Can we do it?

Reimagining California's Bottle Bill for Canners

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Spring 2021

Abstract

Canners, people who earn income informally through the California Beverage Container Recycling and Litter Reduction Act (AB2020), earn cash by collecting and recycling Container Refund Value (CRV) eligible recyclables. While canning is a vital income-earning opportunity for low-income people, current policy is unsupportive and discourages canners efforts to earn income through AB2020. This report asks: do Californian canners wish to remain in the informal waste sector, or do they desire more formalized waste employment? How can policy better support autonomous canners' work and increase their income? If canners desire to transition into the formal waste sector, what entity can assist this shift and how? Answers to these questions are informed by interviews with canners and other experts in the informal waste field. This report finds that Los Angeles' canners enjoy the informality of canning and are disinterested in the prospect of transition to more formalized waste worker roles. This finding must be contextualized by the fact no opportunities for such a transition presently exist in California. Secondly, canning can become a better job with more fair pay through supportive policy, including increased redemption center accessibility and reliability, increased CRV and price per pound of recyclables, the formal recognition of canners' work, and the legalization of scavenging. Lastly, for canners who may desire increasingly formal employment, canner-centered non-profits prove themselves to be able entities to support and facilitate such a transition.

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Introduction

In 1986, California's legislature enacted a bill to encourage citizens to recycle their bottles and cans (CalRecycle, 2020). The bill, the California Beverage Container Recycling and Litter Reduction Act (AB2020), was motivated by a widespread desire to recycle empty single-use beverage containers littered on streets. AB2020 operates on the premise that consumers will recycle their beverage containers if financially incentivized. In action, AB2020 implements a recycling program through which consumers pay an additional fee for their single-use beverages and can get that money back if they return their beverage container to a proper recycling facility.

For a time, the success of California's program ranked high amongst the other nine states in the United States that have similar, so-called bottle bill legislation. Today, California's bottle bill's efficacy has fallen far behind due to the content and implementation of AB2020. In response to the state of the program, some elected officials in California have, and continue to, attempt to pass legislation that will make the recycling program work better for consumers. In this process, everyday consumers are considered valued stakeholders. However, neither AB2020 nor these proposed bills include canners, people who return other people's Container Refund Value (CRV) recyclables to earn full or supplemental income, as key stakeholders. The informality of canning provides vital income-earning opportunities for people who are excluded from formal employment. A substantial number of Californians use canning, the word hereafter used to describe the job, as a means to pay for food, rent, and transportation. Current policy not only rejects canners as stakeholders, it actively works to suppress the act of canning.

This research aims to discover how California's bottle bill can be reimagined to support and expand the work of canners. This paper centers around Los Angeles-based canners' experiences and seeks to discover what canners want and need– Do canners in Los Angeles wish to remain in the informal waste sector, or would they prefer a move into more formalized waste employment? How can policy better support autonomous canners' work and increase their income? If canners desire to transition into the formal waste sector, what entity can assist their shift and how? This report explores the benefits and drawbacks of AB2020 and the broader informal economy, the societal and environmental impacts of canners' work, asks Californian canners their wants and needs, and confers with non-canner experts in the field to inform answers to the research questions.

Background

Inside AB2020's Recycling Program

As a collective action, recycling has the power to preserve natural resources, extend the life of landfills, conserve energy, and reduce greenhouse gas emissions (Environmental Protection Agency, 2020). Much needed in today's society of high consumption, recycling has the ability to reduce the destructive nature of the rapid-paced production of goods, "A billion individual bottles are just trash. But put them in a system, and they become resources" (Jørgensen, 2011, pg. 1). AB2020 established a beverage recycling redemption program to encourage consumers to recycle aluminum, glass, and plastic beverage containers. Specifically, consumers can redeem almost all beverage containers, excluding beverages including milk, wine, spirits, and a few others (CalRecycle, 2020).

AB2020 motivates consumers through incentive—consumers pay a deposit when purchasing a beverage and can get the money back when they return their beverage container to a proper recycling facility. The cost tagged onto the purchase of eligible recyclable beverages is known as the California Refund Value (CRV). The CRV is a combination of a consumption tax with a disposal rebate, commonly referred to as a Pigouvian tax (Ashenmiller, 2009). The CRV is currently priced at five cents for a container under 24 ounces and 10 cents for a container over 24 ounces (CalRecycle (B), 2020). For tangibility's sake, purchasing a 12-pack of Coca-Cola incurs a CRV cost of 60 cents.

AB2020 sets forth the metric that California should recycle 80 percent of beverage containers each year. To reach California's self-determined ideal recycling rate, AB2020 attempts to ensure accessible and convenient beverage container recycling and redemption opportunities for consumers (AB2020, 1987). AB2020 originally authorized the California Division of Recycling to administer the recycling program. In 2010, the program moved to the Department of Resources Recycling and Recovery (CalRecycle).

In practice, the reclamation system set in place by AB2020 functions through a combination of drop-off sites, including; redemption centers, registered curbside operators, drop-off sites, and retailer zones. Some sites are located in convenience zones, "a half-mile radius circle with the center point originating at a supermarket" (CalRecycle, 2020). Convenience zones provide "geographical dispersal of locations where beverage containers can be redeemed" (CalRecycle, 2020). AB2020 mandates that every convenience zone must have a certified recycling center; otherwise, the site out of compliance must provide a 100 dollar daily fine to CalRecycle. Recycling redemption centers can either be non-profit or for-profit organizations. However, only a few non-profit redemption centers exist in California.

Additionally, all retailers who sell recyclable containers are mandated to serve as redeemers of CRV containers and must post a clear and conspicuous sign at each public entrance to advertise the nearest recycling center. However, not all retailers are held to their duty to serve as recyclers. For example, convenience zone mandated recyclers are not required to provide recycling if they declare annual gross sales under two million dollars (CalRecycle, 2020).

If recyclables don't make it to any of these sites of redemption, unredeemed deposit money becomes property of CalRecycle and is used for program administration, program payments, and grants (CalRecycle, 2020). A portion of the fund is used to maintain convenient recycling opportunities for consumers. CalRecycle's fund also pays handling fees to recycling centers in convenience zones to subsidize recyclers' operating costs in an attempt to keep centers in business. Additional funding – processing payments – are made to redemption centers and curbside programs to cover the cost of recycling materials with low scrap value to ensure that these items continue to be redeemed and recycled (CalRecycle, 2020).

Recycling centers pay consumers and canners cash for returned CRV beverage containers. Consumers are paid per container if the load has less than 50 items. Redeemers pay based on the materials' weight if a consumer brings in more than 50 items. Concerning payouts, the CRV has changed since the original AB2020 installment of one cent for all containers (Bottle Bill Resource Guide, 2020). The CRV has been increased and differentiated depending on the size of the container. In 1990, the price increased to two and a half cents <24 oz and five cents >24 oz, then to four cents and eight cents in 2003 (CalRecycle, 2020). The current price became established in 2007: five cents <24 oz and 10 cents >24 oz (CalRecycle, 2020). The CRV has remained stagnant for over a decade despite inflation.

While prices per container may seem inconsequential, there is a significant amount of money circulating in this program. In 2018, consumers spent 1,500,000,000 dollars on CRV fees (Tucker (A), 2020). Liza Tucker, a Consumer Advocate at Consumer Watchdog, found that many consumers are aware that CRV-eligible recyclables can accumulate to a substantial sum of money (Tucker(A), 2020). For some, the amount of cashback is worth the time it takes to recycle, but for others, it is not. Therefore, the degree to which consumers participate in recycling for redemption varies. Occidental College Economics Professor Bevin Ashenmiller (2009) identified three central types of consumers involved in the program: (1) the household recycler who redeems their own goods; (2) the workplace recycler who redeems their workplace's goods; (3) the professional recycler who redeems other people's goods, also known as canners.

Common Critiques of AB2020

The flaws in California's recycling system are widely known. The antiquated and issue-laden policy has created multiple issues; few recycling opportunities that are often inconvenient, an out-of-date CRV, a CalRecycle budget in continued deficit, and a lack of responsibility placed on the beverage industry for the end-of-life of beverage containers. Such issues compound and result in a recycling rate well under AB2020's goal of 80%. The recycling rate of CRV beverage containers fell to 58 percent in 2020 (Tucker, 2021).

California Loses 53% of Redemption Centers from 2013 to 2019; 1,356 Fewer Centers than in 2013

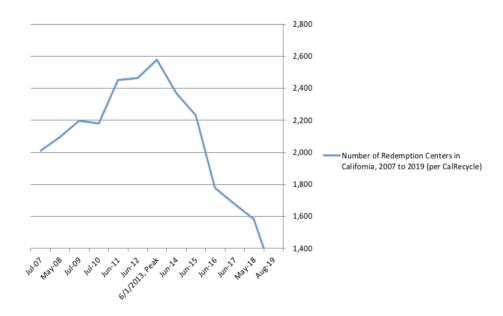


Figure: 1 The Container Recycling Institute's Graph Depicting California's Recycling Center Closure Crisis (Container Recycling Institute, 2019)

One factor contributing to the lack of recycling opportunities is the massive closure of California's redemption centers. California's number of redemption centers slid from 2,600 in 2013 to 1,222 in 2021 (Tucker, 2021). The wave of closures is primarily due to CalRecycle's outdated redemption center financing mechanism that leaves centers in financial trouble (Legislative Analyst's Office, 2018). California's largest redemption center operator, rePlanet, a private business, closed its last 284 centers in August of 2019 (Staub, 2019). These massive reductions in recycling opportunities effectively strand consumers with few places to receive deposit refunds. People recycle less when recycling becomes less convenient, "The most important determinant of recycling behavior is access to a structured, institutionalized program that makes recycling easy and convenient" (Derksen & Gartrell, 1993, pg. 439).

