



## Michigan COMMENTARY

### UNCLAIMED BEVERAGE CONTAINER DEPOSITS: AN UPDATE

by James Webster and Peter Pratt

Thirteen year-old Johnny was helping his mother return empty bottles to the grocery store. As Johnny reached for the car door, one bottle slipped free and crashed to the ground, broken. Johnny and his mother cannot reclaim their ten-cent deposit on the broken bottle, but someone just "earned" ten cents. What happens to all of those five-, ten-, and twenty-cent deposits on soft drink and beer bottles and cans that consumers do not reclaim? How much money is involved?

As part of its subscription service, PUBLIC SECTOR REPORTS, Public Sector Consultants, Inc. (PSC), published in August 1986 a policy paper on unreturned beverage containers and unclaimed deposits. In addition to citing the environmental benefits associated with recycling beverage containers, the paper estimated that Michigan consumers lose \$48.6 million annually in unclaimed deposits.<sup>1</sup> The exact number of unclaimed deposits is unavailable because the ten-year-old legislation does not require reporting of deposits collected and refunded. Our 1986 estimate was based on statistics from the beverage industry, a Michigan Public Service Commission study by Gondy Rao, and "Michigan's Mandatory Beverage Container Deposit Law," a study by Richard Sjolander and Peter Kakela.<sup>2</sup> New information from other states and the Michigan Department of Natural Resources (DNR) now enables us to refine this estimate and update the status of unclaimed beverage container deposits. This report analyzes two central questions. First, how many unclaimed deposits are there? Second, should beer distributors and soft drink bottlers, as they do now, pocket all the unclaimed deposits?

