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Hopping Mad: The Impact of Hops Market Turmoil on the Specialty Beer Industry

William A. Knudson and Hamish Gow

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80 AGRICULTURE HALL, MICHIGAN STATE UNIVERSITY, EAST LANSING, MI

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Hopping Mad: The Impact of Hops Market Turmoil on the Specialty Beer Industry[1]

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Introduction

As a result of production shortfalls there has been a dramatic increase in hops prices. From 2006 to 2008, the U.S. price of hops increased from $2.05 per pound to $3.97, an increase of 93.7 percent (NASS, 2008). Furthermore, stocks of hops in September 2008 were at their lowest levels since 1981 (NASS Agri-Facts). However, these figures may understate the true impact of shortage of hops. It has been reported that spot prices have been much higher than published prices and that some varieties of hops were unavailable in 2008. For example some home brewers have stated that prices for some varieties have tripled in price and that some varieties are in the range of $7 to $8 an ounce (Nair), and in some cases much higher than that.

This paper analyzes the hops situation with a particular focus on the U.S. market. Given the size of the U.S. beer and hops industry what happens in the U.S. affects the global hops market. A brief history of the hops market is presented followed by an analysis of the structure of the beer industry in the U.S. While a small player in terms of volume, micro and craft brewers use a disproportionate share of hops, and are responsible for a disproportionate share of new product introductions and product innovations. Besides home brewers and brew pubs, micro and craft brewers are most likely to be adversely affected by high hop prices.

Policies and governance of the hops industry is also analyzed. Over time there has been a retreat of government intervention in the industry. Payments have been

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decoupled in the European Union, and the U.S. has dropped the marketing order for hops. There is little support for returning to a marketing order despite the increased price for hops. Contracts are and will likely continue to be the dominant coordinating mechanism in the hops market.

