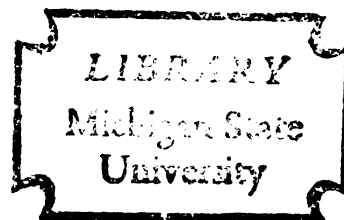


THESIS



This is to certify that the

thesis entitled

THE ECONOMIC EFFECTS OF THE MICHIGAN
BEVERAGE CONTAINER LAW ON A
PACKAGE SYSTEM

presented by

RICHARD SJOLANDER

has been accepted towards fulfillment
of the requirements for

M. S. degree in PACKAGING

Dr. James W. Goff

Major professor

Date 31 MAY 1979

PLACE IN RETURN BOX to remove this checkout from your record.
TO AVOID FINES return on or before date due.

DATE DUE	DATE DUE	DATE DUE

THE ECONOMIC EFFECTS OF THE MICHIGAN
BEVERAGE CONTAINER LAW ON A
PACKAGE SYSTEM

By

Richard Sjolander

A THESIS

Submitted to
Michigan State University
in partial fulfillment of the requirements
for the degree of

MASTER OF SCIENCE

School of Packaging

1979

ABSTRACT

THE ECONOMIC EFFECTS OF THE MICHIGAN BEVERAGE CONTAINER LAW ON A PACKAGE SYSTEM

By

Richard Sjolander

Using a case study of Flint, Michigan and Fort Wayne, Indiana, the effects of the Michigan Bottle Bill are determined. The price of beer is up in Michigan and sales are down as a result of the law. Both decreasing sales and a swing away from cans are found to be partially the result of wholesale and retail marketing strategies which discourage can sales. A bottle bill is found to be a very expensive method of dealing with a small portion of the litter problem. Detailed analysis of pricing at all levels in the system finds price increases to parallel cost increases, i.e. least at the brewer level and greatest at the retail level. The Bottle Bill has made a highly capital intensive industry more labor intensive. Alternative litter legislation is also explored.

ACKNOWLEDGMENTS

The views expressed in this paper are those of the author and based on observations of the implementation of the Michigan Bottle Bill from before its enactment until May, 1979. My special thanks go to Dr. James Goff who was instrumental in keeping me a disinterested observer both during the early part of the study when my biases pushed me toward the pro-Bottle Bill cam and during the latter months when my opinions changed to an anti-Bottle Bill position. My thanks also to the Reynolds Metals Company, Flexible Packaging Division who were interested in this study and who generously supported it through a grant to the School of Packaging, Michigan State University.

I would also like to thank the retailers, wholesalers, and brewers in Flint, Michigan, Fort Wayne, Indiana and elsewhere who gave me their time and knowledge, shared with me their problems, and allowed me to observe their businesses. It is upon these observations and interviews that this study rests. You remain unnamed as individuals in this paper, but to you as a group I extend my thanks.

TABLE OF CONTENTS

	Page
ACKNOWLEDGMENTS	ii
LIST OF TABLES	iv
LIST OF FIGURES	v
LIST OF APPENDICES.	vi
INTRODUCTION.	1
PURPOSE OF THE MICHIGAN BEVERAGE CONTAINER LAW.	2
THE LAW	4
HISTORY THROUGH ENACTMENT	6
METHODOLOGY	9
THE EXPERIMENT AREAS.	10
COMPARISON OF FLINT AND FORT WAYNE PRIOR TO NOVEMBER 1978	12
FLINT, MICHIGAN NOVEMBER 1978 THROUGH MARCH 1979.	15
FORT WAYNE CONTROL AREA, NOVEMBER 1978 THROUGH MARCH 1979	28
THE MICHIGAN PACKAGES	29
CHANGES IN THE PACKAGE MIX AND PRODUCT MIX.	32
THE EFFECT OF ALTERNATIVE RETAIL BEVERAGE STRATEGIES ON SALES	36
PRICING	38
UN-REDEEMED DEPOSITS.	54
EMPLOYMENT.	56
LIMITATIONS OF THE STUDY.	57
CONCLUSIONS	61
APPENDICES.	66
BIBLIOGRAPHY.	70

LIST OF TABLES

Table	Page
1. PERCENT CHANGE IN SALES DURING TWO FOUR WEEK PERIODS.	37
2. PERCENT CHANGE FOR BEER PRICE.	41
3. PERCENT CHANGE BY PACKAGE TYPE IN FOB PRICE	42
4. PERCENT CHANGE IN WHOLESALE BEER PRICE.	43
5. FLINT, MICHIGAN WHOLESALE BEER PRICING.	45 - 46
6. PERCENT CHANGE IN RETAIL BEER PRICE	48
7. RETAIL BEER PRICE FOR 6-12 Oz. BOTTLES AND CANS	50
8. SUPERMARKET PRICE SURVEY.	51
9. SUPERMARKET PRICES SURVEY	52 - 53
10. NATIONWIDE PRODUCT-PACKAGE MIX.	58

LIST OF FIGURES

Figure	Page
1. DISTRIBUTION OF BEER PACKAGES BY TYPE OF CONTAINER.	14
2. BEER BOTTLES.	17
3. EMPTY CONTAINERS IN STORE AISLE	22
4. TOTAL BEER SALES IN MICHIGAN BY YEAR.	60

LIST OF APPENDICES

Appendix	Page
A. THE MICHIGAN BEVERAGE CONTAINER LAW	66
A. THE MICHIGAN BEVERAGE CONTAINER LAW	67
A. THE MICHIGAN BEVERAGE CONTAINER LAW	68
B. PROPOSITION A	69

INTRODUCTION

This paper is an observational study of the effects of the Michigan Beverage Container Law, which went into effect December 3, 1978. It covers the period from September, 1978, three months before the enactment of the law, through March, 1979, four months after the law took effect. The study limits itself to beer packaging and off-premise retail sales.

Two areas are studied, Flint, Michigan as an experiment area, and Fort Wayne, Indiana as control area. Emphasis is placed on changes at the retail level, but wholesalers, brewers, consumers, government, industry and environmental groups were also consulted.

PURPOSE OF THE BOTTLE BILL

The primary purpose of the Bottle Bill is to eliminate bottles and cans from litter. A secondary purpose is to conserve natural resources. First, if talking about a simple litter reduction, it would appear easy to do a survey of litter and then come up with solutions to eliminate it. This, however, was not done. In fact no one bothered to do a litter study in Michigan until almost two years after the bill was passed by referendum. Defining litter and solid waste, of which litter is a part, will help to clarify the issue.

Solid Waste: Discarded solid matter disposed of in an orderly fashion according to the laws or norms of society.

Litter: Discarded solid matter disposed of in a disorderly fashion in violation of the law.¹

Solid waste then is, by definition, an economic issue and being such can be dealt with using economic measures. Litter, on the other hand, is a behavioral problem. Thus to combat litter will require measures which change the behavioral patterns of individuals currently exhibiting undesirable behavior patterns, i.e. litterers. This distinction between litter and solid waste makes otherwise seemingly illogical behavior more understandable. This explains why no one bothered to find out what litter was in Michigan or how much of it might be eliminated by removing the portion of litter comprising beverage containers. The nonreturnable beverage container became a symbol of American life that everyone used and recognized and an outstanding

¹ James Goff, "Litter and Solid Waste," Lecture at Michigan State University, March, 1978.

example of the wasteful society.¹ Thus, when the results of the litter study were finally published in February, 1979, the headlines read, "Containers 18% of Litter"² rather than emphasizing or even mentioning the other 82% of litter. Thus the attention of the state was upon the small portion of beverage litter to the exclusion of all mention of the other 82% of litter untouched by the Bottle Bill. The 18% figure itself is also interesting. The study states, "the primary purpose was to relate the exposure of persons to litter."³ Thus, the figures derived in the study do not reflect the amount of litter in the State of Michigan, but rather the amount of visual exposure of the population to litter. What we don't see can't hurt us. The study came up with several figures to depict different aspects of litter:

Beer and soft drink containers account for:

7.9% of the cost of litter clean-up.

12.2% of the total visual pollution caused by litter.

This means the area covered by litter.

18.1% of the total volume of litter.⁴

These figures say that, as the study is surveying how much litter the people see, a more accurate representation of that would be the figure 12.2% of litter by area. The 18% figure makes beverage containers appear to be a

¹ Arthur Young & Company, Complying With The Michigan Container Law, (Arthur Young & Company, 1978), p. 5.

² "Containers 18% of Litter," East Lansing (Mich.) The State News, 28 February, 1979, p.5.

³ Daniel B. Syrek, A Survey of Michigan Roadside and Recreation Area Litter Prior to Implementation of the Beverage Container Law, (Sacramento: Institute for Applied Research, 1978). (Mimeographed), p. 45.

⁴ Syrek, A Survey of Michigan Roadside and Recreation Area Litter Prior to....., pp. 4, 11.

larger portion of litter than the study by its own criteria of judgment found them to be.

In summary, the purpose of the Bottle Bill would appear to be easing the social conscience of the citizenry of Michigan rather than eliminating litter. It does, however, seem probable that the Bottle Bill will eliminate almost all of the bottle and can portion of litter in Michigan. This is supported by studies in Oregon.¹

THE LAW

The Michigan Beverage Container Law² is modeled after the Oregon law which preceded it by 8 years. It begins by defining several terms. These definitions are very useful in understanding the topic.

Beverage is any carbonated water, soda or malt drink. Thus all types of beers, sodas and even mineral waters are included as long as they are carbonated. However, still or non-carbonated drinks such as fruit juices, milk products, wine, and spirits are excluded.

Beverage container means any airtight metal, glass, paper or plastic container for one gallon or less of beverage.

Returnable container means a beverage container upon which a deposit of at least 10 cents has been paid.

Certified container is also a returnable, but the deposit is a minimum of 5 cents. These containers must be accepted for refund by at least two beverage manufacturers. An example of such a package is the export or "long neck" beer bottle.

¹ Don Waggoner, Oregon's Bottle Bill Two Years Later, (Portland: Columbia Group Press, 1974), p. 7.

² The law is included as appendix A.

Non-returnable container is a container upon which no deposit has been paid and on which no refund will be given.

A person is a consumer.

A dealer is a retailer.

A distributor is a wholesaler.

A manufacturer is a bottler or brewer.

The law says that:

1. No dealer shall offer for sale a non-returnable beverage container.
2. A dealer shall refund full cash value of any container of a kind, size and brand which he sells. This means if a retailer sells 12 oz. cans of a given beer, say Stroh's, he must refund any 12 oz. Stroh can which a consumer brings in regardless of where in the state the beverage was purchased.
3. A dealer need not charge a deposit for beverages consumed on premises nor need he give a refund for those containers. He doesn't have to accept other containers for refund either unless he also has off premise sales.
4. A distributor shall not refuse to accept from a dealer a container of any kind, size and brand which he sells, nor refuse to pay its full refund value in cash. This means that even if a retailer does not purchase a given package type from a distributor, the distributor must refund containers of that kind if the retailer gives them to him.
5. Every beverage container sold or given to consumers in this state must be clearly marked with the refund value and the name of this state. This eliminates confusion as to the refund value of containers which varies between 5 cents for certified beer bottles and 40 cents for glass two-liter soda bottles. Non-returnable

packages purchased in bordering states, although they may look like and, in fact, be the same as Michigan packages, cannot be returned for refund because they are not appropriately stamped. However, refillable containers in bordering states, i.e. soda bottles, may be redeemed in Michigan. The deposit-refund on these bottles is the same in the surrounding states as it is in Michigan.

6. Cans with detachable pull tabs are forbidden for beverages covered under the law.

There is no administrative agency specified to write rules and guidelines for the implementation of the law. Neither is an enforcement agency specified.

The Liquor Control Commission is charged with certifying beverage containers. This allows for the lower 5 cent deposit if:

1. Reusable by more than one manufacturer of sufficient volume.
2. More than one manufacturer will accept the container for refund.

HISTORY THROUGH ENACTMENT

The history of the Bottle Bill in Michigan dates back to the early 1970's. Concerned environmentalists started vocalizing their interest and support of legislation which would: 1. Fight litter, and: 2. Conserve scarce natural resources.

Around 1972, the year that Oregon implemented the first Bottle Bill, legislation was introduced into the Michigan House of Representatives by Rep. Jondahl which came to be known as the "Bottle Bill." According to Jondahl this act had been proposed to him and written by an East Lansing High School student. The act was based on the Oregon law and except for

minor changes is the law which is in effect in Michigan today.¹

Beverage container legislation was proposed repeatedly during the next four years. Each time it was unsuccessful in getting through the legislature. Then in 1976 the Michigan United Conservation Clubs, (MUCC), started a campaign to take the bill directly to the people. The MUCC with its member clubs representing sports, outdoor, recreation and environmental groups started a highly successful petition drive to place the Bottle Bill on the ballot as a referendum issue. Governor Milliken of Michigan was the first to sign. Within a few weeks 400,000 signatures, nearly double the required number, had been collected to place the issue on the November, 1976 ballot as Proposition A (See Appendix B).

The campaign both for and against the bill was intense and highly emotional. It was fought on two different bases. On one level the environmental costs versus the economic benefits and convenience of one-way containers were debated. But in a larger, symbolic context, the throwaway and its slogan "No Deposit, No Return," became the focus of a battle over opposing life styles and the values supporting them. Industry saw non-refillable containers as a symbol of an efficient system, while environmentalists portrayed them as a symbol of a negative, throwaway society.²

The proposition passed in the 1976 election with light voter turnout by a margin of 2 to 1. The Bottle Bill went into effect two years after its approval by referendum as is specified in the Michigan Constitution. Any change to the law as approved by the voters requires a three-fourths vote of the legislature rather than the usual simple majority vote since

¹ Telephone Interview with Lynn Jondahl, House of Representatives, Lansing, Michigan, January, 1979.

² Robert E. Snow and David E. Wright, "No Deposit, No Return: Technology and Values in the Michigan Bottle Referendum," (Lyman Briggs College, Michigan State University, 20 October, 1977). (Typewritten), pp. 1, 2.

this was a referendum issue. This has made it difficult to even consider changing the law even in such ways as specifying an administrative agency which would be charged with enforcing the law. Representatives of both the Liquor Control Commission and the Attorney General's Office have expressed the need for clarification as to who will be charged with this task.¹ The bill itself specifies only that the Liquor Control Commission shall determine container certification. The actual enforcement of the law is in the hands of the Prosecuting Attorneys in the 83 counties of Michigan. In rebuttal to arguments in favor of an administrative agency both Representative Jondahl and Tom Washington, Executive Director for the MUCC, have stated that the law is largely self-implementing and that neither rules nor an administering agency are required.