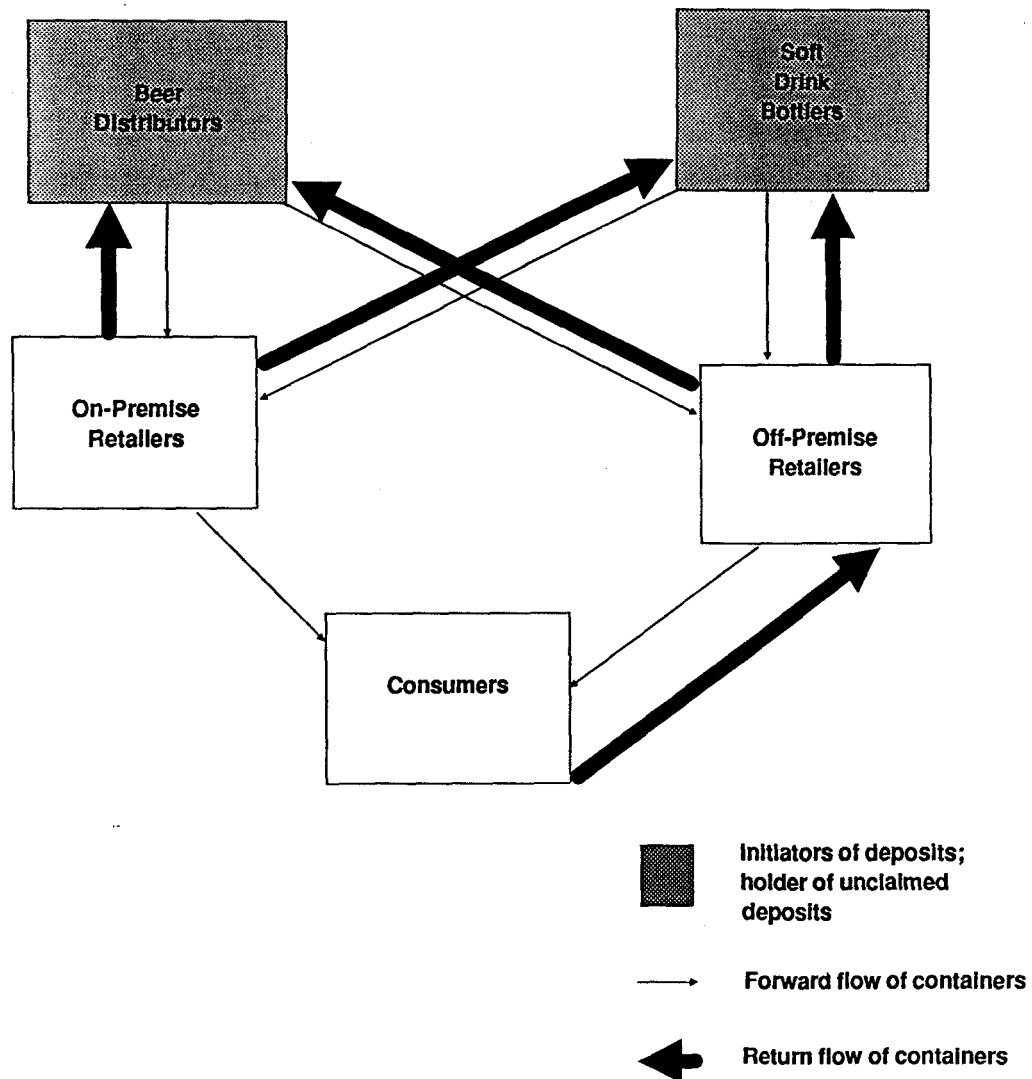
#### The Bottle Bill

In 1976 Michigan voters adopted the Bottle Bill to help clean up the environment as well as conserve energy and natural resources; on December 3, 1978, the law took effect. Its accomplishments are well documented: Bottle deposits save energy, reduce roadside litter, create jobs, and reduce the volume of solid waste. In 1986 PSC estimated that recycling beverage containers had saved Michigan an estimated 8.5 trillion BTUs in 1984; this equates to 65 million gallons of gasoline, 0.2 percent of the state's energy consumption that year.<sup>3</sup> According to the Michigan Department of Transportation, roadside beverage container litter decreased by 84 percent after the first year of the Bottle Bill.<sup>4</sup> After the second year the number of returnable roadside cans had decreased by 97 percent and returnable bottles by 93 percent from prelegislation levels.<sup>5</sup> Based on figures from the Michigan Public Service Commission, PSC also calculated that the Bottle Bill created a net increase of 4,174 jobs; metal can and glass bottle manufacturing experienced a decline in employment, while jobs in retailing and the beverage industry increased.<sup>6</sup> In a hearing before Congress, former state Transportation

Commission Chairman Peter B. Fletcher said the Bottle Bill reduced by 6 percent Michigan's solid waste stream volume, a savings of approximately \$25 million annually.<sup>7</sup>

The Bottle Bill requires consumers to pay at least a ten-cent deposit on all carbonated beverage containers and a five-cent deposit on certain "uniform" beverage containers. Wine is exempt, although wine cooler bottles will require deposits starting June 1, 1989. In Michigan the average deposit on a beverage container is 11.2 cents.<sup>8</sup> In the beer industry this deposit begins with the distributor; in the soft drink industry it originates with the bottler. Retailers pay the distributor or bottler a dime for most deposits, and consumers pay retailers a dime when they purchase a beer or soft drink; the system balances when consumers return the containers and reclaim their dimes. However, when consumers fail to return a container and take back their deposit, the distributor or bottler then has an unclaimed dime. *In effect, the consumer pays a dime to the distributor or bottler each time s/he breaks, discards, or loses a returnable bottle or can.* Retailers, as middlemen, do not benefit from unclaimed deposits because they have only transferred the dime deposit from the consumer to the distributor or bottler. The flowchart depicts the process.

#### RETURNABLE BEVERAGE CONTAINER FLOWCHART



## Quantifying Unclaimed Deposits

As Michigan law does not require distributors and bottlers to report the number of deposits they receive and refund, we can only estimate the value of unclaimed deposits. Among other sources, data from states that require such reporting and from the Michigan DNR allow us to define a range, however. This range is based on (1) consumers' estimated rate of returns, (2) the total number of returnable bottles and cans sold in Michigan, (3) the experience in other states and (4) DNR Waste Stream Assessments.

**Rates of Return** A very early study (1978) by the Michigan legislative staff estimated the beverage container return rate to be 90 percent.<sup>9</sup> In its 1986 research paper, PSC judged the rate to be 93 percent. In 1987, Patrick Laughlin, president of the Michigan Beer and Wine Wholesalers Association, estimated the return rate to be as high as 95 percent.<sup>10</sup>

States with reporting requirements can more precisely estimate their return rates. In New York consumers return 77 percent of their cans and bottles, and in Massachusetts the rate is 79 percent.<sup>11</sup> Both states have five-cent deposits on most returnable containers. California, which has a one-cent deposit, achieved only a 51 percent return rate in the first two months of its deposit law, but this figure is expected to increase once the network of recycling centers is fully operational.<sup>12</sup>

