

Self-Checkout: Is It Reliable for Selling Alcohol?



Community Economic Development Clinic
at the University of California, Los Angeles

Los Angeles Alliance for a New Economy

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INTRODUCTION

This report discusses the results of a study conducted by law students at the Community Economic Development Clinic at the University of California, Los Angeles and the Los Angeles Alliance for a New Economy (LAANE). The study grew out of the Clinic's work with LAANE, which has focused on researching trends in the grocery industry and their impact on economic development in low-income communities. In light of concerns about whether the increased prevalence of self-checkout machines would enhance the risk of illegal alcohol purchases, the reliability of self-checkout machines in monitoring alcohol sales was evaluated.

... participants conducted 97 visits to 34 grocery stores with self-checkout machines in Los Angeles and Orange counties.

The study was conducted over two weeks in April, 2009 with participants ranging in age from 21 to 41. The participants included UCLA law school students from the Community Economic Development Clinic, as well as LAANE interns, staff, and volunteers. Participants visited five different grocery store chains with self-checkout machines: Albertsons, Ralphs, Fresh & Easy, Superior, and the Market by Vons. Participants were scheduled to visit stores on numerous occasions to purchase alcohol along with other



items. At the conclusion of each visit, participants completed a survey, which is included at the end of this report. In total, participants conducted 97 visits to 34 grocery stores with self-checkout machines in Los Angeles and Orange counties. Of the stores visited, 65% used self-checkout registers exclusively, while the remainder used a combination of self-checkout and staffed registers.

THE RISE OF SELF-CHECKOUT IN SELLING ALCOHOL

In recent years, self-checkout machines have become commonplace in supermarkets and other stores where alcohol is sold. In stores with self-checkout machines, at least one quarter of all transactions are now made using these machines.¹ Purchases made using self-checkout machines are increasing. Self-checkout machines were used for \$137 billion in purchases at retail stores in 2006. This is 24% more than what was spent using these machines in 2005.² Self-checkout purchases continued to increase in 2007 and 2008. In 2008, \$230.7 billion worth of goods were purchased at retail stores through self-checkout machines. This number represents a 28% increase in self-checkout purchases from 2007.³

The self-checkout process is supposed to work as follows. Employees are notified that a self-checkout machine has locked up through a computer or a light that indicates employee assistance is required. The self-checkout machine itself does not indicate the reason for the lock up, but rather displays a screen showing that the customer needs assistance to complete the transaction. A self-checkout machine can lock up for many reasons: scanning a coupon incorrectly, putting a purse or bag on the scale, scanning the wrong price, and scanning alcohol. In order to determine the nature of the problem an employee comes to the locked register, ascertains why the lock up was triggered, provides the required assistance, and then keys in an approval code so the transaction can be completed. If the customer is attempting to purchase alcohol, it should be impossible for the customer to complete the transaction until a staff member comes over, checks identification, assesses whether the customer is intoxicated, and keys in an approval code, and that allows the transaction to be completed.

In practice, however, the study showed that there are several problems with this system. In particular, participants noted that sometimes the machines failed to lock up when alcohol was scanned, the system continued the transaction without employee approval when a credit card was swiped or other items were scanned, and employees remotely approved a transaction without ever having any interaction with the customer.

The study revealed other potential problems. For instance, because the systems do not indicate that alcohol is the cause of the lock up, employees may have no reason to ask for identification or to assess a customer's level of intoxication unless the alcohol purchase is brought to their attention. In addition, the code that employees use to override the machine may be input in several different ways. Many supermarkets use a hand held computer so that the code may be entered either next to the customer's machine or from a distance. Overriding the computer lock from a distance opens the possibility for deception by the customer. Entering the approval code on the customer's self-checkout machine makes it possible for the customer to see and potentially memorize the override code for future purchases.

Similarly, minors may be able to discover holes in the self-checkout system to circumvent age verification. For instance, one blog provides a nine-step guide on how to purchase alcohol through self-checkout without ever having to show identification.⁴

1. Go to Jewel, preferably during a busy time. Saturday afternoon works well.
2. Walk to the liquor section. Select your favorite variety of beer, wine, or spirits.
3. Go to the self-checkout line.
4. Wait for the Jewel employee in charge of the self-checkout area to become distracted. This happens regularly.
5. Scan the alcohol. The system will say that approval is needed.
6. Approval is not needed. Swipe your credit card.
7. The system will exit out of the "Needs Approval" screen and into the "Choose Your Payment Type" screen.
8. Finish paying.
9. Walk out.