The Liquor Control Commission, acting upon repeated suggestions from the beverage related industry, did prepare a list of rules to be appended to the Bottle Bill clarifying the procedure for implementing the law.² However, these rules died in a joint committee during late summer of 1978 being neither approved nor cast out (which would have allowed for revisions). The reasons for this action were two. First, the pro Bottle Bill committee members considered the rules superfluous because the law was to be self-implementing. Second, the opponents of the Bottle Bill held that the

¹ Michigan Compiled Laws, Sections 445, 571 - 445, 576 (1976), Michigan Beverage Container Law.

Pat McCarthy, "Debate and beer prices mount with new deposit law," Lansing State Journal, 13 February, 1979, p. 18.

Otis White, "Bottle battle: 'Unclear'," State Journal, 18 February, 1979, pp. B1, 12.

"LCC gears up for bottle ban debut," Commerce Register, (August, 1978), p. 11.

² Department of Commerce, Liquor Control Commission, Beverage Container and Carton Rules (R 436,2001), (Lansing: Dept. of Commerce, 26 June, 1978), pp. 1 - 5.

Liquor Control Commission was overstepping the bounds of power given it in the law.¹ Consequently, interpretation and enforcement of the law have fallen on the 83 Prosecuting Attorneys with a special task force having been set up in the Attorney General's office to handle the inquiries and complaints regarding the law and compliance with it on a statewide basis. During the months just prior to the implementation of the law, numerous inquiries were made to the Liquor Control Commission. People were seeking clarification to questions such as what "brand", "size", and "container" mean regarding refunds at the retail level. Can the consumer be required to return bottles and cans in the original mother carton, i.e. 6 or 8 pack basket for bottles or 12 pack for cans - (answer - No). Must we accept dented or crushed cans? (They said yes on dented and were noncommittal on crushed).² The Attorney General's Office has, since their involvement began on December 3, 1978, revised this interpretation and says any can must be refunded as long as the Michigan Logo, the brand, and the amount of deposit are legible. However, many retailers still refuse crushed cans because they mean more work and special handling. Even newspapers have reported that dented or crushed cans need not be refunded.³

METHODOLOGY

This study was conducted in two areas. One experiment area within the state of Michigan and far enough from the bordering States to discourage

¹ James V. Higgins, "Committee fight over bottle ban," East Lansing State News, 4 October, 1978, pp. 10 - 11.

² Michigan Compiled Laws, Sections 445, 571 - 445, 576 (1976), Michigan Beverage Container Law.

³ Paul Cox, "Watch Crushed Cans: No deposit returned," East Lansing (Mich.) The State News, 1 December, 1978, p. 1.

area consumers from purchasing their beverages outside the State. One control area, chosen for similarity to the experiment area except not located in a State having a Bottle Bill or similar prohibitive legislation.

Data was collected through direct observation during frequent visits and the use of unstructured interviews. The sample was chosen by soliciting the aid of industry trade associations at the retail and wholesale level. At the brewer level the relative closeness of the brewery to Lansing, Michigan was the criteria for selection. Consumer reactions were observed in sample stores. Interviews with trade associations, labor unions, environmental groups, package suppliers, package recyclers, and state agencies were conducted where necessary to complete the data.

This study covers the period of September, 1978 through March, 1979. The most common data base is the 12 month period of March, 1978 through March 1, 1979.

THE EXPERIMENT AREA

Detroit is the logical first choice for studying the effects of a Bottle Bill in an industrial state. However, it was eliminated for several reasons. First, it is difficult to find a similar city out-of-state. Second, advisors at all levels in the beverage industry warned that Detroit is typical of only itself, i.e. a city bouyed up with federal funds while suffering severe structural unemployment problems and comprised of a population economically unbalanced towards low incomes.

Lansing is the second choice because of its proximity to the Michigan State University. However, this proved to be one of two reasons for not choosing it. As the drinking age went from 18 to 21 within 20 days after the Bottle Bill became effective, it was thought that more constant data

would be collected by avoiding areas of high college student, 18-20 year-old, populations. Lansing is also the state capitol. This results in a disproportionate number of clerical and other white collar workers and lower percentage of industrial workers.

Flint is the third and final choice. It is 60 miles from the nearest border and that is an international one with strict regulations on alcohol importation. It is 40 miles from the nearest metropolitan area rendering it somewhat isolated even from the rest of the state where conditions may vary. The city has about 200,000 inhabitants and is characterized as an industrial town with the Buick Division of General Motors the largest complex. There are colleges, but they are small in relation to the size of the city. It is predominantly a union town and the sample stores were unionized except for the convenience stores.

Control Area:

Fort Wayne, Indiana was chosen for its similarity to Flint. Industry advisors agreed that although there are minor differences in the alcohol laws in Indiana, they are similar to those in Michigan. Fort Wayne is also a city of about 200,000. It is an industrial city with International Harvester the largest plant. Isolation from Michigan is important to isolate the market from possible shoppers crossing the border to avoid paying deposits on beverages. Fort Wayne is 50 Miles south of the Michigan border and so should be isolated. It is 75 miles to the nearest metropolitan area.

The Experiment Sample in Flint:

The sample in Flint was chosen with the aid of the Michigan Food Dealers Association and the Beer and Wine Wholesalers Association. It was comprised at the retail level of:

1 Hypermarket

8 Supermarkets

3 Convenience Stores

The sample included national, regional, local chains and independents. They were located both in the city and in the surrounding small towns.

At the wholesale area level:

3 Wholesalers

1 single brewer wholesaler, 1 two-brewer wholesaler and 1 multi-brewer wholesaler.

The Control Sample in Fort Wayne:

The control sample was much smaller. At the retail level it consisted of 4 supermarkets within the same chain. These were urban or in an adjoining town. The wholesaler sample consisted of two multi-brewer wholesalers.

COMPARISON OF FLINT AND FORT WAYNE PRIOR TO NOVEMBER, 1978

The two test areas were very similar up until October, 1978. Before that time the off-premise portion of retail beer sales in Flint was slightly more than 80% cans with the remainder being bottles. In Fort Wayne 75% of the beer was in cans. This is important because the figures commonly quoted in the literature state a 70-30 package mix between cans and bottles. This lower can percentage is true for the aggregate sales, i.e. beer sold in the area, but is somewhat misleading in connection with a study of the effects of the Bottle Bill because the 70-30 ratio includes on-premise or bar and restaurant sales. These sales have typically been in refillable bottles. More importantly, however, these containers are specifically excluded from the requirement of a deposit at the retail sale level to consumers as they are not considered to contribute to litter. In effect then, they are exempted from the Bottle Bill.

The portion of refillable containers sold in supermarkets was significantly higher in Fort Wayne at 7% of total sales. In Flint refillables comprised only 2% of sales at the three supermarkets out of nine carrying any refillables at all. Averaging out the refillables sold in the sample over the sales of the entire sample area, Flint was 99+% one-way packages. This is a dramatically different picture of the market at the micro level than that which is commonly presented at the macro or aggregate level.¹

This finding is generally substantiated by R. Weinberg in his Working Paper of August 8, 1978, where he found that nation-wide only 4% of off-premise sales were in refillable containers.² Also industry spokesmen have said that use of refillable containers is not evenly distributed throughout the country. In Michigan, for example, refillables are more prominent in the lightly populated western part of the state than in the heavily populous greater Detroit area of which Flint is a part.³

The figure below shows the trend in overall beer sales (U.S.) and indicates that around 14% of packaged beer is sold in refillable containers. This is where the number for refillables as a percent of total sales is commonly derived.

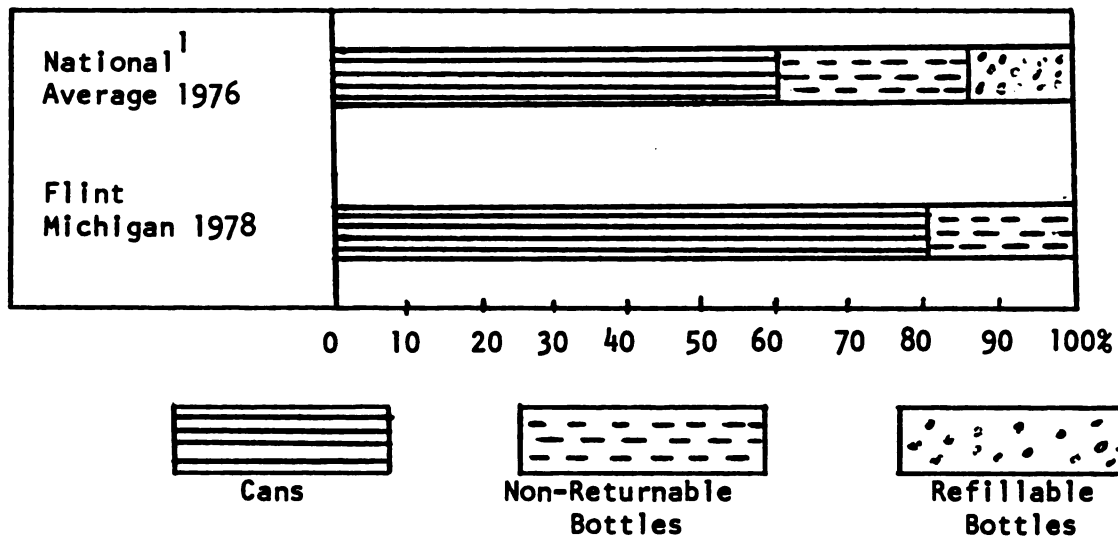
¹ This is based upon sales data collected from the stores in the two similar areas with approximate data used for stores where actual sales were unavailable.

² R. S. Weinberg, 'Working Paper: The Economics of the Malt Beverage Production/Distribution System, 1976,' (St. Louis: R. S. Weinberg and Associates, 8 August, 1978), p. A-2.

³ Interview with B. Healey and B. Weatherstone, Stroh's Brewery, Detroit, Michigan, November, 1978.

FIGURE 1

DISTRIBUTION OF BEER PACKAGES
BY TYPE OF CONTAINER



This should be contrasted with the second figure which depicts the actual distribution of beer sales by package in the test area. The actual change then was from no refillable containers to all refillable containers.

In Flint, then, a more accurate description of the conditions surrounding the Bottle Bill would be to call it the reintroduction of refillable beverage containers into the marketplace rather than an increase in their usage. This will help to explain some of the problems experienced during the transition period, especially at the retail level.

In Flint most beer is sold cold at the retail level. Indiana law forbids grocery stores from selling cold beer, however liquor stores can sell it cold. Another difference at the retail level is that advertising beer prices is allowed in Indiana as long as they are separated from food items or in a separate advertisement. However, the advertising first became legal during the fall of 1978, and at the conclusion of the test period

¹ United States Brewers Association, Inc., Brewers Almanac: The Brewing Industry in the United States, (Washington, D.C., 1977), p. 32.

supermarkets had not yet begun to advertise prices. Package dealers were advertising and this had an undetermined effect on the market.

At the wholesale level there are several differences. First, the driver-salesmen work on commission in Flint whereas they are hourly paid in Fort Wayne. Had they been hourly paid in Flint too, a three week strike from December 3 - 19 over the payment received for and means of handling empties would probably have been avoided.¹ Second, in Flint the five beer distributors have exclusive area franchises wherein they market a given brand of beer without competition from other distributors of the same brand. In Fort Wayne there are three distributors. However, distributors from other parts of the state may also deliver beer in Fort Wayne. This practice becomes practical only for servicing very large accounts and is estimated to involve 25 - 30 retail outlets in the area.² This type of competition would not be practical with a Bottle Bill where more extensive servicing of the customers is required, i.e. more frequent pickups and deliveries.³

FLINT, MICHIGAN NOVEMBER, 1978 THROUGH MARCH, 1979

This description will follow a chronological pattern as much as possible. The introduction period actually started back as long as two years before the enactment of the law. This discussion will begin there making the title of

¹ "Beer and Wine Drivers Strike," Flint Journal, 5 December, 1978, p. 1.

"Beer and Wine Drivers Expect Long Strike," Flint Journal, 6 December, 1978, p. A1.

² Interviews with Wholesalers, Fort Wayne, Indiana, May, 1979.

³ The Governor has recently, May, 1979, called for a possible change in liquor regulations allowing for statewide competition. This would not be practical in Michigan as: 1. Only practical for large accounts due to increased transport costs: 2. Large volume accounts require almost daily servicing for pickup of empties.

this section a bit of a misnomer.

Central Depositories:

The U.S. Brewers Association started conducting studies on the best method of complying with the Bottle Bill shortly after its passage. Two studies published by Arthur Young & Company determined that the most economical way for the beverage industry to handle the returnable containers would be through the establishment of central clearing houses for empty non-refillable containers.¹ These would minimize labor in sorting, counting, storing, resorting, recounting, restoring and so on for scrap materials. Under this system costs and profits would be shared according to market share rather than identifying the owner of each individual container. The Michigan Attorney General's office saw no problem in the establishment of such depositories with costs being shared proportionally by all the users, but the brewing industry itself shied away because they feared possible antitrust problems.²

Nothing much else happened until summer 1978. That is when Anheuser-Busch, at that time the market leader in Michigan, announced that it would introduce the new "standard select" refillable beer bottle in Michigan! This bottle is shorter than the traditional "export" refillable and larger in diameter. It can be filled after minor adjustment on stubby or N-R bottle fillers. This move had a major effect on the Michigan market and other brewers were quick to also go to this lighter bottle which takes up to a third less volume for storage and shipment.³ Prior to A-B's announcement

¹ Arthur Young & Company, Complying with the Michigan Container Law, p. 1.15.

² Interview with brewer, November, 1978.

³ Hugh McDiarmid, "Brewers gird for bottle shift," Detroit Free Press, 4 October, 1978, p. 17A.

the industry had been, at least publicly, planning on keeping the package assortment the same in Michigan after the law as before it with the exception of the removable pull tab which was banned in the law. Almost all domestic brewers have changed over to either this or another even shorter refillable bottle for the Michigan market. Out-of-state consumers will recognize the stubby refillable as a non-returnable bottle in their market areas. The notable exception to this trend is Miller, the new market leader in Michigan, who has kept its packages the same as before the Bottle Bill. Even when the packages are the same, the labels must be different or complimented with extra labels stating Michigan and the refund value. This means that all products packaged for Michigan must be segregated through the entire distribution system.

FIGURE 2



Standard
Select

Export

BEER BOTTLES

One report of a Michigan marked can being purchased in Virginia is known to the author.¹ The real problem, however, is non-Michigan marked containers entering the Michigan market. Such containers are in direct violation of the law.