Distributors and bottlers claim that the return rate in Michigan is much higher than in states with reporting requirements because our consumers pay a higher price for failing to return bottles. Michigan has a dime deposit as opposed to a nickel (New York, Massachusetts) or a penny (California). In New York, however, the Temporary State Commission on Returnable Beverage Containers concluded that higher deposits do not affect return rates in the long run.<sup>13</sup> In his study, "Michigan's Experience with Mandatory Deposits on Beverage Containers," Richard Porter compared return rates for two- and five-cent deposits in Oregon and five- and ten-cent deposits in Michigan; he concluded that the deposit size seems to have little effect on the return rate, at least for amounts of two cents or more.<sup>14</sup>

**Total Number of Bottles and Cans Sold** How do returns translate into dollars? Approximately 4.7 billion soft drink and beer containers are sold annually in Michigan, according to data from the Beer Institute, *Beverage World Magazine*, and the National Soft Drink Association.<sup>15</sup> Almost all of these containers are returnable. At an average deposit of 11.2 cents per can or bottle, Michigan consumers deposit about \$526 million in any one year. Depending upon the return rate—between New York's 77 percent and Laughlin's 95 percent—*unclaimed deposits in Michigan total between \$26 million and \$121 million annually.* (See Exhibit 1.) Between December 1978 and December 1988, Michigan citizens will have deposited roughly \$5.26 billion; depending on the return rate, bottlers and distributors will have retained between \$260 million and \$1.21 billion of this amount.

**Experience in Other States** Another way to estimate the amount of Michigan's unclaimed deposits is to work from data reported by Massachusetts and New York. (See Exhibit 2.) New York's annual average over four and one-half years for unclaimed deposits is more than \$67 million; its population (17.8 million) is nearly twice that of Michigan. The six-year annual average for unclaimed deposits is nearly \$22 million in Massachusetts, which has a population (5.8 million) less than two-thirds the size of Michigan's. Assuming

that per capita consumption of beverages with deposits is the same in each of the three states, Michigan's unclaimed deposits would be approximately \$34 million annually (see Exhibit 3).

These estimates do not take into consideration that (1) the deposit in Michigan on most returnable cans and bottles is twice that of deposits in New York and Massachusetts and (2) the higher deposit in Michigan *may* drive up the return rate. Given the Porter study and the report from the special New York commission, however, it is unlikely that the higher deposit in Michigan would raise the return rate nearly enough to offset the extra unclaimed amount that the higher deposit provides Michigan's distributors and bottlers (compared to New York and Massachusetts). Therefore, these are conservative estimates for Michigan; the true number could be much higher.

**DNR Waste Stream Assessments** Studies conducted by the Michigan DNR show that our estimates are realistic. The DNR's 1986 Waste Stream Assessments, which identified the number of returnable beverage containers per ton of refuse, found the average in six county landfills was 14.2 returnables per ton.<sup>16</sup> The DNR estimates that Michigan generates 11.8 million tons of solid waste per year; at an average of 11.2 cents per deposit, that means \$18.8 million in discarded beverage containers in state landfills. This is only a portion of the annual amount of unclaimed deposits, however; to this number must be added returnables carried out of the state (likely to be a significant number, given Michigan's tourism industry), destroyed (such as broken bottles), or disposed as litter that never reaches a solid waste disposal facility. At the very least, these factors push the unclaimed deposit total above \$26 million annually.

By any standard, this range of ten-year losses (between \$260 million and \$1.21 billion) is a large sum, which is the best argument for requiring distributors and bottlers to report the deposits collected and refunded. No state should fail to track such a large amount of money lost by consumers as a result of state policy. Reporting requirements should be instituted and enforced with penalties for those who do not comply or who file inaccurate reports. Michigan thus could avoid the problems encountered in Massachusetts, where the attorney general had to take legal action to obtain complete records from distributors and bottlers.<sup>17</sup>

### **Rights to the Unclaimed Deposits**

Michigan's legislation grants bottlers and distributors the privilege, including interest earned, of holding the consumer's dime deposit. Distributors and bottlers often argue that, since consumers may let containers collect for months, they must carry ongoing liability for a significant number of unclaimed deposits that eventually will be claimed. In fact, distributors and bottlers benefit from these slow returns, as the interest they earn is greater the longer a consumer keeps a bottle or can. Moreover, the law does not specify what is to be done if the deposit is never claimed, an omission that enables distributors and bottlers to pocket the deposits. As Michigan reviews ten years of the Bottle Bill, at issue is whether unclaimed deposits should benefit only distributors and bottlers; should help compensate retailers as well as bottlers and distributors for handling costs; and/or should be devoted to programs that will benefit all Michigan residents.

