molds directly from CAD files, thus bypassing the traditional need for tooling. New metal casting technology can reduce the time from initial design to production.

Increased Customer Outsourcing - Equipment manufacturers are increasingly outsourcing the production of parts they formerly made themselves. Much of the sheet steel and steel plate bought by manufacturers from metal service centers is processed by a fabricator under an outsourcing arrangement before delivery.

Nonmetal Product Line Additions - Many companies are expanding their product line, sometimes adding nonmetal items. Manufacturers of metal windows and doors may also manufacture vinyl and wooden ones. Manufacturers of industrial products like valves may also produce a consumer version.

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SIC CODES: 1522, 1531, 1541, 1542, 1611, 1622, 1623, 1629, 8741

NAICS CODES: 237, 2362

Trends & Opportunities

BUSINESS TRENDS

Specialization - With the scale and cost of many construction projects rising, contracts and subcontracts are more likely to be awarded to companies with expertise in a particular specialty. Construction specialties are many, including framing, mechanical, demolition, roofing, electrical, public works, and roads. For many companies, a majority of new contracts comes from existing customers who hire them to do projects similar to those they've completed in the past.

Joint Ventures - As projects get bigger, on-time completion becomes more important to owners of construction firms. Costs for late completion, including penalties, rise disproportionately to actual construction costs. The larger scale and complexity of projects lead to more joint ventures among construction companies, which can pool their expertise and financial resources in bidding for contracts and in implementation.

Design-Build - The technological sophistication of many projects and the increasing use of design-build contracts encourage the integration of engineering and construction companies. While large companies like Bechtel and Fluor have long combined engineering and construction expertise, the combination of skills is becoming more important for small and mid-sized companies.

Repeat Business - Satisfied customers tend to hire the same firms for subsequent projects. Owners award contracts to builders who've done successful work for them, without going through the bidding process. While containing costs is still important in awarding a contract, project owners are often as concerned about a contractor firm's reliability and financial stability.

Guaranteed Maximum Price Contracts - Guaranteed maximum price contracts are increasingly popular. Such guarantees limit the owner's exposure and put a premium on a construction company's ability to accurately estimate and manage project costs. For these types of contracts, project management skills become more important relative to actual implementation, even of fairly routine building activities.

Per-Project Staffing, Equipment Leases - Rising costs and uncertain markets lead construction firms to acquire many resources on a per-project basis. Many companies have their own project managers on staff, but hire other workers as needed. Cost controls and changing project needs make leasing equipment on a per-project basis more economically feasible.

Security in Building Design - Security concerns are affecting building designs in the post-9/11 world. High-rise designs often lose favor to low-level buildings. Stronger walls and windows and

exits and evacuation routes are being emphasized. Protecting air-circulation systems has become important to prevent gas or biological attacks.

INDUSTRY OPPORTUNITIES

Buildings for High-Growth Population Segments - Growth in certain population segments will present opportunities for the commercial construction industry. The US Census estimates that the baby boomers will swell retiree ranks about 40 percent from 2010 to 2020, creating the need for retirement, assisted living, and hospital facilities. The need for schools will increase as the population of children five through 19 rises an estimated 7 percent during the same decade.

Generally Resilient Market Segments - Nonresidential construction spending can be positive, even when residential construction spending is negative. For example, during the recent real estate and mortgage crisis, private residential construction spending fell over 30 percent between May 2008 and May 2009, while manufacturing construction spending rose over 50 percent in the same time period. Other projects like lodging, power plants, and public safety can also do well when other construction spending declines.

Infrastructure Projects - The nation's roads, bridges, tunnels, ports, levies, and other infrastructure need periodic maintenance, upgrades, and expansion. US bridges needed \$180 billion in repairs and rail infrastructure required \$185 billion for maintenance as of late 2008, according to the American Society of Civil Engineers. Container volumes at US ports grew 7 percent annually for 20 years, according to the American Association of Port Authorities, creating a need for expansion.

Green Construction - Demand is growing for environmentally friendly (green) building and construction materials, practices, and certification. Increased use of steel helps qualify a structure as green, due to recycled content; for example, light gauge steel framing contains at least 25 percent recycled steel. Compared to wood, steel products last longer and have more uniform quality, reducing jobsite waste. New "cool" metal roofing is more energy-efficient than traditional materials. The US Green Building Council and the Green Building Initiative certify green buildings.