The decision to change to a new bottle came suddenly, but the market was quick to follow Anheuser's lead. At least one brewer had been stockpiling the old export bottles purchased back at 2 cents a bottle in warehouses to be sure of an adequate supply. This sudden change to a new bottle found him stuck with a large supply of bottles to use in other than Michigan markets.²

During 1978 the wholesalers were assessing their needs. One, who was already renting outside warehouse space before the Bottle Bill, decided to build a totally new facility. This was ready for occupation early in 1979. Another is adding on an additional building to handle the returns. The other three are creating the additional space they require by either more efficient use of existing facilities and or using a larger portion of their warehouses for beer. Four of the five distributors added can crushers to their facilities during Oct.-Nov. These are typically provided without cost to the wholesaler by either Reynolds Metals Company or Aluminum Company of America (ALCOA), including a semi-trailer in which the crushed cans are collected. In return the wholesaler contracts to sell all his scrap metal to the installing company. The fifth wholesaler carries exclusively Anheuser-Busch products. These packages all carry brewer initiated deposits and are returned to the brewer for refund so there is no material being scrapped at the wholesale level.

¹ Conversation with consumer in Virginia, April 5, 1979.

² Interview with Brewer, 2 March, 1979.

Retailers also did a lot of figuring and planning but only two in the sample added on to their facilities. One other store would have added on but cannot get approval for an expansion from the city. A fourth store opened only months before the bill took effect designed a bottle room just off the main entrance. One other store built an enclosure in the back room to segregate the empty containers from groceries and other items stored in the back room.

There is one feature which is common to all of the constructions and adaptations at the retail level. They have underestimated the area required for handling container returns. These facilities proved adequate during the early months with the exception of December during the driver-salesmen strike when there were no pickups of empty containers. However, by February rooms were becoming overcrowded and spilling over into other areas in the back rooms.

It is appropriate to elaborate on the topic of storage space here. The newly opened supermarket with a built-in bottle room was built for handling a 100% returnable beverage system. This store is designed to do about \$200,000 in sales a week but is currently running slightly below that level. It has display area of 22,000 square feet and a bottle room of 600 square feet. The store now receives two deliveries and pickups per week from the distributors and yet the bottle room is not big enough. It was designed to hold all full and empty beverage containers but since the Bottle Bill it has been used only for empties. The biggest return days at supermarkets are Friday afternoon, Saturday and Sunday. Thus, the heaviest buildup of empties is during the weekend when there are no pickups. Drivers typically come on either Monday and Thursday or Tuesday and Friday on a twice a week schedule and this means that the empties pile up all weekend. That is exactly what happens, and at one store by Sunday a couple of pallets of empty soda bottles

are taken across the store to be placed in the main back room to free up the bottle room for sorting. It should be noted, however, that these are not beer containers which come in in such large quantities, but rather the popular selling brands of soda in half liter bottles. Regardless, come Sunday night all the empties are loaded onto pallets and transported across the store so they can be picked up by the driver-salesmen when they deliver in the beginning of the week. There is an outside door on the bottle room, but it is a time consuming process to deliver fulls, carry out and load empties onto trucks. It would cost the store too much money to have a stock clerk at \$7.00/hour in the bottle room just to check in and out drivers. Therefore, all deliveries and pickups are made through the main back room where there normally is at least one clerk working. The sorting of bottles and cans is done by baggers at \$3.00/hour. They are not allowed to check merchandise in or out of the store.

The other main problem with this bottle room (and other rooms observed which were similarly located in stores) is that the architects did not realize the amount of space required to handle container returns. Many of the bottle beer shells take up as much space empty as they do full of bottles. The comment has been made by many retailers that they had figured out how much space was required for sorting and storing empties, but had never considered that the empty shells would take as much space again just to store them until the empties come back as the sorting operation itself requires.

A second supermarket in the sample has a very small back room and nowhere to add on to. The bottle sorting-storage area is separated from the produce preparation area by the row of bag-in-boxes used for sorting beverage cans. Here it is amazing that the two activities do not mingle, but there is always a separation. Maintaining sanitation in the back room is an obvious concern here. This store uses between 6 and 8 pallet rack

openings for storing empty beer and soda shells, which amounts to one-fourth of the total storage area in the store.

A third example of supermarkets would be the one store in the sample with a truly large back room. Here the sorting area was first designated as one back corner of the room. Then it was expanded by using one additional wall for sorting and stocking. When last there in March they had further expanded with racks of empty soda bottles opposite this new sorting area. The space requirement keeps growing as the returns start coming in in increasing quantities.

There is one characteristic which is common to all of these bottle rooms. That is the sound and feel of broken glass underfoot. Bottles and cans are typically piled randomly into wheeled bins or racks in the front of the store where deposits are given. The bins are filled to overflowing at the front of the store then pushed into the back room for sorting and storage. One retailer expressed the opinion that he wanted more cans in his package mix because of the safety risk to his employees from broken glass. However, corporate policy limited his freedom in package mix decisions. Corporate offices are in Detroit where cans are still sorted onto trays, a very labor intensive and expensive operation for the retailer, this may influence the decision to limit the number of cans in package mix.¹

The convenience stores in the sample are part of a chain using a central warehouse for most of its non-perishable merchandising not including beer and wine. One store has absolutely no back room and yet 40% of its business is in beverages. What does a store do when caught with no back room at all? The empty shells are kept in a walk-in cooler. The empty bottles and

¹ Interview with retailer, Flint, Michigan, March, 1979.

cans are sorted, stacked and stored between the aisles of merchandise in the store. The picture below shows a mingling of soda containers--full and empty sharing the same display. It is reported that one Sunday evening there were customer complaints because customers could not reach the ice cream freezer as there were too many empty containers in front of it.¹

FIGURE 3

EMPTY CONTAINERS IN STORE AISLE



The common question from retailers is, "what will happen in the summer when sales are up and the temperature is up and the beverages are consumed out-of-doors (i.e. more contamination is in the containers)." The obvious answer is that extermination costs will increase and so will unsanitary conditions in the stores. Poor sanitation, primarily at the retail level, will become one of the major problems with the Bottle Bill. Ed Bladen, who heads up the task force in the Attorney General's office dealing with

¹ Interview with retailer, Flint, Michigan, 2 February, 1979.

problems and complaints surrounding the bill, summarized the issue very well, "all the slobs in our society have changed from littering our highways to doing it in our stores. Filthy," he points out, "doesn't mean residue from beverages in the containers, but containers which have been urinated in, deficated in, and the like."¹ He says filthy containers by this definition need not and should not be accepted for refund although they are coming into the stores. However, where does the line get drawn? At a store in Flint a clerk was sorting through a garbage bag of empty cans with a customer only to find that the bottom half of the bag was filled with household garbage!

Another source of food contamination is germs being transferred to food products via handling by store personnel. In most stores it is either a check-out clerk or a bagger who checks in the empties and gives refunds to the consumers. The containers are physically handled by the store personnel who may a minute later be ringing up or bagging groceries. There are not facilities at the front of most stores for personnel to wash between jobs. The Michigan Department of Agriculture which is in charge of monitering health standards in stores makes no special notice of beverage return standards at this time. It is not a part of their check lists, although they admit that some problems may exist which will be handled by the department's field inspectors as they arise.²

It is difficult to imagine the conditions that the Bottle Bill really creates in the back rooms unless, as the retailers are quick to say, "You've been there." Even with extra employees to sort and stack containers most back rooms at one or another time during the week look like the grandstands

¹ Edward Blade, Speech, Bottle Bill Update Meeting, Michigan State University, 20 March, 1979.

² Telephone Interview, Department of Agriculture, Lansing, Michigan, April, 1979.

after 80,000 beer drinkers watch a Michigan-Michigan State football game. "I can't say anything about this back room without using a string of four-letter words," comments the manager of a Great Scott store near Detroit. "We even have the stairs to the men's room covered with cans."¹

The return rate for a store is the number of returns that a store receives as a percent of the number of fulls it sells. This rate varies from store to store and is an important figure for a number of reasons. Stores make money selling fulls, i.e. there is a margin between their cost and selling price. There is no way to cover costs on returns, they are strictly a cost item. In the chain stores in the sample the amount of money budgeted for operating expenses is determined as a percent of sales. Deposits paid by consumers are figured in as a part of total sales, but refunds are drawn off sales. This means that the more returns a store gets, the less money it is allowed with which to handle them.

Some stores appear to be more convenient than others for returning empty containers. This may be due to the location of the store as with some drive-through convenience stores which are experiencing high returns where the consumers can drive right up and empty the trunk or whatever. However, other stores in the sample are experiencing high return rates where the system would appear to be less convenient for the consumer. This may be due to either consumer habits, i.e. taking back all the empties when doing the weekly grocery shopping, or the difference could also depend on store policy. Some stores are taking back whatever the consumer brings in while others are strictly following the policy of only refunding types of containers they sell. There does not appear to be any pattern in the sample of one type of store, i.e. supermarket or convenience, getting back more

¹ Ronald Tanner, "As Forced Deposits Hit Michigan Retailers Try To Return That Law," Progressive Grocer, (February, 1979), p. 74.

containers than the other although the redemption patterns do differ. Supermarkets have heavy returns on Friday, Saturday and Sunday. Convenience stores sell most fulls on Friday and Saturday. Returns are highest on Sunday followed by Saturday and Monday at convenience stores. It is suspected that stores where carry-out beverages are a small part of the overall business such as drug stores and bars have significantly lower return rates than do grocery stores as consumers do not think of returning containers there. However, these stores were not part of the sample.

The situation in Flint has improved during the first four months of the Bottle Bill in several ways. The wholesalers initially would accept only empty cans stacked on corrugated trays (as they come in full). This way they are easy to count and check for brand and Michigan logo. However, empty cans weigh next to nothing, a case of aluminum cans weighs just over a pound, and so they are very hard to store without having them fall over spilling cans all over the floor. They are also very time consuming to sort, difficult for the drivers to handle on the way out to their trucks from the retailers back rooms - especially if there is a wind blowing and they are impossible to transport back to the wholesaler's warehouse without having cans all over the truck. This problem was greatly reduced by going to the bag-in-box system of can sorting directly after the settlement of the Teamsters' strike.

The bag-in-box is a system of sorting cans by distributor into boxes of a specific volume which equals ten cases of cans. The boxes are lined with polyethylene bags and when the box is full of cans it will contain 240 cans plus or minus about 6 cans. This plus or minus is the factor that scared off the wholesalers in the beginning and caused them to require that retailers sort the cans into trays. The wholesalers were worried about getting "screwed" out of a few dimes in each bag through retailers not

properly filling the bags or putting cans that they do not carry, either from other distributors or the often mentioned Campbell's soup can. One wholesaler even developed a scenario where the driver would stop somewhere along the road before returning to the distributorship and empty out a few cans from each bag on his truck into his wife's car trunk.¹ The logic here is hard to understand when according to Ray Prince, public relations officer for the teamsters local, the driver-salesmen are making 25 - 35 thousand a year and such a heist would cost more in time than it could net.²

Since adopting the bag-in-box system the above-mentioned fears have become very secondary. "Sure we get some bags which are not full, but the drivers have become used to the bags now and they can spot them as soon as they pick them up and inform the retailer that he'd better watch the count," said one wholesaler. "If we get a bag that is more than a half a case short we count them here in the warehouse and call up the retailer and tell him we will bill him on our next stop. We haven't had any problems with them, the retailers, accepting this so far."³ No retailer in the sample had heard anything from the wholesalers after three months of using the bag-in-boxes as to whether the count was right or not. The retailers were willing to adjust their filling of the bags if necessary because they were realizing substantial labor savings using the system and did not want to jeopardize the system by underfilling a can or two on the bags. Retailers expected the wholesalers to count them before crushing them. Unfortunately, the labor savings for the wholesalers are so large that they have no desire to

¹ Interviews with Wholesalers, Flint, Michigan, Nov. - Dec., 1978.

² "Teamsters Set Picket Lines at Groceries in 'Beer Strike'," Flint Journal, 12 December, 1978, p. 1.

³ Interview with Wholesaler, Flint, Michigan, 27 March, 1979.

monitor the can count closely as it would cost them more than it would be worth and so no wholesaler is counting the cans except where he suspects the count is short.¹

Some convenience stores were so concerned about the count that they kept a running tab on the front of each box to assure 240 cans per bag. The practice was discontinued after two months because there were no complaints from the wholesalers and the process was so labor-consuming.

In summary, the bag-in-box system for handling returnable cans has the advantage of substantially reducing the labor cost of processing empty cans for both the retailer and the wholesaler.

In an interview with a Detroit wholesaler, May 4, 1979, it was interesting to hear the same arguments against cans in bag-in-box as were voiced in Flint prior to December 19, 1978. Detroit is still sorting cans into cases and explaining that it will cost more to use the bag-in-box system. This is in direct conflict with the results observed in Flint less than 60 miles away. Detroit has agreed to go over to bag-in-box with an expected start in May, 1979.

Retailers have developed their handling systems much more efficiently as the months go by. Particularly they are able to stock more precisely the number of empty shells required to keep up with the flow of empties and they keep up with the flow of returns as they come into the store. This may sound easy to do, but when returns are running as much as 15% over sales in supermarkets and 25% over sales in convenience stores it becomes quite a task to keep up during peak periods.

¹ Interviews with wholesaler, Flint, Michigan, 30 January, 1979 and 25 February, 1979.

FORT WAYNE CONTROL AREA, NOVEMBER, 1978 THROUGH MARCH, 1979

The only major change in the Fort Wayne area was the introduction of price advertising for beer in the late fall. Interviews indicated that this had had very little effect on sales. Note that the sample stores had not yet begun to advertise beer at the end of the study. Also the sample was limited to supermarkets where beer is considered by the retailers to be an impulse purchase. There might have been an effect on sales in convenience or package stores.

One store in the sample decided in February, 1979 to eliminate almost all of its refillable containers. This decision was based on several factors. The packages, 24/12 oz. export bottles, are too bulky and don't make efficient use of the shelf space. The packages are so large that they are heavy and bulky for women shoppers. The packages are too large to fit into already (hopefully) full shopping carts. Two of the brands will be retained out of ten. One of the brands to be retained outsells the others 4 to 1 and the other is the store manager's favorite. The eliminated packages will be replaced by 12/12 oz. cans which the manager sees as giving more efficient use of the shelf space while also increasing convenience to the consumer. No mention was made of a labor savings on the handling of returns as a factor in the decision.¹

No changes were noted at the wholesale level except for a decrease in competition from out-of-state distributors. This was contributed to a change in attitude of certain large accounts returning to the local distributors due to the increased service possible on a local level.²

¹ Interview with retailer, Fort Wayne, Indiana, 22 March, 1979.

² Interview with wholesaler, Fort Wayne, Indiana, 5 May, 1979.

There was no change in space allocation at either the retail or wholesale level at sampled businesses.

Changes in pricing and package mix are dealt with as separate topics.

THE MICHIGAN PACKAGES

The requirements placed on packages by the law are the following:

1. All beverage containers must have at least a 10¢ refund value - unless certified and then the minimum is 5¢.
2. All beverage containers must be clearly marked with the brand, Michigan logo and refund value as: 10¢ refund or 5¢ refund.
3. It is illegal to sell cans with detachable parts, i.e. pull tabs.