Proponents of state government capturing all unclaimed deposits argue that the consumer's unclaimed dime is not revenue that belongs to distributors and

## EXHIBIT 1

## RANGE OF UNCLAIMED DEPOSITS IN MICHIGAN

Estimated Return Rate (Percentage)	1988	1979-1988
95%	\$26,000,000	\$260,000,000
93	37,000,000	370,000,000
90	53,000,000	530,000,000
79	110,000,000	1,100,000,000
77	121,000,000	1,210,000,000

NOTE: Based on 4.7 billion returnable beverage containers annually and an average deposit of 11.2 cents per returnable container.

## EXHIBIT 2

TOTAL UNCLAIMED DEPOSITS,  
MASSACHUSETTS AND NEW YORK  
(millions of dollars)

	<u>1983</u>	<u>1984</u>	<u>1985</u>	<u>1986</u>	<u>1987</u>	<u>1988<sup>a</sup></u>	<u>Total</u>	<u>Annual Average</u>
Massachusetts								
Reported to the state	\$5.9	\$13.3	\$16.4	\$19.6	\$21.8	\$22.0	\$99.0	
Estimated additional unreported <sup>b</sup>	\$6.1	\$10.7	\$7.6	\$4.4	\$2.2	--	\$31.0	
TOTAL UNCLAIMED	<u>\$12.0</u>	<u>\$24.0</u>	<u>\$24.0</u>	<u>\$24.0</u>	<u>\$24.0</u>	<u>\$22.0</u>	<u>\$130.0</u>	\$21.67
New York								
Reported to the state		\$54.6	\$55.5	\$61.1	\$66.4	\$26.4	\$264.0	
Percentage reporting <sup>c</sup>		65%	95%	95%	97%	97%	87%	
TOTAL UNCLAIMED		<u>\$84.0</u>	<u>\$58.4</u>	<u>\$64.3</u>	<u>\$68.5</u>	<u>\$27.2</u>	<u>\$303.4</u>	\$67.42

SOURCES: Massachusetts Department of Administration and Finance and the New York Department of Environmental Conservation.

<sup>a</sup>For Massachusetts, based on data from previous years; for New York, data from the first half of 1988 only.

<sup>b</sup>The Massachusetts Department of Administration and Finance estimated the additional number of unreported, unclaimed deposits from analysis of state Alcohol Beverage Control Commission reports as well as from data on beer and soft drink consumption.

<sup>c</sup>The New York Department of Environmental Conservation mails deposit reporting forms to all known deposit initiators. The department then calculates the "percentage reporting" from firms that return forms.

## EXHIBIT 3

ESTIMATED ANNUAL AVERAGE OF UNCLAIMED DEPOSITS IN MICHIGAN,  
EXTRAPOLATED FROM NEW YORK AND MASSACHUSETTS DATA

	Annual Average of Unclaimed Deposits	Ratio of Michigan's Population to State's Population	Estimated Annual Average of Unclaimed Deposits in Michigan
New York	\$67.42 million	.51	\$34.38 million
Massachusetts	\$21.67 million	1.57	\$34.02 million

bottlers but instead is a deposit and should be returned in some form to the consumer. The drafters of the Bottle Bill contend that because the law is meant to clean up and protect the environment, unclaimed amounts should be earmarked for environmental programs. Proposals in Massachusetts and New York suggest targeting the unclaimed money to clean-up efforts. California returns a portion of these funds to consumers as an incentive to recycle; the rest goes to litter abatement programs, information services, incentives for nonprofit groups to recycle, and administrative costs within the California Department of Conservation.

Distributors and bottlers argue that since Michigan's Bottle Bill does not specifically address the issue, unclaimed deposits are legally their property. The beverage industry contends that the amount is less than thought and that unclaimed deposits are needed to offset handling costs. They point out that the law has required them to spend millions of dollars for additional employees, new facilities, recycling equipment, expanded warehousing, and new trucks.

A 1987 study sponsored by the Michigan Beer and Wine Wholesalers Association found that if distributors are required to return some unclaimed deposits, they would be forced to increase beverage prices.<sup>18</sup> Prices, however, rose 10 to 15 percent in Michigan immediately after the Bottle Bill went into effect, which many contend more than covered the added costs incurred by distributors and bottlers. Despite their claims that handling and other costs have offset income from price increases and unclaimed deposits, distributors and bottlers in Michigan have not offered to the public detailed information on the additional costs that the legislation has forced them to bear or on the amounts generated through unclaimed deposits.

