29 SCOMM 6: SENATE SPECIAL COMM. ON ALCOHOLISM 1977-78

Kenne cott Copper (Emos Cook - 1970) Decreased 55% after program
A/C = 5/1 Sickness & Accident
A/C = 3/1 Hospital & Surgical
A/C Frequency rates (Dupont) = 20 9 million Alcoholics - 10% under treatment
In year 19-70
Alcoholics in work force of US 3% to 6.5%
5.9% Federal workforce another 10% have addiction problems
2.5 x as much absenteeism (22 days/year loss of work)

TABLE 1.—Direct costs, selected categories: Estimated amount and percentage distribution, by type of expenditure and diagnosis, 1972

Diagnosis	Total	Hospital care	Physicians' services	Dentists' services	Other professional services	Drugs and drug sundries	Eyeglasses and appliances	Nursing-home care
Alcoholic Frequency Rates A/C (10 Days/yr (20-30%))								
	Amount (in millions)							
Total	$75,231	$34,219	$16,916	$3,561	$1,717	$8,828	$1,896	$8,274
Infective and parasitic diseases	1,412	660	333	.....	8	192	.....	222
Neoplasms	3,572	2,957	326	.....	47	156	.....	134
Endocrine, nutritional, and metabolic diseases	3,438	920	1,294	.....	28	849	.....	328
Diseases of the blood and blood-forming organs	491	228	151	.....	4	77	.....	31
Mental disorders	6,963	5,261	685	.....	9	434	.....	866
Diseases of the nervous system and sense organs	8,947	1,033	1,294	.....	855	594	1,896	475
Diseases of the circulatory system	10,919	5,771	1,676	.....	86	1,305	.....	2,561
Diseases of the respiratory system	5,931	2,478	1,851	.....	30	1,460	.....	117
Diseases of the digestive system	11,100	3,696	853	3,561	43	444	.....	156
Diseases of the genitourinary system	4,471	2,099	1,069	.....	34	871	.....	78
Complications of pregnancy, childbirth, and the puerperium	2,607	2,331	181	.....	39	56	.....	.....
Diseases of the skin and subcutaneous tissue	1,523	458	656	.....	6	354	.....	21
Diseases of the musculoskeletal system and connective tissue	5,636	1,661	770	.....	868	425	.....	412
Congenital anomalies	361	313	44	.....	3	3	.....	13
Accidents, poisonings, and violence	5,121	3,134	1,222	.....	58	332	.....	375
Other	7,365	794	6,292	.....	328	1,271	.....	716
2½x1 mortality rate	Percentage distribution							
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Infective and parasitic diseases	1.9	1.9	2.0	.....	.5	2.2	.....	2.5
Neoplasms	5.1	8.6	2.1	.....	2.7	2.2	.....	2.5
Endocrine, nutritional, and metabolic diseases	4.6	2.7	7.6	.....	1.6	10.0	.....	5.2
Diseases of the blood and blood-forming organs	.7	.7	.9	.....	.2	.9	.....	.4
Mental disorders	9.3	15.4	4.0	.....	.5	.3	.....	9.5
Diseases of the nervous system and sense organs	7.0	3.0	7.6	.....	38.1	.....	100.0	7.6
Diseases of the circulatory system	14.5	16.4	9.9	.....	5.0	.....	.....	41.1
Diseases of the respiratory system	7.9	7.2	10.9	.....	1.7	.....	.....	1.9
Diseases of the digestive system	14.8	11.7	5.2	100.0	2.5	5.1	.....	2.5
Diseases of the genitourinary system	5.9	7.9	6.4	.....	2.0	6.0	.....	1.2
Complications of pregnancy, childbirth, and the puerperium	3.5	6.8	.9	.....	2.3	1.0	.....	.....
Diseases of the skin and subcutaneous tissue	2.0	1.3	3.9	.....	.3	4.1	.....	.3
Diseases of the musculoskeletal system and connective tissue	4.8	4.9	4.6	.....	21.4	4.9	.....	6.7
Congenital anomalies	.5	.9	.3	.....	.2	.1	.....	.2
Accidents, poisonings, and violence	6.8	9.2	7.2	.....	2.7	4.1	.....	9.1
Other	9.8	2.3	28.4	.....	15.9	14.7	.....	8.3

MORBIDITY COSTS

Morbidity losses are incurred when illness results in absence from employment, prevents a housewife from performing her duties, or results in disability that prevents someone from working at all. The lost earnings and the dollar value of the unperformed housekeeping services are the morbidity costs.

Calculation of morbidity costs involves applying average earnings by age and sex to work-loss years, attaching a dollar value to housewives' services and applying it to their bed-days, and applying labor-force participation rates and earnings, by age and sex, to persons in and out of institutions who are too sick to be employed or keep house.

These procedures involve several economic concepts and issues. One issue concerns measurement of the value of housewives' services. Because such measurement is difficult, it is often omitted from these types of analysis. Such omission, however, produces serious underestimates of the value of women and the costs of diseases associated with them.

In the earlier Rice study,[5] all housewives were given the value of a domestic servant—an assumption considered an underestimate. More recently, the Social Security Administration has examined other approaches to the problem, primarily the market-cost and opportunity-cost approaches.[6] Briefly, the opportunity-cost approach assumes the economic value of unpaid work to be at least as much as the wage rate that the same person would command in the market place. In essence, if a woman chooses housework over employment, the housework must be equal to or greater than

[5] Dorothy P. Rice, *op. cit.*

[6] Wendyce H. Brody, *Economic Value of a Housewife* (Research and Statistics Note No. 9), Social Security Administration, Office of Research and Statistics, 1975.

the value of the employment.[7] If this approach were used here, however, it would not be consistent with the approach used for the employed population where what one does is valued rather than what one could be doing. A physician in research or academia, for example, could earn much more in private practice, yet only his earnings as a researcher or teacher are counted. To be consistent, the market-value approach was used here.

This approach values each duty a housewife performs. Based on a time-motion study of housewives, the relevant market wages for various services performed were multiplied by the hours reported for doing that service.[8] That figure represents an estimate of the cost of replacing the housewife's duties with person-hours from the labor force to do the same work. It takes into account the housewife's age, number of children, and age of youngest child. The psychic value of a housewife to her family or society was not considered in this calculation. Such measurement would involve obvious difficulties.

Another issue is the treatment of persons too sick to be in the labor force or keeping house. If these persons were well, not all of them would be employed or keeping house. Some would not be able to secure employment, some would be in school, and some would choose a life of leisure. It was assumed here that if these persons had been able to work, they would have had the same labor-force experience as the general population. The assumption was that a theoretical influx of these persons into the labor force would not depress the employment rates or earnings levels. The employment rates applied were for 1970—the last year of full employment, now defined at about 5 percent unemployment.[9] Without the assumption of full employment, losses because of disability could not be isolated from losses because of unemployment.[10] Mean annual earnings by age and sex for 1972 were applied. These annual earnings, 1970 employment rates, and housekeeping values are shown below.