Beyond inadequate support to keep redemption centers open, CalRecycle also falls short of its promise to offer robust redemption opportunities through its poor enforcement of retailer redemption. AB2020 mandates that most retail entities' are required to serve as redeemers of CRV-eligible recyclables. A 2019 audit by Consumer Watchdog found that 66 percent of Californian supermarket chains, convenience stores, and other legally mandated redemption sites refused to redeem consumer deposits (Tucker, 2019). Further, this report found that of the remaining 34 percent of stores that facilitated redemption, over half made it extremely difficult to do so (Tucker, 2019). Stores have been comfortable staying out of compliance because CalRecycle has failed to properly execute its responsibility to penalize stores out of compliance by way of a fine (Tucker, 2019). Retailers actively choose the threat of 100 dollars per day fine over providing redemption services. The fine is low for large supermarket chains. For example, 75 percent of Whole Foods Market stores have opted out of offering recycling redemption because they can buy their way out of it through fine payments (Tucker, 2021).

Many researchers critique that AB2020 is too hard on consumers at the cost of favoring industries and retailers. With fewer redemption opportunities for consumers, consumers often leave recyclables for curbside waste hauling companies to handle. When curbside waste haulers come by to pick up consumers' trash, they get paid twice— for their contracted service and through redeeming consumers' deposits (Container Recycling Institute, 2017). Here, the intended cycle of consumer CRV payment and consumer refund breaks. Of the ten states with a bottle bill, California is the only state that pays consumers' deposits to waste haulers and pays them for processing the items (Tucker, 2019). The waste, beverage, and retailer industries spend a significant amount of money lobbying every year to influence recycling policy. The nationwide

monopoly on waste specifically is staggering: the top four waste consolidating companies earn 30 billion of the 70 billion dollar waste management industry (Seldman, 2018).

Recycling as an Income Generator in California

Both California's formal and informal recycling sectors have created jobs that benefit the environment. Women in Informal Employment Globalizing and Organizing (WIEGO), a network that supports the women in the informal economy, comments on the global impact of recycling as an income-earning opportunity: "Recycling is a labor-intensive model of waste management providing millions of jobs and is one of the cheapest and fastest ways to reduce greenhouse gas emissions" (WIEGO & Waste Picker Trade Union Kagad Kach Patra Kashtakari Panchayat (KKPKP), 2013, pg.2). The magnitude of single-use beverage consumption in California allows for many people to participate in both sectors. In 2015, 18.6 billion of the 23 billion CRV beverage containers purchased were recycled (CalRecycle, 2020). This high recycling rate results from many people, specifically canners, working to collect, sort, and process recyclables (Snyder, 2004). Canners get paid through others' unredeemed deposits. In other words, canning income is composed via a redistribution of wealth from consumers who deem the time and energy required to redeem recyclables unworthy of the payback. In effect, consumers unwilling to recycle effectively offer their deposits to canners.

A solid link between years of economic turmoil and high redemption rates in California indicates that canning is an income-generating opportunity. During the 2008 recession, California's recycling increased from 65% to 80% (CalRecycle, 2020). Thus, California's recycling program has functioned as a means to earn income when formal employment is less available. Research shows that people generally participate in the informal economy because the

formal job economy excludes them (Leonard, 1998). Currently, the Coronavirus-19 pandemic has wreaked havoc on the economy, causing millions of people to lose their jobs and file for unemployment. Research has not yet determined if the current pandemic will cause another spike in recycling rates.

Criminalization of Canning

People who participate in canning run the risk of being fined or jailed for collecting recyclables. Scavenging, the act of taking another person's discarded goods, is illegal under California and Los Angeles County law. In Los Angeles specifically, "by County Ordinance (Section 20.72.196 of the Los Angeles County Code), it is a misdemeanor and is punishable by fine and or possible jail time (Public Works Los Angeles Frequently Asked Questions, n.d.). Over the years, Los Angeles County has distributed anti-canner flyers to inform the public about the illegality of scavenging. Many flyers often encourage citizens to report and condemn scavengers (Appendix A). Despite encouragement to report canners, at least in Santa Barbara, California, the police departments reported very infrequent complaints and that the few complaints are rarely prosecuted (Ashenmiller, 2009). In fact, Ashenmiller documented officers from the Isla Vista CPD, located near a college campus, viewing canners in a positive light, ".... [officers of Isla Vista CPD] generally feel that professional recyclers are doing an extremely valuable community service by cleaning up after the students" (Ashenmiller, 2009, pg. 544). While these anecdotes from Santa Barbara, California, are valuable, they do not represent law enforcement's perception of canners across the state.

Characteristics of Canners

Globally, workers in the informal economy are understood as dependent, vulnerable, and exploited people (ILO, 2014). Ashenmiller's research reinforces most of these traits for canners in Santa Barbara, California. Ashemiller's study is the first and only to date that empirically examines canners' characteristics in the United States; however, news articles support Ashenmiller's findings.

First, the socioeconomic status of canners falls as participation rises. Ashenmiller found that while a diverse range of income levels (though, importantly, all under 75,000 dollars) make use of the deposit program, professional canners "come from the lowest income brackets in the community" (Ashenmiller, 2009). The low-income community in Santa Barbara disproportionately uses the deposit program professionally (Ashenmiller, 2009). Virtually all the low-income canners surveyed— even the canners who earn the most income from the bottle bill—used canning to earn supplemental income to supplement a main job or source of government support (Ashenmiller, 2009). People with other employment who rely on canning to supplement their wage suggest that the California minimum wage has pushed many low-income people into side-gigs in the informal economy (Carus, 2011). The top income bracket of canners is referred to as "Allowance Seekers," or people who desire extra spending money (Snyder, 2004).

Journalist Felicity Carus discusses the rise of middle to low-income people scavenging for waste in San Francisco. Carus linked this finding to the economic recession of 2008 (Carus, 2011).

Beyond economic status, Ashenmiller found that all types of canners in California fall along similar language, migratory status, and education lines. Californian canners tend to be immigrants, are more likely to speak Spanish as their first language, and more likely to be born

in Mexico (Ashenmiller, 2009). California is home to over two million undocumented immigrants, 71 percent of whom are Mexican-born (Hill & Hayes, 2017). Canning is a no-barrier income-earning opportunity for undocumented immigrants and or people who do not speak English fluently. Opposingly, formal jobs exclude people for such conditions. Regarding education, recyclers are less likely to have a high school education and less likely to have a college education (Ashenmiller, 2009). Canning does not require education certificates. Along the gender binary, canners are more likely to be men. Unlike workplace and household recyclers, professional canners are more likely to be older and retired (Ashenmiller, 2009).

Canners' Wages

Measuring canners' hourly wage is difficult because canners do not typically measure their hours of work precisely and because profits vary each visit to the redemption center. There is limited research on the hourly wages of canning work in the United States, and only the investigation is outdated by over a decade. Data from 2002 found that the average wage of canners was six dollars and 33 cents per hour (Ashenmiller, 2009). At the time of the study, this average canning wage was under California's minimum wage of six dollars and 75 cents.

Ashenmiller found that canners were aware that canning profits fell under the minimum wage.

Canners' wages depend on their place in the informal recycling economy's profit pyramid. Waste worker wages depend on the level of participation. First-hand recyclers, like canners, make a different wage than informal middle-persons who buy recyclables from canners (WIEGO & KKPKP, 2013). Informal waste workers who sell their recyclables to middle-persons may become vulnerable to dramatic wage exploitation (WIEGO & KKPKP, 2013).

Recycling Management Systems

Recycling management systems play a large role in the quality of recyclables and their usability. Canners contributions produce more usable recyclables than industry-favored methods like curbside waste hauling. California currently runs off of a combination of three systems based on locality: (1) the hand-sorted redemption center system, encouraged by the bottle bill; (2) the curbside waste hauling system that collects single-stream bins, also known as unsorted bins of recyclables; (3) the "throw everything in the trash system" which creates contaminated recyclables and necessitates timely and dangerous "dirty" recyclable recovery operations (Tucker (A) 2020). A recent Consumer Watchdog report found that trash bins can produce up to 19 percent clean recyclables, single-stream recycling containers produce 65 percent clean recyclables, and recycling centers produce 98 percent clean recyclables (Tucker (A), 2020). Clean recyclables are synonymous with usable recyclables, as contaminated recyclables are synonymous with common waste.

Canners, who bring their cans to recycling centers, participate in the more efficient collection of usable recyclables. Virtually all of the material generated by canners is clean and recyclable. Beyond efficient collection, canners collect recyclables that would not otherwise be recycled. Ashenmiller found that canners do the heavy lifting to meet California's goal of 80 percent beverage containers recycled: "Between 36 percent and 51 percent of the material generated by the redemption centers in Santa Barbara, California, would not have been captured by existing curbside recycling programs" (Ashenmiller, 2009, pg.1).