A study in Massachusetts, based on data from both the Department of Administration and Finance and the beer industry, illustrates the net increase in profit margin for the wholesale beer industry in that state between 1982 and 1987. It includes price increases, income from recycling and unclaimed bottle deposits, and costs incurred as a result of the state's legislation. The study found that the wholesale beer industry experienced an increase in gross profits of \$69 million annually between 1982 and 1987. Based on figures from other states and the industry's own analysis, the yearly net cost of the Massachusetts act was estimated at between \$1 million and \$23 million.<sup>19</sup> Subtracting costs from income shows that the wholesale beer industry reaped an annual increase in profits of between \$45 million (industry figure) and \$68 million (Department of Administration and Finance figure). The industry's own analysis shows that it could turn over unclaimed deposits to the state of Massachusetts and still retain an annual increase in profits of \$38 million.<sup>20</sup>

Some Michigan retailers argue that they have been shortchanged by the Bottle Bill. They maintain they should be compensated, through a handling fee on each container, for sorting and storing millions of bottles and cans every year, as are retailers in several other states. In 1986 PSC estimated retailers had lost \$44 million annually in operating income due to the Bottle Bill. However, a report for the Michigan Beer and Wine Wholesalers Association argues that nothing prevents retailers from increasing prices to recover their costs, stating that a basic fact of the marketplace is that businesses pass on all cost increases to the consumer.<sup>21</sup> Retailers say they are forced to absorb the expense because of the highly competitive beverage market. They want the state to institute a handling fee (one or two cents from each deposit) to compensate for labor and storage costs. Finally, beer bottlers (breweries) may

lay claim to some fee from deposits, since they must label and sort shipments to the various states with deposit legislation.

### Conclusions

December 3, 1988, marks the tenth anniversary of Michigan's Bottle Bill. It has been a huge environmental success, but some question remains about the magnitude of public benefits. State government has a responsibility to account for the number of unclaimed deposits in Michigan. To accomplish this, PSC proposes that *Michigan bottlers and distributors be required to report the number of deposits they initiate and refund*. Annual reporting should resolve the dispute about the number of unclaimed deposits. In a letter to State Treasurer Robert Bowman (March 18, 1988), Patrick Laughlin, president of the Michigan Beer and Wine Wholesalers Association, provided statutory language and a mechanism for such accounting. Laughlin also proposed that beer distributors and soft drink bottlers share unclaimed deposits with state government.

In the absence of compelling evidence that the additional cost to distributors and bottlers due to the Bottle Bill has exceeded or even approached their income from unclaimed deposits, PSC also proposes that *past and future unclaimed beverage container deposits should be devoted primarily to public environmental programs consistent with the original intent of the legislation*. Massachusetts beer industry calculations suggest strongly that the industry would prosper from the Bottle Bill even without the funds from unclaimed deposits. Nevertheless, PSC recognizes that distributors, bottlers, and retailers deserve a small percentage of the amount to offset their increased costs.

Required reporting has enabled Governor Michael Dukakis to propose capturing \$70 million in unclaimed deposits to help balance the FY 1989 Massachusetts budget. In New York, beverage industry reports have prompted Governor Mario Cuomo to propose that \$60 million in unclaimed deposits for each of the last three years be captured. Governor Blanchard's 1988 Budget Message proposed only to escheat a very conservative \$9.5 million in unclaimed deposits. Required reporting likely will show that Michigan residents deserve much more.

It is time for Michigan to follow the lead of Massachusetts and New York, as they followed our lead in instituting a bottle bill; it is also time for Michigan to reestablish its leadership nationwide in innovative funding for environmental programs that benefit its residents. When Johnny breaks a bottle, he at least should be contributing to programs that will benefit him and other state residents.

### NOTES

1. Mark Jorritsma, Unreturned Beverage Containers and Unclaimed Deposits (Lansing: Public Sector Consultants, Inc., 1986), p. 8.
2. Gondy B. Rao, Economic Analysis of Energy and Employment Effects of Deposit Regulation on Non-Returnable Beverage Containers in Michigan (Lansing: Michigan Public Service Commission, 1975), p. 409; and Richard Sjolander and Peter Kekla, Effects of Michigan's Mandatory Beverage Container Deposit Law (East Lansing: Michigan State University, 1984), p. 62.