Age	Percent employed, 1972		Mean earnings, 1972		Housewives	
	Men	Women	Men	Women	Percent of female population, 1970	Mean value, 1972
15-19	31.57	23.51	$4,599	$4,194	7.21	$5,389
20-24	83.96	48.00	7,921	5,884	52.36	6,061
25-29	95.61	40.55	10,874	7,495	82.36	6,417
30-34	96.26	39.46	12,892	7,423	84.35	6,418
35-39	96.97	43.63	13,902	7,249	49.77	5,893
40-44	96.20	47.74	14,675	7,341	44.99	5,908
45-49	89.37	50.33	14,382	7,306	40.93	5,222
50-54	87.89	48.98	13,864	7,387	42.15	5,222
55-59	83.63	46.53	13,309	7,094	41.81	3,618
60-64	73.61	37.57	12,259	7,052	44.47	2,942
65 and over	26.99	10.43	9,062	5,456	51.88	1,833

When morbidity costs are allocated by diagnosis, several methodological problems also arise. Chief among these is the reliance on patients for diagnostic information. Data on productivity losses for the noninstitutional population is based on information from the National Health Survey, which is a household interview survey. Use of this source undoubtedly results in conservative estimates for some diseases and overstatements for others. Losses for diseases such as cancer are probably understated. The household respondent can report only the information given to the family by the physician. The respondent may not have been told what the condition was. In other cases, the respondent may have misunderstood or forgotten what the physician said. For conditions not medically attended, such as diseases of the respiratory system, the diagnostic information supplied by the respondent may indicate only a symptom, and the result is a possible overstatement of morbidity and of losses.

The presence of multiple diseases also creates problems in allocation by diagnosis. The data from the National Health Survey include multiple listing of conditions. These data were uniformly adjusted downward to yield an unduplicated total, but this procedure assumes that all associated conditions are evenly distributed, which is obvi-

[7] Reuben Gronau, "The Measurement of Output of the Nonmarket Sector: The Evaluation of Housewives' Time," in *The Measurement of Economic and Social Performance*, National Bureau of Economic Research, 1973.

[8] Katherine E. Walker and William H. Gauger, "The Dollar Value of Household Work," *Information Bulletin No. 60*, New York College of Human Ecology, Ithaca, 1973.

[9] According to the statements of many economists presented in *Reducing Unemployment to 2 Percent* (Hearings Before the Joint Economic Committee, 92d Cong., 2d sess., October 17–19, and 26, 1972), full employment falls between 4.5 and 5 percent unemployment. The presence of more women and youth in the labor force adds 0.5 percent to the original 4-percent figure and the effect of inflation adds somewhat more.

[10] Selma J. Mushkin, "Health as an Investment," *Journal of Political Economy*, October 1962, Part 2, Supplement, pages 129–157.

TABLE 2.—Morbidity o

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Accidents, poisonings, and
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Total.....

Infective and parasitic dise
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TABLE 2.—Morbidity costs: Estimated amount and percentage distribution, by labor-force status and diagnosis, 1972

Diagnosis	Total	Noninstitutional				Institutional
		Total	Currently employed	Keeping house	Unable to work	
	Amount (in millions)					
Total	$42,323	$36,118	$17,619	$3,295	$15,204	$6,205
Infective and parasitic diseases	1,200	977	669	119	184	223
Neoplasms	862	820	438	104	278	42
Endocrine, nutritional, and metabolic diseases	1,137	1,027	214	91	722	110
Diseases of the blood and blood-forming organs	220	208	78	82	98	12
Mental disorders	6,179	2,210	866	98	1,716	3,969
Diseases of the nervous system and sense organs	3,944	3,752	650	137	2,765	192
Diseases of the circulatory system	6,417	5,589	1,731	495	3,313	828
Diseases of the respiratory system	7,089	7,040	5,085	845	1,110	49
Diseases of the digestive system	2,506	2,447	1,501	245	801	59
Diseases of the genitourinary system	1,249	1,226	745	234	247	23
Complications of pregnancy, childbirth, and the puerperium	245	245	79	166	.....	.....
Diseases of the skin and subcutaneous tissue	460	456	353	18	83	4
Diseases of the musculoskeletal system and connective tissue	5,103	4,919	1,866	362	2,691	184
Congenital anomalies	238	232	12	12	208	6
Accidents, poisonings, and violence	3,883	3,794	3,058	242	494	89
Other	1,494	1,083	491	96	493	411
	Percentage distribution					
Total	100.0	100.0	100.0	100.0	100.0	100.0
Infective and parasitic diseases	2.8	2.7	3.8	3.6	1.2	3.7
Neoplasms	2.0	2.3	2.5	3.2	1.8	.7
Endocrine, nutritional, and metabolic diseases	2.7	2.8	1.2	2.8	4.7	1.8
Diseases of the blood and blood-forming organs	.5	.6	.4	1.0	.6	.2
Mental disorders	14.6	6.1	2.2	3.0	11.3	64.0
Diseases of the nervous system and sense organs	9.3	10.4	4.8	4.2	18.2	3.1
Diseases of the circulatory system	15.2	15.4	10.1	15.0	21.8	13.3
Diseases of the respiratory system	16.7	19.5	29.0	25.6	7.3	.8
Diseases of the digestive system	6.2	7.1	5.5	7.4	5.3	1.0
Diseases of the genitourinary system	3.0	3.4	4.2	7.1	1.6	.4
Complications of pregnancy, childbirth, and the puerperium	.6	.7	.4	5.0	.....	.1
Diseases of the skin and subcutaneous tissue	1.1	1.3	2.0	.1	.5	3.0
Diseases of the musculoskeletal system and connective tissue	12.1	13.6	11.0	11.0	17.7	.1
Congenital anomalies	.6	.6	.1	.1	1.4	.....
Accidents, poisonings, and violence	9.2	10.5	17.4	7.3	3.2	2.8
Other	3.6	3.0	2.8	2.9	3.2	6.6

ously not the case. Heart disease conditions, for example, are much more likely than cancer to be secondary causes of disability.

Noninstitutional Losses

In 1972, employed men and women lost the equivalent of 1.7 million years of work because of ill-health—a loss to our economy of $17.6 billion (tables 2 and 3).[11] Colds, influenza, and other diseases of the respiratory system resulted in by far the greatest losses—about three-tenths for both the years and the dollar amount. Accidents were next with about 17 percent of the losses.

Women usually keeping house had close to 1 million person-years of disability at a value of $3.3 billion. Respiratory illness was again the major cause, claiming 26 percent of their losses. Circulatory diseases followed with 18 percent of the lost years and 15 percent of the monetary costs.

The population unable to work suffered 1.7 million years of disability, losing $15.2 billion in earnings or housework values. More than one-fifth ($3.3 billion) were the result of diseases of the circulatory system. Blindness, deafness, and other diseases of the nervous system and sense organs cost $2.8 billion; arthritis, rheumatism, and other diseases of the musculoskeletal system cost another $2.7 billion.