Waste hauler companies often push cities to adopt single-stream recycling processes not because it is better for recycling but because maintaining waste streams that end up in landfills raises their profits (Bornstein, 2018). Landfill companies own some of the largest recycling operations, "whose profits improve when recycling doesn't work well" (Bornstein, 2018). Industrial forces often persuade cities to contract with them by arguing that allowing for more contamination equates to a larger volume of recycled materials (Tucker (B), 2020). Tucker finds that this theory is untrue; high contamination eliminates the benefit of collecting more recyclables (Tucker (B), 2020).

Literature Review

Introduction

It is necessary to evaluate and synthesize existing literature on global recycling, the informal economy, and global waste worker grassroots organizing to innovate a new path forward for canners in the United States. There is a wealth of information on the global recycling circuit, informal economies, transitioning workers from formal to informal sectors, and organizing canners in the Global South. However, there is extremely limited literature that explores the topics above in the context of the Global North, the United States, or California. There is a complete gap in the literature that evaluates the nexus of topics above to improve California's canners' working conditions.

Global Recycling

The price of recyclables is continuing to fall, and the reduction in value creates financial issues for the recycling industry (Recycling Markets, 2020). China has taken in almost half of the globe's non-industrial plastic waste imports in the past 25 years (Wang, Zhao, Lim, Chen, and Sutherland, 2020). China's government halted its legacy of taking in the so-called Western

World's trash by banning the importation of solid waste in 2017 (Wang et al., 2020). The ban is a part of China's National Sword policy that aims to make China a less polluted country (Wang et al., 2020). In line with this finding, Independent Journalist Cheryl Katz argues that China installed the ban partially due to the contamination of imported recycled goods, mostly the fault of single-stream recycling (Katz, 2019). Contaminated recyclables increase pollution because overly contaminated recyclables end up in landfills or incinerators (Wang et al., 2020). The lack of demand for materials has made costs associated with recycling go up, while revenue associated with recycling has plummeted (Katz, 2019). Katz's work oversimplifies the dilemma and wrongly states that local governments and recycling processors have curtailed their collections of recyclable materials in light of fewer buyers. Several scholars conducted a study that further explores the geospatial global plastic trade network and proves that the United States remains a significant producer and exporter of used recyclables globally (Wang et al., 2020).

The United States has moved recyclable buying contracts to Southeast Asian countries such as Thailand and Malaysia (Wang et al., 2020). Wang states, "[developed countries] have strong motivation to maintain the function of the global plastics waste trade and continue to shift their environmental responsibility to poorer countries with lax environmental laws" (Wang et al., 2020, pg.2). However, like China, Southeast Asian countries are beginning to take actions, such as temporary bans, to protect themselves from becoming the dumping ground for the majority of the world's waste.

With fewer venues to sell recycled materials, many scholars call for the United States to build infrastructure to deal with recycled materials domestically. Renee Cho from Columbia University's Earth Institute remarked that the United States' decades-long dependence on other countries to process recyclables has left the United States with no infrastructure to process

materials (Cho, 2020). Considerations of economic evaluations, environmental justice, and sustainability promote the United States to handle its waste (Cho, 2020). The negative implications of continuing the global waste trade include the environmental cost of transportation and the subjection of impoverished communities to significant health hazards that result from working with and living by overly contaminated recyclables (Wilson, Velis, & Cheeseman 2006). Katz recommends that the United States begins manufacturing demand by creating domestic recycling processors to avoid environmental, global public health, and economic costs.

The Informal Economy

Scholars' discussion of the informal economy has evolved in definition and perspective. The earliest school of thought on the informal sectors, the Dualist school, interprets the informal sector as unrelated to the formal economy and as a means for the poor to earn income during economic crises (Williams & Round, 2007). Next, the Structuralists observe the informal economy as subordinate to the formal economy and that its workers increase the competitiveness of large formal corporations (Williams & Round, 2007). Then, the Legalist and Voluntarist schools define the informal sector as a place for entrepreneurs to avoid business costs (Williams & Round, 2007). All these schools of thought define the informal and formal economy through a hierarchical binary relationship, believing that the informal economy is the opposite and subordinate form of the formal economy (Williams & Round, 2007). Such scholars believe that if the formal economy consists of employees on a taxed payroll protected by national labor codes and standards, hours of work, compensation, and safe conditions, then the informal economy is that of the complete opposite (Eaton, Schurman & Chen, 2017). In 1993 the International Conference of Labour Statisticians adopted the informal economy's official definition "as enterprises that are unincorporated or unregistered" (Eaton, Schurman & Chen, 2017).

Traditional definitions stigmatize the informal economy. The stigma is rooted in the belief that the informal economy is a remnant of pre-capitalist transactions that signal under-development (Lewis, 1959; Geertz, 1963). Further, the stigma results from assumptions that informal actors are participating in illegal activities, including evading taxes and illegal trades. Traditional schools of thought consider the informal as subordinate to formal, "Never is it [the informal economy] depicted as resilient, ubiquitous, capable of generative growth, or as driving economic change" (Williams & Round, 2007, pg. 472). The specific linkage between formality and under-development is why there is a wealth of literature on the informal economy in the Global South and such a significant gap in the literature in the Global North.

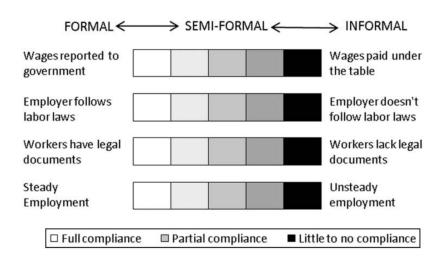


Figure 2: Spectrum of Formality in the Labor Market (Cobb, 2009, pg. 370)

More recent literature opposes the hierarchical binary understanding of informality and formality, and celebrates the informal economy's possibilities. Through an investigation of Mexican migrant workers in Portland, Oregon, several scholars found many workers whose jobs are neither distinctly formal nor informal (Cobb, King, Rodriguez, 2009). Thus, more recent

definitions explain that informality and formality are on a spectrum, with gray areas between the two. Newer definitions attempt to remove the stigma by understanding that the working poor is constantly, not just in times of crisis, forced to participate in the informal economy as it is often their only way to earn income. Peter Poschen from the International Labour Organization stated, "Even during the good economic years, the formal economy has not had enough capacity to create the number of wage jobs needed. People who create their own jobs will be with us for decades to come....." (Lewis, 2016, pg. 11). In 2003, WIEGO and the International Labor Organization (ILO) honed the definition of informal economies. The revised definition concedes that informal and formal workers typically participate in similar work but do so in an unprotected manner. Additionally, the revised definition acknowledges that the informal economy consists of a broad range of economic activities, jobs, and workers (Eaton, Schurman & Chen, 2017).

WIEGO attempts to create a holistic understanding of the informal economy that clarifies the link between the formal and informal economies and how this relationship contributes to the overall economy, reduced poverty, and reduced gender inequality (WIEGO & KKPKP, 2013).

Drawbacks of the Formal Economy

The essence of informal work, work without protections, inherently involves negative characteristics that harm governments and individuals. Drawbacks include a lack of potential for informal actors' upward economic mobility and an absence of worker rights protections. The 2014 ILO Report "Transitioning from the informal to the formal economy" states that informal work can "trap individuals and enterprises in a spiral of low productivity and poverty" (International Labour Office, 2014, pg. 9). In the Global North, canning currently lacks economic mobility upward as it is a role without promotions or educational opportunities for

career advancement. William Ruzek of the Florida State University Department of Geography identifies why government officials often disapprove of the informal trapping spiral:

"[informality allows for a] lack of economic development and progress; those poor will stay poor..." (Ruzek, 2014, pg. 30). On top of being seen as a barrier to a city's economic development, another downside to the informal economy for states lies in the fact that informal deals can bypass regulations and harm the desired outcome of certain regulations (Ruzek, 2014).

Because canners in California work informally, they cannot enjoy the United States' adoption of the ILO's Declaration on Fundamental Principles and Rights at Work. Formal workers are protected by the United States Department of Labor which promotes and enforces the ILO's four obligations: "the right to collective bargaining; no forced or compulsory labor; no child labor; and no of discrimination in respect of employment and occupation" (U.S Department of Labor, 2020, pg.1). Further, the Fair Labor Standards Act of 1938 does not apply to informal workers; informal workers cannot enjoy a right to a minimum wage and time-and-a-half overtime pay (U.S Department of Labor, 2020). Neither can canners benefit from the Occupational Health and Safety Act of 1970, which provides the right to a work site free of serious hazards (U.S Department of Labor, 2020). Without safeguards, informal workers are not entitled to a minimum wage, and no entity oversees their physical health and mental health on the job. A lack of protection is especially concerning for informal waste workers, as: "Canners perform the first steps in recyclable extraction from mixed waste bins- a very labor-intensive job that comes with poor working conditions, exploitation, discrimination, social rejection, and lack of education" (Wilson et al., 2006; Medina, 2000).

Benefits to the Informal Economy

The informal economy yields benefits for governments, individuals, and the environment. A primary benefit is that the informal economy can "allow for the employment of those unemployed, underemployed, or unemployable" (Ruzek, 2014, pg.26). The informal economy's open-door policy to all people is vital because it provides non-discriminatory income-earning opportunities. Additionally, unlike the formal sector, the flexibility of the informal economy "allows for the absorption of excess labor in an effective and rapid way" (Ruzek, 2014, pg. 26). The speed at which one can enter the informal workforce and earn cash on the same day is beneficial to low-income people, as there is no need to wait for an interview or paperwork processing like one would have to in the formal economy.