SUPERMARKET ALCOHOL SALES POLICY

Supermarkets in California follow the state law prohibiting the sale of alcohol to anyone under the age of 21 by requiring their employees to check the identification of all customers who look like they are under 30 years old before allowing them to buy alcohol. Some stores require the employee to enter the customer's date of birth into a computer in order to be certain that the customer is at least 21 years old. Furthermore, employees are not allowed to sell alcohol to customers who appear drunk.⁵ However, this rule is ambiguous as it is not always possible to tell if someone is intoxicated.



In 2008, \$230.7 billion worth of goods were purchased at retail stores through self-checkout machines – a 28% increase over 2007.

¹ All Business, A D&B Company (February 4, 2004). *Supermarkets to spend big on self-checkout, POS hardware and mobile devices during next two years*, at <http://www.allbusiness.com/technology/software-services-applications-information/5228591-1.html>.

² IBM (2008). *Shrink and self checkout: Trends, technology and tips*. Somers, NY: IBM Corporation.

³ Reuters (May 6, 2008). *IBM Raises the Self-Service Bar With New Kiosk-Like Self Checkout Retail System*, at <http://www.reuters.com/article/pressRelease/idUS169184+06-May-2008+MW20080506>.

⁴ Sherman, T. (September, 22, 2007). *How to Buy Liquor at Jewel When You're Underage: A 9 Step Guide*, at <http://underscoreleach.net/jotsheet/2007/09/how-to-buy-liquor-when-youre-underage>.

⁵ California Business and Professions Code 25602(a). Retrieved June 3, 2009 from <http://www.leginfo.ca.gov/cgi-bin/displaycode?section=bpc&group=25001-26000&file=25600-25621>.



Stores differ in their policies regarding the use of self-checkout machines. Some stores require that one person monitor every four or five self-checkout machines. At other supermarkets, one employee may monitor all of the self-checkout machines in the store. Stores usually have eight or nine machines, but some have as many as 12 self-checkout machines. Employees at supermarkets with only four or five self-checkout machines have a clearer view of the customers than do employees at stores in which all registers are self-checkout, who must observe many more lanes of self-checkout machines.

Self-checkout machines have the potential to allow people who are under 21 or who are intoxicated to leave the store with alcohol, either through human error, computer error, or theft.

The study found that some supermarkets have security guards at the entrances, others do not. For example, some Ralphs and Vons stores have security guards. Fresh & Easy stores do not have a dedicated guard. Stores such as Ralphs, Albertsons, and Vons also have greeters. The greeters welcome patrons entering the store. While greeters are not hired for security purposes, their presence may create a deterrent for individuals considering stealing alcohol or other items.



SELF-CHECKOUT MACHINE USE POLICY

The use of self-checkout machines creates additional challenges in ensuring that the rules regarding the sale of alcohol are followed. When using self-checkout machines, alcohol sales must be monitored without an employee located directly at the register. Self-checkout machines have the potential to allow people who are under 21 or who are intoxicated to leave the store with alcohol, either through human error, computer error, or theft.

25% of all grocery store transactions are now made through self-checkout machines.

KEY FINDINGS OF THE STUDY

This study of grocery stores with self-checkout registers illustrated that it is possible to purchase alcohol without the oversight of an employee. The results of the study are organized into three areas: the lack of staff at self-checkout machines and opportunities for theft; the failure to ask for identification or assess for intoxication; and computer failures of the self-checkout machines.



