THE BALL-REXAM MERGER: THE CASE FOR A COMPETITIVE CAN MARKET

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ICLE Antitrust & Consumer Protection Research Program

White Paper 2015-3
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EXECUTIVE SUMMARY

In this paper we address the law and economics of merger review in the context of an unexpectedly complex market: aluminum can manufacturing and distribution. With the proposed acquisition of British can manufacturer Rexam PLC by American can manufacturer Ball Corp., competition authorities around the world — including those in Brazil, the European Union, and the United States — have recently focused their attention on this area.

It’s a difficult task to estimate the future consequences of business conduct. Often it is incorrectly assumed that “big is bad,” and that companies seek to merge precisely because their ability to profit at competitors’ and consumers’ expense is increased with their larger size. But, at the same time, antitrust authorities have increasingly come to understand that big doesn’t necessarily mean bad — that economies of scale, managerial efficiencies, technological efficiencies, and the like enable firms to compete more effectively in evolving markets.

The production and distribution of aluminum cans is a remarkably complex enterprise, jolted by technology, evolving demand, changing bargaining dynamics, and frequent shifts in the costs of production and distribution. At base, the market is characterized by the interplay between large, vertically-integrated beverage companies that also produce significant numbers of containers, aluminum can manufacturers trying to supply those companies while simultaneously competing with them, a range of smaller beverage companies (most notably craft beer breweries)
without container production facilities at all, and companies supplying rival beverage container types like plastic and glass.

Despite the superficial appearance that the proposed Ball/Rexam merger will significantly increase concentration in aluminum can manufacturing, a proper understanding of the marketplace dynamics in the beverage packaging industry suggests that the merger is unlikely to have anticompetitive effects:

- Because the appropriately defined product market includes not only stand-alone can manufacturers, but also vertically integrated beverage companies, as well as plastic and glass packaging manufacturers, the actual increase in concentration from the merger will be substantially less than suggested by the change in the number of nationwide aluminum can manufacturers.
- Moreover, in nearly all of the relevant geographic markets (which are much smaller than the typically nationwide markets from which concentration numbers are derived), the merger will not affect market concentration at all.
- While beverage packaging isn't a typical, rapidly evolving, high-technology market, technological change is occurring. Coupled with shifting consumer demand (often driven by powerful beverage company marketing efforts), and considerable (and increasing) buyer power, historical beverage packaging market shares may have little predictive value going forward.
- The key importance of transportation costs and the effects of current input prices suggest that expanding demand can be effectively met only by expanding the geographic scope of production and by economizing on aluminum supply costs. These, in turn, suggest that increasing overall market concentration is consistent with increased, rather than decreased, competitiveness.
- The markets in which Ball and Rexam operate are dominated by a few large customers, who are themselves direct competitors in the upstream marketplace. These companies have shown a remarkable willingness and ability to invest in competing packaging supply capacity and to exert their substantial buyer power to discipline prices.
- For this same reason, complaints leveled against the proposed merger by these beverage giants — which are as much competitors as they are customers of the merging companies — should be viewed with skepticism.
- Finally, the merger should generate significant managerial and overhead efficiencies, and the merged firm's expanded geographic footprint would allow it to service larger geographic areas for its customers, thus lowering transaction costs and increasing its value to these customers.
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I. INTRODUCTION

As the current merger wave continues in earnest, competition authorities around the world are increasingly considering the likely competitive effects of major mergers. At root, these agencies are tasked with ensuring that mergers are not likely to harm competition, and, by extension, consumers: “The basic objective of competition policy is to protect competition as the most appropriate means of ensuring the efficient allocation of resources — and thus efficient market outcomes — in free market economies.”¹

It's a tall order to estimate the future consequences of business conduct in complex markets. Often it is assumed — incorrectly — that, all else equal, “big is bad,” and that companies seek to merge precisely because their ability to profit at competitors’ and consumers’ expense is increased with their larger size. But, at the same time, antitrust authorities have increasingly come to understand that big doesn’t

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* Executive Director and Associate Director, respectively, of the International Center for Law & Economics (ICLE). ICLE is a nonprofit, non-partisan global research and policy center. ICLE works with affiliated scholars and research centers around the world to promote the use of evidence-based methodologies in developing sensible, economically grounded policies that will enable businesses and innovation to flourish. ICLE receives financial support from a range of organizations, companies and individuals with diverse interests and objectives. All of the research, views and opinions expressed are solely the intellectual output of their author(s).

necessarily mean bad — that economies of scale, managerial efficiencies, technological efficiencies, and the like enable firms to compete more effectively in evolving, complex markets. Nevertheless, a strong undercurrent of “big is bad” remains both in the conventional wisdom and in our antitrust policies.

The competitive process — famously described by Harvard economist Joseph Schumpeter as a “perennial gale of creative destruction” — inevitably harms some, particularly some competitors, even as it makes most of us better off. But as the U.S. Supreme Court has repeatedly stressed, antitrust laws, including those authorizing the review of mergers, “were enacted for ‘the protection of competition not competitors.'”

Judging the net effects of a proposed merger — whether big, this time, will really prove to be bad, or whether the harm to some competitors will outweigh the benefits to the competitive process more generally — is a notoriously difficult exercise, and one not often amenable to generalizations across industries, geographies and time. And yet a judgment will be made, difficult or not. It is thus crucial that regulators and courts understand the specific dynamics of each proposed merger.

Many of us are accustomed to thinking about complex, competitive problems in the context of the most technologically advanced — and thus, often, the most rapidly evolving and disruptive — industries: think Microsoft, Comcast, Oracle, Google, IBM, Apple and their cohort. But the difficulties can arise — and the complexities can be just as significant — in even the most seemingly simple industries. Hotly contested, complicated and contentious merger reviews have arisen in markets like glass containers, beer, tax preparation services, soft drinks and ice cream.

In this paper we address the law and economics of merger review in the context of a seemingly mundane, but, in actuality, remarkably fascinating, market: beverage container manufacturing and distribution. Competition authorities around the world, in fact, have focused their attention on this area recently, including those in

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2 JOSEPH A. SCHUMPETER, CAPITALISM, SOCIALISM AND DEMOCRACY 83 (3rd ed. 1950).
Brazil, the European Union, and the United States. Of immediate interest to those authorities is the proposed acquisition of British can manufacturer Rexam PLC by American can manufacturer Ball Corp.

The proposed merger of Ball and Rexam presents a merger of significant size, in a rapidly changing market. Although the product at issue may seem static and “low-tech,” its production and distribution is a remarkably complex enterprise, jolted by technology, evolving demand, changing bargaining dynamics, and shifts in the relative costs of production and distribution. At base, the market is characterized by the interplay between large, vertically-integrated beverage companies that also produce significant numbers of containers, aluminum can manufacturers trying both to supply those companies and to compete with them, a range of smaller beverage companies (most notably craft beer breweries) without container production facilities at all, and companies supplying rival beverage container types like plastic and glass to each type of customer. The key question is whether dynamic marketplace competition or static intervention by antitrust authorities should determine the structure of the market.

The questions presented by the proposed Ball/Rexam merger go to the heart of competition law, economics and policy. Among other things:

- What are the appropriate product and geographic markets in which to assess likely competitive effects?
- How will technological change, evolving demand, and a shifting marketplace be accounted for in merger reviews?
- What does it mean for merger review when the immediate “consumers” are major multi-national companies rather than end-users?
- How should antitrust enforcers assess the extent of competition and the risk of harm to consumers when the “consumers” are vertically integrated companies that are both capable of producing and, in fact, actively producing competing products?

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To answer these questions, this paper will examine the market for aluminum can manufacturing and distribution, its place within the larger drink container marketplace, how the dynamics of the marketplace should affect competition analysis, and how competition law might apply to the proposed merger.

Part II will provide an introduction to the market for can production and distribution. Part III will consider the competitive dynamics of the marketplace and question whether intervention is likely to protect competition itself, or merely a few large, vertically integrated competitors. Part IV will apply merger law to the proposed Ball/Rexam merger.

II. INTRODUCTION TO THE ECONOMICS OF ALUMINUM CAN PRODUCTION AND DISTRIBUTION

Before analyzing the merger in more detail, it’s important to consider the economics of can production and distribution and its place in the broader beverage marketplace. In order to do this, let’s first think about all the different ways one consumes pre-packaged drinks in a typical day.

