In the Spirit of Cottage Industry: The Untapped History of Prohibition Era Alcohol Production[1]

Sebastian C. Anastasi[2]

Abstract

I develop a theory of why entrepreneurs would choose to decentralize production processes and increase rent seeking by examining the case study of alcohol production during the prohibition era in America. Previous scholarly work has explored why cottage-industry systems of production would disappear but has not examined why such decentralization might reemerge. Similarly, the literature on organized crime does not specifically address why firms would choose to contract out certain tasks rather than carry them out within the firm. Prohibition radically altered the relevant constraints faced by entrepreneurs. I find that an increase in the risk of property seizure, a decrease in the strength of the repeat purchase mechanism, the ready availability of cheap brewing capital, and the ease of punishing embezzlement all contributed to the emergence of a cottage-industry system of alcohol production.

Keywords: cottage industry, putting-out, prohibition, organized crime

[1] I am thankful for the feedback of Dr. Jeffrey Herbener and the members of the ECON 420 class.
[2] AnastasiSC18@gcc.edu, Grove City College.

"What's Al Capone done, then? He's supplied a legitimate demand. Some call it bootlegging. Some call it racketeering. I call it a business." ~ Al Capone (Sinclair 1962, 228)

"A good economic history of prohibition in the 1920's has never been attempted, so far as I know." ~ Thomas C. Schelling (1967, 78)

1. Introduction

Every entrepreneur faces a variety of choices about how to arrange his production process to best produce a good that consumers want. These decisions are influenced by a host of different factors, including state impositions. One particular margin along which production processes can be adjusted is that of centralization. An entrepreneur may decentralize by contracting out various tasks rather than conducting them within the firm. While much ink has been spilled attempting to explain why entrepreneurs would choose to centralize production processes, comparatively little attention has been paid to what forces might cause a reversal of centralization. One of the most noteworthy, yet unexplored, cases of such decentralization is the production of alcohol during American prohibition. This paper exploits the case study of prohibition to determine the forces behind decentralization. Specifically, I attempt to answer the question: how did the imposition of prohibition in the United States alter the production of alcohol? I find prohibition led to the decentralization of production processes and increased investments in rent-seeking. In Chicago, a sophisticated cottage industry system of alcohol production came to be used and significant rent-seeking behavior was undertaken. In my paper, I explore the specific attributes of prohibition that occasioned the aforementioned changes.

I contribute to the literature on cottage industry (i.e. putting out) systems of production by extending the existing analysis to ascertain why a reversal of centralization may occur. Langlois explores the reasons that merchant clothiers in early-modern England utilized a putting-out system to create textiles and why this system subsequently went away (2017). He notes that regulations imposed by urban cloth guilds were among the conditions which might have made such a system profitable (207, 2017). More importantly, Langlois highlights the shortcomings of the putting-out system and advances an argument for its disappearance. These issues include embezzlement, lack of standardization, inability to achieve economies of scale, and so on. Ultimately, Langlois believes the putting-out system was pushed passed the point of diminishing marginal returns as the market for textiles expanded (Langlois 2017). Szostak argues that the shift from cottage industry production to factory production was primarily because of the benefits of worker supervision (1989). Importantly, Szostak notes, "Putting-out maintains some advantages to this day. Thus, we cannot conclusively claim that factories had become the most efficient method of organization" (1989). In other words, there could be cases where cottage industry production is preferable for entrepreneurs even today. This increases the importance of determining what economic forces might cause a shift back to such methods of production. As previously mentioned, many have written about what forces might have caused the disappearance of cottage industry production, but none have analyzed what might cause its reemergence (Williamson 1980; Jones 1982). Baishya offers an analysis of a putting-out system of production in Ancient India, but no effort is made to extend this analysis to modern markets (1997). Similarly, Małowist's exploration of merchant credit and the putting-out systems in the Middle Ages is strictly descriptive and does not attempt to make any broader claims about why such a system might manifest itself in a contemporary setting (1981).

This paper also contributes to the literature on organized crime by offering the first thorough analysis of a critical facet of the liquor supply chain during prohibition. Schelling observed that there has not been an analysis of the liquor industry during prohibition that can compare to the best studies we have available on many other industries (Schelling 1967, 61). While the growth of organizational economics literature has spawned many research projects analyzing organized crime, it remains the case that a detailed analysis of the methods of alcohol production under prohibition has not been attempted. Schelling offered the first compelling analysis detailing the incentives to engage in organized crime (1967). Dick built on Schelling's research and proposed a transaction costs explanation to explain where criminal firms will form (1995). Additionally, Leeson and Rodgers explore the influence of the contestability of a good on the governance structure of criminal firms (2012). This literature is extremely helpful in understanding the structure and function of the criminal firm, but it does not directly address why criminal entrepreneurs may choose to decentralize production processes nor does it address the production of bootleggers specifically.

Section 2 presents a basic theory of production within the criminal firm, particularly as it pertains to the choice to alter the production process. In Section 3, the relevant features of prohibition are explored. Section 4 analyzes the cottage industry system of production that emerged in response to prohibition, revealing how it is consistent with the theory presented in Section 2. Finally, Section 5 concludes with the implications of my analysis.

2. Production in the Criminal Firm

2.1 Relevant Concerns for the Criminal Entrepreneur

Like all entrepreneurs, the criminal entrepreneur is ultimately guided by profit and loss in his production decisions (Mises 2008, 19). However, criminal entrepreneurs also face many unique challenges which may affect their decisions about organizing their production process. Before examining the features of the production process which entrepreneurs may adjust, it is helpful to explicate some of the hazards which entrepreneurs must take into account when making production decisions.

Many concerns are common across entrepreneurs—criminal or not. As entrepreneurs assess a vast array of possible production processes, they must decide how they will address embezzlement, shirking, and the need to ensure the standardization of products. It is not costless for entrepreneurs to decide to organize production in such a way as to quash all such potentialities. Significant transaction costs, specifically monitoring costs, must be incurred to prevent workers from stealing materials and to counteract the possibility of workers shirking on the job. Entrepreneurs could also take a variety of approaches to ensure their products are standardized and of sufficient quality. They might increase efforts to monitor workers, pay for higher-skilled labor, or purchase sophisticated capital assets which produce more uniform goods. Critically, none of these various approaches to production is costless. There are tradeoffs to organizing production in any particular way.