These three noninstitutional population groups combined—currently employed, keeping house, and unable to work—lost 4.3 million person-years of productivity, a cost to the Nation of $36.1 billion. Nearly half this loss was due to illness attacking three body systems—respiratory, circulatory, and musculoskeletal.

[11] Another calculation of work-related income loss due to illness estimates $10.4 billion for 1972. See Daniel N. Price, "Cash Benefits for Short-Term Sickness, 1973," *Social Security Bulletin*, March 1975, pages 12–14.

Institutional Losses

The Bureau of the Census reports 1.7 million persons residing in illness-related institutions in 1970. Since no later data exist, this number was assumed for 1972. Application of employment and keeping-house rates for 1970 (the last year of full employment) by age and sex yielded a total of 1.1 million person-years lost to productivity. More than one-third of the institutional residents and about one-half of the person-years lost were in homes for the aged, but the largest monetary losses—$2.7 billion—were for persons in mental hospitals. The younger population in mental hospitals and their higher earnings account for this difference, displayed below.

Type of institution	Number of persons	Person-years lost (in thousands)	Indirect costs (in millions)
Total	1,670,167	1,106	$6,205
Homes for:			
Aged	628,633	816	1,483
Blind	6,949	2	14
Deaf	3,511	1	6
Mentally handicapped	201,992	82	939
Other physically handicapped	6,879	4	23
Nursing homes	298,851	148	608
Hospitals:			
Chronic disease	67,120	38	301
Mental disease	433,840	303	2,713
Tuberculosis	16,912	12	118

Allocation of institutional losses by diagnosis was made largely on the basis of the type of institution. All losses in mental hospitals and homes and schools for the mentally retarded were classified under mental disorders; those in tuberculosis hospitals were under infective and parasitic diseases; those in institutions for the blind or deaf under diseases of the nervous system and sense organs; and other physically handicapped under diseases of the bones and organs of movement. The distribution of losses for persons in chronic disease hospitals and nursing homes was based on data from NCHS showing the number of residents in homes with intensive and with limited nursing care, by diagnosis. The Center's diagnostic distribution of residents in homes with personal care or no nursing care was used for homes for the aged.[12] Not surprisingly, two-thirds or $4 billion of the morbidity costs for the institutional population was for mental disorders. The next largest category was circulatory diseases, comprising 13 percent.

MORTALITY COSTS

Measurement of mortality costs—losses due to premature death—has aroused much discussion in recent years. Attaching a dollar figure to death—that is, determining how much a life is worth—is an emotion-laden issue. Some economists refuse to make such a determination, claiming life is priceless.[13] Nevertheless, whenever public spending decisions are made, values are implicitly attached to life.

Jan Acton, in a recent report, delineated five basic approaches to evaluating life-saving programs: (1) Values implicit in past decisions, (2) explicit statements of political representatives or their designees, (3) implicit values of individuals, (4) explicit statements of value by individuals ("willingness to pay"), and (5) the livelihood ("human capital") approach.[14] The first three approaches have too many drawbacks to be seriously considered in a cost of illness study. In discussing these three approaches, Herbert Klarman pointed out that "Life insurance holdings are clearly not applicable to bachelors and jury verdicts are inconsistent. The implications of public policy decisions or governmental spending are difficult to elicit in the absence of information on the alternatives that faced the decision makers. Moreover, such valuation may lack stability and consistency."[15]

The fourth approach—"willingness to pay"—was first proposed in 1968 by Thomas Schelling.[16]

[12] National Center for Health Statistics, *Charges for Care and Sources of Payment for Residents in Nursing Homes, United States, June-August 1969* (Vital and Health Statistics Series 12, No. 21), 1974.

[13] Richard M. Titmuss, *The Gift Relationship*, Pantheon Books, 1971.

[14] Jan Paul Acton, *Measuring the Social Impact of Heart and Circulatory Disease Programs: Preliminary Framework and Estimates*, Rand Corporation, April 1975. See also Jan Paul Acton, *Evaluating Public Programs To Save Lives: The Case of Heart Attacks*, Rand Corporation, January 1973.

[15] Herbert E. Klarman, "Application of Cost-Benefit Analysis to the Health Services and the Special Case of Technologic Innovation," *International Journal of Health Services*, Spring 1974.

[16] Thomas C. Schelling, "The Life You Save May Be Your Own," in *Problems in Public Expenditure* (S. B. Chase, Jr., editor), The Brookings Institution, 1965.

TABLE 3.—Morbidi
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TABLE 3.—Morbidity losses: Estimated person-years lost to productivity and percentage distribution, by labor-force status and diagnosis, 1972

Diagnosis	Total	Noninstitutional				Institutional
		Total	Currently employed	Keeping house	Unable to work	
	Number (in thousands)					
Total	5,431	4,325	1,748	834	1,743	1,106
Infective and parasitic diseases	164	119	73	28	17	46
Neoplasms	115	104	48	26	33	11
Endocrine, nutritional, and metabolic diseases	157	126	20	27	78	31
Diseases of the blood and blood-forming organs	34	30	11	7	13	3
Mental disorders	720	237	40	22	175	483
Diseases of the nervous system and sense organs	492	429	77	38	314	63
Diseases of the circulatory system	913	680	157	152	371	233
Diseases of the respiratory system	840	825	534	194	98	15
Diseases of the digestive system	299	282	143	64	75	18
Diseases of the genitourinary system	164	158	85	48	26	6
Complications of pregnancy, childbirth, and the puerperium	48	48	12	27	8	
Diseases of the skin and subcutaneous tissue	38	38	34	4		1
Diseases of the musculoskeletal system and connective tissue	728	677	171	106	400	51
Congenital anomalies	26	24	1	3	20	2
Accidents, poisonings, and violence	438	414	294	67	53	24
Other	263	136	81	24	31	129
	Percentage distribution					
Total	100.0	100.0	100.0	100.0	100.0	100.0
Infective and parasitic diseases	3.0	2.7	4.2	3.4	1.0	4.2
Neoplasms	2.1	2.4	2.6	3.1	1.9	1.0
Endocrine, nutritional, and metabolic diseases	2.9	2.9	1.2	3.2	4.5	2.8
Diseases of the blood and blood-forming organs	.6	.7	.6	.8	.7	.3
Mental disorders	13.3	5.5	2.3	2.6	10.0	43.7
Diseases of the nervous system and sense organs	8.9	10.0	4.4	4.6	18.0	5.8
Diseases of the circulatory system	16.8	15.7	9.0	18.2	21.3	21.1
Diseases of the respiratory system	15.5	19.0	30.5	23.2	5.6	1.4
Diseases of the digestive system	5.5	6.5	8.2	7.6	4.3	1.6
Diseases of the genitourinary system	3.0	3.7	4.9	3.7	1.5	.5
Complications of pregnancy, childbirth, and the puerperium	.9	1.1	.7	3.2	.5	.1
Diseases of skin and subcutaneous tissue	.7	.9	1.9	.5		
Diseases of the musculoskeletal system and connective tissue	13.4	15.6	9.8	12.7	23.0	4.6
Congenital anomalies	.5	.6	.1	.3	1.1	.2
Accidents, poisonings, and violence	8.1	9.6	16.8	8.0	3.0	2.2
Other	4.9	3.1	2.9	2.8	3.5	11.7