Computer, Construction Technology - Computer technology and new building techniques enable companies to improve project implementation. Computer technology has reduced costs and mistakes in an industry that relies heavily on correct scheduling, coordination, and technical specifications. Newer building methods, such as tilt-up construction and greater use of pre-fabricated structural parts, simplify commercial projects and reduce time-to-completion and costs.

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SIC CODES: 1742

NAICS CODES: 23831

Trends & Opportunities

BUSINESS TRENDS

New and Existing Homes Demolished - Home price declines in some housing markets have been severe enough to compel buyers to tear down existing homes for the land underneath and make way for new construction, which creates demand for contractors. New home projects that were started but stopped also have been torn down due to inability of distressed developers to make payments.

School Construction Strong - Spending on school construction is increasing at higher rates than spending on offices and commercial buildings. Even during the economic downturn of the late 2000s, construction of schools was funded through President Obama's Recovery Act, while construction of private office buildings and commercial space dropped. Although the school-age population isn't expected to increase much during the next decade, a high level of school construction is expected because of the poor condition of many existing schools.

Combination Contracts - Because general contractors prefer to deal with as few subcontractors as possible, many drywall and plaster contractors have expanded into wall painting. Painting is the next step after walls are in place and project coordination is easiest if the wall contractor also does the painting. Larger contractors have an advantage in providing both types of work because specialized workers are required for each activity and only large contractors have enough projects to keep all workers busy.

INDUSTRY OPPORTUNITIES

Remodeling Market - The remodeling market is estimated to be more than \$350 billion within the next decade. This segment is almost entirely in the hands of small builders. Although individual projects are smaller, the volume of such construction is much steadier than new home construction, and less financially risky.

Direct Disbursement Systems - On some projects, approved payments are made to subcontractors by a third party rather than the general contractor, producing faster payment. Drywall contractors and other subcontractors often receive payments late because the general contractor is in no hurry to make payments or doesn't have enough cash on hand.

New Technology for Better Efficiency - New power tools and materials allow drywall and other interior contractors to work more efficiently, but mostly only larger companies can afford newer tools. New heat insulation and acoustic insulation panels are easier to work with than rolls of

fiberglass material. Nail and stapling guns allow much faster work than hammers. Such tools are expensive, especially for small contractors.

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SIC CODES: 1731

NAICS CODES: 23821

Trends & Opportunities

BUSINESS TRENDS

Consolidation Continues - Several of the largest companies in the industry, including EMCOR Group, Quanta Services, Integrated Electrical Services, and Encompass Electrical Technologies, grew largely through the consolidation of hundreds of local contractors. The consolidation trend has reduced the number of large firms (those with 100 or more employees) from 11 percent in 2004 to 6 percent in 2008.

Modernization, Retrofit Construction - While new construction remains a large percentage of revenue, a shift to modernization and retrofit projects has occurred. Highly complex technology, the need for uninterrupted power, wiring for local and wide area networks, fiber optics, and data cabling are some of the reasons for the shift. Energy efficiency is also a driver, as building owners try to control costs.

Alternative Energy Sparks Interest - The 2009 federal economic stimulus plan promotes alternative energy development. As a result, electrical contractors will need to be more familiar with the design, development, installation, and maintenance of alternative electricity-generating sources. Demand for these sources, such as wind and solar energy, is predicted to grow in the face of increasing costs and supply problems from traditional energy sources.

INDUSTRY OPPORTUNITIES

Design-and-Build Trend - The trend toward a more "value-added" approach - where contractors solve customer problems and therefore generate improved gross margins - is increasing for commercial and industrial projects. High-tech capability and modernization projects requiring design/build expertise are common. Design-and-build contracts increase the opportunity for repeat and referred business.

Home Networking Demand Grows - Electrical contractors are benefiting from the growth of home automation. Industry observers expect nearly one of every six new homes built to have structured wiring systems for high-speed Web access, home entertainment, and other applications. Wireless technology allows contractors to retrofit an existing structure instead of rewiring, which can be complex.

Power Grid Upgrades - Large-scale power failures in recent years have highlighted the inadequacy of the national power grid system. While upgrades and new power installations are handled mainly by power companies, electrical companies can sometimes become subcontractors on large projects.