Lack of Staff at Self-Checkout Machines and Opportunities for Theft

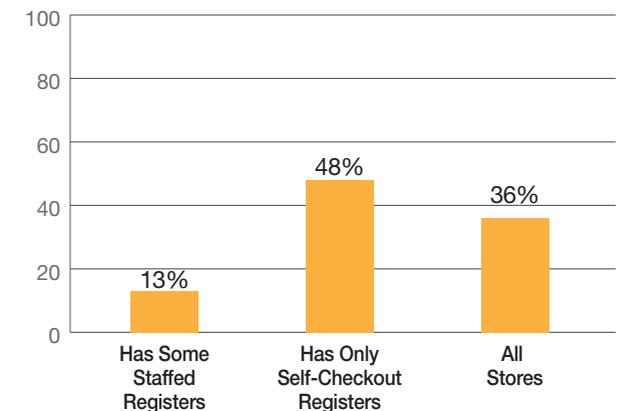
In two-thirds of the visits, participants saw only one employee working at the self-checkout area. In five instances, participants saw no employees at the self-checkout area. As is demonstrated in Table 1, about a quarter of the time, participants had to wait two minutes or longer for an employee to come over after they scanned alcohol. However, wait time varied, depending upon the number of self-checkout machines at a store. At stores that were entirely self-checkout, participants had to wait two or more minutes for staff in nearly one-third of the visits, with the maximum wait time reaching five and a half minutes. At stores with some staffed registers, in contrast, participants had to wait two minutes or longer in less than one-fifth of the visits, with a maximum wait time of three minutes.

TABLE 1. Wait time for employee assistance after scanning alcohol

	Wait Time of 2 or More Minutes	Maximum Wait Time
Used Some Staffed Registers	19%	3 minutes
Exclusively Used Self-Checkout	29%	5.5 minutes
All Stores	26%	5.5 minutes

Another concern revealed by the study was that employees sometimes had obstructed views of customers purchasing alcohol. As Figure 1 shows, in just over one-third of the visits, participants believed that the employee monitoring the self-checkout lanes did not have a clear view of all the machines. Participants reported that employees at nearly half of the stores with only self-checkouts did not have a clear view of the self-checkout machines (in 14% of the cases, the employee's view of the machines could not be determined). In contrast, at the stores that did not exclusively use self-checkout machines, participants felt that employees had an unobstructed view of the registers 84% of the time (in 3% of the cases, the employee's view of the machines could not be determined).

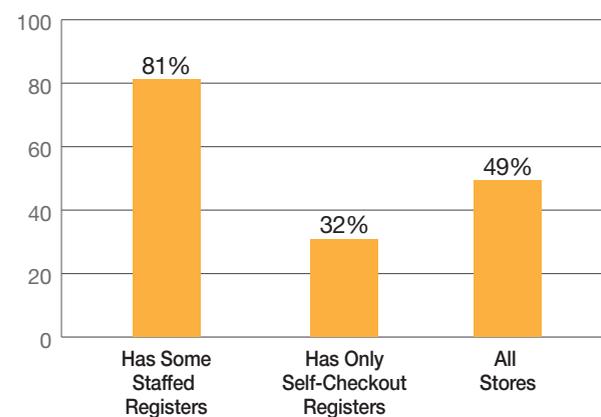
FIGURE 1. Percentage of stores without a clear view of the self-checkout machines



Furthermore, more than half of the stores did not have either a security guard or an employee monitoring the store exits (see Figure 2). Again, the stores, which used only self-checkout registers, had fewer staff and provided a greater opportunity for customers to steal alcohol. In this case, 81% of stores with only some self-checkout machines, but only 32% of stores that exclusively used self-checkout machines had either a security guard or an employee monitoring the store exits.

... almost half the time, young people were able to purchase alcohol without either having to provide proof of their age or make eye contact with an employee.

FIGURE 2. Percentage of stores with a security guard or an employee monitoring exits



In combination, low numbers of employees supervising self-checkout machines, obstructed views, and long wait times enhance the risk of error in monitoring alcohol purchases and may make it easier for customers to purchase alcohol illegally, either through deception or theft.