It measures the value of human life by the amount people are willing to spend to buy a specified reduction in the probability of death or disability. The Acton report is the only known published survey of willingness to pay for health programs, but several other economists advocate that approach.[17]

Such a survey permits the respondents to register different relative preferences for different health outcomes and different diseases, as well as the relative attractiveness of these outcomes in comparison with those for nonhealth goods that could be purchased for the same amount. The major drawback of the approach is the likelihood that the respondents may not grasp the question's meanings, and considerable uncertainty exists about the validity and consistency of the responses since this method has not been frequently employed. On a day when someone has stomach pains, for example, programs to combat digestive diseases may be "worth" far more than they are on a day when that person has a respiratory ailment. Furthermore, how do the respondents perceive the differences between a 1-percent reduction in the probability of death and a 0.1-percent reduction? Because of the infant state of the art and the concerns about its accuracy, that approach was not used here.

Mortality costs were calculated here on the basis of the "human capital" approach. This approach values one's life according to one's earnings or, in the case of housewives, according to the market value of one's duties. It is the most commonly used formal method and dates back to 1915.[18] There have been objections to this approach because it assumes that changes in earn-

[17] See Gary Fromm, "Civil Aviation Expenditures," in *Measuring Benefits of Government Investment* (A. Dorfman, editor), The Brookings Institution, 1965, and E. J. Mishan, *Cost Benefit Analysis, An Introduction*, Praeger Publishers, 1971.

[18] Edgar Crammond, "The Cost of the War," *Journal of the Royal Statistical Society* (Series A), May 1915.

ings streams bear a direct relationship to what society values in health program outputs: Men are valued higher than women, whites higher than other races, and those in the employed ages higher than the very young and very old. Nevertheless, if one is aware of the shortcomings, this method can be used and, in fact, is the only method today that yields consistent, reliable numbers.

Under the human capital approach, calculation of mortality costs considers earnings over a lifetime rather than a single year since, if an individual had not died in 1972, he would have continued to be productive for a number of years. It is the present value of these future losses that is the appropriate measure.

The estimating procedure for the development of lifetime earnings was described in detail in the earlier Rice report. Except for the treatment of housewives, discussed previously, the procedure used here was essentially the same. The method developed takes into account life expectancy for different age, sex, and race groups, varying labor-force participation rates, the current changing pattern of earnings at successive ages, imputed value of housewives' services, and the discount rate.[19] The basic assumptions and economic concepts employed are described here in the methodology section. Mortality costs were developed for two net discount rates—4 percent and 6 percent. Lifetime earnings at these rates are shown in table 4 by age, sex, and race.

TABLE 4.—Present value of lifetime earnings, discounted at 4 percent and 6 percent, by age, sex, and race, 1972

Age	Men			Women		
	Total	White	Other	Total	White	Other
	4 percent					
Under 1	$95,965	$100,607	$60,045	$58,439	$59,669	$50,046
1–4	105,107	110,043	66,195	63,532	65,098	54,975
5–9	128,258	134,277	80,901	77,536	79,366	67,093
10–14	156,322	163,613	95,602	94,630	96,689	81,751
15–19	156,900	68,028	117,940	111,603	113,827	95,937
20–24	211,537	221,116	133,009	119,737	122,248	101,958
25–29	220,584	230,892	136,344	115,647	118,206	97,347
30–34	213,743	223,647	128,258	105,979	108,559	87,202
35–39	196,143	203,423	113,931	95,149	97,721	78,795
40–44	171,149	179,120	97,784	83,008	85,476	63,473
45–49	141,077	147,325	80,472	69,315	71,648	49,953
50–54	108,561	112,956	63,301	53,929	56,015	35,842
55–59	74,750	77,377	46,078	37,900	39,695	22,898
60–64	41,930	43,293	27,103	23,674	24,821	12,855
65–69	19,715	20,302	13,004	13,054	13,656	7,066
70–74	10,667	11,000	7,370	7,146	7,433	3,960
75–79	5,822	6,079	3,399	3,624	3,763	2,098
80–84	3,343	3,495	1,918	1,667	1,625	930
85 and over	834	859	299	199	206	132
	6 percent					
Under 1	$48,720	$51,011	$31,232	$30,976	$31,557	$27,069
1–4	55,433	57,962	35,768	35,148	35,765	30,830
5–9	74,418	77,795	45,042	47,141	47,960	41,439
10–14	99,742	104,263	64,458	63,172	64,267	55,873
15–19	129,394	135,142	83,955	80,368	82,016	70,022
20–24	156,640	163,469	101,009	91,114	92,534	79,123
25–29	170,956	178,483	107,823	90,439	92,237	77,600
30–34	170,788	178,519	104,179	84,813	86,378	71,237
35–39	161,072	166,869	94,492	77,513	79,444	63,204
40–44	144,269	150,904	82,760	69,218	71,135	51,158
45–49	121,856	127,250	69,585	59,167	61,074	43,578
50–54	96,158	100,033	55,968	47,116	48,873	31,697
55–59	67,753	70,128	41,785	33,825	35,317	20,349
60–64	38,568	39,830	24,954	21,496	22,436	11,702
65–69	18,107	18,631	12,656	11,890	12,438	6,467
70–74	9,855	10,154	6,911	6,598	6,861	3,668
75–79	5,431	5,673	3,166	3,396	3,526	1,956
80–84	3,209	3,354	1,839	1,607	1,562	912
85 and over	819	843	291	194	200	128

The greatest losses were for circulatory disorders. More than half the deaths and nearly one-third of the lost years and earnings were caused by diseases in this one diagnostic category. Losses were a lower share of the total than deaths because those disorders mainly afflict the aged whose remaining years alive and employed are relatively few.

Deaths from accidents are also very costly to the Nation. Ranking second in lost years and earnings, accidental deaths resulted in a $17.7 billion loss to the economy (at a 4-percent discount rate). Deaths in this category ranked third but hit those in the relatively young and productive ages.

The third largest mortality losses were for cancer. Ranking second in deaths, cancer deaths caused nearly 6 million lost years and $12.6 billion lost dollars.

The greatest losses were for persons aged 45–64 and for men (table 6). About one-fourth of

Findings

In 1972, there were nearly 2 million deaths representing over 33 million years lost (table 5). Total years lost are estimated by multiplying the number of deaths in each age, sex, and race group by the expected number of years (the life expectancy) remaining to persons in the midyear of that group. Application of lifetime earnings to the deaths yielded more than $71 billion in losses at a 4-percent discount rate. At a 6-percent discount rate, the losses amounted to $57 billion.