First, try to imagine all the things you might drink in a day — water, soda, beer, fruit drinks, wine, energy drinks — and how those liquids might be packaged. Water frequently comes in plastic bottles, soda in plastic bottles and aluminum cans, beer in cans and bottles, and wine in glass bottles. Although these are the familiar configurations, there are a number of other options: sparkling water is served in glass bottles, and so too are some sodas; wine sometimes comes in a box; some beers are sold in plastic bottles. In principle, each of these liquids could be served in any of the different packaging types. With all of these choices, what drives the adoption of one or the other for each drink? And, more to the point, what factors cause beverage suppliers to utilize aluminum cans versus other packaging options with respect to a particular beverage?

Beverage container choices are driven by more than just consumer preferences: Companies make conscious choices to promote one type of packaging over another, and the choice of which to use depends in significant part upon relative production costs, as well as marketing and promotional strategies. Regulatory regimes
may also affect some of the choices. And changing technology, because it can affect costs of production or distribution, and even contribute to changes in consumer preferences, also affects packaging choices. All of these are at play in the aluminum can market.

A. The Products, the Players, and Industry Dynamics

While people could consume all of their drinks from a reusable glass or cup, many instead drink out of disposable cans or bottles. This isn’t surprising: when packaging, transportation and other costs are low enough, the convenience of disposable packaging more than outweighs other considerations.

1. The Products

Around 1.9 trillion litres (or over 500 million gallons) of packaged beverages were consumed across the world in 2014, which equates to the average consumer drinking around 270 litres (71 gallons) a year. North America is the largest market for packaged beverages, with per capita consumption at 577 litres (152 gallons).

Among the most established types of packaged beverages are carbonated soft drinks, beer, and water, along with sports and energy drinks. Of the 1.9 trillion litres consumed in 2014, water made up 19%, soft drinks 12%, and beer and cider 11%. While sports and energy drinks made up only 1% of consumption, they continue to be a massive growth market, with 10% growth for energy drinks and 8% growth for sports drinks predicted between 2014 and 2017.

Meanwhile, global beverage packaging accounts for nearly 1.5 trillion units annually. Out of that large number, glass makes up about 32%, plastic 31%, aluminum cans 21%, and others about 16%.

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7 For example, an industry trade publication observed that “a trend towards canned beer has been driven by the moderation of Finland’s high taxes on cans in 2005 and the total removal of the tax in 2008.” BEVERAGE CAN MAKERS EUROPE, EUROPEAN CAN MAKER REPORT 58 (2009), available at www.bcme.org/PDF_09/BCME_finland_a.pdf.

8 Product details in this and the following paragraphs are derived from Our Markets, REXAM, available at https://www.rexam.com/index.asp?pageid=916 (last accessed Nov. 9, 2015).
Within the beverage can market, 90% of the market comprises aluminum and about 10% steel (though steel is available only in select markets, including Brazil). Beer accounts for 40% of consumption from cans and soda 36%.

2. The Players

The major players in the marketplace include beverage companies and packaging companies (and some firms are both). The “Big Four” beverage companies, which account for almost 80% of Ball and Rexam’s business in the United States,⁹ comprises some of the world’s largest and most familiar companies, among them, the Coca-Cola Company,¹⁰ PepsiCo,¹¹ MillerCoors LLC,¹² and Anheuser-Busch InBev.¹³

Of key importance to understanding the dynamics of this market, these major beverage companies are not only purchasers of packaging, they also self-supply to varying degrees and in complex ways. Coca-Cola’s largest bottler, Coca-Cola Enterprises, operates as a wholly separate company from Coca-Cola in Western

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¹⁰ Our Company, COCA-COLA (last accessed Nov. 9, 2015), http://www.cocacolacompany.com/our-company/ (“The Coca-Cola Company (NYSE: KO) is the world’s largest beverage company, refreshing consumers with more than 500 sparkling and still brands…. [O]ur Company’s portfolio features 20 billion-dollar brands…. [a]nd we are the No. 1 provider of sparkling beverages, ready-to-drink coffees, and juices and juice drinks. Through the world’s largest beverage distribution system, consumers in more than 200 countries enjoy our beverages at a rate of 1.9 billion servings a day.”).

¹¹ Our Company, PEPSICO (last accessed Nov. 9, 2015), http://www.pepsico.com/Company/Global-Brands/ (“Our products are available around the world and our portfolio includes 22 brands that each generates more than $1 billion in estimated annual retail sales.”).

¹² Wikipedia, MillerCoors, https://en.wikipedia.org/wiki/MillerCoors (as of Nov. 9, 2015, 11:27 EST) (“MillerCoors is a joint venture between SABMiller and Molson Coors Brewing Company…. MillerCoors is the second-largest beer company in America, capturing nearly 30 percent of U.S. beer sales…. ”).

¹³ Wikipedia, Anheuser-Busch InBev, https://en.wikipedia.org/wiki/Anheuser-Busch_InBev (as of Nov. 9, 2015, 11:31 EST) (“Anheuser-Busch InBev… is a multinational beverage and brewing company headquartered in Leuven, Belgium. It is the world’s largest brewer and has a 25 percent global market share…. It has 16 brands that individually generate more than US$ 1 billion annually in revenue, out of a portfolio of more than 200 brands…. Total revenue for all 200 AB InBev brands in 2014 was over 47 billion USD.”).
Europe,\textsuperscript{14} while Coca-Cola purchased most of CCE’s assets in North America and now owns the majority of its own bottling capacity in North America.\textsuperscript{15} Both Coca-Cola and CCE purchase packaging materials from companies like Ball — but Coca-Cola also, in turn, manufactures its own plastic bottles and has invested in at least one aluminum can plant.\textsuperscript{16} Coors Brewing Company created Rocky Mountain Metal Container LLC (now operated by Ball through a joint venture with MillerCoors) that produces cans for the company in Golden, Colorado.\textsuperscript{17} And Anheuser-Busch is vertically integrated through its Metal Container Corp. subsidiary, which produces about 45 percent of Anheuser-Busch’s domestic beer cans in the United States and 55 percent of its domestic lids.\textsuperscript{18}

In North America, the major can manufacturing companies are Ball Corp.,\textsuperscript{19} Rexam PLC,\textsuperscript{20} CROWN Holdings Inc.,\textsuperscript{21} and MCC, with RMMC and Envases

\textsuperscript{14} See Who We Are, COCA-COLA ENTERPRISES (last accessed Nov. 9, 2015), https://www.cokecce.com/about-us/who-we-are.
\textsuperscript{17} Profile: Ball Corporation, REUTERS (last accessed Nov. 9, 2015), http://www.reuters.com/finance/stocks/companyProfile?symbol=BLL (“Rocky Mountain Metal Container, LLC, a 50% investment owned by Ball Corporation and MillerCoors LLC, operates metal beverage container and end manufacturing facilities in Golden, Colorado.”).
\textsuperscript{18} Anheuser-Busch Packaging Group, ANHEUSER BUSCH (last accessed Nov. 9, 2015), http://anheuser-busch.com/index.php/our-company/operations/packaging-operations/ (“Metal Container Corp. supplies more than 45 percent of Anheuser-Busch’s U.S. beer cans and 55 percent of its domestic lids. The operation also produces cans and lids for major U.S. soft drink companies including PepsiCo, Coca-Cola and Hansen Natural Corp.”).
\textsuperscript{19} About Ball, BALL (last accessed Nov. 9, 2015), http://www.ball.com/about-ball/ (“Ball Corporation is a provider of metal packaging for beverages, foods and household products, and of aerospace and other technologies and services to commercial and governmental customers.”).
\textsuperscript{20} Rexam Beverage Cans, REXAM (last accessed Nov. 9, 2015), http://www.rexam.com/index.asp?pageid=246 (“Rexam is a leading global beverage can maker. We are the leading can maker in Europe and South America and number 2 in the US. We make around 60 billion cans each year, the vast majority in aluminium at our 55 plants across the world.”).
\textsuperscript{21} About Crown, CROWN HOLDINGS (last accessed Nov. 9, 2015), http://www.crowncork.com/about-crown (“We are proud to be the leader in metal packaging technology[, w]ith operations in 40 countries employing over 23,000 people and net sales of $9.1 billion.”).
Universales Group also participating. Other significant global competitors include Toyo Seikan Co., Ltd. in Asia, Can-Pack S.A. in Europe, and Nampack in South Africa. Collectively, companies other than Ball, Rexam and Crown (the three largest in North America) account for nearly 40% of the global supply of beverage cans. While these numbers are useful for understanding the size and basic composition of the global market, they are misleading in important ways, as well. As we describe in more detail below, the market for aluminum beverage packaging is decidedly local, and thus the relevant market share for each company depends on which narrow geographic area is under discussion.