Long-Term Growth in Electrical Content - The electrical contracting industry is in a long-term growth trend because of the greater use of electrical systems in buildings. Buildings require more electrical infrastructure for basic power due to increasing use of computers, printers, copiers, and other electrical machinery; in addition, buildings make more use of low-voltage systems for lighting and HVAC control; security systems; and voice, cable, and data networks.

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SIC CODES: 1711

NAICS CODES: 23822

Trends & Opportunities

BUSINESS TRENDS

Greater Technological Expertise Required - The increasing sophistication of HVAC and other utility systems, especially as computer chips, sensors, and control technology are being used more, requires greater expertise in both installation and maintenance. Larger companies are better able than smaller ones to provide this level of sophistication by attracting highly qualified engineers and providing better technical education to their service technicians.

Maintenance, Replacement Growing - Companies and homeowners, seeking ways to reduce ongoing energy costs, are buying newer, more efficient HVAC equipment. The ban on chlorofluorocarbon (CFC) refrigerants created a large replacement market. To build additional revenues, many contractors offer customers regular inspections and maintenance programs.

Seasonal Demand - Demand for HVAC services has seasonal peaks during the coldest and hottest periods of the year. June is the peak month for shipments of central air conditioners. Plumbers in Northern states often have more business during winter, when pipes are likely to freeze and hot water systems need repair.

More Outsourcing of Maintenance Services - To become more efficient, large commercial and industrial companies are outsourcing mechanical and electrical maintenance and service. This trend favors large contractors that offer a wide variety of services.

More Flat Rate Job Pricing - HVAC service contractors are increasingly moving toward flat rate pricing. Consumers strongly prefer it, as it offers a single, upfront price before starting a repair, instead of paying for time and materials. Some service providers require training to ensure they know how to properly price a job without losing money.

Technological Advances - Use of PEX, or cross-linked polyethylene tubing, is increasing in popularity in the US. The flexible tubing can be snaked through walls, making it easier to install. It retains its flexibility at temperatures below freezing and above 200 degrees Fahrenheit, making it suitable for warehouses, homes, ice rinks, and other installations.

INDUSTRY OPPORTUNITIES

Green Plumbing - As homeowners seek to save money and take advantage of homeowner credits for energy-efficient homes, they are looking into plumbing upgrades. Tankless water heaters, solar-assisted water heaters, central stack plumbing layouts, and manifold plumbing supply centers create efficiency and save money and energy. Graywater recovery systems also are growing in popularity.

Water Filtration Market - There has been increasing concern about the quality and purity of tap water in the US. As a result, plumbing contractors now have a variety of products to offer for water filtration in homes and businesses. Water softeners are still the biggest selling water treatment product, but a variety of sediment; granular activated carbon (GAC); reverse osmosis; and carbon block filter systems are also available.

Geothermal Heat Pumps - Commercial building managers are turning to geothermal heat pumps to heat or cool their buildings. Installation costs for either a new building or retrofitting an existing site can be more than double the price for a traditional boiler/chiller HVAC system and will require drilling or digging to set pipework below ground level. However, air conditioning may be up to 40 percent more efficient than a traditional air conditioning system; heating may be up to 70 percent more efficient.

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Plastic and Rubber Products Manufacturing

QUARTERLY UPDATE **11/16/2009**

SIC CODES: 2673, 3011, 3021, 3052, 3053, 3061, 3069, 3081, 3082, 3083

NAICS CODES: 326

Trends & Opportunities

BUSINESS TRENDS

Niche Products Keep Industry Fragmented - Because products often have very specialized applications, or are made to customer specifications, most manufacturers remain small, partly because few economies of scale are gained by combining companies. Although latex gloves and plastic bottles can be considered commodity items, most products in this industry are produced in relatively low volume for special applications.

Changing Technology, Innovation - Companies are finding new uses for existing plastic and rubber materials, and chemists are producing newer plastics with novel physical properties that make them suitable for new uses. Production equipment and new ways of producing plastics are constantly evolving. Rapid technological innovation forces companies to stay abreast of new developments.

New Materials Used - Natural fibers are one of the fastest-growing additives for thermoplastics. Demand for wood and agricultural fiber used as plastic additives may increase rapidly for automotive applications and building products.

Bioplastics - Most large chemical companies are exploring the development of and uses for bioplastics, which are derived from biomass such as vegetable oil or corn starch instead of petroleum. Plastic companies anticipate that bioplastics will eventually outpace traditional petro polymers, as bioplastics are competitive in terms of cost and performance. Bioplastics also earn good grades in economics and environmental protection.