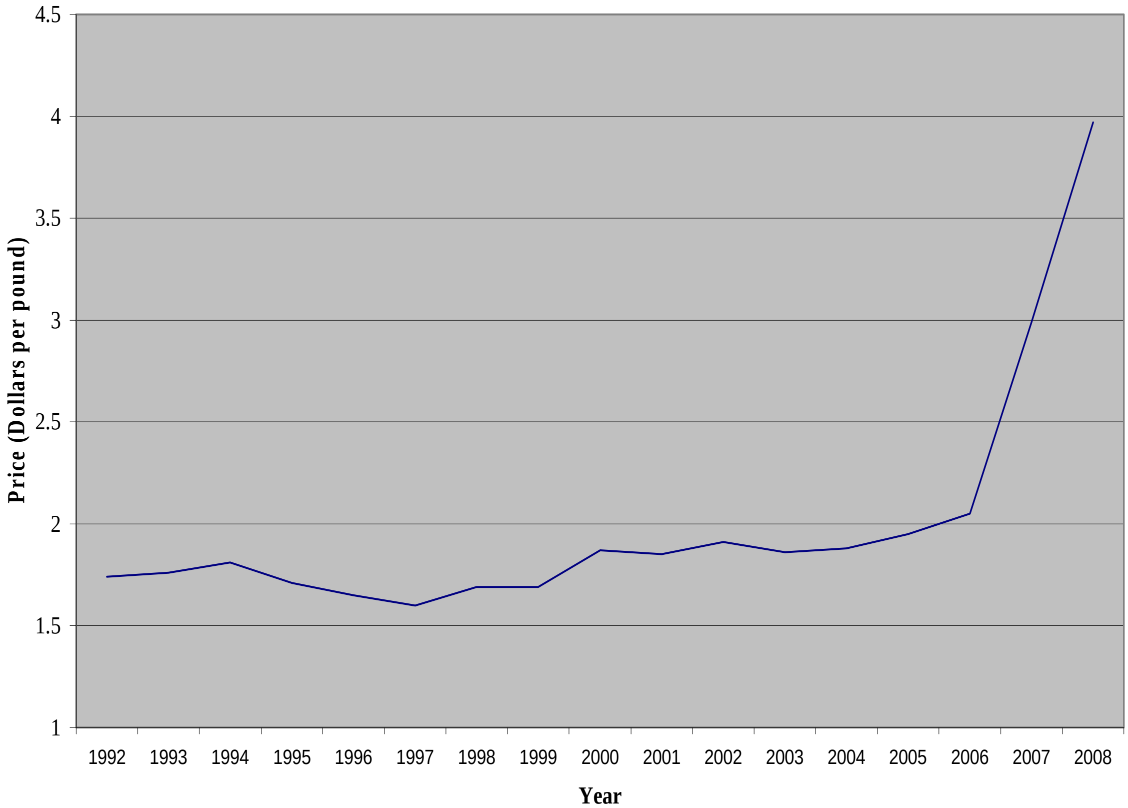
Background

The U.S. is a major producer of hops accounting for 25 percent of global production (Mintel Domestic Beer, p.42), and is a major importer as well as exporter of hops. Of special importance with respect to the U.S. industry is the production of high alpha acid hops which is used to add bitterness in beer, and exports these varieties of hops. The U.S. is an importer of aromatic hops, primarily from Central Europe. Another major hops producing regions in addition to Central Europe is China.

There are several reasons for the shortage of hops. The development of hop extracts which improved the utilization of high alpha acid hops in the brewing process (Vanbeneden) reduced the demand for high alpha acid hops which put downward pressure on hops prices. Several years of low hops prices had led to a reduction in acreage reducing supply, in 2006, a warehouse fire in Yakima Washington destroyed 4 percent of the U.S. hops production. Output in Europe also declined as a result of droughts, floods, and storms (Nair). The decline in European hops production led to an increase in European imports of U.S. hops, especially high alpha acid varieties (Hopsteiner).

The impact of these factors on the price of hops is shown in Figure 1.

Figure 1: U.S. Price of Hops 1992-2008



Source: NASS

Throughout most of the 1990s the prices of hops were low. As a response to these low prices acreage declined. Global hop acreage declined from 234,000 acres in 1994 to 118,000 acres in 2007 (Angrisani) a decline of 49.6 percent. From 1996 to 2004, acreage in the U.S. declined from approximately 44,000 acres to about 28,000 acres (USDA) a decline of 36.4 percent. Hops acreage in the U.S. increased slightly in the early 1990s and then fell from 1997 to 2004. Acreage has rebounded since then, but has not recovered to the levels of the early 1990s. Additional acres have been planted and will soon come into production.

Prices began to rise slowly in the early 2000s, and really took off in 2006 though 2008. The numbers in figure 1 are represent a national average; prices of some individual varieties of hops were much higher from 2006 through 2008.

The situation got so bad that Boston Beer Company, the firm that produces Samuel Adams beers held a lottery for 10,000 pounds of East Kent Goldings and 10,000 pounds of Tettnangers. The brewery sold the hops at cost; $5.72 for the Goldings and $5.42 for the Tettnangers. These varieties were going for between $15 and $30 a pound on the spot market (Angrisani). A total of 400 micro and craft brewers from around the U.S. entered the lottery, of which 132 obtained hops via the lottery (Inc.). Michigan micro and craft brewers tend to use 10 to 15 varieties of hops, some varieties such as Centennials are very difficult to obtain.

High input costs, including high hops prices, high malt prices and high diesel prices have led to higher beer prices. One estimate has the price of traditional beer varieties increasing by $1.50 a case (Angrisani).

As previously discussed, it should be noted that there has been a supply response to these prices; in the U.S., 5,000 new acres were planted to hops in 2007, and 9,000 more acres were added in 2008 (Angrisani). China is also increasing its acreage in response to the rise in prices (Mintel, Imported Beer, p.35,36).