Of course, the other important player is the end-consumer who actually buys the drink for consumption. For some consumers, packaging matters. Many like the feel of a glass bottle, for instance, but others prefer the taste from aluminum cans.

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22 Our Philosophy, ENVASES UNIVERSALES (last accessed Nov. 9, 2015), https://www.envasesuniversales.com/vision (“Currently the Envases Universales Group is comprised by 45 plants, 5 distribution centers and 3 sales offices. The group possesses strategically distributed locations in Mexico, Guatemala, Colombia, US, Scandinavia, China and Korea.”).

23 Company Information, TOYO (last accessed Nov. 9, 2015), https://www.toyo-seikan.co.jp/e/info/.

24 About Us, CAN-PACK S.A. (last accessed Nov. 9, 2015), http://www.canpack.eu/?page_id=6 (“In the last years of the Can Pack Group has achieved spectacular success, evolving into a modern Capital Group and is now one of the leading manufacturers of metal packaging in the world. The plants of the Group employ over 4,000 people and annual sales exceed $1.4 billion. The installed capacity currently allows us to offer approximately 10 billion beverage cans, over 30 billion pieces of bottle closures, nearly 1.2 billion of metal containers for the food and the chemical industries, and approximately 219 tons of glass packaging.”).

25 Africa’s Leading Packaging Company, NAMPACK (last accessed Nov. 9, 2015), http://www.nampack.com/Default.aspx (“We offer the most comprehensive product range, across multiple industries throughout Africa, manufacturing to the highest commercial and environmental standards in metal, glass, paper and plastic.”).


27 See Claire Suddath, Big Soda’s ‘Vinyl Records’ Moment: Coke Gets Back Into Glass Bottles, BLOOMBERG BUSINESS (Aug. 1, 2014), http://www.bloomberg.com/bw/articles/2014-08-01/coke-gets-back-into-glass-bottles-and-sees-rare-sales-increase (explaining that there was an increase in glass bottle sales for both Pepsi and Coke even while overall sales declined, in part because “glass-bottled soda has a retro aesthetic that makes it popular among progressive, foodie-minded customers who otherwise wouldn’t be caught dead slurping something so common”).

28 See, e.g., Rachel Tepper, Coca-Cola Taste Test: Is the Soda Best In A Can, Bottle Or Fountain?, HUFFINGTON POST (Apr. 24, 2013), http://www.huffingtonpost.com/2013/04/24/coca-cola-taste-test-
And beverage companies can (and do) influence the demand for a particular can or bottle type through marketing and price differentiation. In recent years, for example, the pace of demand for soda sold in aluminum cans has decreased somewhat more than the overall drop in soda consumption as soda companies have pushed consumers toward plastic containers (which offer beverage producers attractive profits relative to aluminum cans). In fact, Pepsi and Coca-Cola have invested heavily in the plastic molding process, and this competition forces aluminum can manufacturers to be more efficient in order to compete on price.

can-bottle-fountain_n_3142151.html ("Most editors had difficulty discerning the difference between the bottled and canned Coke. Those that could, however, were adamant about the canned version's superiority. 'With bottled Coke, there's a plastic-y aftertaste. And there's a weird gas that seems to sit on top of the Coke and releases in the air the first time you unscrew the top,' an editor wrote. 'I'll still drink it, but I always prefer Coke from the can. There's something crisper about the latter. And it's more addictive. It's particularly true with diet Coke from a can. It's like crack.'"); Steven Perlberg, Why Canned Beer is Way Better than Bottled Beer, BUSINESS INSIDER (Aug. 15, 2013), http://www.businessinsider.com/why-canned-beer-is-better-2013-8 ("To everyone's delight, canning is also better for a beer's quality, according to Welz. Cans don't let light in, plain and simple. 'Light is destructive to the organic compound in beer that make the flavors everyone is so crazy about,' he said. Welz also suspects that cans, with a 'double-crimped' seal, are better than bottles at preventing air from getting in — air being one of the main enemies of a delicious brew.").


30 See, e.g., COCA-COLA 2014/2015 SUSTAINABILITY REPORT 38-39 (citing cost-effectiveness as among the reasons Coke now packages more than 57.2 percent of its products in plastics).

31 See, e.g., Kat Tilley, Coca-Cola saves in Australia by blow-filling PET bottles, PLASTICS NEWS (Jan. 12, 2012), http://www.plasticsnews.com/article/20120112/NEWS/301129968/coca-cola-saves-in-australia-by-blow-filling-pet-bottles ("In the 2011 sustainability report, CCA Chair David Gonski and Managing Director Terry Davis said the company's investment in blow-fill technology was its biggest capital expenditure in 10 years. 'It enables us to manufacture PET beverage bottles on our production lines, delivering greater efficiencies in production, cost and customer service,' they said."); Jessica Holbrook, Pepsi spending $10 million on plastic bottle project, Plastics News (Oct. 18, 2012), http://www.plasticsnews.com/article/20121018/NEWS/310189972/pepsi-spending-10-million-on-plastic-bottle-project ("The project aims to improve both sustainability and productivity…. Switching to on-site production also will save energy on transportation, and reduce the need for bottle handling and preparation, according to the release.").
Nonetheless, aluminum cans remain among the most popular beverage containers throughout the world. About 75 percent of cans in the United States are 12 oz. aluminum cans, but there are also specialty sizes, such as those used by energy drink companies and some beer companies, as well as other specialty containers like the aluminum bottles used by some soda and beer companies. Aluminum cans remain popular with consumers because they are quick to chill, less likely to break or shatter than glass, easy to recycle, and many consumers prefer the taste from them. It is estimated that American can makers produce about 100 billion aluminum beverage cans a year, which is about one can per American per day.

3. Industry Dynamics

While beverage companies have significant influence over perceived consumer preference for packaging, consumer demand and advancing technology have been important drivers of changes in can production over time. The aluminum can itself represents a significant technological advance over its predecessors, and the evolution of the can continues to be motivated by technology (e.g., new production processes that enable the use of less material in production) and consumer demand (e.g., aluminum bottles).

Aluminum was not the material of choice for beverage cans until after World War II. Before the postwar period, glass bottles and tinplate steel cans were the primary packaging materials for beer and soda. The first aluminum can was introduced in the United States in 1958, and in 1959 the Adolph Coors Company began mass producing recyclable aluminum beer cans.

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33 See id.
36 See id.
Technological innovation in the development process changes in the 1960s from the “impact-extrusion” process pioneered by Coors to the “drawing and ironing” process introduced by the Reynolds Metal company. Shortly thereafter, major beer breweries and beer companies adopted the new all-aluminum can, as well as PepsiCo and Coca-Cola by 1967. Between 1965 and 1972, the number of aluminum cans shipped in the United States grew from about half a billion to 8.5 billion, becoming the most popular way to consume soda in the process. Advantages of the modern aluminum can over the steel or steel-and-aluminum include the facts that it does not rust, it chills quickly, its glossy surface is easily imprintable and eye-catching, it prolongs shelf life, and it is easy to recycle.\footnote{How Products Are Made, \textit{Aluminum Beverage Can} (last accessed Nov. 13, 2015), \url{http://www.madehow.com/Volume-2/Aluminum-Beverage-Can.html}}

Decades of “lightweighting” initiatives by aluminum suppliers, can makers, and beverage companies have resulted in an aluminum can that today weighs (and costs) considerably less than its predecessors,\footnote{See \textit{The Aluminum Can}, \textit{THE ALUMINUM ASSOCIATION} (last accessed Dec. 3, 2015), \url{http://www.aluminum.org/product-markets/aluminum-cans#sthash.Q1tqPqYS.dpu} (“The first generation of aluminum cans weighed approximately 3 ounces per unit. Today’s cans weigh less than half an ounce.”)} while maintaining the strength necessary to contain the pressurized fluid within. These and other technological advances (in processing, design and materials) continue to influence can shapes, weight, strength and other characteristics.