INDUSTRY OPPORTUNITIES

Plastics Replace Other Materials - Demand for rubber and plastics to replace metal parts in autos and aircraft continues, as manufacturers prefer low-weight components. High-temperature, high-performance plastics are replacing aluminum, brass, steel, and other metals historically used in manufacturing. Demand is also increasing in the packaging and container market, as plastic is preferred over glass and metal for containers, and in the medical supplies industry for tubing, containers, and instruments.

More Plastics in Construction - The use of plastics in residential and commercial construction is expected to increase. Currently, PVC piping is the major use of plastics in construction, but plastics for insulation, electronics, and structural use will be more common.

Auto Parts Market - The use of plastics in autos has grown from primarily interior and trim components to include body panels, bumpers, and other parts. Plastics offer several advantages in auto design: lighter and less expensive than steel, plastics make autos cheaper to build, and help them get better fuel economy. Auto designers and engineers are also using post-consumer recycled plastic, which offers environmental benefits.

Electronics Market - Research has opened up new ways to incorporate plastics into electronics. Plastic-based transistors and organic light emitting displays are being used in new ways including in electronic billboards, HDTV screens, and flexible laptop computers. Because transistors made of plastic are cheaper and easier to manufacture than those made of the traditional silicon, research into other plastics applications in electronics will continue.

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Trends & Opportunities

BUSINESS TRENDS

Consolidation - Some scrap companies have made acquisitions in a bid to become large enough to produce a steady supply of raw material to large producers. Supply contracts with large customers can bring higher prices over longer periods than can the volatile spot market. A diversified customer base can also help to insulate the company during a difficult economy.

Electronics Recycling - More scrap metal dealers are recycling computers and electronic equipment at a premium. Pricing for scrap electronics depends on the equipment's condition and if any parts can be reused. Consumers are willing to pay higher prices to properly dispose of electronic equipment, which can pollute if dumped in landfills.

Scrap Sales Decline in Economic Downturn - Sales of scrap materials such as glass and low grade plastic containers have declined dramatically due to the late 2000s recession. Demand for recyclable products has dropped as manufacturing in the US and foreign markets such as China have declined. Some recyclers have resorted to storing recyclables in hopes of higher prices in the future, while others have stopped taking the materials altogether.

INDUSTRY OPPORTUNITIES

Mini-Mills Benefit from Flexibility - Although a drop in the demand for steel, which began in late 2008, has had a negative impact across the industry, the operational flexibility of mini-mills should help keep costs down. Mini-mills make steel by melting scrap in electric arc furnaces, whereas traditional steel making, using the basic oxygen process, uses up to 20 percent of scrap as raw material. A steep reduction in the price for scrap that mini-mills use in relation to iron ore needed for traditional steel manufacturing also gives mini-mills an advantage. Because steel mills are scattered across the US and most scrap suppliers are some distance from them, transportation costs are higher in the South than in the more centralized manufacturing areas of the Northeast and Midwest.

More-Efficient Collection Systems - Scrap metal processors need a constant flow of low-cost raw material, making improvements in sourcing and collecting scrap important. Some processors have partnered with used auto parts dealers to regularly collect stripped auto bodies. The Internet also provides collectors and processors with better information about raw material availability.

Growth in Precious Metals Recovery - The use of gold and other precious metals in computers and other electronics is providing a growing source of material for firms specializing in precious metals recovery. Manufacturers and retailers have created partnerships with recyclers to collect electronics that would otherwise be headed for landfills. About 30 percent more electronics were recycled in 2008 than the previous year, according to the Environmental Protection Agency.

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SIC CODES: 4941, 4952

NAICS CODES: 2213

Trends & Opportunities

BUSINESS TRENDS

Consolidation - Larger utilities have easier access to capital, can apply "best practices" to all their local systems, and have greater resources to apply to the regulatory process for rate increases. Small systems are therefore often willing to be bought by large operators.

High-Tech Security - Water treatment system operators are investing in new high-tech tools designed for early detection of even minute changes in water quality, as utility companies scramble to complete federally mandated vulnerability assessments to water and wastewater plants and utilities. New analytical tools, like potentiostatic measurement devices, particle counters, and toximeters, are changing standard monitoring practices. Vendors expect established technology-based tools, such as surveillance cameras and geographic information systems, to become commonplace in water treatment systems as they add features and drop in price.