While criminal entrepreneurs are confronted with many of the same difficulties as entrepreneurs in licit markets, they face additional unique concerns. Particularly, criminal entrepreneurs face a heightened risk of property seizure, the risk of jail time, and the challenge of ensuring collusive profits. Each of these concerns is either unique to enterprises operating in illicit markets or uniquely pronounced for such enterprises. Licit entrepreneurs also confront some of these concerns, but they are less pertinent when making decisions about organizing one's production process. First, consider the risk of property seizure. The state's effort to crack down on illegal enterprises is the most obvious source of such risk. Another threat to criminal entrepreneurs' property is from their private competitors. Rivals attempting to guarantee higher prices for themselves have incentives to limit competition by seizing other entrepreneurs' assets or output. Since such entrepreneurs are operating in illicit markets, the marginal cost of using violence to prey on other entrepreneurs is also decreased. Having already violated the law to produce illicit goods, the marginal cost of one more offense drops. Second, criminal entrepreneurs face the potential for jail time as their activities definitionally violate the law. Finally, criminal entrepreneurs may choose to organize their production process in ways that allow them to limit competition and ensure collusive or monopolistic profits. This is done by erecting entry barriers.

2.2 Theory of Production in the Criminal Firm

The concerns detailed in Section 2.1 all have the potential to affect the profitability of a criminal entrepreneur's enterprise. Consequently, these concerns will factor into decisions about the alternation of production processes. There are two main margins of adjustment that I attempt to analyze in this paper: rent-seeking expenditures and the centralization or decentralization of production processes.

Expenditures on rent-seeking can be viewed as an input into a firm's production process. Beyond simply getting law enforcement to look the other way, rent-seeking expenditures may grant firms access to special protection. Regardless of the specific way rent-seeking is being leveraged, it can be seen as an input into the production process. If such expenditures had not been made, firms would have had to invest in other capital goods to protect shipments, disguise production facilities, etc. In short, rent-seeking is a substitute for many other capital goods the firm could have utilized. Linking back to Section 2.1, rent-seeking helps to mitigate the risk of property seizure (private and public), avoid jail time, and can be used as a mechanism for ensuring monopolistic profits.

The relative amount spent on rent-seeking, versus other means of mitigating the above concerns, is one margin along which criminal firms can alter their production process. Criminal entrepreneurs' decisions to increase rent-seeking will be influenced by the costs of such investments relative to the costs of investing in more sophisticated capital that achieves the same ends. One of the limitations of such bribery and collusion with the state is that criminal firms are subject to the whims of politicians, bureaucrats, or law enforcement officers who may demand greater payments for a host of reasons. Election season, falling public approval due to the support of the criminal firm, and the uncovering of new operations of the criminal entrepreneur could all serve as excuses for a politician to demand an increase in bribes. In short, there is little stopping officials from demanding ever greater side payments. A criminal entrepreneur's expenditures on rent-seeking could also rise due to an increasing number of officials discovering the entrepreneur's activities.

The second margin of adjustment is the extent of centralization. Both centralization and decentralization carry with them costs and benefits, many of which extend equally to the licit entrepreneur. To begin, centralizing production processes has the potential to confer many benefits on the entrepreneur (Langlois 2017). Centralizing, instead of contracting out, may enable entrepreneurs to take advantage of economies of scale. A further benefit of centralization is that it lowers the transaction costs associated with monitoring for and preventing embezzlement. It is much harder to steal production materials from your employer when you are under the watchful eye of a plant supervisor or your own coworkers. Ensuring the standardization or uniformity of one’s product is also far easier in a centralized production system for similar reasons as the above. Conversely, contracting out to a host of different individuals makes it possible for differences in skill, attentiveness, etc. to cause discrepancies in product quality. Not only can a lack of standardization impinge on quality, but it can also lead to wasted material. Finally, if one is producing in a centralized plant, this enables the entrepreneur to avoid having to entail the administrative costs associated with coordinating a large number of contractors.

On the other hand, decentralizing also offers an array of potential advantages to entrepreneurs. For one, decentralizing enables entrepreneurs to diversify. In essence, decentralizing spreads the potential cost of raids, hijacking, etc. over a larger number of what I will loosely call “production centers.” Relatedly, decentralizing transfers a degree of the risk associated with property predation to contractors. Furthermore, beyond simply minimizing the harm associated with the seizure or elimination of production centers, decentralizing also enables such production centers to be more easily hidden, preventing potential predation in the first place. The ability to easily hide production centers increases the costs associated with shutting down the firm’s activities. Not only will each drug bust, raid, seizure, etc. take out a smaller portion of a firm’s avenues for production, but the costs entailed to find these production centers will also be higher. To the extent that decentralization tends to entail a greater reliance on human capital, a further benefit of decentralization is that it requires lower investments in expensive capital equipment. One final benefit of decentralization is that it can help overcome some of the potential limitations of rent-seeking behavior. It may not be as palatable for the public to see a politician or officer turning a blind eye to large centralized production centers of illicit goods or services. On the other hand, if such activities are more hidden and dispersed, this gives politicians or officers plausible deniability. In short, it shields politicians from the negative consequences of supporting illicit activities which may reduce the premium that firms would have otherwise had to pay to compensate politicians for how such support could hurt their popularity. Essentially, it decreases the number of excuses politicians can come up with to demand higher payments.

2.3 Predictions of the Theory

With the very basic theory of why an entrepreneur might alter their production process explained, we make some general predictions about the type of conditions that would lead entrepreneurs to adopt certain approaches. First, I briefly explain the conditions that would spawn greater rent-seeking behavior. The existence of restrictive laws or regulations is likely to spawn greater rent-seeking activities. Firms can utilize such laws to exclude competition from the market and ensure monopolistic profits. The veracity of this statement can be quickly ascertained by contemplating the counterfactual. In a completely free market, there would be no incentive for rent-seeking as there is no way to leverage state power to benefit your enterprise.