[19] Barbara S. Cooper and Wendyce H. Brody, *1972 Lifetime Earnings by Age, Sex, Race, and Education Level* (Research and Statistics Note No. 14), Social Security Administration, Office of Research and Statistics, 1975.

TABLE 5.—Mortality lo

D

Total

Infective and parasitic disea
Neoplasms
Endocrine, nutritional, and
Diseases of the blood and blo
Mental disorders
Diseases of the nervous syste
Diseases of the circulatory sy
Diseases of the respiratory sy
Diseases of the digestive syst
Diseases of the genitourinary
Complications of pregnancy,
Diseases of the skin and subc
Diseases of the musculoskele
Congenital anomalies
Accidents, poisonings, and v
Other

[1] Less than 0.05 percent.

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TOTAL ECONOMIC

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TABLE 5.—Mortality losses: Number of deaths, estimated total person-years lost, and discounted earnings, by diagnosis, 1972

Diagnosis	Deaths		Total years lost		Discounted earnings at—			
					4 percent		6 percent	
	Number	Percentage distribution	Number (in thousands)	Percentage distribution	Amount (in millions)	Percentage distribution	Amount (in millions)	Percentage distribution
Total	1,962,270	100.0	33,222	100.0	$71,235	100.0	$37,880	100.0
Infective and parasitic diseases	15,800	.8	447	1.4	831	1.2	622	1.1
Neoplasms	352,800	18.0	5,701	17.2	12,633	17.7	10,907	19.0
Endocrine, nutritional, and metabolic diseases	47,160	2.4	496	1.5	1,357	1.9	1,144	2.0
Diseases of the blood and blood-forming organs	4,901	.2	110	.3	210	.3	164	.3
Mental disorders	8,917	.5	226	.7	753	1.1	818	1.1
Diseases of the nervous system and sense organs	16,644	.8	476	1.4	1,000	1.5	812	1.4
Diseases of the circulatory system	1,046,217	53.3	12,115	36.5	22,724	31.9	20,004	35.0
Diseases of the respiratory system	111,590	5.7	1,934	5.8	3,434	4.8	2,744	4.8
Diseases of the digestive system	75,054	3.8	1,402	4.2	3,781	5.3	3,225	5.6
Diseases of the genitourinary system	27,215	1.4	390	1.2	736	1.0	624	1.1
Complications of pregnancy, childbirth, and the puerperium	760	(1)	35	.1	60	.1	62	.1
Diseases of the skin and subcutaneous tissue	2,041	.1	36	.1	66	.1	58	.1
Diseases of the musculoskeletal system and connective tissue	5,135	.3	102	.3	209	.3	174	.3
Congenital anomalies	15,050	.8	942	2.8	1,294	1.8	766	1.3
Accidents, poisonings, and violence	162,320	8.3	5,471	16.5	17,674	24.8	12,645	22.0
Other	70,410	3.6	3,299	9.9	4,402	6.2	2,733	4.8

[1] Less than 0.05 percent.

the deaths and two-fifths of the losses fell in this 20-year age group. Although only slightly more than half the deaths struck men, the lost dollar amount was three times greater than it was for women. The higher earnings for men especially in comparison with the values for housewives' services account for this substantial difference.

TOTAL ECONOMIC COSTS

When all types of disease costs are combined—mortality, morbidity, and direct—the total cost of illness for 1972 reached $189 billion at a 4-percent discount rate (table 7). About $40 billion, or one-fifth, was for persons with diseases of the circulatory system. Accidents cost $27 billion and were followed by diseases of the digestive system and cancer, each costing about $17 billion.

These are staggering numbers. What was the toll in 1963 and were the same diseases the costliest ones? In 1963, the total cost of illness was slightly less than half the 1972 figure, or $93.5 billion. The major growth has been in direct costs. Although the addition of the drug category added $8.6 billion to the 1972 total, even without it direct costs have tripled in the 9-year period. The ever increasing cost of medical care has made direct costs the largest component in the cost of illness, $3.8 billion higher than the cost of premature death. In 1963, mortality costs were about double direct costs, as shown below.

Cost component	1963		1972	
	Amount (in billions)	Percentage distribution	Amount (in billions)	Percentage distribution
Total	$93.5	100.0	$188.8	100.0
Direct costs	[1] 22.5	24.1	[2] 75.2	39.8
Morbidity	21.0	22.5	42.3	22.4
Mortality	49.9	53.4	71.2	37.8

[1] Excludes expenditures for drugs and drug sundries amounting to $4.8 billion.
[2] Includes expenditures for drugs and drug sundries amounting to $8.6 billion.

The distribution by diagnosis has also changed slightly since 1963 (table 8). Diseases of the circulatory system represented about the same share in both years, but accidents have grown in importance because of a relatively higher number of deaths. Neoplasms have dropped with relatively fewer cancer victims in the unable-to-work category.

APPLICATION TO SPECIFIC DISEASES

The preceding discussion emphasized the importance of consistent definitions and data sources for estimating disease costs. The data presented, however, are for broad diagnostic categories. In most cases, more finite categories are needed, but the time required for calculating these costs is

TABLE 6.—Mortality losses: Lost earnings, discounted at 4 percent, by age, sex, and diagnosis, 1972

Diagnosis	Sex			Age			
	Total	Men	Women	Under 25	25-44	45-64	65 and over
	Amount (in millions)						
Total	$71,235	$54,283	$16,953	$15,934	$16,868	$30,733	$7,696
Infective and parasitic diseases	831	574	258	349	192	244	46
Neoplasms	12,633	8,456	4,177	947	2,503	7,567	1,617
Endocrine, nutritional, and metabolic diseases	1,357	868	489	183	335	639	199
Diseases of the blood and blood-forming organs	210	125	83	77	59	59	16
Mental disorders	753	640	114	172	303	261	17
Diseases of the nervous system and sense organs	1,060	746	316	429	283	299	51
Diseases of the circulatory system	22,721	17,914	4,807	497	3,627	14,067	4,530
Diseases of the respiratory system	3,454	2,879	554	875	636	1,437	485
Diseases of the digestive system	3,781	2,851	930	243	1,177	2,107	254
Diseases of the genitourinary system	736	479	257	100	203	327	106
Complications of pregnancy, childbirth, and the puerperium	80	.....	80	33	47	(1)	.....
Diseases of the skin and subcutaneous tissue	67	36	31	14	20	26	6
Diseases of the musculoskeletal system and connective tissue	209	94	115	38	62	90	17
Congenital anomalies	1,284	877	406	1,099	113	66	5
Accidents, poisonings, and violence	17,674	14,915	2,758	7,657	6,848	2,927	242
Other	4,402	3,123	1,279	3,221	460	617	103
	Percentage distribution						
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Infective and parasitic diseases	1.2	1.0	1.5	2.2	1.1	.8	.6
Neoplasms	17.7	15.6	24.6	5.9	14.8	24.6	21.0
Endocrine, nutritional, and metabolic diseases	1.9	1.6	2.9	1.1	2.0	2.1	2.6
Diseases of the blood and blood-forming organs	.3	.2	.5	.5	.3	.2	.2
Mental disorders	1.1	1.2	.7	1.1	1.8	.8	.2
Diseases of the nervous system and sense organs	1.5	1.4	1.9	2.7	1.7	1.0	.7
Diseases of the circulatory system	31.9	33.0	28.4	3.1	21.5	45.8	58.9
Diseases of the respiratory system	4.8	4.8	5.0	5.5	3.7	4.7	6.3
Diseases of the digestive system	5.3	5.3	5.5	1.5	7.0	6.9	3.3
Diseases of the genitourinary system	1.0	.9	1.5	.6	1.2	1.1	1.4
Complications of pregnancy, childbirth, and the puerperium	.1	.....	.5	.2	.5	(1)	.....
Diseases of the skin and subcutaneous tissue	.1	.1	.2	.1	.1	.1	.1
Diseases of the musculoskeletal system and connective tissue	.3	.2	.7	.2	.4	.3	.2
Congenital anomalies	1.8	1.6	2.4	6.9	.7	.2	.1
Accidents, poisonings, and violence	24.8	27.5	16.3	48.1	40.6	9.5	3.1
Other	6.2	5.8	7.3	20.2	2.7	2.0	1.4