Structure of the U.S. Beer Industry

Large Brewers

Large breweries dominate the U.S. market. Anheuser-Busch, MillerCoors, and Pabst control 94.8 percent of beer sales (Mintel, Domestic Beer, p.5). Anheuser-Busch has a 57 percent market share and is the dominant firm in the U.S. (Mintel, Domestic Beer, p.47). It should be noted that Pabst is a “virtual” brewer. It produces no beer on its own buts controls several brands and contracts with other brewers to produce its beers.

Consolidation through merger and acquisition has been the hallmark of the beer industry in the U.S. Anheuser-Busch is being purchased by InBev. SABMiller itself a conglomeration of South Africa Breweries and Miller and this firm has merged with MolsonCoors (Mintel, Imported Beer p.7). These firms are also expanding their global reach. SABMiller has purchased Grolsch, and is developing an agreement with the Polish brewer Tyskie as well as distribution agreements with several South American breweries (Mintel, Imported Beer, p.38). Anheuser-Busch has entered into an import agreement with Czech brewer Budejovicky Budvar to import their products into the U.S. (Mintel, Imported Beer, p.7). These large breweries dominate the U.S. beer industry, and are for the most part insulated from wild fluctuations in hops prices through the use of forward contracts. Also Anheuser-Busch owns a large hops farm in Idaho.

Large breweries face a difficult market for their flagship beers, Budweiser, Bud Light, Coors, Coors Light, Miller Genuine Draft and Miller Lite The market share of these beers fell from 24.2 percent in 1997 to 15.9 percent in 2007 (Mintel Domestic Beer, p.25). As a result they have look for ways to maintain and expand their reach.

One way to maintain their position is to take advantage of the trend toward smaller craft beers. MolsonCoors introduced Blue Moon, Miller purchased Leinenkugels, and Anheuser-Busch has attempted to introduce several varieties under its Michelob brand. The introduction of Blue Moon has been particularly successful, with its sales increasing by 194 percent from 2005-2007 (Mintel, Imported Beer, p.40). These "stealth" craft beers, beers with craft characteristics but brewed by large breweries may have a cost advantage in the future if hops prices remain high (Mintel, Domestic Beer, p.43).

Micro and Craft Brewers

One of the major trends in the U.S. beer industry is the growth of micro and craft breweries. A craft brewer is defined as one that produces less than 2 million barrels a year, and a micro brewer is defined as one that produces less than 75,000 barrels a year (IBIS World, p.35). While the major breweries dominate the market the major source of growth in the industry is a result of the growth of craft and micro breweries. In volume terms, craft sales increased by 5 percent from 2003 to 2007, while overall sales of beer in the U.S. were flat (Mintel, Domestic Beer, p.6). One of the factors is the increase interest in locally produced food products (Mintel Imported Beer, p.11). Another factor is taste, over half of the consumers surveyed valued taste over all other beer qualities, this trend works to the advantage of micro and craft beers who emphasize taste and the quality of the ingredients used in their products.

Micro and craft brewers are the major source of innovation and new product development in the industry. Through the first three quarters of 2008, 191 new craft beers were introduced. This is up from 134 in 2007 and 122 in 2006 (Mintel, Imported Beer, p.17). Table 1 shows some of the introductions of beers in North America from August 2008 to February 2009 that made a product claim with respect to hops.