The incentives to centralize or decentralize are the more interesting component of my analysis. One of the first conditions that make markets more amenable to centralization is greater certainty and longer time horizons. To this point, Szostak notes that one of the benefits of a putting out system is that it is more flexible (1989, 351). If firms are more confident about the persistence of a given market, they will be more comfortable "putting down roots" and investing in more centralized facilities. This is especially true for criminal firms. For the criminal creating centralized facilities may demand much greater investments than the licit entrepreneur as money must be spent on securing and hiding facilities. Additionally, there may be certain capital goods that can only be productively employed in a centralized location. The existence of such capital goods may also incentivize centralization. A final reason that centralization may occur is if there is a relative increase in the strength of the repeat purchase mechanism (i.e. the discipline of repeated dealings). As consumers are able to more effectively punish firms for deviations in quality or quantity, firms will have a greater incentive to centralize to maintain the standardization of products. In short, they will have a greater incentive to preserve their "brand." Along these lines, Klien and Leffler explain how investments in brand name capital strengthen the repeat purchase mechanism (1981).

Conditions may also change in such a way as to incentive decentralization. Continuing the same line of reasoning as the above, if the repeat purchase mechanism is unable to operate effectively, this decreases the costs associated with deviations in the quantity and quality of goods produced. For example, if brand names are not able to be utilized, consumers will not be able to effectively punish firms for such deviations. Under such conditions, firms may choose to be less vigilant in preventing such deviations. Decentralization is also more likely when the costs of monitoring and coordinating contractors are lower. To this point, preexisting networks that can be leveraged to coordinate cottage industry production will make decentralization more likely. The ability to use violence to discourage behavior such as shirking or embezzlement will also reduce the costs of cottage industry production. A higher risk of property seizure by private competitors or the state will further motivate entrepreneurs to decentralize. To the extent that entrepreneurs still own the capital goods employed production process—as opposed to contractors owning the capital goods—the value of the capital goods employed will also affect tendencies toward decentralization. If an entrepreneur's production process requires relatively low-value capital goods, there is a smaller risk of contractors absconding with those assets or using the capital goods irresponsibly and causing accelerated capital depreciation.

Another possibility is for production to be centralized within the "firm," but for the firm to be a lone wolf. In other words, criminal entrepreneurs could employ such a minimal division of labor that they conduct the entire enterprise themselves. The question of whether a firm chooses to operate as a lone wolf or if a firm has a more hierarchical structure has already been addressed by Leeson and Rodgers who argue that the organization of the criminal firm is more likely to be hierarchical when the market for the good sold is more contestable (2012). By contrast, my analysis is concerned with whether production takes place entirely within the firm (i.e. centralization) or is contracted out (i.e. decentralization).

3. Prohibition

The Eighteenth Amendment, which banned the “manufacture, sale, or transportation of intoxicating liquors,” passed Congress on December 18, 1917, and was subsequently ratified on January 16, 1919 (U.S. Const. amend. XVIII, repealed 1933; Rorabaugh 2020, 57-58). The Eighteenth Amendment—along with the Volstead Act that cleared up the ambiguity left by the amendment—went into effect on January 17, 1920 (Rorabaugh 2020, 64). There were several exemptions built into the Volstead Act. Farmers were still allowed to make hard cider if it was strictly for their own consumption, permits could be granted for the home-brewing of wine for use within the family, priests and other religious leaders could obtain sacramental wine, pharmacies were permitted to write prescriptions for medical whiskey, and licenses could be obtained to produce industrial alcohol (Rorabaugh 2020, 61; Behr 1996, 187). It did not take long for the illicit trade of alcohol to emerge in the states. Indeed, there were already more than 500 indictments for Volstead Act violations in Chicago by June 1920 (Kobler 1973, 223). There was a severe lack of police officers, or at least officers willing to enforce the act. Hence thousands of Americans were engaging in the illicit trade of alcohol unhampered by the law (Kobler 1973, 223). The nature of production processes under prohibition, however, changed significantly. To understand how production processes changed, it is first necessary to understand a few important features of prohibition.

3.1 Risk of Property Seizure and Predation

One of the most obvious features of prohibition for the analysis of production decisions is the risk of property seizure and predation. Raids, hijackings, etc. all typified prohibition. I use the terms property seizure and predation to emphasize that the risks to property faced by entrepreneurs were not unidimensional. In other words, it is not simply the risk of confiscation of property by law enforcement that entrepreneurs must consider. As has been explained in Section 2, violent competition by rivals also threatens entrepreneurs' property rights.

The extent of this threat to property during prohibition is well documented. First, there was the possibility of government raids. The Prohibition Bureau seized a total of nearly 697,000 stills throughout the U.S. from 1921 to 1925 (The Mob Museum. n.d. "Bootleggers and Bathtub Gin"). Similarly, from mid-1928 to mid-1929 alone the bureau confiscated 11,416 stills, 15,700 distilleries, and approximately 1.1 million gallons of alcohol (The Mob Museum. n.d. "Bootleggers and Bathtub Gin"). From 1920 to 1930 the Prohibition bureau arrested 577,000 individuals suspected of violating the Volstead Act. The bureau confiscated 1,600,000 distilleries, stills, worms, and fermenters, 1 billion gallons of wine, hard cider, and mash, 1 billion gallons of malt liquor, 9 million gallons of spirits, 45,000 automobiles, and 1,300 boats (Kobler 1973, 283). The total value of the confiscated property was $49 million (Kobler 1973, 283). Furthermore, these are only the statistics for federal enforcement of the Eighteenth Amendment. It is estimated that state and municipal totals likely surpassed federal totals for at least the early years of prohibition (Kobler 1973, 283).

Many of the risks an entrepreneur had to face, however, came from sources other than the government. Those attempting to brew commercial alcohol in their home had to worry about neighbors discovering the operation. If such a discovery was made, neighbors might demand free liquor or a slice of profits to keep them from talking (Rorabaugh 2020, 69). There was also the possibility that your neighbor might also be engaged in the illegal sale of liquor, especially in the country. Under such circumstances, neighbors might rat you out to law enforcement in an effort to reduce competition and secure themselves a monopoly position in your locality (Rorabaugh 2020, 67).