Canners' work can benefit the government because canners provide some of the lowest-cost labor to the state to collect and sort recyclables (Morris & Schonberg, 2017). A study conducted on Shanghai's waste management sector argues that informal waste workers are highly efficient in collecting and sorting waste (Morris & Schonberg, 2017). These scholars acknowledge the informal waste sectors' work benefits the environment: "Without this informal sector, at best, thousands of tons of material will be lost to landfill...." (Morris & Schonberg, 2017, pg. 23). In other words, canners serve as an integral link in the circular economy by returning recyclables so that materials may be remade and used again (Lewis (A), 2016). Waste picking is considered an informal activity supporting green growth (Lewis (A), 2016).

Ruzek posits that the informal economy is already so substantial and efficient that it should remain in relation to the formal economy. Ruzek's study argues that informal economies

have, and will continue to, play a massive role in creating a sustainable future because informal actors enact a shift from a globalized capitalist society to one of eco-localism. Ruzek believes that the informal economy increases social capital, creates jobs, and shifts power from national to local economies (2014). However, upon review of the existing literature, it becomes evident that the majority of scholars believe that the informal economy should not continue without bridges to formalization.

Transitioning from the Informal Economy to the Formal Economy

Considering the benefits and drawbacks, most scholars argue that informal waste economies should formalize and integrate with governments. A recent report by c40 Knowledge Hub argues that an integrative transition of informal workers will make cities better equipped to innovate sustainable waste management systems (c40 Knowledge Hub, 2020). Holding to a similar idea, the United Nations (UN) implemented a sustainable development goal that promotes the formalization of sectors for decent work (UN, 2020). This official goal shows that protecting informal workers through formalization is considered common practice to lift the working poor out of poverty.

Collaboration between informal and formal sectors is fundamental to transitioning informal economies to become more formalized. Further, to create equitable transitions, reciprocal partnerships between the two must be forged and sustained (Aparcana, 2016). Ananya Roy, Professor of Urban Planning, Social Welfare, and Geography at the University of California, Los Angeles, makes clear that the state has the power to manage such relationships: "The planning and legal apparatus of the state has the power to determine... what is informal and what is not,

and to determine which forms of informality will thrive and which will disappear....to construct and reconstruct categories of legitimacy and illegitimacy" (Roy, 2005, pg. 149).

Technical University of Denmark Ph.D. student Sandra Aparcana's study investigates what barriers exist for countries that attempt to implement formalizing policy on the informal solid waste management sector. Aparcana found that attempts to formalize failed when obstacles were unacknowledged, preventing their plan from being implemented in the long term (Aparcana, 2016). Such barriers include policy/legal, institutional/organizational, financial/economic, and social/technical (Aparcana, 2016). Aparcana argues that formalizing efforts are successful when plans include county and city-specific measures at the policy, economic, and institutional levels (Aparcana, 2016). There is no one right answer–locales must evaluate specific, place-based barriers and tear them down to sustain formalization. A case of a failed attempt to formalize an informal furniture economy in Jepara, Indonesia, proves the need to identify specific barriers. A furniture maker went through the formalization process to find that having a permit did not help him earn a higher profit than before (Lewis (B), 2016). In this case, a financial issue necessitated the furniture maker to return to the informality. The furniture maker never renewed his permit. "If legality is just an added cost, it will never solve the problem..." (Lewis (B), 2016).



Figure 3: ILO's decent work strategies for the informal economy (2014).

The ILO identifies seven key avenues to achieve formalization, including Aparcana's encouragement of local strategies (International Labour Office, 2014). The strategies collate to socially and financially incentivize informal workers to become formal actors. Despite some global momentum with partnerships between informal and formal sectors, the most common relationship between informal and formal workers is one of mistrust and competition (Aparcana, 2016).

Canners' Global Organizing

Grassroots organizing of informal waste workers allows canners to have a say in whether or not they desire a transition into increased formality. If some do, it allows them to advocate for their desired conditions. Many labor scholars agree that organizing is the best avenue for informal workers to vocalize their poor working conditions and gain the power to demand better treatment (Dias, 2016). Informal workers have successfully organized worldwide to negotiate for

better pay and treatment since 1970 (WIEGO & KKPKP, 2013). Most organizers use a similar framework, demanding the: "re-conceptualization of social waste management systems that integrate waste pickers as partners, as key to building just, inclusive and livable cities for all" (Dias, 2016, pg. 375). Organizers have fought for wage, health care, and societal abuse protections (WIEGO & KKPKP, 2013). WIEGO finds it vital for the informal sector to organize because it allows waste pickers to be in direct contact with the local government. Once in contact, local governments and canners can collaborate to push for progressive policies that benefit autonomous canners and assist informal waste workers in establishing cooperatives (Delaney et al., 2012).

Cooperatives

Demanding the creation of government-supported canning cooperatives is one of many avenues organizers have taken to install protections for canners. Cooperatives are a form of organized canners who gain collective power and advocate for their rights together (Dias, 2016). The International Cooperative Alliance (ICA) defines cooperatives as "people-centered enterprises owned, controlled and run by and for their members to realise their common economic, social, and cultural needs and aspirations" (ICA, 2018). Many scholars agree that cooperatives are beneficial because they can guarantee income and protect against societal abuse. These organizational structures also help to inform how to link informal waste workers to national development and waste management needs (ILO, 2014).

Cooperatives help waste workers demand a dignified and inclusive position in a system's waste management. An example of a successful waste picker cooperative comes from South America. Brazilian waste pickers of The Movimento Nacional de Catadores de Recicláveis

(National Movement of Waste Pickers) 's were early in their fight for inclusive waste picker policies and have successfully created cooperatives that are supported by the government (Eaton, Schurman & Chen, 2017). Brazilian waste pickers bargained successfully and achieved compensation for providing environmental services and a more fair and valued position in the waste management system. These successes were made possible by their primary theoretical strategy, asserting that they provide a beneficial environmental service.

Cooperatives commonly fight for waste pickers' rights to recyclables. Cooperative Seva Sahakari Sanstha Maryadit (SWaCH) in Pune, India, gained waste pickers the legal right to gather recyclable materials (Roever et al., 2013). The benefits of legitimizing canners' work do more than decrease society's hostility toward their occupation (Roever et al., 2013). The legitimization can lead governments to decriminalizing scavenging. With decriminalization comes rights to recyclables. WIEGO argues that one of the most vital steps in improving the informal sector is establishing informal waste workers' right over recyclables and guaranteed regular access to waste (Delaney et al., 2012). The Pune municipality went further, effectively offering a stable wage to waste workers who work with SWaCH. The municipality granted waste pickers a service fee derived from each household's use of the waste pick-up service (Delaney et al., 2012). Punes' case proves cooperatives' ability to inspire innovative means to properly integrate canners into a waste management system.

In opposition to cooperatives' common support, Colombijn and Morbidini are critical of how cooperatives can negatively impact canners. Colombijn and Morbidini find that cooperatives can inspire stricter government supervision and control, limited work flexibility, and in some cases, an increase in taxation (Colombijn and Morbidini, 2017). Increased formalization is the cause of the drawbacks of cooperatives. The negative aspects of cooperatives

for canners against the tidal wave of support helps to understand the implications that formal partnerships can have on informal workers.

Literature Review Conclusion

Major themes in literature that have emerged include an evolved yet debated understanding of informal work. Controversies in the literature also exist regarding whether or not the informal sector should be formalized based on differing considerations of the drawbacks and benefits of the informal economy and its participants. If governments wish to formalize a sector, broad strategies are available to support an effective formalization. Scholars agree on strategies to transition informal sectors to formal sectors, such as social and economic incentives and local considerations. Scholars in support of informal workers encourage them to organize through cooperatives or other organizing structures. Existing literature makes effective organizing possible by coaching how to organize successfully with a record of helpful strategies, tactics, and rhetorical tools. Gaps in the literature include a lack of articles centered on the informal recycling economy in the United States and studies on best practices in the United States to host a sustainable transition from the informal to the formal economy. These gaps exist due to the antiquated belief that informal work is synonymous with underdeveloped countries.

Methodology

This research aims to discern what canners in Los Angeles desire. Do canners wish to remain informal actors, or do they wish to formalize? What entity is best suited to help canners formalize and how? How can California's Recycling Redemption Program restructure to make canning more lucrative and a better-supported profession for canners who wish to remain autonomous? I employed a qualitative research method to inform answers to the research

questions above. I conducted 11 semi-structured interviews with various types of experts in the informal recycling world. Roughly half of the interviews are Los Angeles-based canners. The other interviewees are various researchers and professionals who study and/or work the informal waste economy or bottle bill policy. The diversity in experts' roles in the canning world offers this research a nuanced understanding of the policy's issues and ways forward.

Interviews

Canners know the intricacies of Los Angeles' bottle recycling redemption program better than anyone else, so I engaged in six semi-structured interviews with canners in Los Angeles via telephone during January and February of 2021. The semi-structured questions asked were designed to understand the benefits and drawbacks of the canning profession. This research was approached through community consultation, in which community stakeholders provide input during the research project to ensure findings are culturally relevant and if employed, more effective. Canner interviewees represent a range of participation in recycling for profit, from returning recyclables daily to monthly. This spectrum supplies a holistic understanding of canners' opinions who participate to varying degrees and have different financial needs. I recruited canner interviewees by posting physical flyers around Los Angeles, California, and virtually on several neighborhood groups on Facebook. Canners were gifted 25 dollars in the form of gift cards for their participation in interviews.