These developments in aluminum cans evidence the broader competitive dynamics between aluminum cans and other beverage packaging forms. Plastic PET bottles have exploded in popularity since Coca-Cola first introduced the 2-liter plastic bottle in 1978,\footnote{See \textit{Yesterday to Today}, \textit{THE COCA-COLA COMPANY} (Jan.1, 2012), \url{http://www.coca-colacompany.com/stories/yesterday-to-today/}.} and have now supplanted aluminum cans as the most popular packaging format for soft drinks.\footnote{See \textit{Packaging and impact of plastic bottles}, \textit{ETHICAL CONSUMER} (last accessed Dec. 3, 2015), \url{http://www.ethicalconsumer.org/ethicalreports/softdrinkssectorreport/packaging.aspx} (“58\% of fizzy drinks are packaged using PET plastic bottles. The remaining 42\% of fizzy drinks are packaged using a mix of glass bottles, steel and aluminium cans.”).} Consequently, the market is highly competitive, and aluminum can producers must continue to improve their appeal and efficiency in
order to create products that beverage companies will choose to market to consumers in preference to other container types:

Worldwide production of aluminum beverage cans is steadily increasing, growing by several billion cans a year. In the face of this rising demand, the future of the beverage can seems to lie in designs that save money and materials. The trend towards smaller lids is already apparent, as well as smaller neck diameters, but other changes may not be so obvious to the consumer. Manufacturers employ rigorous diagnostic techniques to study can sheet, for example, examining the crystalline structure of the metal with X-ray diffraction, hoping to discover better ways of casting the ingots or rolling the sheets. Changes in the composition of the aluminum alloy, or in the way the alloy is cooled after casting, or the thickness to which the can sheet is rolled may not result in cans that strike the consumer as innovative. Nevertheless, it is probably advances in these areas that will lead to more economical can manufacture in the future.42

B. The Business

To evaluate the competitive significance of a potential merger between Ball and Rexam, one must first look at the industry structure as a whole.

The first and most important point to remember is that aluminum can manufacturers cater primarily to large, repeat customers with significant bargaining power, and significant influence over the type of packaging they use. Serving these customers means providing inexpensive materials, efficient manufacturing processes, responsive packaging design, and optimal (i.e., transportation-cost-minimizing) production facilities. As noted above, it is a very large marketplace. Although a merged Ball/Rexam stands to be a large entity, the immediate customers of that entity, the major beverage companies, are much larger still. In general, the marketplace that manufactures and distributes bottled and canned beverages worldwide is exceedingly large, and made up of large players.

Can manufacturers are actually sandwiched in the middle of a production process between massive customers and massive suppliers, like Alcoa, Inc.\textsuperscript{43} Larger customers frequently buy the metal for their cans directly from these large aluminum companies, and hire Ball and Rexam to convert the aluminum sheet into cans. Smaller beverage companies, on the other hand, often buy aluminum through Ball and Rexam. In either case, supply costs are significant. Industry analysts predict continuing increases in the price of aluminum, the key input for can manufacturers.\textsuperscript{44} Increased supply costs and the omnipresent threat of substitution to other containers like PET (plastic) bottles\textsuperscript{45} combine to squeeze profit margins for can manufacturers.

Ball and Rexam, engaged as they are strictly in manufacturing, produce only the actual cans that are to be inputs into a still much larger production process. Their very large customers, such as Coca-Cola and Coors, buy some of their supply of cans from Ball and Rexam, design the packaging, and ultimately distribute the finished product to end consumers. There are benefits from specialization and scale, to be sure, but, fundamentally, aluminum can manufacturing is a fairly commoditized process; it’s not surprising that many beverage companies have vertically integrated into this business.

The basic cost structure of the business dictates that markets for cans are essentially local. At 200 miles (the average geographical coverage of a can manufacturing plant), freight costs make up about 6% of the total costs of manufacturing and


\textsuperscript{44} Reuben Brewer, The Only Stock to Watch in Aluminum, THE MOTLEY FOOL (Jul. 24, 2015), http://www.fool.com/investing/general/2015/07/24/the-only-stock-to-watch-in-aluminum.aspx (“Between 2014 and 2019 both Alcoa and Norsk expect demand from the transportation sector to easily trump growth in the packaging segment... Packaging demand is expected to grow around 4% a year while demand from transportation is expected to expand by 14% a year... Global demand is outstripping supply.”).

\textsuperscript{45} See Diana Twede, Economics of Packaging, in THE WILEY ENCYCLOPEDIA OF PACKAGING TECHNOLOGY 383, 386 (Kit L. Yam, ed., 2010) (“The metal share of the packaging industry has been falling due to the substitution of plastics. Cans are being replaced by plastic bottles for beverages....”).
distributing an aluminum can. As the distance increases from there, the costs substantially increase, as well. At 1000 miles, for instance, freight costs reach over 20% of total cost. This strong positive correlation explains why beverage companies buy locally, and why can manufacturers build manufacturing facilities near their customers. Transporting empty cans, in other words, is terribly inefficient.

In this case “Buy Local” does not mean supporting mom and pop manufacturers. Economies of scale are important to keeping costs and prices low. While this means that the industry will be characterized by relatively large producers (and thus will look “concentrated”), it does not necessarily mean that there will be limited competition and innovation.

Instead, the industry is characterized by significant competition and innovation for several important reasons.

First, and of perhaps greatest significance, there are benefits from being the first mover with new sizes and designs.

One of the key innovations in the marketplace has been the introduction of new specialty sizes, shapes and can characteristics. There has been substantial growth in the manufacture of aluminum bottles, craft beer cans, and energy drink cans in response to demand from beverage companies for a greater variety of attractive packaging forms.

Steep competition is driving companies across all beverage sectors toward customized shapes, sizes, colors and textures — spurring innovation and significant investment in new technology, among the world’s beverage packaging manufacturers. In response to this growing demand, Ball, for example, has invested $400 million into growing its specialty-can production capabilities.

There are now more than 20 different “specialty” sizes in the aluminum can marketplace, and, while the resulting product may seem straightforward, producing

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46 Because aluminum production is dependent on highly localized bauxite mines (most of the world’s bauxite is mined in Australia, Brazil and China), the added cost of transporting aluminum sheets for can manufacturing to multiple locations is a comparatively trivial fraction of the raw material cost.

them requires up-front investment (and thus risk) to create.\(^{48}\) The first mover reaps the benefits of being, for a time, the only manufacturer producing that type of can, although those benefits are eventually competed away. This is what you would expect in a relatively competitive marketplace, not an oligopolistic one.

Second, the ability of beverage companies to self-supply and engage in other forms of vertical integration to fit their needs is a significant competitive constraint on the can manufacturing market. Basic transaction cost economics explains the so-called “make-or-buy decision” for these companies: if the costs of buying from can manufacturers increases enough, beverage companies will invest more in their own production capacity. While the size and market power of these companies gives them substantial leverage in negotiations with can manufacturers, the threat of entry (and the concomitant opportunity to avoid paying for a supplier’s mark-up over cost) amplifies that effect, ensuring that customers impose important competitive constraints on the market.

Anheuser-Busch InBev, for instance, has invested heavily in self-supply capacity, and has its own can manufacturing subsidiary, Metal Container Corporation. ABI also recently announced plans to expand capacity at several manufacturing facilities in the United States and to build a new one in Yucatan, Mexico.\(^{49}\) This gives the company added strength in negotiations with manufacturers. Anheuser-Busch InBev’s ability to switch to its own 25 oz. specialty cans,\(^{50}\) for example, reduces its reliance on competing specialty cans produced by independent can manufacturers and improves its negotiating position with them for the cans it does purchase.