The very process of selling your product also engendered risks. Sellers of alcohol were often cheated out of payments by their customers. Even more concerning, upon learning of an individual's alcohol production enterprise, urban gangs might come to steal the alcohol from their still or even force the sale of the entire property for a ludicrously low price (Rorabaugh 2020, 68). Along these lines, the transportation of alcohol to one's intended seller posed a serious difficulty. Law enforcement might, for example, would set up blockades based on tips. The Prohibition Bureau seized 5,214 vehicles transporting alcohol in 1924 alone (Rorabaugh 2020, 68). If caught, distillers would have their property searched and all alcohol production equipment would be destroyed. Worse still, any land used in the production, distribution, or sale of alcohol could be seized by the state. Recounting the challenge faced by rural brewers, Rorabaugh notes, "A distiller risked grain, firewood, the still, the liquor inventory, and the farm" (2020, 68). For this reason, distillers would normally hire a driver to transport alcohol rather than drive it themselves (Rorabaugh 2020, 68). Yet another problem was the risk of hijacking. Rival producers would steal shipments of alcohol, sometimes posing as legitimate buyers and then refusing to pay (Kobler 1973, 222; Rorabaugh 2020, 68). There was a high risk of vehicles being stolen and drivers being shot (Rorabaugh 2020, 68).

It did not take long for these risks to emerge. In fact, within an hour of the Volstead Act going into effect, there were three liquor thefts in Chicago. Bandits invaded a railroad switching yard and stole two freight cars worth of whiskey that had been reserved for medical use, another gang stole four barrels of grain alcohol from a "government bonded warehouse," and a third group of hoodlums hijacked a competitor's truck full of whiskey. As mentioned above, such hijacking of competitors was a routine practice between gangs during prohibition (Kobler 1973, 222).

3.2 Changes in Alcohol Consumption

Another relevant feature of prohibition was the change in how alcohol was consumed. In licit markets, clearly visible brands are common. It is relatively easy to ascertain who and where your alcohol came from. Under such conditions, it is easier for the repeat purchase mechanism to discipline sellers of alcohol if they produce alcohol that does not satisfy consumer preferences. Legal redress could also be more easily gotten in licit markets if alcohol proved dangerous.

During prohibition, one of the primary outlets for alcohol consumption was the speakeasy. These establishments were also referred to as "soft-drinking parlors" or "wet cabarets" (Kobler 1973, 232). It is estimated that there were roughly 219,000 speakeasies in the United States during prohibition, only a little less than the total number of saloons and blind pigs before the passage of the Eighteenth Amendment (Sinclair 1962, 231). In the first three years of prohibition, it is estimated that the number of speakeasies in Chicago increased to more than 7,000 in total (Kobler 1973, 232). These speakeasies were at least theoretically more secretive than the saloons which had preceded them in the preprohibition days. A peephole in a locked door would allow potential customers to give a code word to gain admittance (Sinclair 1962, 231). Speakeasies tended to cater to the middle and working class (Sinclair 1962, 233). The price of alcohol at speakeasies was subject to massive fluctuation dependent on supplies (Sinclair 1962, 231). Running a speakeasy was estimated to have cost $1,370 in New York, including $400 of protection money to law enforcement (Sinclair 1962, 233).

While many speakeasies came to be owned by syndicates, like the Torrio-Capone syndicate, others seem to have operated more independently. Such speakeasies would still purchase the alcohol they supplied from bootleggers like Capone, even if their enterprise was not itself owned by Capone. Evidence points to the relative autonomy of at least a segment of speakeasy owners. In a 1930 poll of speakeasy proprietors, one of the concerns cited was that of holdups by gangsters (Sinclair 1962, 232). This concern would likely not have existed if speakeasies were strictly run by syndicates. Another piece of evidence suggesting speakeasies were relatively independent came courtesy of a government trick aimed at trapping bootleggers. Undercover dry agent Ralph Bickle set up a fake speakeasy and attempted to catch the bootleggers who would sell alcohol to him. Ultimately, Bickle caught only a single wholesaler, Samuel Senate. Part of the reason Bickle struggled to catch other bootleggers was that they did their business with him through middlemen (Kobler 1973, 284). The facts of this rather unique case seem to suggest that bootleggers were accustomed to trading with speakeasies, rather than simply supplying speakeasies that they owned.

Another noteworthy feature of speakeasies was the very type of alcohol that they sold. Wine was largely produced within the home for personal consumption due to the relative ease of the brewing process. Beer was generally eschewed by speakeasies, though in New Jersey and Illinois, beer continued to be sold. Speakeasies and their bootlegging suppliers tended to specialize in the supply of spirits, i.e. liquor, while households would frequently brew their own wine or beer. The statistics on how much alcohol was brewed at home for personal consumption confirm this fact. Three-quarters of wine, one-half of beer, and one-quarter of spirits were domestically brewed (Sinclair 1962, 237).

Prohibition-era alcohol production was characterized by anonymity. Seldom did the consumer of illicit liquor know where the spirits had come from. The drafts served up by speakeasies could come from a variety of sources: home-brewed spirits, drugstore concoctions, alley-joint alcohol, and more (Sinclair 1962, 235). Speakeasies would often mix a variety of sources of contraband alcohol. Unsurprisingly, the speakeasies that catered to the poor were particularly notable for serving low-quality and even poisonous alcohol (Sinclair 1962, 234-235). The state of speakeasy alcohol was nicely summarized by Okert:

> However caustic some of the liquor handed across the bar in pre-Volstead days had been, most of it was distilled by professionals, was unlikely to be poisonous, and usually bore a label that honestly reflected its origin. Speakeasy liquor could have been anything from single-malt Scotch smuggled by way of Nassau to diluted embalming fluid. (2010, 209)

While some consumers might request liquor by brand name, they seldom received actual brand-name alcohol. Since the alcohol trade was illicit, it was highly unregulated.

Consequently, it was very easy for speakeasy proprietors to cheat their customers and not sell real brand-name alcohol (Okert 2010, 210). Even those speakeasies that catered to a wealthier subset of society would substitute cheap, generic liquor for the brand names customers requested (Okert 2010, 210). This was affirmed by the federal enforcement director of the New York district, who claimed, “dollar-a-drink clubs with polished brass bar rails and elite customers served precisely the same poison as the dime-a-shot dumps of the wharf side” (Okert 2010, 210-211). In short, brand name capital’s ability to discipline unscrupulous sellers had been effectively neutered by prohibition. Consumers had little to no way of punishing specific producers of poisonous or simply distasteful alcohol by withdrawing their patronage.

The absence of brand name capital was not merely a consequence of the fact that bootleggers could get away without authentic branding. Rather, it also made intuitive sense in order to avoid getting caught by law enforcement. Clear branding and transparent trading relationships would increase the risk of being caught selling booze. Consequently, it is perfectly natural that bootleggers would often conduct their sales to speakeasies anonymously through middlemen (Kobler 1973, 284).