I conducted five interviews with people who have researched informal waste economies or who work with canners: (1) Bevin Ashenmiller, Professor of Economics at Occidental College who researched waste pickers in Santa Barbara, California, (2) Suzanne Caflisch, UCLA Masters Student in Urban Planning who is researching social movements in Brazil, more specifically,

Brazilian waste pickers fight for a more inclusive recycling system, (3) Ashley Ames, former Senior Fiscal & Policy Analyst at the Legislative Analyst Office and current principal consultant for the California Senate Appropriations Committee wrote a budget report on CalRecycle in 2015, (4) Ryan Castalia, Operations & Communications Manager at Sure We Can, a recycling center, community space, and sustainability hub in Brooklyn, New York, (5) Taylor Cass Talbott, Ground Score Advisor for Trash for Peace, and Reducing Waste in Coastal Cities project officer for WIEGO.

Limitations

Lack of Interviews and Interviewee Diversity

The primary limitation of this study is a lack of interviews with canners. Due to Coronavirus-19 restraints, I could not approach or interview canners in-person. Relying solely on physical flyers and virtual outreach, my pool of interviewees was limited to canners who had either seen the 20 flyers I hung up at Los Angeles recycling hubs or had internet access, Facebook accounts, and were part of the neighborhood groups I posted the flyer in. Another limitation was my inability to secure interviews with Spanish or Mandarin-speaking canners. This limitation is significant because many canners are non-English speaking and they may be more vulnerable to the adverse effects of participating in the informal economy.

Findings and Analysis

Information obtained from interviews provides answers to my research questions: how can California's bottle bill be reimagined to economically empower, support, and expand canners' work? Do Californian canners wish to remain in the informal sector, or would they prefer to move into the formalized economy? How can policy make canning a better autonomous

job for those who must or wish to remain informal actors? For those who can and desire a more formal position, who can assist their transition to more formalized waste work and how? Key findings include: Canners' income drastically fluctuates due to inconsistent access to recyclables. Although their income is inconsistent, canners do not want to shift into a formalized canning role because they either enjoy the benefits of working in the informal economy, or have difficulty obtaining a formal job, or both. Various policy amendments can help to support autonomous canners' work. Potential policies include: improving redemption center accessibility and reliability, expanding CRV-eligible containers, and increasing the CRV price per can and by weight.

It is important to contextualize canners stated disinterest in formalizing as no such opportunities currently exist in Los Angeles. Bottle bill experts agree that there should be a balance between formal and informal income-earning opportunities for canners. Non-profits organizations in the United States that serve canners create a range of opportunities to go along with the spectrum of formality and support autonomous canners. Some increasingly formalized roles may necessitate partnerships with local governments' waste management systems. An expansion of canners' role in the waste management system is possible if our government acknowledges canners recycling contributions positively, and in effect, ends the "scavenger" stigma surrounding their work. Canners may need an outside actor to help organize and mobilize canners so that they can fight for such an acknowledgment, the implementation of supportive policies, and potential integration into the waste management system. The nine findings of this research are as follows.

Figure 4: Canner Interviewee's Level of Participation in Canning (Appendix B)

Interviewee	Collection Frequency	Profit Range
Canner A	Collects once a month.	\$15- \$20/month
Canner B	Collects once a month.	\$18- \$45/month
Canner C	Before Covid-19 posed a health risk: Collected 3 to 4 times a week for about 2 hours at a time.	Before Covid-19: \$240- \$300 /month Now : \$30- \$40/month
Canner D	Collects every other day, 4 hours per day, full time job.	\$200- \$250/week
Canner E	Collects 2-3 times a week.	Before when employed: \$30- \$40/month Now: \$16- \$28/month
Canner F	Collects 7 days a week, all day, full time job.	\$175- \$5,200/week

1. Los Angeles-based canners' incomes fluctuate drastically due to inconsistent access to recyclables.

Canners' incomes are subject to extreme and frequent fluctuations. Every canner interviewee provided a range when describing their canning income because profits vary from each visit to the redemption center. Canner F, who recycles all things daily, reported that his earning range spans a drastic range— from 175 to 5,200 dollars per week. Canner F's gross profits are deducted by an approximate 100 dollar daily costs of gas used to collect recyclables and contractor trash bags.

Canning incomes fluctuate because canners do not have access to a consistent amount of recyclables. Canners named weather as one factor that impacts the number of available empty cans and bottles. Canners reported their lowest earnings when the weather is cloudy and rainy.

Competition with other recyclers is another factor that impacts the number of available recyclables. With many other canners and city-paid recyclers doing the same job in the same place, competition for recyclables naturally rises. Canner D noted that a canner must know the times and days that the city's recycler arrives to collect recyclables from parks and homes efficiently.

Two full-time canners, Canners D and F, shared how they navigate the system to boost their profits when they have low access to recyclables. Canner F and Canner D shared that they "cheat" the recycling refund system to boost their income on weeks when their earnings are low. They both reportedly learned what they call a "trick of the trade" from family members; inserting dirt, marbles, or rocks into cans and bottles to increase the scale's weight at the redemption center. Canner D said, "I only do it on days I have a light load." This notion that he only cheats when he must suggest that informal recyclers' payout is too low to survive on some days.

2. Canners do not want to shift into a more formalized canning role because they either enjoy the benefits of working in the informal economy, or cannot obtain a formal job, or both.

Although transitioning into a more formal role can increase and stabilize canners' income, Los Angeles-based canners are disinterested in becoming increasingly formalized workers. Canners reject formality due to two primary factors: either they are barred from securing formal employment, genuinely prefer informal employment or both. Canner D engages in the informal economy because they are rejected by the formal employment sector. Differently, Canner F's story of participation runs counter to most scholar's understanding of people being forced into informal employment due to formal exclusion. Canner F had a job in the formal economy before switching to the informal economy. He prefers the informal economy: "It's

tax-free money, money I get from hustling by myself, and I don't have to pay anyone or give up anything for medical or this or that. I worked 80 hours a week at minimum wage and walked away with way too little for it to be worth it."

All interviewees, including Canner D, shared exclusively positive reflections of their informal jobs and its informal benefits. It is evident that some canners are attracted and attached to the informality of canning. Canners noted that they enjoy immediate cash payment, tax-free income, independence, and the flexibility of working for themselves. An anecdote from Ashenmiller reinforces the benefits of independence: "In Santa Barbara, this guy had a family business and a truck. He did weekends because there were all these parties, and he wore this baseball cap that said 'El Jefe.' It was a really big deal to him that he was his own boss, that no one would tell him what to do." Additionally, many interviewees mentioned flexibility is a significant benefit of canning. Caflisch mentioned that flexibility of work schedules is vital for people with less flexible lives. Thus, interviewees with part-time jobs rely on the flexibility of canning.

3. Policy can be more supportive of canners by improving redemption center accessibility and reliability, expanding CRV-eligible containers, and increasing the CRV price per can and by weight.

All of the factors that make canning more profitable consist of increased accessibility, efficiency, and more fair payment for redemption. Canners who wish to remain autonomous stand to benefit from structural policy changes that support canning.

Redemption Center Accessibility and Reliability

Redemption centers serve as canner's pay stations, making their accessibility extremely vital to canners. Issues of accessibility and reliability include irregular and unmarked hours of

closure, short hours of service, and inaccessible parking lots. Redemption centers are considered unreliable by most canners due to inconsistent hours of operation. All interviewees use different recycling centers to return their recyclables, and all reported that their redemption centers have unreliable hours of service. Most interviewees reported frequent unmarked and unexpected closures for entire days and times of the day. Canner E said, "I have three [recycling centers] close by because one will be closed on Monday and then the other would be closed on Tuesday, and the other one is only open for a few hours." Not all recyclers are as geographically lucky as Canner E. Canner A reported instances when their Google Maps led them to a closed center and then to a center that didn't accept CRV containers. It is essential to note this cost of time to the canner

Canners want redemption centers that are open for business beyond their current posted hours. A couple of interviewees reported on recycling centers' short hours of service. Canner F was the most concerned with redemption centers' hours of operation, and they are also the interviewee who relies on the income from canning the most. The redemption center Canner F visits is open from 8:30 am until 3:30 pm. Canner F said, "I want to see a 24 hour a day, seven days a week redemption center. I could make so much more money that way. Then I would want to see an ATM type of thing so that you never have to wait to get your refund."

Canner F also mentioned the issue of late payment due to the relatively short hours of service at his usual redemption center. Canner F reports that the clerks who cash out redemption receipts leave earlier than the center's closing time. This staffing issue leaves latecomers with receipts they are unable to redeem until the next day. Short hours of service leave full-time canners, who often live canning receipt to canning receipt, unpaid until their next visit to the redemption center.

Canners who use vehicles to transport their recyclables report struggling with redemption center parking lots' accessibility. Canner C noted, "Sometimes I'll have to circle the block and wait for a car to leave so that I can get a spot." Canners who access redemption facilities by vehicle desire centers with better parking. Many interviewees reported centers with such small lots that forced canners to spend time waiting for access to a parking spot. Extra time spent waiting for access to the center adds time to the canner's workday, ultimately reducing their wage. Policy expert interviewees noted that poor accessibility and reliability of redemption centers result from insufficient government financial support of centers paired with the general decrease in scrap material price. Principal consultant for the California Senate Appropriations Committee Ashley Ames noted that extending hours of operation and expanding parking lots requires money that recycling centers, which are already struggling to stay open, likely don't have.