Water Infrastructure Financing - Many commercial water and sewer companies oppose suggestions that the federal government assume a large role in funding necessary and massive investments to upgrade the nation's water infrastructure. A large federal subsidy program, which would benefit only public water systems, would disadvantage commercial systems. Instead, the industry wants to remove volume caps on the use of Private Activity Bonds (municipal bonds that fund investments in privately owned assets to advance the public good).

INDUSTRY OPPORTUNITIES

Municipal Outsourcing - Municipalities may sell their water and sewer systems to private companies, which are expected to operate them more effectively. More usual than outright privatization, more municipalities are contracting with companies to operate their water and sewer systems for a fee. Contracts typically last one to three years, although longer lease arrangements also exist.

Non-Regulated Activities - Utilities often engage in non-regulated activities: they may provide laboratory services for smaller operators, or, as owners of large amounts of land, they are often in a position to lease antenna sites to cell phone companies, a growing business in recent years. Lease payments for antenna sites can be as high as \$2,500 per month.

Deteriorating Water Quality - The public is demanding more water testing and treatment, due to greater awareness about drinking water contamination by industrial and natural pollution. The list of possible contaminants has become very long, and includes chromium, arsenic, PCBs, and MTBE (a gasoline additive).

Chloramines - By combining chlorine and ammonia in water, treatment plants can create chloramines that disinfect the water and don't disperse as rapidly as standard chlorine treatment. Although chloramine allows utilities to better protect sectors of their system with low throughput, consumers are also more aware of the taste.

New Repair Techniques - Because water and sewer pipes are usually located under city streets, repair and replacement are very expensive and disrupt traffic. Several methods that don't require excavation have become more widely used: plastic sleeve liners can be installed in corroded pipes simply by pulling them through existing pipes; other devices that are pulled through pipes can either line the existing pipe with a fresh layer of concrete, or can break older pipes, expand the bore, and line them with fresh concrete.

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Commercial Construction Contractors

QUARTERLY UPDATE **12/7/2009**

SIC CODES: 1522, 1531, 1541, 1542, 1611, 1622, 1623, 1629, 8741

NAICS CODES: 237, 2362

Trends & Opportunities

BUSINESS TRENDS

Specialization - With the scale and cost of many construction projects rising, contracts and subcontracts are more likely to be awarded to companies with expertise in a particular specialty. Construction specialties are many, including framing, mechanical, demolition, roofing, electrical, public works, and roads. For many companies, a majority of new contracts comes from existing customers who hire them to do projects similar to those they've completed in the past.

Joint Ventures - As projects get bigger, on-time completion becomes more important to owners of construction firms. Costs for late completion, including penalties, rise disproportionately to actual construction costs. The larger scale and complexity of projects lead to more joint ventures among construction companies, which can pool their expertise and financial resources in bidding for contracts and in implementation.

Design-Build - The technological sophistication of many projects and the increasing use of design-build contracts encourage the integration of engineering and construction companies. While large companies like Bechtel and Fluor have long combined engineering and construction expertise, the combination of skills is becoming more important for small and midsized companies.

Repeat Business - Satisfied customers tend to hire the same firms for subsequent projects. Owners award contracts to builders who've done successful work for them, without going through the bidding process. While containing costs is still important in awarding a contract, project owners are often as concerned about a contractor firm's reliability and financial stability.

Guaranteed Maximum Price Contracts - Guaranteed maximum price contracts are increasingly popular. Such guarantees limit the owner's exposure and put a premium on a construction company's ability to accurately estimate and manage project costs. For these types of contracts, project management skills become more important relative to actual implementation, even of fairly routine building activities.

Per-Project Staffing, Equipment Leases - Rising costs and uncertain markets lead construction firms to acquire many resources on a per-project basis. Many companies have their own project managers on staff, but hire other workers as needed. Cost controls and changing project needs make leasing equipment on a per-project basis more economically feasible.

Security in Building Design - Security concerns are affecting building designs in the post-911 world. High-rise designs often lose favor to low-level buildings. Stronger walls and windows and exits and evacuation routes are being emphasized. Protecting air-circulation systems has become important to prevent gas or biological attacks.