The one caveat to the above discussion of the deterioration of the repeat purchase mechanism during prohibition was the direct sale of alcohol to wealthy elites. Well-connected bootleggers like the LaMontagne brothers and Broderick Hartwell would sell proprietary brands of alcohol to weather customers (Okert 2010, 209-210). Unless it was mixed with low-quality alcohol, such high-quality liquor was never sold in the common man’s speakeasy (Okert 2010, 209). The account of a bootlegger himself suggests that even in these direct sales bootleggers may have disguised generic alcohol to look like brand-name booze (The New Yorker 1926). It would also be easier for the repeat purchase mechanism to operate in such transaction relationships because the identity of the seller was easily ascertainable. On the other hand, with speakeasies, the sources of alcohol often varied by the day and were mixed in together.

In part because of the wide variety of highly suspect sources from which speakeasies got their alcohol, the mixed drink skyrocketed in popularity as a way to make alcohol more palatable. Mixers of all varieties had predated prohibition but now became a practical necessity. Tonic, or quinine water, came to be commonly used as a masking agent for dubious quality gin (Okert 2010, 215). A variety of sodas and fruit juices were also used to disguise the bad-tasting alcohol produced during this period (Okert 2010, 215). Few industries benefited as much from prohibition as the juice and soda business.

3.3 Availability of Brewing Equipment and Ingredients

Brewing equipment and ingredients remained easily available for the course of prohibition. There was a flourishing industry in U.S. cities for malt, hops, wort, yeast, crown caps, capping machines, rubber hosing, alcohol gauges, and all of the other alcohol-brewing accouterments (Kobler 1973, 238). Throughout the country, there were over 500 malt and hops shops as well as 25,000 outlets for obtaining “assorted home brewing apparatus” (Kobler 1973, 238). Any number of commonplace home accessories could be used in home brewing: steam cookers, coffee percolators, and wash boilers (Kobler 1973, 240-241). Furthermore, a one-gallon copper still could be purchased for just $5 or $6 (Kobler 1973, 241). The accessibility of these home-brewing devices led Kobler to describe the one-gallon still as having become "a commonplace domestic utensil" (Kobler 1973, 241). The Wickersham Commission had been tasked with ascertaining the efficacy of law enforcement in the various states (Sinclair 1962, 195). In their report, the Wickersham Commission observed that, among other things, "the cheapness and easy accessibility of material […] have enabled this business to become established to an extent which makes it very difficult to put to an end" (Sinclair 1962, 203).

3.4 Predictions

If the theory presented in Section 2 holds, we would anticipate two changes in the production processes of entrepreneurs given the facts we have just examined. First, we would anticipate that entrepreneurs would increase the use of rent-seeking to both protect their enterprise and give it a strategic advantage over its competitors. Second, we would expect a greater decentralization of the production process. The higher risk of property seizure by both the state and rivals would make decentralizing more attractive. Furthermore, the cheapness and ready accessibility of the capital goods employed in brewing would mitigate the potential risk of contractors stealing capital goods or causing accelerated depreciation by poor treatment of the capital goods. The reduced marginal cost of violence as an enforcement mechanism would also make it easier to punish shirking and embezzlement. Finally, the crippling of the repeat purchase mechanism would decrease the necessity of extensive monitoring to ensure uniformity of quality. The anonymity of alcohol producers would make it so consumers would not be able to punish the specific producer for unsatisfying alcohol.

4. Cottage Industry Alcohol Production

4.1 Primary Sources of Illegal Alcohol

During prohibition, there were five primary sources of alcohol: illicit beer, illicit wine, diverted industrial alcohol, imported liquor, and moonshine (Sinclair 1962, 197). There was also alcohol that was made available through doctors and druggists, but the amount of such alcohol was relatively small, leading Sinclair to classify it as unimportant (1962, 197). The moonshine industry, specifically, grew astronomically during prohibition. The corn sugar industry, which supplied the primary ingredient in making moonshine, expanded production from 152,000,000 pounds in 1921 to 960,000,000 pounds in 1929. From these figures, the Prohibition Bureau estimates that at least 70,000,000 gallons of moonshine were produced a year, with an absolute alcohol content of roughly 23,000,000 gallons (Sinclair 1962, 202). Given these numbers, it is believed that there were seven to eight gallons of moonshine produced for every gallon of diverted industrial alcohol (Sinclair 1962, 202). Moonshine—illicitly produced liquor—had a place of central importance in the American alcohol supply chain.

At the beginning of prohibition, moonshine was produced on a small scale by vast numbers of independently operating individuals ("lone wolf" producers). Soon, however, large-scale criminal enterprises took control of the market for moonshine, particularly in the cities (Rorabaugh 2020, 69; Sinclair 1962, 202). While these criminal enterprises could run large distilleries, many chose instead to contract distilling out to households (Sinclair 1962, 203). As Sinclair notes:

> The chief sources of bootleg liquor in all major cities by the close of prohibition were to be found in the tenements, in the Little Italys and Little Bohemias of the

> slums. There, the tenement dwellers were organized by gangsters into an army of alky cookers and booze-runners. (1962, 226-227)

In short, this "cottage-industry" system of alcohol production, which will be described in more depth in Section 4.2, came to be the most important part of the urban liquor supply.

As has already been implied above, this cottage-industry model for alcohol production was employed by multiple different criminal entrepreneurs. Frankie Yale, for example, paid Italian families in Brooklyn $15 per day to maintain stills in their homes (Rorabaugh 2020, 69). Some of the first and most successful bootleggers to implement this system, however, were the Genna brothers of Chicago (Black 1930). Chicagoans were dependent on the Gennas to slake their thirst (Okert 2010, 128). Indeed, the Gennas' production of alcohol has been described as "the most crucial element in the liquor supply chain" and is believed to have become the primary source of distilled spirits for the Torrio-Capone syndicate by 1923 (Kendall 2009). The critical importance of the Gennas to drinking in Chicago led *The Chicago Daily Tribune* to describe them as "contraband alcohol magnates" (1925). At its acme, the Gennas' bootlegging operation was highly sophisticated and extremely profitable. The estimated yearly revenue from the Gennas' alcohol production was $4.2 million (i.e. $350,00 a month), with profits of $1.8 million (Okert 2010, 128; Binder 2017, 102). In 1924 the brothers had a combined wealth of roughly $5 million (Binder 2017, 102). The Genna operation gives us an eye into the incentives pushing entrepreneurial bootleggers toward decentralization of production processes.