The methods for meeting these requirements are left up to the industry. For cans the stay-on tab has replaced the pull-tab. The required logos are either stamped into the lids or printed on them. Thus the only part of the can unique for Michigan is the top. This special top has meant that Michigan cans must be kept apart from all others during production, storage and distribution. This has led to a significant drop in the number of breweries shipping beer into Michigan as multi-brewery brewers consolidate their production for the Michigan market into one facility. Bottles are labeled either by incorporating the information into the existing label or by adding a neck label. The standard select bottle which is used for most bottled beer is thus reusable by any brewery as the old labels are removed in the bottle soakers during the bottle washing process.

The most common package prior to the Bottle Bill was the 12 pack of 12 oz. cans. This package has since dropped dramatically into second place. The paperboard package itself is indistinguishably different now to the consumer. The only change was the addition of a so-called zipper top which

allows one large front panel on the package to open for removal of the product and restoring the empty cans. In theory the container can then be reclosed for transport back to the retailer where the package will again be opened for verification that there are 12 Michigan cans inside. In fact the zippers are easy to open, but difficult for the consumer to reclose. This means if the consumer opens the package in this way he may well hold on to the flap as a handle when returning it. If closed it is often taped and retailers seldom open the 12 packs to count cans. The refund is given and the package is opened later when the cans are dumped into a bag-in-box. Can manufacturers did extensive advertising of their cans during the first month of the Bottle Bill, but little attention was paid to informing the consumer about the place of the 12 pack containers. This is a very convenient package for the retailer as a minimum of labor is required in ringing up the refund and dumping the cans into a bag. Six pack can sales are currently very low. Many stores have dropped the package completely. Consumers have no convenient means of containing the empties for return to the store. Cans have been observed in the plastic ring carriers coming back to stores, but this is a rare occurrence as well as an accomplishment for the skillful consumer. Retailers do not like loose cans coming back in bags in spite of the Alex Karris commercials selling the idea. The sight of a store clerk and a customer crouching on the floor together sorting through a bag of cans, lining them up on the floor, and then counting them is common and this process costs the retailer a lot of labor, especially if they must be individually sorted one more time in the back room.

The 6 pack of bottles has become the best selling package in Michigan. This is due partly to the novelty of the package, the new standard select bottles. More importantly, this is the package which most retailers are trying to sell. Retailers perceive this as the most convenient package for

them to sort and return to the wholesalers. With the notable exception of Miller, all the major brands are using the standard select bottle which can be placed in any brewers master carton for refund regardless of the brand marking on the bottle label. This is a distinct advantage over the bottle separating by brand and as almost all of these bottles are returned in the 6 pack paperboard basket in which they are sold, these containers are less labor intensive for the retailer than brand sorted bottles and might be less labor intensive than 12/12 cans. Here, however, the distinction is difficult to make. In Flint cans in 12/12 packs are probably equally convenient for the retailer as he uses bag-in-box. In areas where cans are brand sorted and stacked, the bottles win out by a wide margin. For consumer convenience the 6 pack basket is more convenient for returning the containers to stores than is the 12/12 of cans. For the wholesaler cans in bags are less labor intensive. He moves 10 cases at a time, they are light, don't fall over and break and number of handlings is minimized. The safety factor in the storerooms is often overlooked. Glass bottles, especially randomly stacked bottles overfilling a bin break and this causes a safety hazard for store and warehouse personnel.

The third package emerging in Michigan is the 12/12 bottle. This package is large, heavy and flimsy. Major brewers including Miller have designed 12/12's for bottles which are basically two six packs glued together with a handle in the middle. The configuration is 4 rows of three bottles each. They are gaining an increasing share of the market as more brands become available in them. Retailers complain of glue failures in their coolers. Consumers complain about the weight and inconvenience of carrying the large package. However, when the bottles are empty it does provide a convenient means of returning the bottles.

Three brewers are using what is known as the stubby or throwaway bottle in Michigan. One of them uses the same 12/12 package of bottles with different labels in Indiana as well. In Michigan the deposit is 65¢. In Fort Wayne, Indiana the deposit is 30¢ and in Gary, Indiana, the package is non-returnable.¹

Some brewers have had three different 12 oz. bottles in Michigan at the same time with different refund values. As time goes on the market is settling down to the standard select bottle, the Miller bottle and the 12 oz. can. Sales on 7 oz. bottles and 8 oz. cans, at 10¢ each, have fallen off. Sixteen oz. containers are way down as well, probably due in the first hand to retailer cut-backs in package assortment. The quart bottle has a small share of the market.

CHANGES IN PACKAGE MIX AND PRODUCT MIX

There has been a swing from a predominantly can market to a predominantly bottle market in Michigan. The derivation of a 80% can and 20% bottle package mix prior to the Bottle Bill is given in the "Comparison of Flint and Fort Wayne prior to November, 1978" portion of this paper. The change to 65% bottles and 35% cans is a significant one with many explanations. One reason for the change is the awareness of certain consumers that refillable bottles will be just that, refilled.² This comes back to the ideological side of the Bottle Bill in fighting a throwaway society, as well as to concern over conserving natural resources.³ A second reason is

¹ Interviews with brewer, 23 May, 1979.

² Hugh McDiarmid, "Beer Users Shun Cans Under New Deposit Rule," Detroit Free Press, 9 May, 1979, p. 3A.

³ Snow, "No Deposit, No Return: Technology and Values in the Michigan Bottle Referendum, p. 2.

the lower deposit on cans.¹

The standard select beer bottle, or "Michigan Bottle" as it is advertised, has also had an effect on sales. This is a new package which has experienced heavy advertising since its introduction in November, 1978. A night of television was not complete during the introductory months without a message or two insisting that the glass bottle, made from plentiful resources, is the right container for Michigan.² Anheuser-Busch launched its own attack on the Miller clear bottle with its "Brown is Beautiful" campaign. Advertising has overwhelmingly emphasized glass packaging since December, 1978.

At the micro level in the Flint area several other variables developed which were at least as important in determining the switch. The best way to get the consumer to switch to bottles is to quit offering a selection of cans at the retail level. That is exactly what the largest supermarket chain in Flint did. Prior to Christmas, 1978 the wholesalers refused to pick up cans in bags. This chain decided that the labor requirement for sorting cans into trays was prohibitive and so they refused to stock them. Several other stores in the area followed their lead and went 100% to bottles for beer. Interestingly these stores continued to stock soda in cans because the bag-in-box was instituted for soda from the beginning.

A second important factor is the refunding for cans. The largest chain not only does not sell cans, but it also refuses to refund them. Cans are significantly harder for the consumer to return for refund than bottles. The unfortunate consumer may be in the uncomfortable position of being in a store with between 1 and 3 dollars worth of cans and having the

¹ Hugh McDiarmid, "One Month After New Law Beer Bottles Crushing Cans," Detroit Free Press, 4 January, 1979.

² Allen Pinto, "Litter laws hit the big time," Modern Packaging, (January, 1979), p. 49.

clerk refuse to refund them. There are several things the consumer can do when confronted with this situation. He can get angry and start an argument with the clerk, or he can take the cans with him, do his shopping and try another store later or try to remember where he bought them. Or, he can simply leave the cans on the counter without receiving a refund. There are also other alternatives which have been tried, however, all of them point toward the same solution to the problem. Buy bottles because they are easier to get rid of. This is happening in Flint.

Consumers are also refused refunds in many stores if their cans are dented or crushed.¹ The Attorney General's office says that a retailer must refund a can regardless of its shape if it displays the Michigan logo, the amount of refund and the brand.² This has not stopped retailers from refusing them.

The reluctance to sell cans extended initially back to the distributor level. Cans were difficult for the drivers to take out and load on their trucks. "You wheel out 10 cases to your truck and set them down to open the bay. By the time you've loaded in 2 or 3 cases a gust of wind may have come along and blown the other cans all over the parking lot. They're a pain in the ass."³ The wholesalers themselves said the same thing, "handling cans has become such a serious problem that sales will be discouraged."⁴

Since the advent of the bag-in-box for handling cans, the labor cost is down. However, store policies were made prior to this time and to date

¹ Cox, "Watch Crushed Cans: No Deposit Returned," p. 1.

² Bladen, Speech, Bottle Bill Update Meeting.

³ Interview with beer truck driver-salesman, Flint, Michigan, 11 December, 1978.

⁴ "Teamsters Set Picket Lines at Groceries in 'Beer Strike'," Flint Journal, 12 December, 1978, p. 1.



no changes have taken place.

The Bottle Bill has also had the effect of eliminating small, slow moving brands and package sizes from the retail shelf.¹ In this way the Bottle Bill has had a negative effect on competition. Retailers eliminate the off-brands, generally the ones with the cheaper price tags as well as some of the imported beers. In other cases the number of package sizes of a given brand may be cut back. The retailers blame this on the cost of sorting all the various containers and storing them in the back room. "It takes me as much space to store six bottles for a given brand as it does to store 9 cases,"² was the way one retailer put it. He stacks his empties 9 cases high in the back room and cannot mix two brands, one on top of the other, without having to continually move cases to get at the ones underneath. This is a real problem which has two solutions. One is for the brewers with low sales in Michigan to adopt the standard select bottle, but the costs would be prohibitive for the volume. The other solution is for the retailer to switch to carrying only cans for the slower moving brands. The advantage here is that can deposits are terminated at the distributor level with the exception of Anheuser-Busch, so all cans which that distributor handles can be sorted into the same bag-in-box. This eliminates the back room problem.

¹ Pinto, p. 48.
Cynthia Kyle, "Bottle Ban: Delight, hassle or boondoggle?"
Lansing State Journal, 26 February, 1979, p. B2.

² Interview with retailer, Flint, Michigan, 16 March, 1979.

THE EFFECT OF ALTERNATIVE RETAIL BEVERAGE STRATEGIES ON SALES

Retail sales of beer are down overall in the state when compared with a year ago. The data is difficult to analyze on a macro level this early into the Bottle Bill due to extraneous variables in the system. Sales as reported by the Liquor Control Commission have been above one year ago until March, 1979. This was not due to increased retail beer sales, but rather that the distribution system was completely emptied of beer in mid-November just prior to the introduction of the returnable packages. It took three months to build up inventories to the desired level which inflated reported beer purchases. This desired inventory level amounts to about four days supply at the retail level and between 25 and 45 days supply at the wholesale level. In March statewide sales, that is beer purchased by wholesalers from brewers, were 10% lower than they were one year ago.

At the micro level in Flint some very interesting trends have developed. The sample can be divided into three groups according to the store policy on can sales. The stores which have eliminated cans from their package mix have experienced a significantly greater drop in sales than those stores discouraging cans but still selling them. By discouraging can sales they have limited the number of packages they carry, typically eliminating 6 pack cans, but retained some 12/12 cans. Further, they discourage can purchases by placing them on the top shelf of the cooler instead of the bottom where they used to be. Stores maintaining a business as usual attitude by retaining the same package mix as they had prior to the Bottle Bill have experienced a 10% increase in sales over the same time period as the other two groups have had decreased sales. As can be seen in the table, the control group in Fort Wayne experienced a 13% increase in sales over the same time period.

TABLE 1

Percent Change in Sales During two 4 Week Periods ¹ September, 1978 and February, 1979			
Sample	Beer Sales % of Change	Cans as % of Beer Sales	
		September	February
Flint:			
Stores eliminating cans	- 46%	80%	0%
Stores discouraging cans	- 10%	81%	35%
Stores retaining pre-Bottle Bill Mix	+ 10%	78%	61%
Control Area (Fort Wayne)	+ 13%	78%	74%

This is a very small sample but the trend is distinct. Those stores which discourage sales by limiting the package mix succeed in limiting their sales. It is not known whether overall sales would go up if all stores carried a full line of both bottles and cans, or if those desiring to purchase cans have switched their purchases to other stores. Convenience stores are reporting some customers saying that they now purchase beer from them because the nearby supermarket doesn't carry cans.

The observed difference cannot be attributed to refund policy because some stores which discourage the sale of cans accept anything back which they can in turn give to a distributor. This is done by all of the stores retaining their pre-Bottle Bill package mix. This is an interesting policy of saying 'we won't sell it to you but we'll refund your deposit and absorb the cost of handling, storing and returning the container to a distributor for you at the same time we refuse to sell you such containers with product in them.' The refund is seen as a service function, but carrying the packages

¹ Private data from Retailers, Flint, Michigan and Fort Wayne, Indiana, September, 1978 - February, 1979.

in the first place is seen as a management decision.¹

PRICING

There is currently much debate in Michigan about the price of beer. Environmentalist groups, with Tom Washington, director of the Michigan United Conservation Clubs (MUCC) at their head, are charging that the price of beer is being set artificially high as a result of the Bottle Bill.² The Governor has called for an investigation of possible price fixing and non-competitive pricing of malt beverages.³ A result of this concern is that one of the major tasks given to the joint legislative committee studying the Bottle Bill is that of investigating beer pricing and clarifying if non-competitive pricing practices have in fact occurred.⁴ Industry, brewers, wholesalers and retailers have stated that they welcome such a study. They say it will show them to be completely free from non-competitive activities on beer pricing.⁵

This issue is a long standing one surrounding the Bottle Bill. Pro Bottle Bill people on the one side say beverage prices should go down with an all-return system. This was a major point on the campaign platform for

¹ Interview with Retailer, Flint, Michigan, 23 January, 1979.

² Tom Washington, "Testimony Before the Committee to Study the Impact of the Beverage Container Deposit Law," Lansing, 11 May, 1979.

Marty Hair, "How State's bottle law is working," Detroit Free Press, 7 February, 1979, p. C3.

³ Sandy McClure, "Beer profiteering is probed," Detroit Free Press, 4 April, 1979, p. A3.

⁴ "Officials look into lifting ban on prices in beer advertising," East Lansing (Mich.) The State News, 4 April, 1979, p. 3.

⁵ Robert S. Weinberg, "Testimony before the Committee to Study the Impact of the Beverage Container Deposit Law," Lansing, 11 May, 1979.

passage of the legislation.¹ Anti-Bottle Bill people say that prices must necessarily go up with the advent of an all-returnable package system as do some of the pro-Bottle Bill studies.² Before going into a detailed analysis of pricing at the various levels it will be helpful to review some of the major arguments on each side of the pricing issue to give perspective to the discussion.

Protagonist arguments:

1. Historically beverages in refillable containers have been priced (retail) below non-refillables.³
2. The package material cost for refillables is spread out over several fillings which leads to a lower packaging material cost per filling than with non-returnables.⁴
3. Some brewers are charging higher prices in Michigan than in surrounding states.
4. Miller with the same package assortment as before the Bottle Bill is raising prices.

¹ Michigan Public Services Commission, Economic Analysis of Energy and Employment Effects of Deposit Regulation on Non-Returnable Beverage Containers in Michigan, (Lansing, Michigan, October, 1975).

² United States Brewers Association, Inc., Research Materials Supporting The United State Brewers Association Arguments Against Restrictive Packaging Legislation, (Washington, D.C.: United States Brewers Association, Inc., 1977), Chapter 8, P. 2.