Beyond redemption centers, it is important to note that reverse recycling vending machines do not serve canners as redemption opportunities when drafting policy for increased redemption opportunities. In other words, there is a distinction between recycling opportunities for consumers and canners. Interviewees made clear that these machines serve everyday consumers, not canners. Reverse vending machines pay per container, which means up to 50 items, and are not worth canners' time, given slow feeding mechanisms and issues with inaccurate scanners that spit out eligible containers. Canner D remarked on the inhospitable machines, "Paying by can is for people who bring small batches of their own recyclables. Not for people who do it like me."

Expansion of eligible CRV items

All canners indicated that their profits would be significantly higher with an expansion of CRV-eligible containers. Canners come into contact with many non-CRV beverage containers like milk jugs and wine bottles as they sort through recycling and trash bins. Canners state that they recycle items even though the rate paid for these items is meager and hardly worth it.

Canners want to be paid through the CRV price for all beverage containers and also other single-use containers that are not beverages, such as detergent containers, yogurt and applesauce cups, and pickle jars. Most interviewees stated that they recycle non-CRV items anyways because of environmental reasons and because some centers will pay for the plastic itself.

An increase in the CRV per can and by weight refund

Canners interviewed would much rather see an increase in the price per pound than the price per container. It is important to note that an increase in CRV per can would be necessary to change by weight refund price. Canners measure their recyclables by weight because they bring in large batches of items. All canners reported that they are paid per pound of recyclables; all canners also believe that higher refund rates come from getting paid per container. Although the discrepancy in payment between measuring methods has not been researched, it is important to note that all interviewees perceive a major difference in payment method.

4. There should be a balance between formal and informal income-earning opportunities for canners.

While all the strategies identified above increase canning's profitability for autonomous actors, there must also be attention paid to canners who wish to transition into more formal employment. Operations & Communications manager at Sure We Can (SWC) Ryan Castalia

shared the idea that highly informal opportunities must remain where there is an effort to formalize canners because of populations excluded from formal employment. On the other hand, increasingly formal opportunities must exist to provide upward economic mobility for those who are able and interested. "Autonomous canners" will hereby refer to canners who would not want to participate in formalization. With both options present, non-canner expert interviewees agreed that there must be attention paid so that more formalized canners do not compete with autonomous canners in a way that reduces autonomous canner's income. Castalia from SWC believes the balance can exist and desires increasingly dignified career opportunities for canners who are interested.

"Some canners have spent decades doing waste management work without even really articulating it as waste management work.... without even a relationship with the concept of sustainability. It's just the work they've done to survive. So movement from that place of like automatic or desperate need into a place where like, oh wow, I see the value of this work, and I want to pursue it. What does it take from an institutional level to actually create jobs, rather than just kind of like five-cent opportunities."

5. Non-governmental organizations in the United States that serve canners can create a range of opportunities along the spectrum of formality while supporting autonomous canners.

Trash for Peace, a non-profit in Portland, Oregon, offers many low-barrier job opportunities through the Ground Score Association. The association offers jobs that range in formality, from a contracted role to part-time employment. Ground Score Association offers contract gigs to undocumented people to be as inclusive and low-barrier to entry as possible.

However, undocumented workers can only receive up to 600 dollars a year from Trash for Peace due to U.S. labor laws. Talbot from Trash for Peace shared that jobs include litter collection, event waste management, recyclables sorting, can/bottle pick-up, recycled craft workshops, and collecting census data. Beyond these jobs in current operation, the association would like to expand opportunities to the formal sale of upcycled goods, supporting reusable dishware at events, conducting waste audits, training about waste reduction and social inclusion, composting services, and research data collection. In reference to the global waste circuit discussion and the need to be more sustainable domestically, it is clear that canners are forward-thinking and stepping into proactive roles of sustainability.

Non-profit redemption centers also serve autonomous canners. Other than the streets, redemption centers are canners' principal place of work. Sure We Can, a non-profit recycling center that serves canners, remarks on the positive benefits their center has on canners. Castalia shared SWC's grounding goal is to dignify canners' work. SWC makes canners feel valued by offering a community-based center. Ryan commented on the typical experience that canners have at recycling at for-profit centers, "There is a real impersonality to the process and a transactional energy." Ryan argues that this experience devalues the work of canners who should be celebrated for their environmental contributions. Castalia described the atmosphere at SWC: "Canners come in, do their counting and sorting on site, interact with other canners, trade, and socialize to the degree that they are interested. Once they redeem their materials, they either move on or stay and hang out. We also try to offer community events and activities."

Beyond improving the atmosphere of canners' work, redemption centers can serve as broader resource hubs. Ashenmiller likened redemption centers to the Los Angeles Unified School District (LAUSD) in that they both are in regular contact with low-income people and

can provide detailed resources. Ashenmiller shared, "LAUSD has done a great job of recognizing that they have access and are trusted by a large number of low-income households and have been able to provide other resources to support communities in a really detailed way."

Due to funding acquired through their non-profit status, SWC can serve its canners and the broader community. SWC serves canners through their long hours of operation: SWC is open six days a week, most days for nine and a half hours (SureWeCan, 2021). SWC also serves its canners by partnering with several other community organizations whose missions overlap. In terms of serving the broader community, last year SWC helped NYC conduct the 2020 census, assisting the city by counting canners and other stigmatized people. This year, in response to the Coronavirus-19 pandemic, SWC is a beneficiary of a program that supplies non-profit organizations with masks, gloves, hand sanitizer, and self-administered Covid-19 testing kits. Non-profit redemption centers provide a valid way to make canning a better informal job, create opportunities for increased economic mobility, and serve as resource hubs for low-income canners and broader communities.

6. Transitioning interested and eligible canners into roles of increased formality requires careful attention to long-standing barriers.

For those who desire a more formal role, many expert interviewees agree that the entity's providing that more formal job should pay special attention to the barriers that make such a transition difficult. Obstacles include, but are not limited to, the decision to go off of government financial assistance, moving from immediate payment to a biweekly payroll, maintaining a phone, and an increasingly rigid schedule. By acknowledging these obstacles, it is possible to address them. For example, in Vancouver, Canada, the Binners Project helps its workers ease into formality by putting them on a weekly pay schedule before transitioning them to a bi-weekly

schedule. This type of consideration is vital to onboard those who are new to more formal work.

Trash for Peace works one-on-one with canners to ensure that increased formality is the right choice for them. Taylor Cass Talbott, Ground Score Advisor for Trash for Peace, said,

"Because we don't have super stable, long term, income sources for these roles, it's kind of risky for us to pull them off of whatever other they might be on. I mean, it's one thing if it's just Medicaid, but if they're on stability or something, that's a pretty big decision for them to go off stability in order to get bigger benefits."

Suzanne Caflisch, UCLA Masters Student in Urban Planning, warned about the history of new actors taking formalized waste picking roles. Employers who provide low-barrier employment must be committed to supporting canners' transition. Employers must also commit to prioritizing hiring canners in more formalized waste working roles.

7. The expansion of canners' work relies on ending the policy-level stigma surrounding their work.

Expanding the work of canners relies on destigmatizing canners at the policy level. The stigma associated with canners is held most strongly at the macro-policy level than at the micro-personal level. No interviewee reported any conflicts with collecting recyclables from the public or private sphere, despite the illegality of scavenging. According to canners, most Los Angeles citizens are willing to give canners access to their recyclables. Neighbors grant canners access to their discarded goods in two forms (1) passive: people allow canners to search through their blue bins so long as they leave the area clean; (2) active: people who save, set aside, and offer their recyclables to canners. Many canners have built relationships with homeowners who anticipate a weekly visit from the canner, and in response, give them a bag of recyclables when they come by. Canner D described how his strong connection to his community supports his

career: "My neighborhood is like a family. They save cans and bottles for me. We look out for each other."

Despite positive relationships with community members, the social stigma still exists. The stigma impacts canner's collecting behaviors; canners C, B, and A adjust in response to the stigma by limiting where they collect recyclables. Canner B only collects containers from people who have deliberately agreed to give them to her. In Canner C's case, other than returning her own recyclables, she limits her collection to the public sphere; beaches, parks, streets. Canner C keeps the legal limitations of canning in mind as she works: "I only take from public places because I would feel uncomfortable taking from private property. I don't want someone confronting me if they think I'm stealing." Canner A only recycles her goods, partially because it's not worth her time to collect from others and partially because of the social stigma of canning's relation to homelessness. "I'm not desperate enough to go searching through people's bins. I wouldn't want people who know me, my neighbors, to see me doing that."

The stigma is largely influenced by a strictly negative mention of canners in policy. Ames stated that the people most in opposition to canners work with and for recycling companies.

Ames discussed the conflict: "When waste pickers sort through bins, they take the really valuable recyclables and leave the low-cost items for recycling companies to pick up." Recycling companies are opposed to canners because they reduce a portion of their promised profits. Ames suggests that governments revise contracts with curbside haulers in line with canner's work to end the conflict between the two.

The tense relationship exists at the state level due to an infringement on recycling companies' promised profit and the belief that canners do work that is inefficient. Professor Ashenmiller commented on the wide-held belief that canners' actions are inefficient: "If we were

really thinking about efficiency, if they're pulling it out of recycling containers, that's not really increasing the amount of overall recycling, which was actually not the purpose of these laws." Still, the Ground Score program provides a hopeful model, as their team gained novel data that proves, at least in Oregon, that a large percent of canners' materials were actually sourced from trash bins.