4.2 Genna Brothers' Background

Organizational structures and production processes do not arise in vacuums. Before exploring the daily operation of the cottage industry system of alcohol production employed by the six Genna brothers, it is useful to understand what made them ideally situated to oversee such a system. The six Genna Brothers were: James (Jim), Angelo, Michele (Mike or "the Devil"), Antonio (Tony), Salvatore (Sam), and Pete (Binder 2017, 100-101). Sam had been a Black Hand extortionist before prohibition, backed up by his brothers Angelo and Mike as enforcers. Meanwhile, Peter and James ran saloons. Tony was the intellectual of the family. A lover of opera and student of architecture, Tony is believed to have been the brains of the family operation (Schoenberg 1992, 81-82).

One commonality between the Genna gang and the Torrio-Capone syndicate was that they had been involved in organized crime prior to prohibition (Binder 2017, 85). As alluded to above, the Genna brothers began their foray into organized crime as Black Hand extortionists. In this occupation, the brothers earned money by sending cryptic threatening letters to ethnic Italians (Kendall 2009; Ward 2018). Sam Genna's billiard hall on Blue Island became the hub of activities for the Gennas (Ward 2018). While there is much debate, the "Black Hand" was likely not a singular organization. Rather, many different extortionists claimed the name of the "Black Hand" to strike fear while not being attached to any real group (Pitkin 1977, 151). Detective Sergeant Fiaschetti of the New York police, who was assigned to track down members of the Black Hand, described how prohibition "created a situation for which they were ideally constituted." Black Hand extortionists already had extensive experience running a criminal enterprise from time spent in blackmailing, kidnapping, and shakedown mobs (Pitkin 1977, 221). Fiaschetti explained, “The Eighteenth Amendment endowed the Black Hand with fabulous funds and took it from the isolated Italian quarters and bestowed it on the cities at large” (Pitkin 1977, 221). In short, the Gennas were no strangers to organized crime and this gave them a leg up during prohibition.

Along similar lines, the Genna brothers, acted as enforcers for the Italian politician, Anthony D’Andrea, in his violent conflict over the Nineteenth Ward in the early 1920s (Binder 2017, 101; Kendall 2009). D’Andrea had obtained the presidency of the Chicago chapter of the Unione Siciliana (Schoenberg 1992, 74). The Illinois chapter of this Unione was originally formed in 1895 as a “fraternal and benevolent organization” and was widely trusted by Italian Americans (Sinclair 1962, 226; Binder 2017, 103). The power and prestige of the Unione gave many poverty-stricken Sicilians hope (Sinclair 1962, 226). It was a well-known fact, however, that the Unione also served as national cover for the operations of Italian gangsters (Schoenberg 1992, 74). Emboldened by having secured this post, D’Andrea had decided to challenge Alderman John Powers for his position in the Nineteenth Ward. This challenge set off a wave of violence, including bombings and shootings. At the center of all of this violence was the Genna gang. Specifically, D’Andrea’s “main muscle” included Angelo Genna and Gennas’ hirelings (Schoenberg 1992, 74-76). The connections to the Unione that this period forged for the Gennas would prove instrumental in constructing their network of alky cookers.

4.3 Structure and Operation of the Alky-Cooking Racket

The Genna brothers had initially broken into the bootlegging scene by peddling a small amount of wine on the street where their headquarters were located (Binder 2017, 101). These humble beginnings were quickly left behind with the materialization of an innovative idea for organizing alcohol production. Angelo Genna's brother-in-law, attorney Henry Spingola, suggested setting up a "cottage industry" (Binder 2017, 102). To make Spingola's idea a reality, the Gennas took advantage of the network facilitated by the Unione Siciliana. The Genna gang had close ties to the Unione's Chicago heads—both Anthony D'Andrea and his successor Mike Merlo (Binder 2017, 103). Merlo was particularly popular among Chicago Italians due to what was perceived as his great care for their welfare (Schoenberg 1992, 111). In reality, Merlo exploited these Italian Americans for political power and "sanctioned their exploitation by the Gennas" (Schoenberg 1992, 111). Given these connections of the Gennas, the use of the Unione as a platform for their operation was very natural.

Drawing on their connections to D'Andrea and Merlo, the Genna brothers organized Unione Siciliana's network of low-income Italians into an enormous alcohol-cooking network (Binder 2017, 102). The Genna brother's operations were primarily clustered in Chicago's Little Italy, also known as the Near West Side of Chicago, which was the old Nineteenth Ward over which Powers and D'Andrea fought (Schoenberg 1992, 81; Okert 2010, 128; Binder 2017, 102). Future alky-cooking efforts of the Unione would extend beyond the Near West Side (Binder 2017, 102).

With the financing of mob boss John Torrio, the Gennas installed thousands of one-gallon stills in the tenement flats, houses, and spare rooms of the residents of Little Italy (Schoenberg 1992, 110). The Genna brothers would not only provide Italian immigrants with stills, but all the necessary ingredients: corn (mash), sugar, and yeast

(Sinclair 1962, 203; Kobler 1973, 241; Schoenberg 1992, 110; Binder 2017, 102; The Mob Museum. n.d. "Bootleggers and Bathtub Gin…"; Kendall 2009). Genna operatives would also show alky cookers how to tap into gas and water lines which both saved money and minimized the possibility that police could use the large, metered use of utilities to pinpoint alky cookers (Schoenberg 1992, 110). The job of the alky cookers was explained by Schoenberg: "Alky cookers had to spread mash with sugar and yeast, then wait for fermentation before cooking, then tend the still with some diligence, on pain of carelessness inducing an explosion" (Schoenberg 1992, 110). In compensation for their efforts, alky cookers were paid $15 per day (Schoenberg 1992, 110; Kobler 1973, 241). The Genna's henchman would pay alky cookers and distribute ingredients on a weekly basis (Binder 2017, 102). Sinclair notes that supplying the necessary corn sugar to an alky cooker would have cost approximately fifty cents per gallon of liquor. From there, the Gennas, or other bootleggers engaged in similar operations, could sell the liquor to speak-easy owners at $6 a gallon (Sinclair 1962, 203).