Myron H. Ross, Beverage Containers in Michigan, (Kalamazoo: Kalamazoo Nature Center for Environmental Education, 1976), p. 13.

³ Hair, "How State's bottle law is working, p. C3.

⁴ Applied Decision Systems, Study of the Effectiveness of the Oregon Minimum Deposit Law, (Wellesley Hills, October, 1974).

5. Some wholesalers are charging as much for refillable bottles as they are for cans.¹

Antagonist arguments:

1. Handling costs have increased greatly at all levels.
2. Distribution costs have increased as package mix has swung to bulkier, heavier containers and everything comes back.²
3. Space requirements are up at all levels to handle the larger containers and to store the empties.³
4. Refillable beverage containers have been traditionally subsidized by non-refillable sales.⁴
5. Handling costs are a greater portion of total systems costs than are package materials costs.⁵

Given this background let us proceed to analyze pricing at each of the three levels in the system: brewer, distributor (wholesaler), and retailer. This will be done over the twelve month period from March 1, 1978 through February 28, 1979 in Flint, Michigan. These prices shall be compared against various other price and cost data to place them in perspective with changes in the general economic situation both attributable to the Bottle Bill and those independent of it which would have occurred even without the Bottle Bill. All comparisons will be in percentages which eliminate differences in

¹ Washington, "Testimony Before the Committee to Study the Impact of the Beverage Container Deposit Law."

² Interviews with retailers, Flint, Michigan, January, 1979.

³ Interviews with retailers, wholesalers and brewers, November, 1978 - February, 1979.

⁴ Weinberg and Associates, "Working Paper," p. 2.

⁵ Weinberg, "Testimony before the Committee to Study the Impact of the Beverage Container Deposit Law."

Initial price levels.

The first of these comparisons will be with price changes in Fort Wayne, Indiana, the control area chosen for similarity in size and structure to Flint, but without a Bottle Bill. This gives some idea of what might have been expected to happen in Flint had the Bottle Bill not gone into effect in December. The second comparison will be with the Producer Price Index for malt beverages which is a measure of inflation in the industry on a nationwide basis. The third comparison will be between retail price increases and changes in the Consumer Price Index which monitors inflation in consumer prices and is here reported for the Detroit area.

Brewer Level: Prices from the brewer are F.O.B., or Free On Board, meaning the wholesaler must pick up the beer at the brewery and pay for shipping it to his warehouse. F.O.B. prices rose in Flint an average of 7.25% from the largest two brewers as can be seen in the table below.

TABLE 2

Percent Change, FOB Beer Price, March, 1978 - February, 1979 ¹	
Flint, Michigan FOB Beer Price ²	7.25%
Fort Wayne, Indiana FOB Beer Price ³	11.2 %
Producers Price Index (Malt Beverages) ⁴	8.0 %

¹ Prices include tax but not deposits.

² Michigan Liquor Control Commission, Unpublished data.

³ Interview with wholesalers, Fort Wayne, Indiana, 5 May, 1979. Prices including inbound freight.

⁴ U.S. Bureau of Labor Statistics, Producer Prices and Price Indexes, (Washington, D.C.: Government Printing Office, March, 1978 to February, 1979).

7.25% turns out to be the smallest increase of the three indexes listed. This means that the price of beer at the brewer level in Flint rose less during this twelve month period including the first three months of the Bottle Bill than what inflation did to the Producers Price of beer nationwide.¹ That the FOB price rose as much as it did in Fort Wayne indicates one of two things. Either the price in Flint would have risen much more without the Bottle Bill, or, as is more likely, price adjustments other than inflationary were being made to the FOB price of beer in the Fort Wayne area. One major brewer did not raise its prices from pre-Bottle Bill levels until March 5, 1979. This increase is included as all other brewers had already raised prices which ruled out randomness.

It is interesting to note that the package material cost savings realized by a change to more refillable containers falls exclusively to the brewer. These savings, although hardly realizable this soon after the institution of the bill, may be at least partially responsible for the price not rising more than it did in Flint.

TABLE 3

Percent Change by Package Type in FOB Price for Flint ² March, 1978 to March, 1979	
12/12 Can	7.2%
6/12 Bottle	6.6%
24/12 Refillable Bottle	7.9%

¹ Richard Sjolander, "Testimony before the Committee to Study the Impact of the Beverage Container Deposit Law," (Lansing, 11 May, 1979).

² Michigan Liquor Control Commission, Unpublished Data.

Pricing can be further broken down by package type. Analyzing the price change by package type it is interesting to note that the refillable bottle went up most and the 6/12 bottle which was a non-returnable prior to the Bottle Bill went up least. However, the differences here are too small to be used for indicating trends at this time.

Wholesaler Level: Wholesale prices include: The cost of picking up the beer at the brewery, storing it in their warehouse, delivering to the retail outlet, stocking the product onto the shelves and price marking it to the extent that shelf space is available. With refillable containers the wholesaler also picks them up at the retail outlet and returns them to the brewer. Michigan returnable, but not refillable, containers are picked up at the retail outlet and disposed of at the wholesale level (scrap) with one notable exception. Anheuser-Busch is taking all Michigan containers back to a recycling center near their brewery in Ohio where the containers are sorted for resource recovery.

TABLE 4

Percent Change in Wholesale Price of Beer March, 1978 - February, 1979	
Flint, Michigan Wholesale Price ¹	11.1%
Fort Wayne, Indiana Wholesale Price ²	8.0%
Producers Price Index (Malt Beverages) ³	8.0%

¹ Michigan Liquor Control Commission, Unpublished Data.

² Interview with wholesalers, Fort Wayne, Indiana, 5 May, 1979.

³ U.S. Bureau of Labor Statistics, Producers Prices and Price Indexes.

At the wholesale level the price in Flint rose 3.1% more than the producer price index or the wholesale price in Fort Wayne. This researcher believes, based on his interviews with wholesalers, that this increase above the 8% which would also be the predicted effect of inflation is an effect of the Bottle Bill. There are no cost savings accruable to the wholesaler as a result of the Bottle Bill. This excludes non-redeemed, wholesaler initiated deposits. This is for two reasons. First these windfall profits are only hypothetical in their size as far as pricing and cost determination are concerned at this early date. Secondly, it was the opinion of the wholesalers interviewed that if these windfall profits should materialize the government would step in and appropriate them. Therefore, they cannot be counted on for reducing costs.

On the other hand, wholesalers have experienced very real additions to their costs. The change from 70-30 cans¹ to about 65-35 bottles has increased their freight costs from the breweries as well as their delivery costs, due to the reduced quantity of beer able to be carried in a given truck or rail car due to the increased size and weight of a case of bottles as opposed to a case of cans. The payload on a truck decreased from 2400 cases to 1300 cases.² They have also been required to increase their warehouse space to handle the relatively bigger bottles and all of the empties. Many additional cost factors are covered elsewhere in this report in the discussion of wholesalers in the experiment area.

One additional possible source of profit ascribed by Bottle Bill proponents to the wholesalers would be the sale of recyclable glass and metal

¹ 70-30 because wholesalers service both on-premise and off-premise accounts.

² Leo Seido, "Testimony before the Committee to Study the Impact of the Beverage Container Deposit Law," (Lansing, 11 May, 1979).

containers. However, at best this can be seen as a break-even situation and so far it has definitely cost more to recycle the materials than they have earned in revenue. According to the Flint Environmental Action Team, an environmentalist group who operates recycling in Flint of sorted (by the donor) clear, brown, and green glass as well as aluminum and newsprint, "It costs FEAT almost as much to take the materials to the recycling center as the agency is paid for them.¹ And, they don't have to count, collect, and sort the various containers, all of which amounts to additional costs for the wholesalers.

The same trend of refillables increasing faster in price than previously non-returnable containers is evident at the wholesale level as it was at the brewer level. At this level it is also possible to look at the margin, or mark-up over costs, on the various package types. Once again using Budweiser and Miller beers the data are summarized in the following table.

TABLE 5

FLINT, MICHIGAN WHOLESALE BEER PRICING
Package Type and Date

12/12 Can			6/12 Bottle		24/12 Ref. Bottle	
	March '78	March '79	March '78	March '79	March '78	March '79
Bud						
FOB Brewer	4.88	5.18	4.79	5.02	4.34	4.72
Wholesale Price	6.50	7.20	6.50	7.20	6.35	7.10
Margin	1.62	2.02	1.71	2.18	2.01	2.38
% Margin over Cost	33.2%	39%	35.7%	43.4%	46.3%	50.4%
% D in Margin Over Year	10.8%		10.8%		11.8%	

¹ "Meijers stops recycling project," Flint Journal, 6 December, 1978, p. D1.

TABLE 5 (cont'd) ¹

12/12 Can			6/12 Bottle		24/12 Ref. Bottle	
	March '78	March '79	March '78	March '79	March '78	March '79
Miller						
FOB Brewer	4.83	5.24	4.74	5.14	4.15	4.44
Wholesale Price	6.50	7.20	6.50	7.20	6.35	7.10
Margin	1.67	1.97	1.76	2.06	2.20	2.66
% Margin Over Cost	34.6%	37.5%	37.1%	40.1%	53%	59.9%
% D in Margin Over Year	10.8%		10.8%		11.8%	

The increase in the wholesale price is given in the table as a percentage increase in margin over cost. Remember that an 8% increase is attributable to inflation. If wholesalers are to maintain the same profitability which they enjoyed prior to the Bottle Bill, then the percent margin which they operate on must necessarily increase. This is because they have incurred additional labor costs, distribution costs, and capital costs which must be paid out of their margin.² By only increasing their prices enough to keep up with inflation (somewhere between 7.2 and 8.0%) they would suffer a decrease in profits due to these increased costs resulting from the Bottle Bill. This does not say that wholesale pricing is now at that level which maintains their profits at pre-Bottle Bill levels, but

¹ Michigan Liquor Control Commission, Unpublished Data.

² "Beer and Wine Drivers Expect Long Strike," p. A1.
 "Beer and Wine Drivers Strike," p. 1.
 Interviews with wholesalers, Flint, Michigan, December, 1978 - March, 1979.

only that some increase above that caused by inflation is necessary at this level in the distribution system.¹

Retail Level: Retail prices for beer in both Flint and Fort Wayne have traditionally covered very little retail level labor costs. Typically the wholesale driver-salesperson delivered the product, stocked it in the cooler or shelves, and pricemarked the individual packages. The only labor the retailer had was fronting up the displays between driver visits and ringing up the sales. This is true because almost 100% of the retail (off-premise) packages during the last few years have been one-way packages. The Bottle Bill changed this situation drastically. Now the display area holds less product due to the shift from cans to bottles which take up more space necessitating more frequent stocking of the cooler by store personnel even though the drivers in many instances also make more frequent deliveries.² A given shelf area will hold only between 50-60% as much product with bottles as with cans. This, however, is only the beginning of the additional retail labor cost. The retailer is the one who must make the initial refund to the consumer, counting the empties, refunding the money, sorting the empties by brand, container type and size (except certified bottles which need only be sorted by size).

Then comes the problem of storing the empties. This requires a great deal of space in store back rooms which were designed only as staging areas (not storage areas) for goods coming into the stores on a regular basis from their central warehouses. This method of using central warehouses has freed stores from having large back rooms, but causes a major problem now with the Bottle Bill. The areas are small and typically have

¹ "Beer Strike Ends," Flint Journal, 19 December, 1978, p. 1.

² Interviews with retailers, Flint, Michigan, December, 1978 - February, 1979.

had only one to two pallets of beer as a reserve for fronting up the display area between deliveries. With the Bottle Bill, the full containers are still there and as well empty containers must be stored. In addition to this the empty shells (cases for bottles) must be stored between the time when the full containers are stocked and empties are returned. Many brewers are using fibreboard shells which do not nest. This means the shells take up as much space empty as full. The point is that retailers have experienced additional costs.

There are no opportunities at the retail level for cost savings as a result of the Bottle Bill. It is, then, not unexpected to find that the price of beer rose above the level of the cost increases to them and above the rate of inflation which is here represented by the Consumer Price Index for the Detroit area.

TABLE 6

Percent Change in Retail Beer Price March '78 - February '79	
Flint, Michigan Retail Price ¹	20%
Fort Wayne, Indiana Retail Price ²	11.8%
Consumer Price Index, Detroit ³	10.8%

The retail price of beer in Flint is up 20% over the last 12 months. The consumer price index rose 10.8% which accounts for inflation. The

¹ Data collected from retailers, Flint, Michigan.

² Data collected from retailers, Fort Wayne, Indiana.

³ U.S. Bureau of Labor Statistics, Consumer Price Index, (Washington, D.C.: Government Printing Office, January, 1978 to March, 1979).

remaining 9.2% increase would appear to be caused by the Bottle Bill.

In Fort Wayne the retail price of beer rose 5.9% during the year. This is an amazing 5% less than inflation and interviews with the sample retailers indicate that there would have been a somewhat larger increase but a change in pricing policy held price increases in these stores down and changed their competitive position in relation to other stores. The retail margin actually dropped during the year. In the sample stores there was a trend toward removing the few remaining returnable bottles sold. This was due to low sales in relation to space allocations and not because of handling costs which are not identified as a distinct cost in the sample. When a store doing 100 to 150 thousand dollars in sales a week gets 25 cases of empties back a week they are not isolated as a cost center. However, it can be noted that none of the stores in the Flint sample had more than 10 cases of empties per week prior to the Bottle Bill.

Flint retailers have then probably experienced an 8% increase in price at least partially as a result of the law. The other 11-12% is explained by inflation. Supermarkets have raised their percent margins from around 15-16% up to 25%. The national gross margin in supermarkets for all products was 21.7% in 1977 and this produced a profit of $\frac{1}{2}$ %. Beer has been traditionally priced almost 7% below this average margin largely because it has 'taken care of itself' without requiring retail level labor. The Bottle Bill has changed beer to a labor intensive item. Labor as a portion of total retail expenses is 10 times larger than the second most costly expense, property rentals.¹

Here, as at the wholesale level, prices rose faster in Flint than

¹ "Composite Chain Report: Margin, Expenses, Earnings," from Cornell University, "Operating Results of Food Chains," Quoted in Progressive Grocer, April, 1979, p. 116.

either inflation or the Fort Wayne area would predict. This may indicate that other variables, such as the Bottle Bill, were affecting the market. At the retail level the Bottle Bill has created expenses which are not offset by any reduction in cost. Therefore, to maintain their businesses at a constant level of profitability the retail price must go up. This has been the case. It should be pointed out once again that this does not mean that the current retail prices do maintain 'business as usual'. They may be either too high or too low.