\(^{48}\) See, e.g., id. (“Pressing a can into a new shape, size or color is an expensive endeavor and is a cost that, for the most part, Ball fronts…. While there is no guarantee that every new design will have holding power in the market, the risk for Ball has so far been worth the reward.”).


\(^{50}\) World’s Most Unique Beer Can: Budweiser Introducing Bowtie-Shaped Can on May 6, ANHEUSER-BUSCH (Apr. 17, 2013), available at http://anheuser-busch.com/index.php/budweiser-introducing-bowtie-shaped-can-on-may-6/ (“In other packaging innovations on the horizon in the U.S. for Anheuser-Busch, the company is announcing it is test-marketing in 10 states a new 25-ounce can that replaces a 24-ounce serving – giving consumers an additional ounce of beer. Sales of this new can will begin this summer.”).
In all, the Big Four customers produce about 20 billion cans annually in the United States, and their plants produce an average of 3 billion cans per year (compared to 2.3 billion cans per year for Ball, Rexam, and Crown combined).\(^{51}\) In other words, the can manufacturing market is a paradigmatic “contestable market” in which the threat of entry is imminently credible, and no actual increase in production is required for beverage companies to police the market’s competitiveness.

Beverage companies also ensure the competitiveness of the can market through partial vertical integration and by subsidizing new entry. In 2001, for example, MillerCoors (then Coors Brewing Company) entered into a joint venture with Ball to create a new entity, Rocky Mountain Metal Container LLC, to operate the aluminum can facility that Coors built to supply itself in the 1970s. Through this integrated supply plant, Coors was able to secure reliable supply and pricing, as well as to exert some control over production schedules at several of Ball’s facilities. Meanwhile, beverage companies can and do sponsor the entry of new participants when they want a new source of supply, and they use long-term initial supply contracts to incentivize new entry by reducing the risk.\(^{52}\)

And new entry — not just by vertically integrated beverage companies — is significant. Worldwide, players like Can-Pack and Toyo continue to build new plants and increase capacity. Crown announced construction of its fourth plant in Mexico in early 2015 (a plant that is capable of serving customers in the United States, as

\(^{51}\) See Ball Corporation’s offer to acquire Rexam PLC, at slide 13, BALL (last updated Jul. 17, 2015), http://www.bestinbeveragepackaging.com/ballrexamaq/media/PDFs/transaction-benefits-customers-7-17-15.pdf (hereafter “Ball Slide Deck”).

\(^{52}\) See, e.g., Rexam celebrates fourth line at Ludesch plant, Rexam (Dec. 16, 2013), http://www.rexam.com/index.asp?pageid=534&newsid=1471 (“The plant, which opened in 2007, is a wall-to-wall facility next to Red Bull’s filling partner Rauch, and is used solely to manufacture cans for the world’s leading energy drink.”); Sananda Sahoo, Beverage can manufacturer raises daily capacity with new Dubai factory, The National (Jan. 16, 2015), http://www.thenational.ae/business/economy/beverage-can-manufacturer-raises-daily-capacity-with-new-dubai-factory. See also Sponsored Entry, CRA COMPETITION MEMO (Jan. 2012), available at http://ecp.crai.com/ecp/assets/Sponsored_Entry_Competition_Memo.pdf (“When is entry ‘sponsored’? A precise definition is hard to pin down but it can be viewed as a variant of standard buyer power arguments. The implication is that a customer would be prepared to guarantee some level of business to either a new entrant or a currently small incumbent in order to expand its choice of supplier.”).
And even in the United States, where new standalone plant construction has slowed in recent years, Crown is in the process of constructing a new, $130 million plant in Upstate New York.  

Finally, cans must remain competitive with other packaging forms in order to limit substitution away from cans by beverage companies. Importantly, the push towards plastic bottles by major soda companies shows that PET is a real substitute for aluminum cans. In fact, because of their investment in PET bottle capacity, soda companies have strong leverage in negotiations. Selling beverages in plastic containers lowers costs relative to aluminum cans under current market conditions, and, combined with their ability to influence consumer demand for beverages packaged in plastic, this creates a powerful constraint on aluminum can pricing. To the extent that the price of oil drops further relative to the price of aluminum, PET will likely be increasingly used — and will impose even greater pricing pressure on aluminum cans.

In short, powerful customers — large beverage companies — can and do ensure either that markets remain competitive by expanding the supply of aluminum cans (or the credible threat of such expansion), and/or by reducing the demand for aluminum packaging.

III. A CONTINUING PARADOX: PROTECTING COMPETITORS OR CONSUMERS?

Antitrust law is aimed at protecting competition. In the United States, this is understood to mean that protecting consumer welfare, not the bottom lines of certain competitors, is the goal of antitrust enforcement. The protection of competitors or business consumers is relevant to proper antitrust enforcement only insofar as the


elimination of competitors or increased prices to business consumers will ultimately harm consumers. In this section, we consider the market dynamics of can manufacturing and how they bear on the antitrust analysis of the market. In particular, we address the question of whether the complaints against the proposed Ball/Rexam merger from major beverage companies tend to describe valid potential harm to consumers, or merely potential harm to the beverage companies’ bottom lines.

In his 1978 book, *The Antitrust Paradox*, Professor (and future judge) Robert Bork criticized the state of U.S. antitrust law, and merger law in particular. Despite its statutory obligation to protect the competitive process rather than merely to preserve the pre-merger extent of competitive rivalry, Bork found that the law often protected inefficient competitors at the expense of consumer welfare. Since that time, antitrust law has changed considerably, and today the law recognizes a range of efficiency justifications for mergers and other forms of business conduct that serve to enhance market competitiveness, even while reducing the number of competitors or the intensity of direct horizontal competition.

Today courts recognize that “[c]ompetition is a ruthless process. A firm that reduces cost and expands sales injures rivals — sometimes fatally.” Even if conduct aimed at harming competitors is successful, it still must be proven that the conduct harms consumers. Competitors are more vulnerable in such an environment because they cannot rely (perversely) on the law to protect them from real competition. But this also means that competitors have a strong incentive to influence enforcement agencies to challenge these efficiency-enhancing mergers. As a result, antitrust tends to look at complaints by rivals with substantial skepticism.

But the situation is more complicated when a vertically-integrated competitor is also a direct consumer of the merging companies. In that case, it may be difficult

58 See *Brooke Group Ltd. v. Brown & Williamson Tobacco Corp.*, 509 U.S. 209, 225 (1993) (even where facts “indicate that below-cost pricing could likely produce its intended effect on the target, there is still the further question whether it would likely injure competition in the relevant market”); see also id. at 224 (“That below-cost pricing may impose painful losses on its target is of no moment to the antitrust laws if competition is not injured.”).
to discern whether a complaint is borne out of a crass effort to use the law to ham-string competitors, or out of a concern for the effects of a proposed merger on a company’s purchasing options. There is a strong presumption in the Horizontal Merger Guidelines that increased prices to direct consumers can lead to increased prices to end consumers,⁵⁹ but the Guidelines are silent about situations where the direct consumer is also a vertically-integrated competitor of the merging companies. Separating the two positions is necessarily a fact-specific enterprise — but competition authorities should take care not to ignore the position of the major beverage companies as competitors when considering the claims they make as consumers.

As noted above, the primary customers of aluminum can manufacturing companies are the major beverage companies. These companies have significant ability to supply their own containers and/or to impose other constraints on possible anticompetitive practices in the can manufacturing marketplace. At root, one cannot assume that these companies would simply be forced to passively endure the costs of an anticompetitive price increase, or pass it on to their consumers. In fact, it is far more likely that the major beverage companies would invest in new can manufacturing lines, exert their bargaining power, switch to substitutes (like PET), and drive changes in consumer preferences through advertising if confronted with post-merger price increases — with the net effect that the merged company would be unlikely to be able to extract any supracompetitive profits.