Another critical element of the Genna brother's system was extensive rent-seeking. At the height of their operations, the Gennas had five captains, roughly four hundred uniformed police in the Maxwell Street station, a number of squads from the central detective bureau, and multiple representatives from the state's attorney office on their payroll (Schoenberg 1992, 110). Indeed, this support was so systematized that the Gennas received a monthly duty roster of badge numbers from the police station which allowed them to determine which police were entitled to payments (Schoenberg 1992, 110). The pay for an individual police officer could range from $15 to $125—the equivalent of a year’s merit bonus for efficiency or valor. Police captains were paid $500 per month (Schoenberg 1992, 110). Far from simply paying off police to look the other way, these rent-seeking expenditures secured the Gennas additional protection for their liquor monopoly in the Near West Side. As one newspaper reporter explained, the Gennas were “the overlords of a ‘district’ in which only their own beer trucks and whiskey runners were allowed” (Black 1930). Furthermore, the Gennas secured a police escort from the Maxwell Street station for their liquor shipments to prevent rivals or police officers in other districts from stopping shipments (Schoenberg 1992, 110; Behr 1996, 188). As a former manager of the Genna warehouse notes, law enforcement always gave the Gennas twenty-four hours’ notice of any impending raids (Behr 1996, 187). So many police would show up at Genna headquarters on W. Taylor Street for their payments that neighbors began calling it “The Police Station” (Binder 2017, 101). The Gennas kept detailed records of their payments to Cook County DA representatives so that they could verify the identity of those who showed up asking for payments (Behr 1996, 187). The extent of the Genna brothers’ rent-seeking efforts was showcased at a 1924 banquet they staged for their friends in the Italian Republican Club. Those attending the banquet included a respected DA, a clerk of the Circuit Court, a county recorder, the head of the Cook County Republic party, and various cronies of one of Illinois senators (Behr 1996, 188).

The extent and success of the Genna operation have already been alluded to in the preceding section but deserve further discussion. The Genna brothers’ network of alky cookers was so extensive that the entirety of Little Italy reeked of the fumes of alcohol production (Behr 1996, 187; Okert 2010, 128). One local observed: “You walked down

Taylor Street and you could damn near get drunk on the fumes” (Schoenberg 1992, 110). In short, the Gennas’ production of alcohol was truly massive. Even after the deaths of three of the Genna brothers, the alky cooking racket was picked up by other gangsters. First, one of the Gennas’ associates, Ammatuna, attempted to seize the Unione presidency and resurrect the Gennas’ alky cooking racket. Ultimately, however, it was Capone who would gain control of the Unione alky-cooking racket and its attendant profits (Schoenberg 1992, 136; Binder 2017, 308). The alky-cooking racket was viewed as a great prize to control—a testament to its success as an enterprise.

4.4 Animal Spirits and Other Consequences of the System

Though the Genna alcohol-producing system was wildly successful, it came with drawbacks. Since brewing was being done by non-professionals, there was a risk of potential poisons getting into the alcohol. The fact that the production of this alcohol was taking place in a completely unmonitored setting only worsened this possibility. One potential risk with alcohol brewed by amateurs who had little knowledge of operating stills was that the worms or coils could be defective. In such a case, poisonous salts of copper and lead could make their way into the liquor (Sinclair 1962, 201). Furthermore, brewers would sometimes add dead rats or pieces of rotten meat to give the liquor an extra kick, giving a new meaning to “animal spirits” (Sinclair 1962, 202). Far from simply tasting bad, some of the liquor sold during prohibition could “blind, paralyze, and kill” (Sinclair 1962, 235).

4.5 Linkage to Theory

Having presented an in-depth review of the production practices of the Genna brothers, it is possible to compare the consistency of the historical evidence with the theory outlined in Section 2. As explained in Section 3, prohibition brought with it many changes that I predict would have incentivized decentralization and increased rent-seeking. Most importantly, there is an obvious increase in the risk of property seizure and a decrease in the strength of the repeat purchase mechanism.

Consistent with the predictions of my theory, the Genna brothers and those who took over their alky-cooking operation made use of a decentralized production process. These gangsters chose to contract out to Italian slum dwellers rather than produce in large production facilities. This diversified their production, making any given police raid less damaging because it would affect fewer stills. It also made stills harder to find in the first place as the one-gallon stills utilized by alky cookers were comparatively small and, hence, easily hidden in the many tenements of Little Italy. As Sinclair notes that the production of alcohol within the home "decentralized the making of bootleg liquor to such an extent that enforcement became impossible" (1962, 197). Such a system of production would also minimize the amount of money that must be spent on rent-seeking.

Also consistent with my theory, the capital goods employed by alky cookers in making liquor were relatively cheap. Hence, the risks of embezzlement or mistreatment of capital were lower. This reduction in the relative costs of a cottage system of alcohol production would also have paved the way for such a system's emergence. The possibility of embezzlement in the form of diverting alcohol or taking some of the ingredients for personal use also seems to be mitigated by the fact that the Genna brothers could utilize the threat of violence. In some cases, alky cookers also owed the Gennas money which could be used as further leverage (Gomes 2009).

One of the main potential drawbacks of a cottage or putting-out system of alcohol production was the lack of product uniformity and related deviations in product quality. Indeed the record shows that the alcohol produced in the Gennas' and similar systems was not very good tasting and could even be extremely dangerous. However, the Gennas sold their liquor to speakeasies where drinkers were completely unaware of the source of the alcohol they received. Consequently, customers were not able to punish the Gennas via the repeat purchase mechanism. The lack of brand names freed the Gennas to employ a cottage system of alcohol production.

Finally, it is also consistent with the theory presented in Section 2 that rent-seeking increased. Not only did such expenditures allow the Gennas to continue their operations unperturbed by law enforcement, but they also served as one of the critical ways of preserving their local monopoly. The protection from rivals and law enforcement provided in return for the Gennas rent-seeking payments was a vital input into their production process.

5. Conclusions

There are a few important implications of my analysis. First, my paper extends the literature on the cottage system of production by offering an analysis of why a reversal of the centralization of production may occur. I find that the risk of property seizure and a decrease in the strength of the repeat purchase mechanism both tend to encourage the decentralization of production. Similarly, I find that if the risk of embezzlement, absconding with capital goods, or causing the depreciation of capital goods lowers then decentralization will be further encouraged. Some of these implications would extend across entrepreneurs in many different industries and help us to understand what might influence the decision to centralize or decentralize the production process.