The prices used so far in this section have been converted into percentage increases for comparison purposes. The price increases compound through the system and it is the final 20% increase which the consumer faces and the Governor complains about. Governor Milliken has one joint legislative committee looking into beer pricing and in mid May, 1979 ordered another investigation to be conducted by his Consumer Protection and Regulatory Cabinet.¹

The change in retail price of beer in dollars and cents is listed in the following table for Flint and Fort Wayne.

TABLE 7

Retail Beer Price for 6 - 12 oz. Bottles or Cans		
	March 1, 1978	March 1, 1979
Flint, Michigan ²	\$1.88	\$2.25 + deposit
Fort Wayne, Indiana ³	\$1.94	\$2.05

¹ McClure, "Beer profiteering is probed."
 "Milliken orders probe into beer price hikes," East Lansing (Mich.)
The State News, 22 May, 1979, p. 1.

² Can Manufacturers Institute, "Beer and Soft Drink Retail Prices,"
 (Washington, D.C., 8 January, 1979), (Mimeographed), pp. 4-6.

³ Data collected from retailers, Flint, Michigan.

This is what is upsetting people. The price of beer in Flint went from being 3% cheaper than in Fort Wayne to being 9% higher in one year. A study conducted in several states across the nation in January, 1979 shows that everywhere from Maine to Washington beer is more expensive in states with bottle bills than it is in neighboring states.¹ The results of this survey are included in the tables below and on the next page. These data indicate that the increase in price in Michigan is consonant with pricing in other deposit areas.

TABLE 8
PRICE SURVEY OF MICHIGAN AND ADJOINING STATES²
BEER & SOFT DRINKS - 12 OZ. 6 PACKS
Week of January 8, 1979

	Deposit-Michigan	Non-Deposit Neighbors		
		Wisconsin	Indiana	Ohio
Beer-National (Brands-Cans)	\$2.28 + deposit	\$1.84	\$1.97	\$2.10
Beer-National (Brands-Bottles)	\$2.30 + deposit	N.A.	\$1.97	\$2.05
Soft Drinks-National (Brands-Cans)	\$1.90 + deposit	\$1.55	\$1.75	\$1.80
Soft Drinks-"Store Brands" Cans	\$1.37 + deposit	\$1.00	N.A.	\$1.05
Soft Drinks-National Brands 16 oz. Bottles	\$1.85*+ deposit * Detroit only	\$1.05 + deposit	\$1.40 + deposit	\$1.50 + deposit

¹ Data collected from retailers, Fort Wayne, Indiana.

² Can Manufacturers Institute, "Beer and Soft Drink Retail Prices,"
p. 4.

TABLE 9

SUPERMARKET PRICE SURVEY BEER & SOFT DRINKS - 12 OZ. 6 PACKS¹

Week of January 8, 1979

	WISC.	IND.	OHIO	NEW HAMP.	Non-Deposit Law States				WASH.	AGGREGATE
					CONN.	ILL.	IOWA	CALIF.		
Beer-National Brands Cans	1.84	1.97	2.10	1.86	1.97	1.92	1.89	1.73	2.05	1.93
Beer-National Brands Bottles	N.A.	1.97	2.05	1.76	1.97	1.85	1.87	1.73	2.00	1.90
Beer Excise Tax/ 6 Pack	3.75¢	5.25¢	9¢	8.5¢	4.75¢	4¢	8¢	2.25¢	2.75¢	5.36¢
Soft Drinks-National Brands-Cans	1.55	1.75	1.80	1.55	1.65	1.83	1.63	1.79	1.80	1.71
Soft Drinks-Store Brands-Cans	1.00	N.A.	1.05	1.05	1.02	1.45	No Data	1.09	1.28	1.13
Soft Drinks-National Brands-16 oz. Bottles	1.05 + dep	1.40 + dep	1.50 + dep	N.A.	1.73	1.31 + dep.	1.40 + dep.	1.44 + dep.	1.55 + dep	1.42

¹ Can Manufacturers Institute, "Beer and Soft Drink Retail Prices," p. 6.

TABLE 9 (cont'd)¹

SUPERMARKET PRICE SURVEY BEER & SOFT DRINGS - 12 OZ. 6 PACKS

Week of January 8, 1979

	MICH.	(plus deposit)		OREGON	AGGREGATE
		MAINE	VERMONT		
Beer-National Brands-Cans	2.28	2.07	2.15	2.10	2.15
Beer-National Brands-Bottles	2.30	2.07	2.15	2.11	2.16
Beer Excise Tax/6 Pack	11.5¢	14¢	14¢	4.75¢	11.06¢
Soft Drinks-National Brands-Cans	1.90	1.56	1.50	1.85	1.70
Soft Drinks-"Store Brands"-Cans	1.37	N.A.	N.A.	1.45	1.41
Soft Drinks-National Brands- 16 oz. Bottles	1.85* * Detroit only	1.56	1.33	1.56	1.56

¹ Can Manufacturers Institute, "Beer and Soft Drink Retail Prices," p. 6.

UN-REDEEMED DEPOSITS

In the section "Pricing" the question of windfall gains to the industry, brewers and wholesalers, was assumed not to influence pricing policy. Windfall gains are by definition unexpected profits for which there are no accompanying costs. This economic term is used to describe un-redeemed container deposits in Michigan. The reason why so many people are concerned about them, the Anderson Bill in the House of Representatives, for example, is the hypothetical magnitude of them. The Department of Commerce figure of 4.5 billion beverage containers sold in Michigan in 1976 will be a conservative estimate of 1979 sales.¹ Industry estimates an approximate 90% return rate overall. This means 450 million container deposits per year will not be redeemed. If half of these are certified containers that will give an average of 7.5 per container x 450 million containers, or about 34 million dollars per year total for beer and soda. This comes out to about 15 million dollars annually for the beer industry portion.

On the other side of the issue, six wholesalers around Traverse City, Michigan are in the courts fighting to force the brewers to initiate all deposits. The problem here is windfall losses. As these wholesalers are in resort areas of the state they are concerned that tourists will stock up on beverages down state (Detroit area), drink them up north and then redeem the empty containers there without purchasing full ones. The law says that the wholesaler shall not refuse to redeem any container of a brand, size and package which he sells. If the wholesaler initiates the deposits as all of them except for Anheuser-Busch do on cans, then the wholesaler stands

¹ "LCC gears up for bottle ban debut," Commerce Register, August, 1978, p. 11.

to lose money by risking the redemption of more cans than he sells. This discussion has been limited to cans as they have wholesaler initiated deposits and are considered more convenient than bottles and, therefore, expected to be more prevalent with vacationers.

Surely the windfall losses will be smaller in total than the windfall gains. However, they help to exemplify the problems surrounding unredeemed deposits. The environmentalists want them confiscated and have introduced legislation which, if passed, would do that.¹ Industry says the money should be left where it is to help pay the additional costs incurred due to the Bottle Bill. Representative Jondahl, who was instrumental in passage of the Bottle Bill, sees serious legal difficulties for the state in attempting to appropriate the funds. "When do they become unredeemed?" asks Jondahl, "after six months, or a year, or two years? And what if a consumer demands his refund after this time."²

Industry does get a windfall gain at some level when a can is thrown in the trash instead of returned for refund. However, industry loses money when refillable bottles are thrown away. A can has a net cost due to handling, storage and shipping when it is returned, but a bottle with a 5¢ deposit costs the brewer over 7 cents to replace. With handling, storage and shipping costs the system just about breaks even when it is returned.

It is too early to determine where and how large the windfall gains or losses will be. They may be at least partially responsible for a Detroit area wholesaler dropping the price 85¢ a case on 12/12 cans the first week

¹ Paul Cox, "State may claim unclaimed deposits," East Lansing (Mich.) The State News, 28 February, 1979, p. 5.

² Lynn Jondahl, Speech before Bottle Bill Update Meeting, Michigan State University, 20 March, 1979.

in May, 1979.¹ However, this action must be the result of several factors rather than just one. The brewer has dropped his price to the wholesaler by 48¢ a case, or more than half of the total reduction.² Deposits on cans are initiated for this brand at the wholesale level, which means the brewer reduction must be due to other factors such as the fact that this brand has decreased sharply in sales since the Bottle Bill.

EMPLOYMENT

There have been reports of some job losses being attributed to the Bottle Bill.³ At this time it is difficult to substantiate which variables caused the job losses.

As far as employment generation, the effect of the Bottle Bill is clear-cut. There have been jobs created at the brewer, wholesaler, retail, and recycling levels in the system. These more than offset the losses at the package fabrication level.⁴ The jobs created use mostly unskilled labor with wages at or near minimum wage. However, distributors have hired new driver-salesmen and breweries have hired new semi-skilled workers to handle the new labor intensive package system. The estimates of employment changes made before the bill took effect seem to be too high from the proponent side and too low from the antagonist side. Each supermarket has an estimated 80 additional hours per week in labor cost for sorting the empty

¹ Peter R. Lochbiler, "A Detroit beer battle brewing? Schlitz pulls tab on can prices," Detroit News, 2 May, 1979, p. 1.

² Telephone Interview with wholesaler, Detroit, Michigan, 4 May, 1979.

³ James Kates, "Michigan bottle law blamed for cutbacks," East Lansing (Mich.) The State News, 5 April, 1979, p. 1.

⁴ Industry interviews at all levels.



bottles and cans. This is the major generation of jobs and is at minimum wage. However, as Michigan has a perennial problem with unemployment among unskilled young workers there should be no problem in filling the jobs.¹

LIMITATIONS OF THE STUDY

1. The study has been limited to only beer packaging. This has been done for several reasons. First, the beer industry retained its product-package mix unchanged until November, 1978.² This made it easier to isolate which changes were caused by the Bottle Bill. Second, the study did not begin until October, 1978 and it would have been difficult to study events which had already taken place.

More than half of the beverage sales covered by the Bottle Bill are of soda. The distribution system for soda with local bottler-distributors is not the same as the highly centralized malt beverage distribution system. The package mix for soda is also different from that for beer. As can be seen in the table below, on a nation-wide basis, soda sales are much greater in refillable bottles than beer and much less in cans. This is a major limitation of the study.

¹ Interview with Carol Fletcher, Michigan Employment Security Commission, Detroit, Michigan, 4 April, 1979.

² Interview with brewers and retailers, November, 1978.

TABLE 10

NATIONWIDE PRODUCT-PACKAGE MIX IN % OF TOTAL UNITS ¹				
	Cans	Non- Refillable Glass	Refillable Glass	Total
Beer	60.9	28.1	11.0	100
Soda	55.1	20.5	24.4	100

2. The experiment area is limited to one city, Flint, Michigan. It is assumed that this test area will be representative of industrial areas. However, no check was made to test the validity of this assumption.

3. The control area, Fort Wayne, Indiana, is assumed to be comparable to Flint, Michigan. Although they are both midwestern cities of the same size there may be many significant differences. Flint is only 60 miles from Detroit and less than 30 miles from the suburban Detroit area. There might be significant differences in beer consumption as per capita consumption of beer for Michigan is about 30% higher than for Indiana.²

4. The sample was not randomly chosen. At both the retail and wholesale levels the sample was chosen with the aid of trade associations.³ The particular sample stores were chosen on the basis of expected helpfulness and to provide a well rounded sample covering different types of businesses and locations within the sample area.

¹ "1977 Soft Drink and Beer Packaging Market Shares," Beverage World, June, 1978, pp. 26-27.

² United States Brewers Association, Inc., Brewers Almanac: The Brewing Industry in the United States, (Washington, D.C.: United States Brewers Association, Inc., 1977).

³ Michigan Food Dealers Association; Michigan Beer and Wine Wholesalers Association; Indiana Food Dealers Association.

5. At the retail level only off-premise stores were studied. This excludes bars and restaurants from the sample. However, these establishments are also excluded from the direct effects of the Bottle Bill, i.e. collection and redemption of deposits.

6. The sample is small.

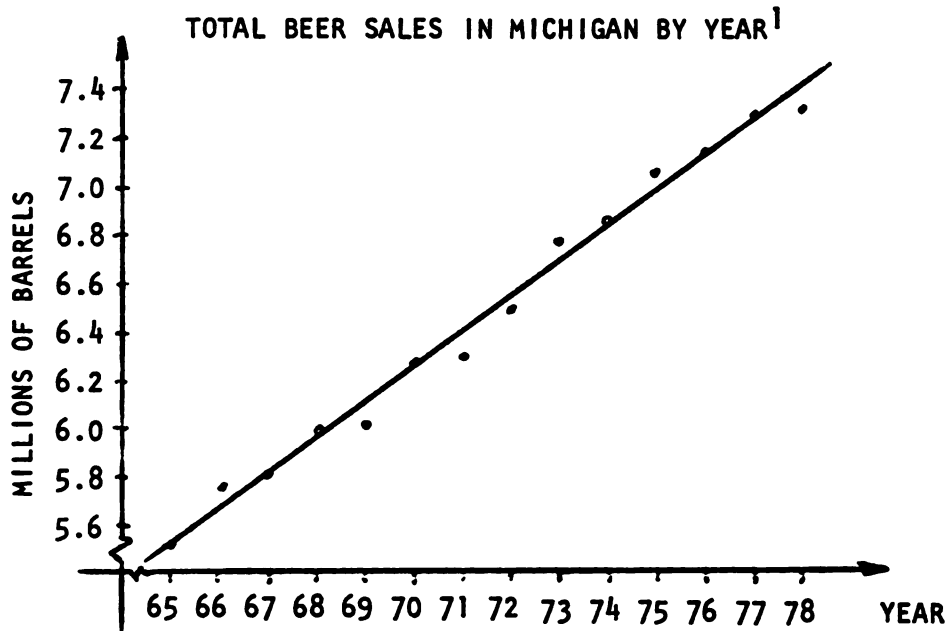
7. The time frame for the study is short. The results can only with extreme caution be extended beyond the test period. The whole beverage distribution system is in a state of transition which is dynamic and cannot be captured by any static study.

8. The legal drinking age changed in Michigan during the test period. On December 3, 1978 (the same day as the Bottle Bill took effect) the drinking age went up from 18 to 19. This was a grandfather clause meaning that it took effect gradually so that individuals turning 18 after that date would not be allowed to drink but that anyone already 18 could continue to exercise the privilege of drinking. On December 22, 1978 the drinking age went up again from 19 to 21 and prohibited anyone under the age of 21 from purchasing alcohol.

The age change might not have a noticeable effect on beer sales, as the decrease in age from 21 to 18 in February, 1972 did not produce a significant increase in sales.¹ This can be seen on the graph below plotting total beer sales in Michigan on a yearly basis. In fact, 1972 fell below the line drawn from all the data. The increase in sales for 1978 over 1977 is depressed due to a lack of product during November and December. By March, 1979 the system is again full.

¹ Interview with Dennis Hybarger, Michigan Liquor Control Commission, Lansing, Michigan, 28 November, 1978.