While some may argue that beverage companies have little interest in investing in greenfield container plants and the expansion of existing plants, the evidence actually suggests that the Big Four continue to make considerable investments in container manufacturing capacity. In the last two years alone, Anheuser-Busch InBev has invested more than $320M in expanding its Metal Container Corporation facilities for the creation of aluminum bottles.⁶⁰ Coca-Cola also invested in a joint venture to open a new, state-of-the-art, $60 million can manufacturing plant in Puerto Rico, with a “production capacity of 1,800 cans per minute, or 650 million

⁵⁹ See DOJ-FTC HORIZONTAL MERGER GUIDELINES § 1 (2010) (“The Agencies presume, absent convincing evidence to the contrary, that adverse effects on direct customers also cause adverse effects on final consumers.”).

cans a year, at the beginning of the operation” and “up to 2,400 cans per minute, or, 1 billion cans a year” at full capacity. Regardless, even if true today that beverage companies are not planning on further investment in self-supply, their investment incentives would surely change in the face of higher can prices — and the large beverage companies have demonstrated a pervasive willingness and ability to mitigate the effects of higher supply costs.

Competition authorities also cannot ignore that major beer companies themselves continue to merge, meaning that they may be able to assert increasing bargaining power over can manufacturers. Insofar as the contemplated merger between Anheuser-Busch InBev and SABMiller, for example, will strengthen the can manufacturing capacity of the combined entity (and/or dramatically improve the bargaining power of Molson Coors Brewing, which would wholly own MillerCoors following the merger), there would be yet another source of competition and bargaining power to hold down any potential price increases from Ball/Rexam.

On top of that, as noted, beverage companies routinely spend billions on advertising in order to shape consumer preferences for particular types of beverage container. New campaigns encouraging consumers to drink from plastic or glass, as

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well as targeted price reductions, could significantly affect demand for aluminum packaging post-merger.

In sum, evidence from companies that are not only customers, but also competitors, should be discounted accordingly by competition authorities. Competition authorities should not intervene in the competitive process or place a thumb on the scale in favor of powerful and sophisticated parties absent clear evidence of harm to consumer welfare. Yet it is by no means clear that an increase in price would be passed on to consumers in light of the competitive dynamics of the marketplace.

IV. ANTITRUST ANALYSIS OF BALL/REXAM

With all of this in mind, we come to the recent proposed acquisition of Rexam PLC by Ball Corp. The antitrust analysis of this potential merger turns on a number of important issues:

- How should the market be defined and is there overlap between Ball and Rexam currently?
- Does the merger present a greater risk of coordinated or of unilateral anticompetitive conduct post-merger?
- What are the potential efficiencies from the merger and will they be passed on to consumers?
- How likely is entry and will it be effective in disciplining the market post-merger?

Part IV.A outlines the concerns that are driving the investigations of the merger in the United States, the EU, and Brazil. Part IV.B analyzes these concerns, focusing on competitive effects, market definition, efficiencies, and entry.

A. Current Investigations

As mentioned above, the proposed Ball-Rexam merger is under investigation by several competition authorities. This section summarizes what is known about each investigation so far.

1. United States
The Federal Trade Commission (FTC) has taken the lead in investigating the merger in the United States. This is the second time in recent years that the FTC has shown interest in the beverage container marketplace, having challenged the Ardagh Group SA and Saint-Gobain SA merger in 2014, ultimately requiring significant divestitures.64

In the *Ardagh* complaint, the FTC charged that:

Each year, Americans use more than 18 billion glass beer and spirits containers. Three manufacturers produce the overwhelming majority of these glass containers: Ardagh, Saint-Gobain Containers, Inc. (“Saint-Gobain”), and Owens-Illinois, Inc. (“O-I”). Together, these “Three Majors” dominate the approximately $5 billion U.S. glass container industry.

Ardagh’s proposed $1.7 billion acquisition of Saint-Gobain (the “Acquisition”) would combine the second- and third-largest U.S. glass container manufacturers, resulting in an effective duopoly. Ardagh and O-I would control the lion’s share of the markets for glass containers sold to beer and glass containers sold to spirits customers…. The market shares presented in these relevant markets easily exceed the market concentration levels presumed likely to result in anticompetitive effects under the Federal Trade Commission and U.S. Department of Justice Horizontal Merger Guidelines (“Merger Guidelines”) and under the case law.

The Acquisition would substantially lessen competition by dramatically increasing the ease and likelihood of coordination between the only two remaining major glass container manufacturers and by eliminating head-to-head competition between Ardagh and Saint-Gobain that to date has helped lower prices for customers. The result will be higher prices, lower availability, and less innovation.

New entry into the relevant markets will not prevent the Acquisition’s anticompetitive effects. Glass container plants are expensive to build, costing at least $150 million. Construction is also time-consuming and subject to significant regulatory hurdles. Expansion by fringe manufacturers is also difficult and unlikely because the remaining firms in the marketplace are substantially smaller than the major manufacturers, with no fringe firm operating more than one

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dedicated glass container plant. Finally, Respondents cannot show cognizable efficiencies that would outweigh the competitive harm that the Acquisition will cause.65

If the FTC decides to challenge this merger, it seems likely that it will focus on a similar set of issues:

- Whether this is a three to two merger, creating a “duopoly”;
- Whether increased concentration will mean detrimental competitive effects:
  - Whether increased concentration will increase the likelihood of coordinated behavior between remaining competitors;
  - Whether less head-to-head competition will likely lead to unilateral price effects;
- Whether efficiencies from the merger will likely lead to benefits to consumers; and
- Whether new entry in the relevant markets will discipline any likely anticompetitive effects.

2. European Union

In July 2015 the European Commission opened an “in-depth investigation” into the merger.66 The Commission announced that it “has concerns that the proposed transaction may reduce competition in the beverage can and aluminium bottle manufacturing industry.”67 The Commission’s investigation includes consideration of:

**Market Share** - Rexam and Ball are, respectively, the first and second largest beverage can manufacturers in the EEA. After the proposed takeover, their combined market shares would be very high at both EEA and regional level and only two other players would remain on the market. The Parties are also the two suppliers with the most extensive network of plants across the EEA. After the transaction, the Parties would own approximately two thirds of the plants located in Europe.

**Competitive Effects** - The Commission’s concerns relate to the supply of beverage cans and aluminium bottles throughout the EEA. Customers of Ball and Rexam include both large and small manufacturers of beer, carbonated soft

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65 Ardagh, at ¶¶ 1-4.


67 Id.
drinks, energy drinks, juices and water as well as bottlers working under contract with drinks manufacturers.

**Lack of Potential Entry** - After its initial investigation the Commission considers that the remaining competitors would not pose a sufficient competitive constraint on the merged entity. The investigation also suggests that the ability to compete effectively requires both a certain minimum size and a widespread network of production facilities. Moreover, the Commission may view the industry as characterised by high entry barriers because of the need to ensure sufficiently large customer orders and the significant investment required to build a plant. This makes entry and expansion difficult in a relatively short period of time. The combination of the two largest players is therefore likely to result in price increases for customers and ultimately for consumers.

**Further investigation** - The Commission will now investigate in depth the proposed transaction to determine whether these initial concerns are confirmed. The Commission will in particular examine the importance of having a sufficiently wide network of production facilities across the EEA and the barriers to entry and expansion.  

Recently, with the announcement of market testing of a proposed remedies package in the EU, the Commission has extended its review into early 2016. With those remedies, Ball’s acquisition is expected to win EU approval.

3. Brazil

Brazil’s Administrative Council on Economic Defense (CADE) is (was) also investigating the deal. While there is little publicly available information about its concerns, CADE is likely focused on the extent of concentration that will result from

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68 Id.


70 See Foo Yun Chee, Ball set to win EU approval for $6.7 billion Rexam deal: sources, Reuters (Dec. 10, 2015), http://www.reuters.com/article/us-rexam-m-a-ball-eu-idUSKBN0TT18620151210#EBBbHgwy4oO89tL97.
the merger, which will bring approximately 74% of beverage can supply in Brazil under the control of the merged company, according to news reports.\(^\text{71}\)

Whatever its concerns may have been, however, on December 9 CADE announced its unanimous approval of Ball’s acquisition of Rexam, subject to limited divestiture and contractual conditions.\(^\text{72}\)

**B. Antitrust Analysis**

The US, EU, and Brazilian competition authorities operate under different laws and different general approaches, and thus analyze mergers somewhat differently according to their respective regimes. But the similarities between them are far more predominant: All will have to grapple with the questions of market definition, likely competitive effects, cognizable efficiencies, and potential entry.