INDUSTRY OPPORTUNITIES

Buildings for High-Growth Population Segments - Growth in certain population segments will present opportunities for the commercial construction industry. The US Census estimates that the baby boomers will swell retiree ranks about 40 percent from 2010 to 2020, creating the need for retirement, assisted living, and hospital facilities. The need for schools will increase as the population of children five through 19 rises an estimated 7 percent during the same decade.

Generally Resilient Market Segments - Nonresidential construction spending can be positive, even when residential construction spending is negative. For example, during the recent real estate and mortgage crisis, private residential

construction spending fell over 30 percent between May 2008 and May 2009, while manufacturing construction spending rose over 50 percent in the same time period. Other projects like lodging, power plants, and public safety can also do well when other construction spending declines.

Infrastructure Projects - The nation's roads, bridges, tunnels, ports, levies, and other infrastructure need periodic maintenance, upgrades, and expansion. US bridges needed \$180 billion in repairs and rail infrastructure required \$185 billion for maintenance as of late 2008, according to the American Society of Civil Engineers. Container volumes at US ports grew 7 percent annually for 20 years, according to the American Association of Port Authorities, creating a need for expansion.

Green Construction - Demand is growing for environmentally friendly (green) building and construction materials, practices, and certification. Increased use of steel helps qualify a structure as green, due to recycled content; for example, light gauge steel framing contains at least 25 percent recycled steel. Compared to wood, steel products last longer and have more uniform quality, reducing jobsite waste. New "cool" metal roofing is more energy-efficient than traditional materials. The US Green Building Council and the Green Building Initiative certify green buildings.

Computer, Construction Technology - Computer technology and new building techniques enable companies to improve project implementation. Computer technology has reduced costs and mistakes in an industry that relies heavily on correct scheduling, coordination, and technical specifications. Newer building methods, such as tilt-up construction and greater use of pre-fabricated structural parts, simplify commercial projects and reduce time-to-completion and costs.

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A small icon consisting of two interlocking gears, one blue and one orange.

INDUSTRY PROFILE
Gun Manufacturing

QUARTERLY UPDATE **11/16/2009**

SIC CODES: 3482, 3484

NAICS CODES: 332992, 332994

Trends & Opportunities

BUSINESS TRENDS

Manufacturing Productivity Improves - Acquisitions of new manufacturing equipment have led to productivity gains. The number of US small arms manufacturing jobs fell by more than 20 percent between 2005 and 2006. At the same time, product shipments rose by 5 percent.

More Handguns Manufactured - The latest figures show that nearly 21 percent more handguns were manufactured in the US in 2007 than 1999. In 2007 handguns made up about 40 percent of all guns manufactured in the US. Between 1999 and 2005, however, handguns represented about 33 percent of all guns manufactured in the US. Total gun production in the US dropped more than 5 percent between 1999 and 2007.

Decline in Number of Federal Firearms Licenses - The number of active federal firearms licenses (FFL) in 2007 was more than 60 percent below those in 2003. The drop in the number of FFLs can be attributed to more stringent recordkeeping required by gun dealers as well as an increase in FFL fees. The Bureau of Alcohol, Tobacco, and Firearms (ATF) also implemented an in-person application inspection program for firearms businesses.

INDUSTRY OPPORTUNITIES

Hunting, Target Shooting Remain Popular - About 19 million Americans hunted with firearms in 2008, according to the annual sports participation survey of the National Sporting Goods Association (NSGA). The number of Americans hunting with firearms dropped about 2 percent between 1998 and 2008. Target shooting participation increased more than 7 percent between 1998 and 2008.

Participation by Women - About 13 percent of US women hunted with guns in 2007, and about 23 percent engaged in target shooting, according to the National Sporting Goods Association (NSGA). Women's participation in shooting sports remained consistent between 2002 and 2007. Some companies make guns especially suited for women.

Interest in Safer Weapons - To avoid accidents, gun companies continue to experiment with guns that have better safety features. Electronic locking systems that would allow only the owner of a gun to fire it are being investigated, as are computer-controlled weapons with range sensors that could avoid accidental firing of hunting guns.

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Recreational Vehicle Manufacture

QUARTERLY UPDATE **9/28/2009**

SIC CODES: 3716, 3792

NAICS CODES: 336213, 336214

Trends & Opportunities

BUSINESS TRENDS

Wholesale RV Prices Increase Modestly - Because of fairly small increases in demand in the past decade, wholesale prices for RVs have increased only modestly. During the past 10 years, the average industry price increased just 20 percent - well below the level of inflation.