8. Canners may need an outside actor to help organize and mobilize to fight for acknowledgment, the implementation of supportive policies, and potential integration into the waste management system.

Many global cases of organizing waste pickers have succeeded in integrating informal waste workers into the government's waste management systems. While comparing to other successful cases worldwide can prove helpful in copying useful strategies to organizing in the United States, Caflisch emphasized the importance of considering each country's contexts. For example, in the Global South, where lots of successful organizing has occurred, there are simply more informal waste workers.

Canners in Los Angeles all stated disinterest in organizing to make canning a better job. Because canners are low-income people who work under the minimum wage, it is understandable that they have little time to spare in the fight for better treatment. Caflisch discussed why organizing is a feat for marginalized people, "I think it's really difficult for informal workers to organize, I think there are huge barriers, there are intersections of vulnerability, like immigration status, language barriers, education and literacy, and cultural attitudes."

Some of this disinterest may be explained by the absence of non-profits that work for and with canners. Without a place like SWC to help canners acknowledge their role's vitality and

legitimacy, canners may lack an awareness of their role as environmental stewards in their neighborhoods. Caflisch commented on the utility of allies in organizing, "Sometimes it is very helpful for there to be an outside force that assists with organizing like Facebook groups, the Catholic Church or some kind of community organization."

9. Men may be less likely to join a potential cooperative in Los Angeles than women.

Cooperatives are a commonality among global efforts to organize and mobile informal waste workers globally. Men may be less interested in working in a cooperative than women due to their belief that co-workers would reduce their income and the lack of dangers they face in society. When Canner C collected from parks and beaches, she would always go with her mother-in-law. They would split the money gained from redemption. Canner C touched on the social dangers inherent in the public sphere for women, "I would never go out alone. It feels more motivating and safe with someone else there. Talking makes it go faster." In contrast, the three men who collect from the public sphere are adamantly disinterested in working with others. The men shared an aversion to sharing the refund amount. It is vital to note that these men also rely on CRV income more than the others.

Cooperatives often involve working together and splitting profits. Caflisch spoke on the common disinterest in working in cooperatives in Brazil, including lower pay and decreased flexibility, "I think, really, it comes down to the fact that you can earn more sometimes working independently on the street when unaffiliated with some kind of organization that has that formal basis in the landscape of waste management." Caflisch's point reinforces that informal actors will typically only change their employment conditions if they can expect a significant increase in income.

Recommendations

1. The bottle bill must be reworked so that it includes canners as valued stakeholders and legalizes their profession.

The bottle bill is outdated partly because it does not include canners. The bill's content and mission should be reframed per the fact that a substantial number of Angelenos use AB2020 to earn supplemental or full income. Canners must be involved as key stakeholders in future amendments to the bill. To be considered as valued stakeholders, canners' work must first become legalized and legitimized as a profession. A reconsideration of canner's contributions in a positive light that is true to their work's societal and environmental benefits is necessary to create a system that will work with canners. Possibilities may rise to integrate canners' work into California's waste management system once governments acknowledge canners' contributions. Integration of canners as stakeholders necessitates a reevaluation of waste haulers' contracts.

2. Policy that supports canners' work should replace aspects of AB2020 that repress canner's work and profits.

The bottle bill should become more supportive of canners and eliminate any policy aspects that limit canners' work. Canner-supportive policy includes increasing the accessibility and reliability of redemption centers, raising the CRV and the refund when measured by weight, and expanding CRV-eligible beverage containers.

Policy should mandate and enforce more redemption centers that are highly accessible and reliable. CalRecycle must provide adequate funding to keep redemption centers in business and expand their accessibility and reliability. Increased accessibility may look like redemption centers expanding their parking lots so that canners can quickly and easily enter the center. With

more funding, redemption centers' days and hours of operation can become more reliable through staffing more employees for longer shifts. Policymakers should also raise the outdated price of the CRV so that canners can earn more for their work. CalRecycle should investigate the imbalance between payment per can and by weight and make the payout equal so that canners do not lose out on earnings. A discrepancy in payment by measuring method is unjust because canners who bring in large batches must measure their containers by weight.

Lastly, the bottle bill's CRV-eligible items should expand to include more types of beverage containers and other single-use containers. Canners are already coming across and collecting single-use containers that are not part of the CRV-eligible umbrella. Findings from this research support bills like the recent and failed attempt to include wine and liquor bottles in the CRV program via AB 372 (Wieckowski, D- Fremont) (Wine & Beverage Industry Stops Bill To Overhaul and Expand Bottle Deposit System On Senate Floor, 2020).

3. State and or local governments should fund canner-supportive non-profits and other canner supportive entities.

California's governments on the state and local level should support the creation of productive initiatives that make improved and dignified environments for canners to do their work. Non-profits and other canner supportive entities like cooperatives can support canners who wish to remain autonomous and canners who desire economic upward mobility. CalRecycle should provide canning equipment to canner-supportive entities to mitigate canners' profit loss from buying supplies.

An attempt to create a canner serving redemption center or cooperative can be made possible by becoming a bottle bill pilot project. Passed in 2017, Senate Bill 458 (Wiener, Chapter 648, Statutes of 2017), the Beverage Container Recycling Pilot Program authorizes CalRecycle

to grant five pilot projects proposed by local administrations to explore new modes of redemption in underserved areas. Following this, in 2019, Assembly Bill 54 (Ting, Chapter 793, Statutes of 2019) passed to make the program more flexible in the projects' mission and increased the funding for the program to five million dollars. Currently, the program is funding two projects that aim to improve the accessibility of redemption; one in San Francisco is working on a bag-drop system with electronic payment for recyclables, and the other in Culver City is implementing a mobile redemption center. While necessary and creative, existing projects are not supportive of canners' work.

4. California's state and local governments should work with canner-centered organizations.

California state and local governments should work alongside future canner-centered organizations to contract jobs. Contracting work for canners through organizations allows for more formal opportunities that provide more stable and higher wages. Los Angeles should radically rethink canners' roles because some of the most effective waste management systems are run by canners. Specifically, Los Angeles County should look to Pune, India's highly efficient recycling management, for innovative ways to integrate canners into the waste management system.

5. Canners and allies should begin grassroots organizing campaigns.

Canners in California are currently unorganized. Without collective power, canners are largely unable to voice their concerns and demands to elected officials. Knowing that canners are often struggling to earn their livelihood, allies who have time and energy should assist Los Angeles-based canners in organizing. Canner organizers should work to make canning a better

job through utilizing Los Angeles residents' widespread willingness to grant canners access to their recyclables. Organizers should engage in education campaigns to make the public aware of ways they can support their local canners, including actions like; placing CRV recyclables in a separate bag, advocating for canners, and introducing themselves to their neighborhood canner.

Conclusion

This research investigated how to reimagine California's bottle bill to encourage, support, and expand canners' work. This inquiry is pertinent because California and local governments are working on the bill to make it work better for consumers but not for canners. Other questions explored canners' desires and needs – Do Californian canners wish to remain in the informal waste sector, or would they prefer a move into more formalized waste employment? How can policy better support autonomous canners' work and increase their income? If canners desire to transition into the formal waste sector, what entity can assist their shift and how?

Californian canners and other experts on the informal waste sector and bottle bills informed answers to these questions. First, a supportive policy that acknowledges canners as key stakeholders should aim to; increase redemption center accessibility and reliability, increase CRV and price per pound of recyclables, establish the formal recognition of canners' work in a positive light, and legalize scavenging. Second, canners enjoy the informal benefits of canning and are disinterested in transitioning to a formalized role. While many populations are forced into informal roles, some people choose informality without being excluded. All canners enjoy the environmental benefits canning provides. The disinterest of canners to move into more formalized waste management roles should be contextualized because no actor exists in California to facilitate such a transition. Non-profit organizations exist to support canners in the

United States. These organizations can effectively organize canners, make autonomous canning a better job, and create and offer increasingly formal, low-barrier employment opportunities for canners.

Such findings were limited by a small canner interviewee base due to the Coronavirus-19 pandemic's effect on in person interviewing. My language limitations resulted in a complete lack of language diverse interviewees. I secured few interviews with canners who are full-time informal recyclers and no interviews with canners who collect by cart. All future research on canners should prioritize a diverse range of canners' input. Moving into an environment that is less impacted by the Coronavirus-19 pandemic, researchers can conduct interviews in person to collect a higher number of more diverse interviewees.

There must be more robust and up-to-date literature on informal waste work in the United States so that governments can properly partner with canners. Future research should be conducted to determine if canner cooperatives are viable in the United States, and if so, determine if the existence of cooperatives hurts autonomous canners' ability to earn a livable income. Additionally, future research should measure the gender wage gap in canning and determine how to address it. Future research should determine how the Coronavirus-19 pandemic has impacted canners. Lastly, future research should determine how to make canning more profitable for canners who collect by cart.