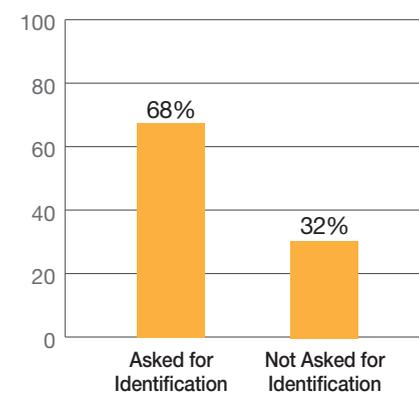
Failure to Ask for Identification or Assess for Intoxication

One would expect that low staffing ratios in the self-checkout area would reduce the likelihood that customer identification would be checked or intoxication level assessed when using the self-checkout machines. Although it is the industry standard for grocery clerks to check identification for anyone who appears under the age of 30, in the study, one-third of participants between ages 21 and 30 reported that they were not asked to provide identification (see Figure 3). Only one participant aged 30 or younger was asked to give her date of birth, which would have provided another method of determining age or level of intoxication.

... participants were able to override the system or purchase alcohol without an employee's assistance 19 times out of 97 attempts (20% of attempts).



FIGURE 3. Percentage of participants aged 30 or younger who were asked to show identification



The participants also reported that employees made eye contact with them less than half the time (39%). Only a little more than half (55%) of participants aged 30 or under, who were not asked for identification, reported making eye contact with an employee. Thus, almost half the time, young people were able to purchase alcohol without either having to provide proof of their age or make eye contact with an employee. These results suggest the absence of careful scrutiny that would allow employees to judge either age or level of inebriation. Similarly, employees asked participants questions that elicited a verbal response in only 23% of the visits, again raising questions about whether the employees could adequately assess whether or not the customer was intoxicated.

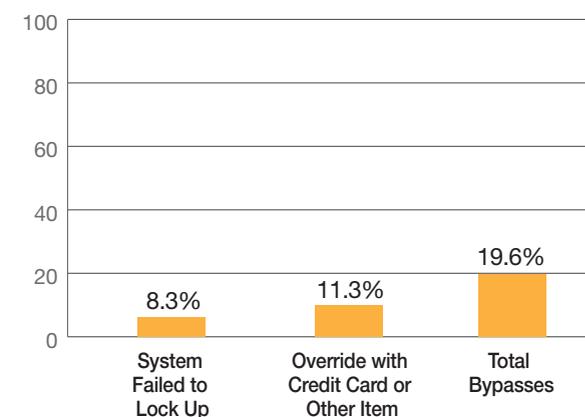
Computer Failures

The self-checkout register's system appeared to work correctly most of the time, by locking and not permitting customers to purchase alcohol without some sort of approval from an employee (or some sort of system override). However, the system **did not** lock in eight instances, allowing participants to purchase alcohol without approval by a supermarket employee.

Furthermore, in some cases, even when the system initially locked, participants were able to override the system without employee intervention. In eleven cases, participants were able to override the system by either scanning another item or swiping a credit card in the machine, or by both scanning an item and swiping a credit card. As is shown in Figure 4, in total, participants were able to override a locked self-checkout machine or purchase alcohol without an employee's assistance and thus bypass the system 19 times out of 97 attempts (about 20% of attempts).



FIGURE 4. Percentage of alcohol purchases without an employee's assistance



This study of grocery stores with self-checkout registers illustrated that it is possible to purchase alcohol without the oversight of an employee.

CONCLUSIONS AND RECOMMENDATIONS

The purchase of alcohol by minors under the age of 21 and by people who are already intoxicated creates a financial and public health problem. More than 2 million people under the age of 21 drink each year. Underage drinking results in increased costs for medical care, loss of work, and pain and suffering experienced by youth who drink. Furthermore, underage drinking increases violence, traffic accidents, property crime, high risk sex, poisoning, and psychoses among youth and fetal alcohol syndrome among the infants of youth who drink. California ranks in the top third of the country on spending on underage drinking.⁶

Alcohol is not supposed to be sold to people who appear intoxicated. However, purchasing alcohol when inebriated is not difficult. A California study found that among study participants who feigned drunkenness, 58% were able to purchase alcohol. Problems such as traffic accidents, drownings, and physical or sexual assaults are frequent consequences of intoxication. These and other alcohol-related problems are even more likely when people who are already intoxicated are allowed to purchase more alcohol. The sale of alcohol to people who are intoxicated may result in many of the same problems as underage drinking.⁷

When surveyed, people under the age of 21 consistently respond that it is easy to obtain alcohol. Often young people

get alcohol from friends, parents, or other adults they know, but they also are able to buy alcohol despite this being illegal.⁸ Statistics on the negative impact of intoxication highlight the importance of not selling alcohol to individuals who are already intoxicated.⁹ The results of this study strongly suggest that the use of self-checkout machines can increase the ease with which minors and those who are inebriated are able to purchase alcohol.