Decline of Van Conversions - Converted vans compete with lower-end RVs; both are used for traveling or short camping trips. Converted van ownership has declined in the past decade, improving RV sales.

Expanded RV Park Services - New services at RV parks encourage RV ownership. Many parks now allow customers to make reservations over the Internet. Hook-ups at many RV parks include cable TV, phone, and Internet access service. Both RV and some state parks have installed wireless Internet networks.

INDUSTRY OPPORTUNITIES

Favorable Demographics - The segment of the population most likely to buy RVs, Americans over 50 with above-average wealth, according to the Recreation Vehicle Industry Association, is expected to grow rapidly. The segment of the US population 45 to 65 will increase almost 30 percent between 2000 and 2010.

Electronic Accessories for RVs - Various types of electronic add-on devices have made RVs more comfortable and versatile. GPS is common. Other add-ons include specially designed solar panels to power essential devices without a generator, and RV satellite dishes equipped with GPS to allow satellite TV or radio reception while an RV is moving.

Trailer Sales More Stable - Because they're less expensive, sales of trailers and campers are less subject to economic forces than are motor home sales. The average retail price is about \$150,000 for a Class A motor home, just \$30,000 for a trailer. During the last recession, industry revenue from sales of trailers and campers was flat, and motor home sales dropped 35 percent.

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Search, Detection, and Navigation Equipment Manufacture

QUARTERLY UPDATE **9/21/2009**

SIC CODES: 3663, 3812

NAICS CODES: 334220, 334511

Trends & Opportunities

BUSINESS TRENDS

Aviation Market Growth - Airbus and Boeing both had record new orders in recent years and backlogs for both will keep the industry at or near capacity through 2011. General aviation aircraft used primarily for business travel have also experienced a surge in demand. Lengthy airport check-in and security procedures have justified business purchase of aircraft for executive travel.

Marine Market Strong Through 2010 - World shipbuilding is at record levels. Demand has been strong from all sectors: tankers, cargo carriers, bulk containers, and passenger ships. According to Clarkson Research, sea trade is growing 4 percent per year and some 7 billion tons of cargo is carried annually by 70,000 ships worldwide.

M&As - Companies looking to lower manufacturing cost, expand engineering services, and maintain a greater degree of control over large projects are merging or acquiring competitors. M&As allow companies to do more work in-house and reduce competition for large government contracts.

Commercial Product Sales to Government Agencies - Higher emphasis on cost-effective solutions has increased the use of commercial off-the-shelf (COTS) products, instead of custom designs, in government contracts. Substantial cost savings have been realized with no compromise in performance and reliability. COTS, in addition to lowering overall costs, allows smaller manufacturers to participate in the government market without incurring the risk and cost of custom development. Custom-built systems usually include very tightly engineered specifications that smaller companies haven't the design and engineering staffs to meet.

Increase in Detection, Jamming Devices - More radar detection and jamming devices are available on the commercial market. Designed to prevent speeding tickets, such devices are legal in most states (more states outlaw jamming devices than detectors). Manufacturers carefully examine how laws are written to develop countermeasure technologies that don't violate any prohibited specifications.

INDUSTRY OPPORTUNITIES

Export Markets - Exports represent a growing opportunity for US manufacturers. Most industry technology advances occur in the US, and government restrictions on exports of this technology have been reduced. Annual exports of search, detection, and navigation equipment grew more than \$1 billion from 2003 to 2008. Exports to Japan, Canada, and France provide the greatest opportunities for US manufacturers.

Homeland Security Spending - Since 9/11, the US government has increased investment in border security. Airport and sea port access has become more tightly controlled. The search and detection segments of the industry have benefited from increased use of equipment, which ranges from handheld scanners and pass-through monitors at airports to sonar buoys at the mouth of ports and harbors. While many logistical and cost issues remain unresolved, higher demand for search and detection equipment is expected to continue.

Emerging Business Applications - Businesses are discovering new uses for industry technology to improve logistics and customer service. Inland freight via US rivers and lakes is now being tracked via GPS. Barge locations are tracked and estimated times of arrival at destination points are calculated and communicated to customers. FedEx and UPS use

GPS to help drivers find delivery destinations.

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