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Appendix

Appendix A: Flyer distributed by the Los Angeles County Department of Public Works 2010



Appendix B: Interviews with Canners

Canner A

How they learned about CRV refunds as income-earning opportunity	Years ago when a woman asked her to save her recyclables so that she could redeem the CRV. She had no problem saving her cans for this woman.
When they started to recycle for refund	When in need of extra cash, she started recycling her own.
Where do you get recyclables	Her own. It's not worth her time to ask people in her family or neighbors for their recyclables.
Frequency collecting & Payment per visit	Once a month, \$15-20/month
Employment status	Part-time
Reason for participation	Environmental and financial motivation. Money from recycling helps Canner A buy food.
Issues they run into when recycling for the refund	Redemption centers are not reliably open when they say they are.
Cost of supplies used to recycle	None
Other	 "You get more money if you do it yourself and less if you use the weighing scale." "I would be embarrassed to go through other people's trash."

Canner B

How they learned about CRV refunds as an income-earning opportunity	Canner B always knew about the beverage recycling program. She used to save recyclables for the unhouse people that passed by her street.
When they started to recycle for refund	When times "hit hard" in 2018.

Where do you get recyclables	Her own materials and her neighbors'. A Facebook group called <i>Buy Nothing, Burbank</i> helped her connect to 10-12 neighbors who save their recyclables for her. She picks up from them once a month. All the neighbors are within a 1.5 mile radius from her house.
Frequency collecting & Payment per visit	Once a month, \$18-45/month
Employment status	Gig-work. Drives for Insta-Cart
Reason for participation	Environmental and financial motivation. Money from recycling helps Canner B buy food and gas for her vehicle.
Issues they run into when recycling for the refund	 Lack of parking at recycling centers. Driving from closed center to closed center to find an open one.
Cost of supplies used to recycle	None
Quotes	 "I wouldn't recycle ever with a reverse recycling machine, its way too time consuming and most times it doesn't read the barcode right. You lose money per pound by weight, but counting one by one is not worth my time." "Once the guy [recycling center worker] gave me \$4 for my cans and then next time I returned almost exactly the same thing and he gave me \$14." "I wish it would be easier to find a recycling center, google maps has led me to closed locations. Another time it led me to a scrap yard that would only take metal and aluminum, not bottles." "I wish that all glass containers could be accepted, it's a lot of work to sort green from amber from clear glass." "I wish that pickled jars and apple sauce containers were accepted as CRV items. I would make more money." "Once my car fills up it's gotta be dropped off, no place for storage."

	 "I need the money, but I know that some people need-need the money." "I love the guys at [recycling center] because they know me and give me good prices."
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Canner C

How they learned about CRV refunds as an income-earning opportunity	Her mother-in-law.
When they started to recycle for refund	Started in 2008.
Where do you get recyclables	Now: she returns her own and friends' recyclables. Canner C sometimes collects the bottles and cans she sees at work and saves them in her locker. Before Covid-19 posed a health risk: Canner C would collect from parks and beaches with her mother-in-law. They would walk at night a few miles. She would never collect in public alone.
Frequency collecting & Payment per visit	Now: \$30-40/ Month Before Covid-19 posed a health risk: \$240-300 /Month. Canner C would collect 3 to 4 times a week for about 2 hours at a time.
Employment status	Part-time, hours reduced because of Covid-19
Reason for participation	Canner C used profits to pay for gas, savings, kids snacks, laundry, and side money.
Issues they run into when recycling for the refund	 Recycling center's are difficult to access by car because of small parking lots. Always have to circle the block. Public trash and recycling bins are very dirty and the depth of the cans makes it hard for her to reach recyclables at the bottom. Bins are not designed for canners.
Cost of supplies used to recycle	Gas and trash bags

Quotes	• "It feels more motivating and safe with
	someone else there, talking makes it go faster."
	"Other people at parks would be competitive and like claim bins, but it's the norm to
	not bother other people working at other cans"
	"I stopped going to public places because
	Covid-19 and because the homeless people are
	taking over Echo Park and other places we used to
	collect."
	 "I love this one [redemption center] off
	Figueroa and Meridian, they accept all kinds of
	plastics, lots of them don't. They also give some
	money for detergent containers and milk jugs. Not
	much, but something. They are nice, they know me,
	and they offer hand cleaning stations."
	• "I only take from public places because I
	would feel uncomfortable taking from private
	property. I don't want someone confronting me if
	they think I'm stealing."

Canner D

How they learned about CRV refunds as an income-earning opportunity	His grandfather taught him how to be a canner.
When they started to recycle for refund	Has done it all his life.
Where do you get recyclables	Houses, parks, beaches, clubs, bars, restaurants
Frequency collecting & Payment per visit	Collect every other day, 4 hours per day. \$200-250/Week
Employment status	Unemployed
Reason for participation	Canner D uses profits to pay for rent, food, and other needs of his children.
Issues they run into when recycling for the refund	Sees no issues

Cost of supplies used to recycle	Gas and trash bags
Quotes and other comments	 "I don't like to share. If I worked with someone else, then I would have to split the money. I don't have time for that when I have a whole family to provide for." "I'm going to teach my sons how to do this because 70% of black men end up dead or in jail. I want to teach them an honest hustle." "My neighborhood is like a family, they save cans and bottles for me. We look out for each other to get out the mud." Takes him 1 to 1.5 hours to sort at the center Wears heavy duty mask and gloves Knows that aluminum is the most valuable Grandpa taught him how to put dirt and marbles in the cans and bottles to get more money. He only does this when he has a light load. Deals with pollution at recycling centers

Canner E

How they learned about CRV refunds as an income-earning opportunity	His grandfather taught him how to be a canner.
When they started to recycle for refund	Has done it all his life.
Where do you get recyclables	Streets, friends, parks, and neighbors who save him bags of recyclables.
Frequency collecting & Payment per visit	Now: \$16-28/ Month. Collects 2-3 times a week. Before when employed: Collected \$30-40/month collecting solely from place of work.
Employment status	Unemployed

Reason for participation	Canner E uses canning to better his mental health and wellbeing. Canner E uses profits to fund his van [home] and to share it with other unhoused people.
Issues they run into when recycling for the refund	 Recycling centers have irregular hours and are closed when they should be open. It would help him make a lot more money if the CRV applied to more items. Other items are hardly worth anything.
Cost of supplies used to recycle	Gas and trash bags
Quotes and other comments	 "I just do it in my spare time to help my depression. It helps my mind go to other things. I love to recycle, it's addicting. It gives me purpose." "People know what people like me are up to. Lots of people who leave cans in the park leave one out so as a signal that they left them there for you." He won't dig through the whole trash bin, only will skim it while other people will go deeply into it. It's too dirty. He lives in his van so its stays parked, everything is on foot "I could collect a ton more with a car. But with a car I would have to find new locations. And I like the walking part of it most anyways" He used to notice people who would wait for the machines if they were skeptical of the weight ripping them off. "I like that it is tax free money. When I made more from work it used to help with my bills." "My friends know of the jackspot areas, restaurants and bars. But I don't want to step on their spot."

Canner F

How they learned about CRV refunds as an income-earning opportunity	His uncle trained him in broad scavenging recycling and canning. His uncle taught him the "tricks of the trade".
When they started to recycle for refund	15 years
Where do you get recyclables	Houses, parks, warehouses wherever there is traffic.
Frequency collecting & Payment per visit	Collects 7 days a week, all day, full time job. Worst day on the job: \$175 (raining all week). Best day on the job: \$5,200 (found copper shillings at construction site). As a full-time informal recycler, recycling things like precious metals and stoves, canning makes up 1/3 of his income.
Employment status	Full time informal recycler.
Reason for participation	Canner F uses profits to pay for all living expenses.
Issues they run into when recycling for the refund	 Runs up against the clock with limited and short hours of the recycling centers. Most close at 4pm. He wants a 24 hour 7 days a week redemption center because he could make way more money this way, staying out later and starting earlier. If canners start counting cans and bottles near closing time, canners can't redeem money from the receipt until the next day because they stop paying people out after a certain time. Desires machines that can pay people out at redemption centers. Would benefit from CRVs on more items. Color glass, and milk containers.
Cost of supplies used to recycle	 \$50 on gas for his U-haul/ Day \$50 at home depot on contractor trash bags/ Day
Quotes and other	• "I see it as a treasure hunt. I can find

comments

anything. You never know how much you will get."

- Goes to clubs and bars on the regular, that have bags set aside for him, they recognize and respect what he's doing.
- "People don't get mad at me as long as I clean up and be respectful."
- Started with a bucket and a bag, then a stroller, a basket, a car, a truck, and finally a Uhaul.
- "It would be hard to survive without the CRV."
- He sorts in the moment out of fear of the team thieves that steal from big collectors at recycling centers.
- Parks are hard to be profitable because the city comes to clean up every day, so if you want to get stuff you have to know when to go.
- At the park, you will make money if you spot a party
- "I make 15% more profit when I take my twin boys with me. They do one side of the street while I do the other. I would never work with anyone but family. They ask to come to hangout with me since I work so much. I like to teach them about hard work and saving up."
- He takes them twice a month or less. He gives the kids some money from profits.
- "I've had regular jobs but I feel like I'm really earning it really hustling, not selling drugs, not pimping, but doing an honest hustle."
- "It's tax free money. Money I get from hustling by myself and I don't have to pay no one or give up nothing for medical or this or that. I worked 80 hour week at minimum wage and walked away with way too little for it to be worth it."
- Income always depends, construction sites, and weather.
- "I'm my own boss, I get to work when I want."

- "I couldn't do it without wheels and a motor. On foot it would be impossible to have a career in it."
- Injuries from scavenging- hepatitis, stabbed with needles, rusty nails, cut by glass shards
- "Got to be aware and wear boots, thick pants, gloves."
 - He has health care.