1. Market Definition and Competitive Effects

In order to analyze the harm to competition from a prospective merger, a competition authority must typically define the relevant product and geographic markets at issue and then determine the likely competitive effects of the merger within those markets.

   a) Product Market

Regulators may limit the relevant product market to aluminum cans. About 80% of this market is commodity sized (12 oz.) cans. The other 20% is made up of specialty cans, which is a growing segment. Competition authorities may distinguish between the two, which will lead to questions about how the two markets differ for geographic market and competitive effects purposes (which will not be explored in great detail here). It is worth pointing out, however, that such a market delineation would largely (and improperly) ignore the ease of supply-side substitution between the two, meaning that entry barriers for existing manufacturing facilities are extremely low.

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\(^\text{71}\) See Esha Vaish & Roshni Menon, *Ball Corp to buy British drinks can maker Rexam for $6.9 billion*, Reuters (Feb. 19, 2015), http://www.reuters.com/article/2015/02/19/us-rexam-m-a-ball-idUSKBN0LN0E320150219.

\(^\text{72}\) See Flavia Fortes, *Ball, Rexam deal wins conditional approval in Brazil*, MLEX (Dec. 9, 2015).
But the most significant question for product market definition is whether the antitrust agencies will include other beverage containers like plastic and glass in their relevant market definitions.

In Ardagh the FTC rejected the argument that aluminum cans and plastic containers should be included in the relevant market for glass bottles. The FTC argued that “not enough Brewers would switch to such products to make a small but significant and non-transitory increase in the price (“SSNIP”) of glass containers to Brewers unprofitable for a hypothetical monopolist.” The FTC placed considerable emphasis on the point that brewers and distillers did not generally view plastic and aluminum as interchangeable with glass, as evidenced by the continued use of glass in these markets even as glass prices increased relative to plastic and aluminum. The FTC thought this was due primarily to “consumer preferences and brand identity.”

The FTC’s theory in Ardagh may not be applicable here, however. There is substantial evidence that soda companies (and beer companies, as well) are willing to use glass and plastic as much as they are willing to use aluminum. In fact, Coca-Cola now uses primarily plastic packaging because of the relative costs and benefits associated with it. And although PET packaging presents more difficulties for beer companies, similar economic considerations have impelled them to encourage its adoption nonetheless. Further, the Big Four beverage companies are more capable of affecting consumer preferences by advertising and promoting glass and plastic over aluminum. Moreover, a dynamic competitive marketplace often involves competition for the market. Aluminum took the place of steel cans due to changes that made the use of the product cheaper. Present market conditions suggest that plastic may be cheaper than aluminum for the foreseeable future, and that companies are switching accordingly. The fact that some companies may have resisted a

\[73\text{ Ardagh, at ¶ 23.}\]
\[74\text{ Id. at ¶ 24.}\]
\[75\text{ See COCA-COLA SUSTAINABILITY REPORT, supra note 30, 38-39.}\]
\[76\text{ See, e.g., Lorene Yue, MillerCoors lightens up by subbing plastic bottles for glass, CRAIN’S CHICAGO BUSINESS (Mar. 1, 2014), http://www.chicagobusiness.com/article/20140301/IS-SUE01/303019983/millercoors-lightens-up-by-subbing-plastic-bottles-for-glass (noting that the “move… shaves 1 pound from each bottle of its 10 least-expensive brews” and that “[l]ighter bottles save on transportation costs”). As of 2010, “10% of the beer consumed in Europe is in PET bottles…, [and] 15% of all beer consumed in South Korea… comes in PET bottles…. ” A. L. Griff, CARBONATED BEVERAGE PACKAGING, in THE WILEY ENCYCLOPEDIA OF PACKAGING TECHNOLOGY, supra note 45, at 219, 222.}\]
move from glass to aluminum and plastic in the past is no guarantee that they won't do so as market conditions continue to change in the future.

In sum, *Ardagh* does not foreclose the inclusion of plastic and glass bottles in the product market with aluminum cans. The evidence strongly suggests that, at least in the United States, plastic should be included in the relevant product market. And in other countries where glass is a bigger part of the market than it is in the United States due to “consumer preferences and brand loyalty,” the rationale for the inclusion of glass would be accordingly stronger.

**b) Geographic Market**

Several complications arise when considering the proper geographic marketplace. Normally, a broad definition of the geographic market leads to the inclusion of more competitors (generally reducing the likelihood of anticompetitive effects), while a narrow geographic market definition excludes more competitors. Here, the issues is less about counting competitors than it is about understanding certain subtle market dynamics.

As discussed above, can manufacturers have difficulty efficiently supplying packaging beyond a fairly narrow geographic range due to shipping costs; there are significant cost advantages for can manufacturing plants located closer to filling stations. The costs of freight are about 6 percent within 200 miles, but that increases to 24% within 1000 miles.77

At least for commodity (12 oz.) cans, this suggests a rather narrow geographic market. At the same time, however, the relevant geographic market often transgresses geopolitical boundaries. A can manufacturer in northwestern Mexico, for instance, could provide price discipline for a can manufacturer in southern California. The same goes for plants and filling stations located across state lines from each other. The Big Four beverage companies are multinational entities with bottling plants all over the world. Can manufacturers within 200 miles of those bottling plants may be located in different countries, at times, but as long as import duties don’t erect artificial barriers, it is essentially only shipping distance that determines the extent of competition among them.

77 See Ball Slide Deck, supra note 51, at slide 10.
In the EU, the market is also regional. Can-Pack in Poland is a major supplier to beverage companies — but only those within 200-600 km of its facilities (the average shipping distance in the EU).

In sum, the proper relevant geographic market is regional and fairly narrow, but not confined by political boundaries; the proper geographic market for antitrust review is not worldwide, continent-wide or even nation- or state-wide. As a result, the frequently repeated concerns based on statistics about concentration changes at those larger levels is misplaced. The real question concerns the change in competition in smaller geographical units, essentially comprising 200-mile-radius circles around each filling station. As we discuss below, within these relevant geographic markets the proposed merger would not appreciably alter concentration at all, let alone the extent of competition.

c) Competitive Effects

Hearkening back to the “structural presumption” of the much-maligned antitrust of the 1970s, most concerns about large mergers today seem to be driven by explicit or implied fears of increased concentration in already concentrated markets. What such superficial analyses tend to miss, however, are the reasons for existing concentration (like the importance of economies of scale or the narrow geographic scope of efficient operation), as well as the market conditions leading to greater concentration. In the case of aluminum can manufacturing, for example, the increasing cost of aluminum on the one hand, and increasing buyer power on the other, have squeezed small and large can manufacturers alike, reducing their profit margins and increasing the returns to larger-scale operations. Because transportation costs make expanded production within existing footprints uneconomical, geographic expansion is increasingly attractive. While this may increase concentration within arbitrarily defined political boundaries, it doesn't reduce competition.

In the United States as a whole, for example, the merger would seem to reduce the number of nationwide can manufacturing companies from four to three (or from three to two, if the government disregards ABI, which primarily (but not exclusively) produces cans for its own use). While, for the reasons discussed above, this does not appear to be a plausible geographic market, under such a view, and since this is already a concentrated industry, the transaction would trigger the Horizontal Merger Guidelines presumption against the merger.\textsuperscript{79} Similar analysis undergirds the European Commission's investigation.\textsuperscript{80} The assumption is that big is bad, and bigger is “badder.”

In \textit{Ardagh}, for instance, the FTC argued that

The glass container industry in the United States will be highly concentrated after the Acquisition. The Merger Guidelines measure concentration using the Herfindahl-Hirschman Index (“HHI”). Under that test, a merger is presumed likely to create or enhance market power (and presumptively illegal) when the post-merger HHI exceeds 2,500 and the merger increases the HHI by more than 200 points. Here, both markets’ post-merger HHI well exceeds 2,500, and the Acquisition increases concentration in the sale of glass containers sold to Brewers by 781 points, and 1,069.3 for the sale of glass containers to Distillers.\textsuperscript{81}

It seems likely that competition authorities would need to rely on a similar theory in order to challenge the Ball/Rexam merger. Nonetheless, mergers are not usually condemned on the basis of market shares alone.