FIGURE 4



Therefore, it is assumed that the raising of the drinking age will have a negligible effect on total sales. However, this is once again an aggregate statement. On the store level there has been a change in the type of store where the 18-21 year olds obtain beer. One supermarket manager complained about the age law as decreasing his sales of 6 packs. He said they are now obtaining them at the drugstore in the same small shopping center where the minors perceive less risk in purchasing them.² The change in point of purchase is an uncontrolled variable.

¹ Michigan State Liquor Control Commission, Percentage of Barrels of Michigan and Out-State Beer Sold in Michigan by Calendar Year, (Michigan: Licensing and Enforcement Division, 11 August, 1976).

² Interview with retailer, Flint, Michigan, 10 April, 1979.

CONCLUSIONS

Peter Stroh is often quoted as saying the Michigan Bottle Bill is the 60 million dollar solution to a 3 million dollar problem.¹ This was the cost that he estimated two years ago to handle an all returnable system and the 3 million was what the state was spending on litter pickup. More recently Murray Young, representing the Associated Food Dealers of Michigan, gave a revised cost of 250 million and as well a revised litter pickup cost of 10 million dollars.² Regardless of which figure we believe, the Bottle Bill is a very expensive way to clean up litter. Remember that beverage containers are less than 20% of total litter. More importantly the Bottle Bill detracts attention from the total issue of Solid Waste Management of which litter is a small part. There has been no legislation considered on the issue of solid waste management since the passage of the Bottle Bill in Michigan.³

The price of beer is up in the state and sales are down. This was noted right away at the retail level but did not become noticeable at the macro level until March, 1979 as the entire distribution system with its inventories at each level had to be filled with new packages after the changeover. In March and April the purchases of beer were off significantly

¹ Interview with Bob Healey and Bill Weatherstone, Stroh's Brewery, Detroit, Michigan, November, 1978.

² Murray Young, Speech, Bottle Bill Update Meeting, Michigan State University, 20 March, 1979.

³ Telephone Interview with Larry Holcomb, Michigan Department of Natural Resources, Lansing, Michigan, January, 1979.

at the wholesale level and the tax revenue collected dropped.¹ This increase in price comes as no surprise. The industry predicted it and the studies done, even ones by environmentalists, in states with bottle bills have reported an increase in price and decrease in sales, or at least in sales growth, as a result of having a Bottle Bill.²

These experiences have been conveniently overlooked by proponents of the bill who are now screaming foul play because the events in Michigan proved industry and in fact history to be correct.³ The whole illusion that prices would go down is based on the assumption that prices before the bottle bill accurately reflected the relative cost of beverages in the various containers. This is what the Michigan Public Services Commission

¹ Michigan Food Dealers Association, "Container Law Survey," Lansing, 15 March, 1979), (Mimeographed), pp. 1, 2.

Michigan State Liquor Control Commission, Beer Shipments into Michigan Breweries, (Michigan: Licensing and Enforcement Division, 1970-1979).

Michigan State Liquor Control Commission, Total Beer Sold by Michigan Breweries, (Michigan: Licensing and Enforcement Division, 1970-1979).

Pat McCarthy, "Bottle bill tax loss denied," Lansing State Journal, 9 May, 1979, p. A1.

² See Tables 8 and 9.

Waggoner, Oregon Bottle Bill Two Years Later, p. x.

Charles M Gudger and Jack C. Bailes, The Economic Impact of Oregon's "Bottle Bill", (Corvallis: Oregon State University, 1974), p. 11.

Louis E. Page, Letter to Frank J. Gaziano, 13 June, 1978.

Cynthia Kyle, "Bottle law blamed for higher prices," Lansing State Journal, 15 January, 1979, p. B1.

The Glass Packaging Institute, The Container Controversy, (Washington, D.C., The Glass Packaging Institute, 1978), p. 11.

³ Sandy McClure, "Beer profiteering is probed," Detroit Free Press, 4 April, 1979, p. A3.

"Milliken orders probe into beer price hikes," East Lansing (Mich.) The State News, 22 May, 1979, p. 1.

Hugh Folk, Employment Effects of the Mandatory Deposit Regulation, (Springfield and Chicago: Illinois Institute for Environmental Quality, Document 72-1, 1972, cited by Myron H. Ross, Beverage Containers in Michigan, pp. 12-13, (Kalamazoo: Kalamazoo Nature Center for Environmental Education, 1976).

did as late as 1975 in spite of actual data to the contrary from published studies in Oregon.¹

The goal of litter reduction is being met in various ways in different states. A most revealing comparison is between Oregon with a Bottle Bill and Washington with a litter tax. In Oregon the A.D.S. study, an independent out-of-state one commissioned by the state, found an 11% drop in total litter. The state didn't like their findings, but was presumably happier with a study conducted by Don Waggoner of the Oregon Environmental Council who found a 39% decrease in litter.² In Washington with a litter tax, out-of-state researchers found a 60 to 70% decrease in litter. The litter tax would thus appear to be more effective in combatting litter and at the same time much less costly. However, in spite of the fact that their litter tax is twice as effective as neighboring Oregon's Bottle Bill, a survey of Washington consumers reportedly saw a need for a bottle bill in their state.³

The beverage packaging industry has made a change in policy regarding litter control since the passage of the Michigan Bottle Bill. Earlier they were categorically against any type of regulation. Now they have come out

¹ Michigan Public Services Commission, Economic Analysis of Energy and Employment Effects of Deposit Regulation on Non-Returnable Beverage Containers in Michigan, pp. 147, 220, 221.

² Applied Decision Systems, Study of the Effectiveness of the Oregon Minimum Deposit Law, Wellesley Hills, October, 1974.

Waggoner, Oregon's Bottle Bill Two Years Later, p. 1X.

Earl and Miriam Selby, "Can This Law Stop the Trashing of America!" Readers Digest, March, 1976, p. 70.

³ Earl and Miriam Selby, "The Whys Behind a Bottle Bill," Readers Digest, July, 1976, p. 172.

in favor of a litter tax as a cost effective method of combating litter.¹ Basic economic theory teaches that in every case a system of taxes and subsidies, i.e. a litter tax, will provide a more effective form of regulation than a prohibition (which the Bottle Bill is) in altering conditions in a free market economy. Some caution must be expressed here, too. Sweden has a tax of roughly 2¢ per container on beverage containers and yet they report no effect on litter in the country.² This is not because of a defect in the theory, but rather it is because the funds generated by the tax disappear into the general tax fund rather than being used to educate people concerning litter and organize cleanups and solid waste management programs. To be effective the tax monies generated must be used to combat the problem.

The federal government has slowed down its push toward a national Bottle Bill.³ The results of federally sponsored mandatory deposits on ten military bases were not positive. The prohibitive legislation led to increased costs and decreased sales.⁴ During the past ten years there have been many attempts to isolate out one factor, energy, and use it as

¹ Henry B. King, Testimony before Resource Conservation Committee, 17 November, 1978, Quoted in "The U.S.B.A. Position on Beverage Container Deposits," The Brewers Digest, January, 1978, pp. 25-27.

The Glass Packaging Institute, The Container Controversy, pp. 12-14.

² Karl Lidgren, Containers and Environmental Policy, (Lund: Student Litteratur, 1976), p. 19.

"Hojd Skatt Pa Forpackningar Loser Problemen?" Nord Emballage, 44 No. 11 (1978), p. 47.

³ "Deposit Issue is Fading," Packaging Digest, 16, No. 2 (1979), p. 14.

⁴ DOD-EPA Joint Executive Agency Task Force, Solid Waste Management, Department of Defense Test of Solid Waste Management Guidelines for Beverage Containers, (Washington, D.C.: Pentagon, 1979), pp. 4, 46, C4.

a single measure for the relative worth of different beverage containers.¹ Hopefully this single measure will be replaced by a total systems approach to the distribution of beverages and the questions of litter and solid waste. It is time to replace energy with money in the studies as it is truly the unit measure for value and regardless of what the energy studies say, the issue still boils down to "How much does it cost?" It is better to face this reality squarely than to couch arguments in terms of energy and then be surprised at the resultant costs.

Taking a systems approach to the problem of eliminating litter could well change the approach taken in Michigan, but the author doubts if this will happen. The consumer can understand a nickel or dime deposit. He can see this as doing his part to improve the environment.² However, it is doubtful if the consumer can conceptualize 150-200 million dollars which is what the Bottle Bill will cost the people of Michigan in increased cost of beverages each year. These monies could be put to better use and create more productive jobs and go a lot farther toward both litter control and solid waste management. But consumers favor the Bottle Bill. During the first three months of operation it was difficult to find one who admitted voting for it, but it is something they can understand as helping to save the environment.

¹ Battelle, Columbus Division, Evaluation of Energy Consumed in Using Refillable Glass Bottles and Cans for Beer and Soft Drinks, (Columbus, 2 June, 1978).

William L. Bider and Robert G. Hunt, Family-Size Soft Drink Containers- A Comparative Energy and Environmental Analysis, (Prairie Village: Franklin Associates, Ltd., (1978).

John Malloy, "Energy Use and Resource Recovery," Polymer News, (Vol. 4 (1978)), pp. 154-162.

Environmental Protection Agency, Resource and Environmental Profile Analysis of Nine Beverage Container Alternatives, (Washington, 1974).

Michigan Public Services Commission, Economic Analysis of Energy and Employment Effects of Deposit Regulation on Non-Returnable Beverage Containers in Michigan.

² "Sound Off," Detroit Free Press, 4 February, 1979, p. A1.

APPENDICES

INITIATED LAW

The People of the State of Michigan enact:

445.571 Definitions. [M.S.A. 18.1206(11)]

Sec. 1. As used in this act:

(a) "Beverage" means a soft drink, soda water, carbonated natural or mineral water, or other nonalcoholic carbonated drink; beer, ale, or other malt drink of whatever alcoholic content.

(b) "Beverage container" means an airtight metal, glass, paper, or plastic container, or a container composed of a combination of these materials, which, at the time of sale, contains 1 gallon or less of a beverage.

(c) "Returnable container" means a beverage container upon which a deposit of at least 10 cents has been paid, or is required to be paid upon the removal of the container from the sale or consumption area, and for which a refund of at least 10 cents in cash is payable by every dealer or distributor in this state of that beverage in beverage containers, as further provided in section 2. A beverage container certified as provided in section 3 shall also be deemed a returnable container if the deposit is at least 5 cents, and the requirements of the preceding sentence are met in all other respects.

(d) "Nonreturnable container" means a beverage container upon which no deposit or a deposit of less than 10 cents has been paid, or is required to be paid upon the removal of the container from the sale or consumption area, or for which no cash refund or a refund of less than 10 cents is payable by a dealer or distributor in this state of that beverage in beverage containers, as further provided in section 2. A beverage container certified as provided in section 3 shall not be deemed a nonreturnable beverage container if the deposit is at least 5 cents, and the requirements of the first sentence of subdivision (c) of this section are met in all other respects.

(e) "Person" means an individual, partnership, corporation, association, or other legal entity.

(f) "Dealer" means a person who sells or offers for sale to consumers within this state a beverage in a beverage container, including an operator of a vending machine containing a beverage in a beverage container.

(g) "Operator" of a vending machine means equally its owner, the person who refills it, and the owner or lessee of the property upon which it is located.

(h) "Distributor" means a person who sells beverages in beverage containers to a dealer within this state, and includes a manufacturer who engages in such sales.

(i) "Manufacturer" means a person who bottles, can, or otherwise places beverages in beverage containers for sale to distributors, dealers, or consumers.

(j) "Within this state" means within the exterior limits of the state of Michigan, and includes the territory within these limits owned by or ceded to the United States of America.

(k) "Commission" means the Michigan liquor control commission.

(l) "Sale or consumption area" means the premises within the property of the dealer or of his lessor where the sale is made, within which beverages in returnable containers may be consumed without payment of a deposit, and, upon removing a beverage container from which, the customer is required by the dealer to pay the deposit.

445.572 Selling or giving nonreturnable containers to consumers prohibited; redemption of returnable containers; no refund where deposit not required; acceptance of returnable containers and refunds by distributor; container to indicate refund value and name of state; metal beverage containers. [M.S.A. 18.1206(12)]

Sec. 2. (1) A dealer shall not, within this state, sell, offer for sale, or give to consumers a nonreturnable container or a beverage in a nonreturnable container.

(2) A dealer who regularly sells beverages for consumption off his premises shall provide on his premises, or within 100 yards of the premises on which he sells or offers for sale a beverage in a returnable container, a convenient means whereby the containers of any kind, size, and brand sold or offered for sale by him may be returned by, and the deposit refunded in cash to, a person whether or not the person is the original customer of that dealer, and whether or not the container was sold by that dealer.

(3) Regional centers for redemption of returnable containers may be established in addition to, but not as substitutes for, means for refund of deposits in accordance with subsection (2).

(4) A dealer shall not refuse to accept from a person an empty returnable container of any kind, size, and brand sold by that dealer, nor refuse to pay to the person its full refund value in cash, except as provided in subsections (5) and (7).

(5) A dealer who does not require a deposit on a returnable container when the contents are consumed in the dealer's sale or consumption area shall not be required to pay a refund for accepting that empty container.

(6) A distributor shall not refuse to accept from a dealer an empty returnable container of any kind, size, and brand sold by that distributor, nor refuse to pay to the dealer its full refund value in cash, except as provided in subsection (7).

(7) Every beverage container sold or offered for sale by a dealer within this state shall clearly indicate by embossing or by a stamp, or by a label or other method securely affixed to the beverage container, the refund value of the container and the name of this state. A dealer or distributor may, but is not required to, refuse to accept from a person an empty returnable container which does not state thereon the refund value of the container and the name of this state.

(8) A dealer within this state shall not sell, offer for sale, or give to consumers a metal beverage container, any part of which becomes detached when opened.

445.573 Certification of beverage containers. [M.S.A. 18.1206(13)]

Sec. 3. (1) To promote the use in this state of reusable beverage containers of uniform design, and to facilitate the return of containers to manufacturers for reuse as a beverage container, the commission shall certify beverage containers which satisfy the requirements of this section.

(2) A beverage container shall be certified if:

(a) It is reusable as a beverage container by more than 1 manufacturer in the ordinary course of business.

(b) More than 1 manufacturer will in the ordinary course of business accept the beverage container for reuse as a beverage container and pay the refund value of the container.

(3) The commission shall not certify more than 1 beverage container of a particular manufacturer in each size classification. The commission shall by rule establish appropriate size classifications in accordance with the purposes set forth

in subsection (1), each of which shall include a size range of at least 3 liquid ounces.

(4) A beverage container shall not be certified under this section:

(a) If by reason of its shape or design, or by reason of words or symbols permanently inscribed thereon, whether by engraving, embossing, painting, or other permanent method, it is reusable as a beverage container in the ordinary course of business only by a manufacturer of a beverage sold under a specific brand name.

(b) If the commission finds that its use by more than 1 manufacturer is not of sufficient volume to promote the purposes set forth in subsection (1).