Similarly, my paper offers the first economic analysis of the cottage industry system of alcohol production that sprung up during prohibition. Up till this point, the existing scholarship on this system of alcohol production has been almost exclusively by historians who merely detail the facts and statistics surrounding the period. This paper attempts to begin the task of answering the challenge presented by Schelling to attempt “a good economic history of prohibition” (1967, 78).

My paper also creates opportunities for further lines of research. For example, the framework I present to explain the incentives to centralize or decentralize production processes could be applied to other illicit industries or even various licit industries. This could help serve as the basis for deepening our understanding of the forces contributing to dis-integration. Further analysis could also be done of the other, less prominent sources of alcohol during prohibition and their production processes. Finally, there is also room for further literature answering Schelling’s call for a more comprehensive economic history of prohibition. For example, what might explain the stylized features of alcohol consumption during prohibition (dating, sensual stage acts, jazz music performances, etc.)?

I contribute to the literature on crime, cottage industry production, and organizational economics more broadly. I find that prohibition created the conditions which led to the decentralization of production processes and increased investments in rent-seeking. Ultimately, my paper showcases the ingenuity of the entrepreneur in adapting to state impositions and finding the most economical ways of satisfying consumer preferences given a litany of constraints.

References

Baishya, Prabin. 1997. “The Putting out System in Ancient India.” *Social Scientist* 25, no. 7/8 (July-August): 51–56. https://doi.org/10.2307/3517604.

Behr, Edwards. 1996. *Prohibition: Thirteen Years That Changed America*. New York, NY: Arcade Publishing.

Binder, John J. 2017. *Al Capone's Beer Wars: A Complete History of Organized Crime in Chicago during Prohibition*. Amherst, NY: Prometheus Books.

Black, Ray. 1930. “More Than 5,000 Nabbed in Chicago.” *Altoona Mirror*, February 18, 1930.

Dick, Andrew R. 1995. “When does organized crime pay? A transaction cost analysis.” *International Review of Law and Economics* 15, no. 1: 25-45. https://doi.org/10.1016/0144-8188(94)00010-R.

Gomes, Mario. 2009. “The Genna brothers.” *My Al Capone Museum*. August 2009. Accessed December 5, 2022. https://www.myalcaponemuseum.com/id161.htm.

Jones, Stephen Richard Henry. 1982. “The organization of work: A historical dimension.” *Journal of Economic Behavior & Organization* 3, no. 2-3: 117-137. https://doi.org/10.1016/0167-2681(82)90014-2.

Kendall. 2009. “‘Terrible Genna’ Headquarters.” *The Chicago Crime Scenes Project* (blog). March 4, 2009. http://chicagocrimescenes.blogspot.com/2009/03/terrible-genna-headquarters.html.

Klein, Benjamin, and Keith B. Leffler. 1981. “The Role of Market Forces in Assuring Contractual Performance.” *Journal of Political Economy* 89, no. 4: 615–41. http://www.jstor.org/stable/1833028.

Kobler, John. 1973. *Ardent Spirits: The Rise and Fall of Prohibition*. New York. NY: G. P. Putnam’s Sons.

Langlois, Richard N. 2017. “The institutional approach to economic history: Connecting the two strands.” *Journal of Comparative Economics* 45, no. 1 (February): 201-212. https://doi.org/10.1016/j.jce.2016.04.004.

Leeson, Peter T., and Douglas Bruce Rogers. 2012. “Organizing Crime.” *Supreme Court Economic Review* 20, no. 1: 89-123.

Małowist, Marian. 1981. “Merchant Credit and the Putting-Out System: Rural Production during the Middle Ages.” *Review (Fernand Braudel Center)* 4, no. 4 (Spring): 667–81. http://www.jstor.org/stable/40240886.

Mises, Ludwig von. 2008. *Profit and Loss.* Auburn: Ludwig von Mises Institute.

Okrent, Daniel. 2010. *Last Call: The Rise and Fall of Prohibition*. New York: Scribner.

Pitkin, Thomas M. 1977. *The Black Hand: A Chapter in Ethnic Crime*. Totowa, NJ: Rowman and Littlefield.

Rorabaugh, W. J. 2020. *Prohibition: A Very Short Introduction*. New York, NY: Oxford University Press.

Schelling, Thomas C. 1967. “Economics and Criminal Enterprise.” *The Public Interest* 7: 61-78.

Schoenberg, Robert J. 1992. *Mr. Capone*. New York, NY: William Morrow and Company.

Sinclair, Andrew. 1962. *Prohibition: The Era of Excess.* Boston: Little, Brown and Company.

Szostak, Rick. 1989. “The organization of work: The emergence of the factory revisited.” *Journal of Economic Behavior & Organization* 11, no. 3: 343-358. https://doi.org/10.1016/0167-2681(89)90034-6.

The Chicago Daily Tribune. 1925. “Gennas in Terror; Tony Dies.” July 9, 1925. Newspapers.com.

The Mob Museum. n.d. “Bootleggers and Bathtub Gin.” Accessed October 19, 2022. https://prohibition.themobmuseum.org/the-history/the-prohibition-underworld/bootleggers-and-bathtub-gin/.

The Mob Museum. n.d. “Prohibition Profits Transformed the Mob.” n.d. Accessed October 19, 2022. https://prohibition.themobmuseum.org/the-history/the-rise-of-organized-crime/the-mob-during-prohibition/.

The New Yorker. 1926. “A Bootlegger's Story I. How I started.” September 25, 1926. Accessed December 6, 2022. https://www.newyorker.com/magazine/1926/09/25/a-bootleggers-story-i-how-i-started.

U.S. Const. amend. XVIII (repealed 1933).

Ward, Andrew. 2018. "Capone's Associates: The Terrible Gennas." *Medium* (blog). May 11, 2018. https://medium.com/@andrew_ward/capones-associates-the-terrible-gennas-620ed1feec3b.

Williamson, Oliver E. 1980. "The organization of work a comparative institutional assessment." *Journal of Economic Behavior & Organization* 1, no. 1: 5-38. https://doi.org/10.1016/0167-2681(80)90050-5.