[1] Less than 0.05 percent.

usually too short for the systematic framework described here. In these instances, the broad category of which the disease in question is a part can provide a parameter for its cost and with the use of readily available data, an estimate can be made in a relatively short period of time.

The cost of stroke—a component of diseases of the circulatory system—provides a demonstration (table 9). For direct costs, three categories—hospital care, physicians' services, and nursing-home care—represent 87 percent of circulatory disease cost and would be sufficient indicators of stroke's share of the category. Days of community hospital care, number of outpatient physician visits, number of nursing-home residents, and average monthly charge, by diagnosis, are available from NCHS. Stroke's share of the circulatory disease category for each of these measurements is calculated and applied to the appropriate cost figure. The sum of these three costs as a percentage of the same costs for circulatory diseases is applied to total direct costs for circulatory diseases to arrive at a figure of $2,031 million, the direct cost of stroke.

Morbidity costs for stroke can be calculated separately for the institutional and noninstitutional populations. For the latter group the NCHS publishes diagnostic disability data for both acute and chronic conditions.[20] Persons with stroke—a chronic condition—comprised 7.6 percent of work-loss days for cardiovascular diseases, representing a $135 million loss for the currently employed. Housewives' losses for this category are insignificant because of the relatively old population affected. For the population able to work, bed-days can be used as a measure. Stroke

[20] National Center for Health Statistics, *Current Estimates from the Health Interview Survey, United States, 1973* (Vital and Health Statistics Series 10, No. 93), 1974; *Prevalence of Chronic Circulatory Conditions, United States, 1972* (Vital and Health Statistics Series 10, No. 91), 1974; and *Limitation of Activity and Mobility Due to Chronic Conditions, United States, 1972* (Vital and Health Statistics Series 10, No. 96), 1974.

TABLE 7.—Total economi
earnings discounted at 4

Dia

Total
Infective and parasitic disease
Neoplasms
Endocrine, nutritional, and m
Diseases of the blood and bloo
Mental disorders
Diseases of the nervous syste
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Diseases of the digestive syste
Diseases of the genitourinary
Complications of pregnancy, c
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Diseases of the musculoskelet
Congenital anomalies
Accidents, poisonings, and vio
Other

Total
Infective and parasitic disea
Neoplasms
Endocrine, nutritional, and
Diseases of the blood and blo
Mental disorders
Diseases of the nervous syste
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Complications of pregnancy,
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Diseases of the musculoskele
Congenital anomalies
Accidents, poisonings, and
Other

TABLE 8.—Comparison
and 1972, by diagnosis

Diagnosis

Total
Infective and parasitic dise
Neoplasms
Endocrine, nutritional, a
diseases
Diseases of the blood and b
organs
Mental disorders
Diseases of the nervous
sense organs
Diseases of the circulatory
Diseases of the respiratory
Diseases of the digestive sy
Diseases of the genitourina
Complications of pregnanc
and the puerperium
Diseases of the skin and
tissue
Diseases of the musculosk
and connective tissue
Congenital anomalies
Accidents, poisonings, and
Other

[1] Present value of future

TABLE 7.—Total economic costs: Estimated direct costs, indirect costs of morbidity and mortality, with present value of lifetime earnings discounted at ₄ percent and 6 percent, by diagnosis, 1972

Diagnosis	Amount (in millions)				Percentage distribution			
	Total	Direct costs	Indirect costs		Total	Direct costs	Indirect costs	
			Morbidity	Mortality			Morbidity	Mortality
	4 percent							
Total	$188,789	$75,231	$42,323	$71,235	100.0	100.0	100.0	100.0
Infective and parasitic diseases	3,443	1,412	1,200	831	1.8	1.9	2.8	1.2
Neoplasms	17,367	3,872	862	12,633	9.2	5.1	2.0	17.7
Endocrine, nutritional, and metabolic diseases	5,930	3,436	1,137	1,357	3.1	4.6	2.7	1.9
Diseases of the blood and blood-forming organs	921	491	220	210	.5	.7	.5	.3
Mental disorders	13,917	6,985	6,179	753	7.4	9.3	14.6	1.1
Diseases of the nervous system and sense organs	10,951	5,947	3,944	1,060	5.8	7.9	9.3	1.5
Diseases of the circulatory system	40,060	10,019	6,417	22,724	21.2	14.5	15.2	31.9
Diseases of the respiratory system	16,454	5,931	7,089	3,434	8.7	7.9	16.7	4.8
Diseases of the digestive system	17,457	11,100	2,606	3,781	9.3	14.8	6.2	5.3
Diseases of the genitourinary system	6,458	4,471	1,249	736	3.4	5.9	3.0	1.0
Complications of pregnancy, childbirth, and the puerperium	2,932	2,607	245	80	1.6	3.5	.6	.1
Diseases of the skin and subcutaneous tissue	2,052	1,525	460	67	1.1	2.0	1.1	.1
Diseases of the musculoskeletal system and connective tissue	8,948	3,636	5,103	209	4.7	4.8	12.1	.3
Congenital anomalies	1,903	361	238	1,284	1.0	.5	.6	1.8
Accidents, poisonings, and violence	26,678	8,121	3,583	17,674	14.1	6.8	9.2	24.8
Other	13,294	7,398	1,494	4,402	7.0	9.8	3.5	6.2
	6 percent							
Total	$174,934	$75,231	$42,323	$57,380	100.0	100.0	100.0	100.0
Infective and parasitic diseases	3,234	1,412	1,200	622	1.8	1.9	2.8	1.1
Neoplasms	15,641	3,872	862	10,907	8.9	5.1	2.0	19.0
Endocrine, nutritional, and metabolic diseases	5,717	3,436	1,137	1,144	3.3	4.6	2.7	2.0
Diseases of the blood and blood-forming organs	873	491	220	164	.5	.7	.5	.3
Mental disorders	13,782	6,985	6,179	618	7.9	9.3	14.6	1.1
Diseases of the nervous system and sense organs	10,703	5,947	3,944	812	6.1	7.9	9.3	1.4
Diseases of the circulatory system	37,430	10,019	6,417	20,994	21.4	14.5	15.2	35.0
Diseases of the respiratory system	15,764	5,931	7,089	2,744	9.0	7.9	16.7	4.8
Diseases of the digestive system	16,931	11,100	2,606	3,225	9.7	14.8	6.2	5.6
Diseases of the genitourinary system	6,344	4,471	1,249	624	3.6	5.9	3.0	1.1
Complications of pregnancy, childbirth, and the puerperium	2,914	2,607	245	62	1.7	3.5	.6	.1
Diseases of the skin and subcutaneous tissue	2,040	1,525	460	55	1.2	2.0	1.1	.1
Diseases of the musculoskeletal system and connective tissue	8,913	3,636	5,103	174	5.1	4.8	12.1	.3
Congenital anomalies	1,373	361	238	756	.8	.5	.6	1.3
Accidents, poisonings, and violence	21,649	8,121	3,583	12,645	12.4	6.8	9.2	22.0
Other	11,625	7,398	1,494	2,733	6.6	9.8	3.5	4.8