As noted, the sale of alcohol to minors and those who are intoxicated has well-documented negative public health impacts. There is strong precedent for governmental action to promote public health. In 1995 California passed legislation to restrict the use of self-dispensing cigarette machines. In 1998, California and 45 other states, reached an agreement with major tobacco companies to limit the advertisement and sale of tobacco products and provide funding to combat the health risks of smoking. As a result, today, customers are not able to purchase tobacco products at a grocery store without an employee getting the product for them.¹⁰

The public health concerns created by alcohol may merit similar safeguards. The evidence of inadequate staffing, inconsistent monitoring, and technological failures documented in this study suggest that self-checkout machines may increase the risk of illegal purchases of alcohol, thereby harming public health. State and local leaders need to take action to address this situation and ensure that minors and people under the influence cannot obtain alcohol at grocery stores that operate self-checkout registers.



A sampling of the alcohol purchased through self-checkout for this study

⁶ Pacific Institute for Research and Evaluation (PIRE) (October, 2006). *Underage drinking in California: The facts*. www.udetc.org/factsheets/California.pdf

⁷ Lenk, K. M., Toomey, T. L., & Erickson, D. J. (2006). Propensity of alcohol establishments to sell to obviously intoxicated patrons. *Alcohol – Clinical and Experimental Research*, 30(7), 1194-1199.

⁸ Marin County Board of Supervisors (February, 2006). *Reduce the easy availability of alcohol by making access to it more difficult*. www.co.marin.ca.us/Depts/HH/Main/adt/documents/pdf/strategy%20sheets%20for%20Communities.pdf

⁹ Lenk, K. M., Toomey, T. L., & Erickson, D. J. (2006). Propensity of alcohol establishments to sell to obviously intoxicated patrons. *Alcohol – Clinical and Experimental Research*, 30(7), 1194-1199.

¹⁰ <http://slati.lungusa.org/state-templ.asp?id=5#SC>; New York Times, November 21, 1998, Section: A: "Remaining States Approve the Pact on Tobacco Suits" by Barry Meier.

GROCERY SELF-CHECKOUT SURVEY

Store Name: _____

Address: _____

City: _____ Zip Code: _____

Date: _____ Time: _____ Surveyor Name: _____

Total # of Registers: _____

of Self-checkout Registers: _____

Employees at Checkout:

How many employees were at the Checkout area when you were waiting to pay? _____

Were there employees between the exit doors and Self-checkout registers? **Yes** or **No**

Were there security guards near the exit/entrance? **Yes** or **No**

Did employees have an unobstructed view of customers purchasing items (i.e. no displays or other customers in the line of sight)? **Yes** **No** **Don't know**

Were employees helping customers with Self-checkout? **Yes** or **No**

Were employees helping customers complete *alcohol purchases* at Self-checkout? **Yes** or **No**

Did you see customers at Self-checkout registers waiting for help? **Yes** **No** **Don't know**

How many employees were available or watching registers? _____

Purchasing Alcohol:

Did the Self-checkout prevent you from completing your purchase after you scanned alcohol? **Yes** or **No**

Were you able to override the system by scanning another item? **Yes** or **No**

Were you able to override the system by swiping a credit card? **Yes** or **No**

How long did it take for an employee to come after the alcohol was scanned? _____ minutes

Did you have to wait for an employee to finish the transaction because... (check all that apply)

- No employees were at the Checkout area
- Employees were completing transaction for other customers at Self-checkout registers
- Employees were helping customers having other problems with Self-checkout
- Other, explain _____

Did the employee ask for ID? **Yes** or **No** Did the employee ask for your date of birth? **Yes** or **No**

Did the employee make eye contact? **Yes** or **No**

Did the employee ask any other questions that would elicit a verbal response from you? **Yes** or **No**

How long did it take you to complete the entire checkout process (incl. waiting in line, waiting for employees and checking out)? _____ minutes

Describe any problems you had with the Self-checkout: _____