Table 1: North American Beer Introductions with a Hops Product Claim Aug. 2008 Feb. 2009			
Brewery	**Location**	**Product Introduction**	**Hops Claim**
Pike Brewing	Washington	Indian Pale Ale	High hops content
Widmer	Oregon	Brrr Seasonal Ale	Bold hops flavor
Rio Blanco	Texas	Pale Ale	Accented with Czech Saaz hops
Brooklyn Brewery	New York	Brown Ale	Hoppier than English versions
Deschutes Brewery	Oregon	Pale Ale	Generous quantities of cascade hops
Deschutes Brewery	Oregon	Fresh Hop Pale Ale	Certified salmon-safe
Terrapin	Georgia	India Style Brown Ale	Brewed with five different varieties of hops
Left Hand Brewing	Colorado	Double IPA Ale	Twice the amount of hops
Boulder Beer Company	Colorado	Cold Hop	New Zealand and Czech hops
North Coast Brewing	California	Old Stock Ale	Imported English fuggles hops
Port Brewing Company	California	Shark Attack Double Red Ale	Lethal amount of hops
Anheuser-Busch	Missouri	Michelob English Style Pale Ale	
New Glarus	Wisconsin	Hop Hearty	Hoppy golden ale
New Glarus	Wisconsin	Organic Revolution	Organic hops

Source: Global New Products Database

An important aspect of this list is that with the exception of one Pale Ale introduction by Anheuser-Busch, all of the introductions came from micro and craft brewers. This is evidence that micro and craft brewers are those primarily responsible for new product introductions and they are more dependent on hops than the major breweries.

This sector has been growing and these brewers are able to charge a premium price compared to the large brewers. However, many of the beers produced by craft brewers use more hops compared to traditional U.S. lagers. Beers such as stouts and India Pale Ales are much more dependent on hops. American versions of these British styles of beers are common craft varieties. One micro brewer stated that as a general rule craft brewers are more interested in ales than lagers.

While micro and craft brewers are a small percentage of the total beer industry, they consume a disproportionate share of hops. As a result many micro and craft beer producers have been forced to increase their prices (Mintel Domestic Beer, p.17).

One attribute that is important is microbrewery sector is the fact that these beers tend to be most popular in the region where they are brewed (Mintel Domestic Beer, p.89). For example Sierra Nevada is popular in the West and Bell's is popular in the Midwest. This has the potential to protect these breweries during an economic downturn as they have a developed a strong local following that will support them during the recession. Boston Beer Company, brewer of Samuel Adams, is the biggest craft brewer and is the only craft brewer that has a nationwide following.

Another advantage micro and craft breweries have is the income profile of their consumers. Consumers of craft and micro beers tend to have a higher level of income than consumers of mass produced beer. For example 31 percent of Sierra Nevada drinkers earn $100,000 or more (Mintel Domestic Beer, p.92).

High input costs have also affected the craft sector of the industry. Prices of beers in this category have increased by about $1.50 a six pack (Angrisani). Despite rising prices the market continues to expand. One brewer who was interviewed indicates that his business was growing by 15-20 percent in Michigan and 30-40 percent overall, and has expanded its distribution from Michigan to 15 states. The Brewers Association estimates that craft beer sales were up 16 percent in 2007 (Restaurant Business). The fact that craft beers have been able to increase their prices and maintain some momentum in the market indicates that demand for craft beers is inelastic or that the demand curve for these beers is shifting to the right.

Related to the growth of the micro and craft breweries in the U.S. is the increase in imports of beers from foreign countries. Beer imports are expected to reach $6.0 billion in 2008, up from $3.7 billion in 2003 (Mintel, Imported Beer, p.14). Imported beer represents about 20 percent of U.S. beer sales (Mintel, Domestic Beer, p.5). While most of the growth is due to increase imports of lighter style Mexican beers, some of these beers, especially from Europe, are more dependent on hops than traditional U.S. lagers.

Hops Industry Policy and Governance

In Europe payment to hops farmers have been somewhat decoupled. Hops producers receive a decoupled payment equal to at least 75 percent of the 2000-2002 payment. As much as 25 percent of the payment may be coupled and paid directly to farmers or through producer organizations (ERS).