3. Jorritsma, Unreturned, p. 8. Based on figures from the Michigan Department of Natural Resources, Michigan Public Service Commission, and U.S. Department of Energy, Public Sector Consultants calculated that Michigan saved 8.5 trillion BTUs in 1984 as a result of the Bottle Bill. In 1984, 8.5 trillion BTUs equalled .2 percent of Michigan's total energy consumption, or 65 million gallons of gasoline.
4. M.L. O'Toole, Michigan Roadside Litter Composition Study (Lansing: Michigan Department of Transportation, 1979), p. 15.
5. Peter B. Fletcher, Hearing Before the Committee on Commerce, Science and Transportation, United States Senate (Washington, D.C.: Government Printing Office, 1981), p. 28.
6. Jorritsma, Unreturned, p. 7.
7. Fletcher, Hearing, p.28. The Michigan DNR estimates that Michigan generates 11.8 million tons of solid waste per year. A six percent reduction in solid waste, at a disposal cost of \$35 per ton, saves the state \$25 million.
8. Jorritsma, Unreturned, p. 8.
9. Alan Fox, Mandatory Deposit Act: Unredeemed Deposits (Lansing: Michigan Legislative Staff Report, 1978), p. 1.
10. Dedria Barker, "Bottle Deposit Proposal Draws Fire," Lansing State Journal, February 28, 1987.
11. Questions and Answers on the Administration's Unclaimed Bottle Deposit Proposal (Boston, Mass.: Department of Administration and Finance, 1988), p. 10; and Unclaimed Deposits Report (Albany, N.Y.: Department of Environmental Conservation, 1988), p. 4.
12. The California Beverage Container Recycling and Litter Reduction Act: Biannual Report on Redemption and Recycling Rates (Sacramento, Calif.: Department of Conservation, 1988), p. 2.
13. Final Report of the Temporary State Commission on Beverage Containers (Albany, N.Y.: Department of Conservation, 1985), p. 53.
14. Richard C. Porter, "Michigan's Experience with Mandatory Deposits on Beverage Containers," Land Economics 59 (May 1983):177.
15. Data from the Beer Institute, Beverage World Magazine, and the National Soft Drink Association. In 1987 Michigan consumed 6,936,720 barrels of beer, 13 percent of which was in draft form. There are 31 gallons of beer in a barrel, and the vast majority of beer bottles and cans are in 12-ounce containers. Therefore, Michigan consumers purchased approximately 1,995,636,000 containers of beer last year.

According to data supplied by Beverage World Magazine, the average per capita consumption of soft drinks for the East North Central Region of the nation is 47.1 gallons, 81 percent of which is packaged in bottles and cans. According to the National Soft Drink Association, in 1986 the average container size in the United States was 16.77 ounces. Assuming that Michigan is in line with



other states in the region, the per capita consumption of packaged soft drinks in the state is 38.2 gallons annually. In 1986 Michigan's population was 9,139,000. Therefore, Michigan consumers purchased 2,664,642,400 soft drink containers in 1986.

Based on these calculations, the total number of beer and soft drink containers sold was 4,660,278,400. PSC's 1986 estimate of the total number of returnable containers sold was 6.2 billion, but we have revised the number to 4.7 billion for this study.

16. The Waste Stream Assessments Study (Lansing: Michigan Department of Natural Resources, 1986-87).

17. Questions and Answers, p. 6.

18. Marilyn Nagy, An Analysis of the Impact on Michigan Consumers of Proposed Changes in the Michigan Container Deposit Law (Ypsilanti, Mich.: Eastern Michigan University, 1987), p. 18.

19. Questions and Answers, p. 9. Gross collection costs are based on a survey of other states and Canadian provinces with bottle bills. The low (10 cents) is from California; the industry figure for Massachusetts is the high. Recycling income assumes market shares of 50 percent for metal cans and 25 percent for nonrefillable containers, per the beer industry study. Glass containers are assumed to be worth 0.4 cents. Metal can prices encompass a range from the historical low of 1.7 cents to the current price of 30 cents.

20. Questions and Answers, p. 4; and Putnam, Hayes, and Bartlett, Evaluation of the Effect of the Bottle Bill on Massachusetts' Wholesalers of Malt Beverages, Report for Mass. Wholesalers of Malt Beverages, March 8, 1988. Massachusetts Budget Bureau calculations were used to translate beer industry information into cents per container.

21. Nagy, Analysis, p. 27.