TABLE 8.—Comparison of the economic cost of illness for 1963 and 1972, by diagnosis[1]

Diagnosis	Amount (in millions)		Percentage distribution	
	1963	1972	1963	1972
Total	$93,600	$188,789	100.0	100.0
Infective and parasitic diseases	2,135	3,413	2.3	1.8
Neoplasms	10,590	17,367	11.3	9.2
Endocrine, nutritional, and metabolic diseases	2,623	5,930	2.8	3.1
Diseases of the blood and blood-forming organs	373	921	.4	.5
Mental disorders	7,277	13,917	7.8	7.4
Diseases of the nervous system and sense organs	6,795	10,951	7.3	5.8
Diseases of the circulatory system	20,918	40,060	22.4	21.2
Diseases of the respiratory system	7,413	16,454	7.9	8.7
Diseases of the digestive system	7,837	17,457	8.4	9.3
Diseases of the genitourinary system	2,560	6,456	2.7	3.4
Complications of pregnancy, childbirth, and the puerperium	1,517	2,932	1.6	1.6
Diseases of the skin and subcutaneous tissue	450	2,052	.5	1.1
Diseases of the musculoskeletal system and connective tissue	2,783	8,948	3.0	4.7
Congenital anomalies	1,213	1,903	1.3	1.0
Accidents, poisonings, and violence	11,811	26,678	12.6	14.1
Other	7,116	13,294	7.6	7.0

[1] Present value of future earnings is calculated at a 4-percent discount rate.

victims had 18.6 percent of the bed-days for the circulatory disease category. Since stroke does affect an older population, however, 15.0 percent was used, and the resulting figure for costs in this category was about $500 million. Persons in institutions with cardiovascular diseases are in three types of institutions—nursing homes, homes for the aged, and chronic disease hospitals. The distribution of residents in nursing homes can be used as a measure of costs. As reported by NCHS, stroke residents comprise 10.7 percent of all residents with circulatory disease. Thus, institutional costs for stroke amount to $89 million (.107 x $828 million).

For mortality costs, a shortcut need not be used. Mortality statistics are available for each diagnosis by age, sex, and race. The present value of lifetime earnings are applied, and total mortality costs are estimated. In 1972, these costs

amounted to $3,432 million (table 10). When morbidity and direct costs for stroke are added to the mortality figure, the estimated total economic cost of stroke amounts to $6.2 billion, as the following figures show:

Type of cost	Amount (in millions)
Total	$6,187
Direct	2,031
Morbidity:	
Currently employed	135
Unable to work	500
Institutional	89
Mortality	3,432

METHODOLOGY

The cost of illness was calculated for 16 disease categories shown below with their code numbers.

Diagnosis	ICDA code
Infective and parasitic diseases	000–136
Neoplasms	140–239
Endocrine, nutritional, and metabolic diseases	240–279
Diseases of the blood and blood-forming organs	280–289
Mental disorders	290–315
Diseases of the nervous system and sense organs	320–389
Diseases of the circulatory system	390–458
Diseases of the respiratory system	460–519
Diseases of the digestive system	520–577
Diseases of the genitourinary system	580–629
Complications of pregnancy, childbirth, and the puerperium	630–678
Diseases of the skin and subcutaneous tissue	680–709
Diseases of the musculoskeletal system and connective tissue	710–738
Congenital anomalies	740–759
Accidents, poisonings, and violence	800–999
Other[1]	760–796

[1] Certain causes of perinatal morbidity and mortality, symptoms and ill-defined conditions, and special conditions without sickness and symptoms.

Source: National Center for Health Statistics. *Eighth Revision, International Classification of Diseases, Adapted*, 1963.

Direct Costs

The total direct cost of illness—the cost of prevention, detection, and treatment—represents the amount published by the Social Security Administration for national health expenditures.[11] Not all types of expenditures were allocated here according to diagnosis. Included are hospital care, physicians' services, dentists' services, other professional services, drugs and drug sundries, eyeglasses and appliances, and nursing-home care. For each type of expenditure, the total expenditure was distributed, by diagnosis, on the basis of utilization and cost data, with the same data sources used for each diagnosis.

[11] The data for calendar year 1972 came from Nancy L. Worthington, *op. cit.*

TABLE 9.—Estimating procedure for calculating direct costs of stroke, 1972

Type of expenditure	Diseases of the circulatory system	Stroke	
		Amount	Percent of circulatory disease category
Hospital care:			
Days of care (in thousands)[1]	44,290	7,852	17.7
Expenditures (in millions)	[2] $5,271	$933	17.7
Physicians' services:			
Number of visits (in thousands)[3]	75,570	3,745	5.0
Expenditures (in millions)	[2] $1,676	$84	.....
Nursing homes:			
Number of residents [4]	208,400	80,893	.....
Average monthly charge [5]	$313	$364	.....
Weighted charges (in millions)	103	30	29.1
Expenditures (in millions)	[2] 2,581	751	29.1
Hospital, physicians' services, and nursing-home care:			
Expenditures (in millions)	$9,528	$1,768	18.6
Total direct costs (in millions)	[2] $10,919	$2,031	18.6

[1] National Center for Health Statistics, "Utilization of Short-Stay Hospitals, by Diagnosis: United States, 1972," *Monthly Vital Statistics Report*, July 1974.
[2] Data from table 1.
[3] National Center for Health Statistics, *Physician Visits, Volume and Interval Since Last Visit, United States, 1971*, Series 10, No. 97; and unpublished data from the Center.
[4] National Center for Health Statistics, *Chronic Conditions and Impairments of Nursing Home Residents, United States, 1969*, Series 12, No. 21.
[5] National Center for Health Statistics, *Charges for Care and Sources of Payment for Residents in Nursing Homes, United States, June–August 1969*, Series 12, No. 21.