In the U.S., forward contracting is the dominant form of arrangement between buyers and sellers of hops. From 1937 to 1985, the U.S. had a marketing order in hops. A major rationale for marketing orders is to promote orderly marketing of the commodity. The enabling legislation for Marketing Orders is the Marketing Agreement Act of 1937, which allowed growers of milk, fruits, vegetables and some specialty crops to engage in activities that controlled the flow of products (French, p.916). The most recent attempt to resurrect the Hops Marketing Order occurred in 2003. The USDA Agricultural Marketing Service determined that the petitioners favoring the marketing order did not show (1) that there is a need for a hop marketing order (2) that a marketing order would have a positive economic impact on the industry and (3) the benefits and the costs associated with the marketing order could not be allocated equitably (statpub.com). Interviews with craft brewers in Michigan reinforce the findings of the USDA.

An important aspect of most marketing orders is the ability for producers to set quality standards (French, p.920). Forward contracting has effectively replaced the marketing order. Forward contracting is common for both the major brewers and micro and craft brewers. However, as a result of the shortage it has been reported that smaller brewers have been forced to change their recipes (Mintel, Imported Beer, p.6). However, the small brewers interviewed did not see a need to reinstate the marketing order despite the increase in hops prices, and the inability to obtain some hops varieties.

This is despite the fact that the structure of the contracts has changed as the price of hops as increased. One craft brewer used to have 5 years contracts, current contracts are for 1 to 2 years. Furthermore, the same brewer stated that contracts based on hops quality and standards are not fully developed. It appears that smaller brewers are bearing more risk as a result of the increase in price.

Supply Response

Hop producers in the U.S. have responded by increasing production. Hop production in the leading hop producing states increased by almost 40 percent from 2006 through 2008 (NASS p.1). It has been reported that acreage increased by an additional 9,000 acres in 2008. If this is the case it would represent an increase of an additional 22 percent from current acreage. Despite the increased production in the Northwest, potential growers in other parts of the country are also interested in expanding hops production, New York, Wisconsin and Michigan are at least three states that have farmers interested in hops production. However, many of the people interested in entering the hops market are not aware of the level of investment in processing equipment and the time lag between planting the crop and the first harvest.

It has been reported that prices have begun to stabilize (Angrisani), although it will still be a year or two before the additional hop acreage will result in additional hops. The consensus of the micro brewers and industry analysts interviewed believe that prices will stabilize but will not fall to the levels of the 1990s.

Some micro brewers are interested in locally sourced hops. However, the consensus is that the hops need to meet the quality standards and the price points of existing hops producing areas. Controlled atmosphere storage and pelletized hops are important attributes of hops processing, although one craft brewer expressed an interest in pelletizing hops for growers. Varieties are more important than location. While there is some discussion of the concept of *terroir* applied to beer as it is to wine, beer is more of an industrial manufacturing process compared to wine, and as a result, locally sourced inputs are less likely to impact the taste of beer.

Some brewers have been forced to re-formulate their formulas to substitute different hops varieties (Restaurant Business). The shortages will likely also reduce the level of new product introductions especially for heavily hopped varieties of beer.

One issue that impacts the price of hops paid by brewers is the cost of transportation. High transportation costs will increase the price brewers pay for hops. However, if the price of diesel stays at its current price, transportation is not a major issue, and areas that currently have a cost advantage in hops production will continue to have that advantage.

Conclusions and Policy Recommendations

The hops shortage has not seriously impacted the major breweries. The beers that these firms produce do not use a great deal of hops. Micro and craft brewers have been adversely affected. In some cases they have been forced to change their recipes and use less desirable varieties. It may have also meant that the pace of new product introduction has slowed as a result of the shortage.

The current consensus of those involved in the industry is that the hops market will stabilize. However, the rapid increase in the acreage and the interest in further expanded production in non traditional areas could put downward pressure on prices to the point where another bust boom cycle is created. Signals need to be sent to insure that this doesn't happen. One way to do this is through a marketing order. However, contracting is primary way that price and quantity is determined, there is little if any political support for a marketing order. Without contracts new entrants in the market will not have a place to sell their hops. Nontraditional areas of hops production will have a face particular difficulty unless local brewers are willing to buy a local product, or they produce varieties that are in strong demand.

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