(5) Unless an application for certification under this section is denied by the commission within 60 days after the application is filed, the beverage container shall be deemed certified.

(6) The commission may at any time review certification of a beverage container. If, upon the review, after written notice and hearing afforded to the person who filed the original application for certification of the beverage container under this section, the commission determines that the beverage container is no longer qualified for certification, it shall withdraw certification. Withdrawal of certification shall be effective on a date specified by the commission, but not less than 30 days after written notice to the person who filed the original application for certification of the beverage container under this section, and to the manufacturer referred to in subsection (2).

445.574 Violation; penalty; separate offense. [M.S.A. 18.1206(14)]

Sec. 4. A dealer, distributor, or manufacturer who violates this act shall be fined not less than \$100.00 nor more than \$1,000.00 and costs of prosecution. Every day a violation occurs is a separate offense.

445.575 Repeal of §445.191. [M.S.A. 18.1206(15)]

Sec. 5. Act No. 142 of the Public Acts of 1971, being section 445.191 of the Compiled Laws of 1970, is repealed.

445.576 Effective date. [M.S.A. 18.1206(16)]

Sec. 6. This act shall take effect two years after it becomes law.

Compiler's note: The initiated law set out above was submitted to and approved by the people at the general election held on November 2, 1976, and took effect on December 3, 1976, pursuant to Mich. Const., Art. 2, §9.

This proposal will appear on the ballot as follows:

PROPOSAL A

PROPOSED LAW TO PROHIBIT THE USE OF NON-RETURNABLE BOTTLES AND CANS FOR SOFT DRINKS AND BEER; TO REQUIRE REFUNDABLE CASH DEPOSITS FOR SOFT DRINK AND BEER CONTAINERS; AND TO PROVIDE PENALTIES FOR VIOLATION OF THE LAW.

THE PROPOSED LAW WOULD:

- (a) Prohibit the use of non-returnable bottles and cans for the sale of soft drinks and beer for off-premises consumption;
- (b) Set up a requirement for cash deposits and repayment of deposits for soft drink and beer containers;
- (c) Prohibit the use of metal soft drink and beer containers with detachable openers;
- (d) Establish fines for violation of the law by dealers, distributors and manufacturers.

Should this proposed law be approved?

YES ☐

NO ☐

BIBLIOGRAPHY

BIBLIOGRAPHY

1. Applied Decision Systems. Study of the Effectiveness of the Oregon Minimum Deposit Law. Wellesley Hills, October, 1974.
2. "Area Stores Success Varies in Coping with Returnables," Flint Journal, 6 December, 1978, p. D1.
3. Arthur Young & Company. Complying with the Michigan Container Law. Arthur Young & Company, 1978.
4. Battelle, Columbus Division. Evaluation of Energy Consumed in Using Refillable Glass Bottles and Cans for Beer and Soft Drinks. Columbus, 2 June, 1978.
5. "Beer and Wine Drivers Expect Long Strike." Flint Journal, 6 December, 1978, p. A1.
6. "Beer and Wine Drivers Strike." Flint Journal, 5 December, 1978, p. 1.
7. "Beer Strike Ends." Flint Journal, 19 December, 1978, p. 1.
8. Bider, William L., and Hunt, Robert G. Family-Size Soft Drink Containers - A Comparative Energy and Environmental Analysis. Prairie Village: Franklin Associates, Ltd. (1978).
9. Bladen, Edward. Speech. Bottle Bill Update Meeting, Michigan State University, 20 March, 1979.
10. Burzynski, Sue. "Consumers also Worry: What does ban mean?" Lansing State Journal, 3 December, 1978, pp. B 3, 12.
11. Busch Center, The Wharton School, University of Pennsylvania. A Study of the Impacts on the USA of a Ban on One-Way Beverage Containers, Philadelphia: The Wharton School, University of Pennsylvania, 1976.
12. Can Manufacturers Institute. "CMI Beer and Soft Drink Shelf Price Survey." Washington, D.C., 26 February, 1979. (Mimeographed).
13. Committee Findings and Staff Papers on National Beverage Container Deposits of the Resource Conservation Committee. By Douglas M. Costle, Chairman. Washington, D.C.: Government Printing Office, 1978.
14. "Complaints on bottle law? Kelley task force can help." Flint Journal, 6 December, 1978, p. 1.

15. "Composite Chain Report: Margin, Expenses, Earnings," from Cornell University, "Operating Results of Food Chains." Quoted in Progressive Grocer, April, 1979, p. 116.
16. "Containers 18% of Litter." East Lansing (Mich.) The State News, 28 February, 1979, p. 5.
17. Cox, Paul. "State may claim unclaimed deposits." East Lansing (Mich.) The State News, 28 February, 1979, p. 5.
18. Cox, Paul. "Watch Crushed Cans: No Deposit Returned." East Lansing (Mich.) The State News, 1 December, 1978, pp. 1, 3.
19. Deeb, Edward. "Testimony before the Committee to Study the Impact of the Beverage Container Deposit Law." Lansing, 11 May, 1979.
20. Department of Commerce, Liquor Control Commission. Beverage Container and Carton Rules (R 436,2001). Lansing: Department of Commerce, 26 June, 1978.
21. "Deposit issue is fading." Packaging Digest, 16, No. 2 (1979), p. 14.
22. DOD-EPA Joint Executive Agency Task Force, Solid Waste Management. Department of Defense Test of Solid Waste Management Guidelines for Beverage Containers. Washington, D.C.: Pentagon, 1979.
23. "Economics of Recycling isn't Everything." Beverage World. February, 1978, pp. 24-25.
24. Environmental Protection Agency. Resource and Environmental Profile Analysis of Nine Beverage Container Alternatives. Washington, 1974.
25. Fletcher, Carol. Michigan Employment Security Commission. Detroit, Michigan. Interview, 4 April, 1979.
26. Folk, Hugh. Employment Effects of the Mandatory Deposit Regulation. Springfield and Chicago: Illinois Institute for Environmental Quality, Document 72-1, 1972, cited by Myron H. Ross, Beverage Containers in Michigan, pp. 12-13. Kalamazoo: Kalamazoo Nature Center for Environmental Education, 1976.
27. Goff, James. "Litter and Solid Waste." Lecture at Michigan State University, March, 1978.
28. Gudger, Charles M., and Bailes, Jack C., The Economic Impact of Oregon's "Bottle Bill." Corvallis: Oregon State University, 1974.
29. Hair, Marty. "How State's bottle law is working." Detroit Free Press, 7 February, 1979, pp. C1, C3.
30. Healey, B. and Weatherstone, B. Stroh's Brewery, Detroit, Michigan. Interview, November, 1978.

31. Higgins, James V. "Committee fight over bottle ban." East Lansing (Mich.) The State News, 4 October, 1978, pp. 10-11.
32. "Hojd Skatt Pa Forpackningar Loser Problemen?" Nord Emballage, 44 No. 11 (1978), p. 47.
33. Holcomb, Larry. Michigan Department of Natural Resources, Lansing, Michigan. Telephone Interview, January, 1979.
34. Holt, Sandy. "House-Senate bottle bill committee to prove disposal price questions." East Lansing (MI) The State News, 3 April, 1979, p. 5
35. Hybarger, Dennis. Michigan Liquor Control Commission, Lansing, Michigan. Interview, 28 November, 1978.
36. Jondahl, Lynn. House of Representatives, Lansing, Michigan. Telephone Interview, January, 1979.
37. Jondahl, Lynn. Speech. Bottle Bill Update Meeting, Michigan State University, 20 March, 1979.
38. Kates, James. "Michigan bottle law blamed for cutbacks." East Lansing (Mich.) The State News, 5 April, 1979, p. 1.
39. King, Henry B. Testimony before Resource Conservation Committee, 17 November, 1978. Quoted in "The U.S.B.A. Position on Beverage Container Deposits." Brewers Digest, January, 1978, pp. 25-27.
40. Kyle, Cynthia. "Bottle Ban: Delight, Hassle or Boondoggle?" Lansing State Journal, 26 February, 1979, pp. B1, 2.
41. Kyle, Cynthia. "Bottle law blamed for higher prices." Lansing State Journal, 15 January, 1979, p. 81.
42. "LCC gears up for bottle ban debut." Commerce Register, August, 1978, p. 11.
43. Lidgren, Karl. Containers and Environmental Policy. Lund: Student Litteratur, 1976.
44. Lieberman, Charles E. "Packaging Economics." Brewers Digest, December, 1977, pp. 33-38.
45. Lochbiler, Peter R. "A Detroit beer battle brewing? Schlitz pulls tab on can prices." Detroit News, 2 May, 1979, p. 1.
46. Malloy, John. "Energy Use and Resource Recovery." Polymer News, Vol. 4 (1978), pp. 154-162.
47. McCarthy, Pat. "Bottle bill tax loss denied." Lansing State Journal, 9 May, 1979, p. A1.
48. McCarthy, Pat. "Debate and beer prices mount with new deposit law." Lansing State Journal, 13 February, 1979, p. B1.

49. McClure, Sandy. "Beer profiteering is probed." Detroit Free Press, 4 April, 1979, p. A3.
50. McClure, Sandy. "Maverick leading beer price war to back bottle rule." Detroit Free Press, 28 March, 1979, pp. A3, A 11.
51. McDiarmid, Hugh. "Beer Users Shun Cans Under New Deposit Rule." Detroit Free Press, 9 May, 1979, p. A3.
52. McDiarmid, Hugh. "Brewers gird for bottle shift." Detroit Free Press, 4 October, 1978, pp. A3, A17.
53. McDiarmid, Hugh. "One Month After New Law Beer Bottles Crushing Cans." Detroit Free Press, 4 January, 1979, p. A3.
54. McDiarmid, Hugh. "State trash load cut 4.5%." Detroit Free Press, 13 April, 1979, p. 3.
55. Meier, Harvey A., and Welmer, Michael W. "Sanitation and Returnable Beverage Containers." Brewers Digest, April, 1978, pp. 48-50.
56. "Meijers stops recycling project." Flint Journal, 6 December, 1978, 6 December, 1978, p. D1.
57. Michigan Compiled Laws. Sections 445,571 - 445,576 (1976). Michigan Beverage Container Law.
58. Michigan Food Dealers Association. "Container Law Survey." Lansing, 15 March, 1979. (Mimeographed).
59. Michigan Public Services Commission. Economic Analysis of Energy and Employment Effects of Deposit Regulation on Non-Returnable Beverage Containers in Michigan. Lansing, Michigan, October, 1975.
60. Michigan State Liquor Control Commission. Beer Shipments into Michigan by Out-State Breweries. Michigan: Licensing and Enforcement Division, 1970-1979.
61. Michigan State Liquor Control Commission. Percentage of Barrels of Michigan and Out-State Beer Sold in Michigan by Calendar Year. Michigan: Licensing and Enforcement Division, 11 August, 1976.
62. Michigan State Liquor Control Commission. Total Beer Sold by Michigan Breweries, Michigan: Licensing and Enforcement Division, 1970-1979.
63. Midwest Research Institute. The National Economic Impact of a Ban on Nonrefillable Beverage Containers. Kansas City: Midwest Research Institute (1971).
64. "Milliken orders probe into beer price hikes." East Lansing (Mich.) The State News, 22 May, 1979, p. 1.

65. Neubacker, Jim. "Bottle Bill is working - Milliken." Detroit Free Press, 25 March, 1979, pp. A3, 10.
66. "Officials look into lifting ban on prices in beer advertising." East Lansing (Mich.) The State News, 4 April, 1979, p. 18.
67. Page, Louis E. Letter to Frank J. Gaziano. 13 June, 1978.
68. Pinto, Allen. "Litter laws hit the big time." Modern Packaging, January, 1979, pp. 47-49.
69. Ross, Myron H. Beverage Containers in Michigan. Kalamazoo: Kalamazoo Nature Center for Environmental Education, 1976.
70. Seido, Leo. "Testimony before the Committee to Study the Impact of the Beverage Container Deposit Law." Lansing, 11 May, 1979.
71. Selby, Earl and Miriam. "Can this Law Stop the Trashing of America." Readers Digest, March, 1976, pp. 69-73.
72. Selby, Earl and Miriam. "The Whys Behind a Bottle Bill." Readers Digest, July, 1976, pp. 169-174.
73. Sjolander, Richard. "Testimony before the Committee to Study the Impact of the Beverage Container Deposit Law." Lansing, 11 May, 1979.
74. Snow, Robert E., and Wright, David E. "No Deposit, No Return: Technology and Values in the Michigan Bottle Referendum." Lyman Briggs College, Michigan State University, 20 October, 1977. (Typewritten).
75. "Soft Drinks." Beverage World, January, 1979, p. 12.
76. "Sound Off." Detroit Free Press, 4 February, 1979, p. A1.
77. Syrek, Daniel B. A Survey of Michigan Roadside and Recreation Area Litter Prior to Implementation of the Beverage Container Law. Sacramento: Institute for Applied Research, 1978. (Mimeographed).
78. Tanner, Ronald. "As Forced Deposits Hit Michigan Retailers Try To Return That Law." Progressive Grocer, February, 1979, pp. 73-75.
79. "Teamsters Set Picket Lines At Groceries In 'Beer Strike'." Flint Journal, 12 December, 1978.
80. The Glass Packaging Institute. The Container Controversy. Washington, D.C., The Glass Packaging Institute, 1978.
81. United States Brewers Association, Inc. Brewers Almanac: The Brewing Industry in the United States. Washington, D.C.: United States Brewers Association, Inc., 1977.

82. United States Brewers Association, Inc. Research Materials Supporting The United State Brewers Association's Arguments Against Restrictive Packaging Legislation. Washington, D.C., United States Brewers Association, Inc., 1977.
83. U.S. Bureau of Labor Statistics. Consumer Price Index. Washington, D.C.: Government Printing Office, January, 1978 to March, 1979.
84. U.S. Bureau of Labor Statistics. Producer Prices and Price Indexes. Washington, D.C.: Government Printing Office, March, 1978 to February, 1979.
85. Waggoner, Don. Oregon's Bottle Bill Two Years Later. Portland: Columbia Group Press, 1974.
86. Washington, Tom. "Testimony Before the Committee to Study the Impact of the Beverage Container Deposit Law." Lansing, 11 May, 1979.
87. Waggoner, Don. Oregon's Bottle Bill Two Years Later. Portland: Columbia Group Press, 1974.
88. Weinberg, R. S. and Associates. 'Working Paper: The Economics of the Malt Beverage Production/Distribution System, 1976.' St. Louis: R. S. Weinberg and Associates, 8 August, 1978.
89. White, Otis. "Bottle battle: 'Unclear'." State Journal, 18 February, 1979, pp. B1, 12.
90. Young, Murray. Speech. Bottle Bill Update Meeting, Michigan State University, 20 March, 1979.
91. "1977 Soft Drink and Beer Packaging Market Shares." Beverage World, June, 1978, pp. 26-27.