Even in \textit{Ardagh}, the FTC didn’t rely solely on market shares to make the case that the merger would be anticompetitive. Instead, it argued that 1) the acquisition would lead to anticompetitive coordination, and 2) the acquisition would eliminate competition between the two entities. The first argument was premised on a record of anticompetitive coordination before the merger that the FTC argued would only increase afterwards.\textsuperscript{82} The second argument was based on the particular market realities of the glass container market in which head-to-head competition was more prevalent.\textsuperscript{83}

\textsuperscript{79} See DOJ-FTC \textsc{Horizontal Merger Guidelines} § 2.1.3 (2010).
\textsuperscript{80} See European Commission, \textit{supra} note 66.
\textsuperscript{81} \textit{Ardagh}, ¶ 31.
\textsuperscript{82} See \textit{id.} at ¶¶ 32-36
\textsuperscript{83} See \textit{id.} at ¶¶ 37-41.
Here, by contrast, there is no record of coordination in the can manufacturing industry. As far as we are aware, there have been no allegations that Crown or the vertically integrated beverage companies will be likely to coordinate with a combined Ball/Rexam to raise prices. This leaves unilateral effects as the only plausible theory of harm — and minimizes the relevance of Ardagh in assessing this case.

But a unilateral effects story is unpersuasive for the Ball/Rexam merger. For a merger to threaten unilateral anticompetitive effects it must lead to a reduction in the level of current competitive constraints on a firm’s ability and incentive to engage in anticompetitive conduct. But the merger won’t affect the constraints arising from buyers of aluminum cans, and, considering the current minimal overlap between Ball and Rexam within the relevant geographic markets in which they actually operate, it won’t reduce head-to-head competition, either.

Based on a shipping radius of 200 miles, Ball and Rexam compete with each other today in only a handful of specific areas of the United States. In fact, based on these average shipping radii, there are only three or four areas in the US where Ball and Rexam overlap at all.\(^84\) Thus, under even a narrow product market comprising aluminum cans to the exclusion of other beverage packages, the proposed merger is not likely to lead to negative competitive effects, as there is little reason to expect that the merger would lead to a reduction in competition. Moreover, any predicted reductions in competition due to current overlap would be easily dealt with by targeted divestitures of the few can manufacturing plants where such overlaps occur.\(^85\)

\(^{84}\) See Melissa Lipman, *FTC Must Weigh Dense Can Market In $7.8B Ball-Rexam Deal*, LAW360 (Apr. 7, 2015), http://www.law360.com/articles/640181/ftc-must-weigh-dense-can-market-in-7-8b-ball-rexam-deal (“Accepting that logic would cut down the overlaps between Ball and Rexam, though regions such as California, Ohio, Illinois and the Carolinas, where both companies have facilities, could still prompt concerns.”).

\(^{85}\) See, e.g., Senior Notes Offer, Regulatory & Synergies Update, supra note 69 (on Ball’s market testing of a remedies package in Europe).
d) Efficiencies

Although the precise role and mode of analysis of efficiencies in merger reviews is hotly debated, there is no question that antitrust enforcers and courts look to proffered efficiencies to assess the competitive effects of proposed mergers. The proposed Ball/Rexam merger presents the possibility of a number of cognizable efficiencies, which have been estimated by the parties to constitute $300 million in cost savings.

First, the merger would increase the scale of Ball’s operations throughout the world by adding Rexam’s manufacturing plants. This, in turn, would allow Ball to operate in geographic areas previously foreclosed to it because of transportation costs. It would similarly allow Ball to service larger geographic areas for its multinational customers, lowering transaction costs and increasing its value to these customers, and permitting it to realize profits on more sales. A more comprehensive network of post-merger Ball/Rexam plants would also increase the likelihood for smaller customers that a can manufacturing plant is closer, therefore creating an opportunity to reduce shipping costs.

Second, Ball’s larger size would give it greater bargaining power in its negotiations with aluminum providers, which, in turn, would reduce raw materials costs for

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87 See Allison Oldale & Jorge Padilla, For welfare's sake? Balancing rivalry and efficiencies in horizontal mergers, 55 ANTITRUST BULLETIN 953, 958-59 (2010) (“In addition to considering the effect of a merger on competition, authorities are either explicitly charged with taking efficiencies into account or have interpreted “competition” to include consideration of efficiencies.”)

88 Regulatory Case, supra note 9.


Finally, the merger will allow the new entity to reduce overhead and realize managerial cost savings.

e) Entry

Generally, competition authorities will hesitate to condemn mergers if new entry is sufficiently likely that it can compete away any monopoly rents. Here, the European Commission’s initial investigation suggests that the Commission believes there may \textit{not} be sufficient competition or entry after the merger. But entry is not only possible, it is \textit{already} occurring. The Big Four beverage companies already self-supply, and several of them are increasing their capacity to do so today. Meanwhile, while there has been little recent entry in the United States, there has been significant aluminum can manufacturing entry in other parts of the world. In fact, since 2009, 70 new aluminum plants have been opened throughout the world, 60 of which are from companies other than the merging parties. Unlike other beverage container manufacturing plants, new aluminum can plants can be opened within a year and involve minimal investment or technology. Additionally, because a can plant produces hundreds of millions if not billions of cans, it is possible that entry of even a single plant can discipline a price increase, even where the entire output of the plant is dedicated to a single nearby customer.\footnote{David Balto, \textit{Ball-Rexam: Not A Typical 3-To-2 Merger}, Law360 (Apr. 24, 2015), available at http://www.law360.com/articles/647247/ball-rexam-not-a-typical-3-to-2-merger.}

Entry is occurring, and the threat of further entry will likely discipline any possible anticompetitive rents from being received by Ball after the merger. Some of this entry is in the form of expanded capacity already started by the merging parties, but, since 2009, 84% of the world’s new can manufacturing facilities belong to companies \textit{other than} the merging parties.\footnote{See Ball Slide Deck, supra note 51, at slide 16.}
And as discussed above, there is considerable entry into can manufacturing by the Big Four themselves. Anheuser-Busch is investing in more capacity in Mexico, and Coca-Cola has recently invested in a new can manufacturing plant in Puerto Rico, and elsewhere in the production of plastic containers. The plants of the Big Four tend to be bigger, and to produce even more cans, than the average Ball plant, at least in the United States. On top of this actual entry, the Big Four beverage companies also wield the powerful threat of self-supply, as discussed above.

V. Conclusion

Despite the superficial appearance that the proposed Ball/Rexam merger will significantly increase concentration in aluminum can manufacturing, a proper understanding of the marketplace dynamics in the beverage packaging industry suggests that the merger is unlikely to have actual anticompetitive effects:

- Because the appropriately defined product market includes not only standalone can manufacturers, but also vertically integrated beverage companies, as well as plastic and glass packaging manufacturers, the actual increase in concentration from the merger will be substantially less than suggested by the change in the number of nationwide aluminum can manufacturers.
- Moreover, in nearly all of the relevant geographic markets (which are much smaller than the typically nationwide markets from which concentration numbers are derived), the merger will not affect market concentration at all.
- While beverage packaging isn't a typical, rapidly evolving, high-technology market, technological change is occurring. Coupled with shifting consumer demand (often driven by powerful beverage company marketing efforts), and considerable (and increasing) buyer power, historical beverage packaging market shares may have little predictive value going forward.
- The key importance of transportation costs and the effects of current input prices suggest that expanding demand can be effectively met only by expanding the geographic scope of production and by economizing on aluminum supply costs. These, in turn, suggest that increasing overall market concentration is consistent with increased, rather than decreased, competitiveness.
- The markets in which Ball and Rexam operate are dominated by a few large customers, who are themselves direct competitors in the upstream marketplace. These companies have shown a remarkable willingness and ability to invest in competing packaging supply capacity and to exert their substantial buyer power to discipline prices.
• For this same reason, complaints leveled against the proposed merger by these beverage giants — which are as much competitors as they are customers of the merging companies — should be viewed with skepticism.

• Finally, the merger should generate significant managerial and overhead efficiencies, and the merged firm’s expanded geographic footprint should allow it to service larger geographic areas for its multinational customers, thus lowering transaction costs and increasing its value to these customers.