TABLE 10.—Stroke: Number of deaths and present value of lifetime earnings discounted at 4 percent, by age and sex, 1972

Age	Number of deaths [1]			Discounted earnings (in thousands)		
	Total	Men	Women	Total	Men	Women
Total	213,314	98,366	117,946	$3,431,946	$2,290,411	$1,141,534
Under 1	142	88	54	11,601	8,445	3,156
1–4	120	68	52	10,466	7,147	3,319
5–9	96	58	38	10,399	7,441	2,958
10–14	138	86	52	18,375	13,444	4,931
15–19	248	160	88	39,661	29,840	9,821
20–24	284	146	138	47,498	30,884	16,614
25–29	460	222	238	76,560	49,036	27,524
30–34	696	338	358	110,186	72,246	37,940
35–39	1,134	534	600	163,849	106,663	55,186
40–44	2,186	1,050	1,136	274,003	179,706	94,297
45–49	3,718	1,834	1,884	389,188	258,235	130,451
50–54	5,854	3,074	2,780	483,701	333,778	149,923
55–59	8,496	4,830	3,666	600,313	461,042	139,271
60–64	12,860	7,334	5,526	438,338	307,515	130,823
65–69	19,286	10,344	8,942	320,985	204,752	116,233
70–74	28,128	14,320	13,808	281,423	132,731	98,692
75–79	37,794	17,096	20,698	174,543	99,533	75,010
80–84	41,718	16,890	24,828	98,368	56,463	38,905
85 and over	49,956	16,834	33,120	16,881	8,990	6,891

[1] Excludes 30 deaths with no age specified.

calculating direct costs

	Stroke	
Diseases the circulatory system	Amount	Percent of circulatory disease category
44,200	7,852	17.7
$5,271	$933	17.7
75,870	3,745	5.0
$1,676	$84	.....
58,400	80,803	.....
$345	$366	.....
103	30	29.1
$2,861	731	29.1
89,828	$1,768	18.6
10,919	$2,031	18.6

ilization of Short-Stay Hos-*nthly Vital Statistics Report,*

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ic Conditions and Impair-1969, Series 12, No. 22. *ces for Care and Sources of d States, June-August 1969,*

uded are hospital sts' services, other d drug sundries, ursing-home care. he total expendi-osis, on the basis th the same data

and present value of by age and sex, 1972

Discounted earnings (in thousands)	Men	Women
6	12,290,411	$1,141,638
1	8,413	3,186
6	7,147	3,319
6	7,461	2,958
6	13,444	4,931
1	29,140	9,821
6	30,834	16,824
6	49,026	27,824
6	72,243	37,949
6	108,663	53,186
6	179,706	94,297
6	228,235	130,431
6	333,778	149,923
6	361,042	139,271
6	307,518	130,873
6	204,752	116,253
6	132,781	68,672
6	99,533	75,010
6	56,163	38,903
6	8,990	9,801

Hospital care.—Data for hospital care expenditures, as reported by the Social Security Administration, include estimates by type of hospital, shown below. For each type, a separate diagnostic distribution was estimated. Community hospital expenditures, representing the bulk of the hospital bill, were distributed by days of care, weighted by expenses per patient day. This weighting was not done in the original study, because no such data were available. There is, however, a tremendous variation in daily costs by diagnosis—a range of $63—reflecting the vast differences in and complexities of treatment.

Type of hospital	Amount (in millions)	Percentage distribution
Total	$34,219	100.0
Federal hospitals	3,619	10.6
Defense Department	1,275	3.7
Veterans Administration	1,652	4.9
Public Health Service	610	1.8
St. Elizabeths	32	.1
Other [1]	14	.1
Non-Federal hospitals	30,601	89.4
Community	26,199	76.6
Psychiatric	3,233	9.4
Tuberculosis	117	.3
Long-term	753	2.2
Other [2]	299	.9

[1] Represents consumer spending in Federal hospitals.
[2] Represents hospitals in outlying areas of the United States.
Source: Unpublished data from the Social Security Administration.

The diagnostic distribution of days of care is based on primary diagnosis only, although the presence of associated conditions or multiple diagnoses will affect length of stay. Data on days of care by diagnosis for those under age 65 and for the population aged 65 and over came from the hospital discharge survey of the NCHS.[17] Unpublished data on expenses per patient day by diagnosis were available from Aetna for their enrollees in the Federal Employees Health Benefit Plan. Figures for daily expenses for the population aged 65 and over were provided by Medicare.

Non-Federal psychiatric and tuberculosis hospitals were classified under the diagnoses their names imply. Non-Federal long-stay hospital costs were allocated according to the product of the number of residents in nursing homes with intensive nursing care and the average monthly charge; these data were reported by diagnosis by NCHS.[18] The remaining non-Federal hospital expenditures were for outlying areas and were distributed according to those for the United States.

Expenditures in Federal hospitals were distributed by diagnosis according to days of care. Since the same daily charge is used in Federal hospitals regardless of incurred cost, no weights were available on differing daily costs. Days of care in Veterans Administration hospitals are available by diagnosis in the *Administrator of Veterans Affairs Annual Report.* For Department of Defense hospitals, each service provided the number of total days of care. The Navy and Air Force provided diagnostic data as well. Admissions to Navy and Marine Corps hospitals are reported by diagnosis in their quarterly reports, *Statistics of Navy Medicine.* Average length of stay by diagnosis was published in a 1973 study.[19] Data for days of care by diagnosis in Air Force hospitals were provided directly by that service. Data for Public Health Service hospitals came directly from the Bureau of Medical Services. All spending in St. Elizabeths Hospital was allocated to mental illness.

Physicians' services.—Expenditures for physicians' services are allocated according to the distribution of physicians' visits in 1972 by diagnosis, as reported by the National Diseases and Therapeutic Index (NDTI) (a service of IMS America Ltd., Ambler, Pennsylvania). The NDTI is a continuing study of private medical practice in the United States in which data are obtained from a representative panel of physicians who report case-history information on private patients seen over a given period of time. The assumption is made here that the cost of each physician visit is the same.

Dentists' services.—All of the expenditures for the services of dentists, as reported by the Social Security Administration, are classified under "diseases of the digestive system." Included in

[17] National Center for Health Statistics, "Utilization of Short-Stay Hospitals, by Diagnosis: United States, 1972," *Monthly Vital Statistics Report,* July 1974.

[18] National Center for Health Statistics, *Charges for Care and Sources of Payment for Residents in Nursing Homes, United States—June-August 1969* (Vital and Health Statistics Series 10, No. 21), 1965.

[19] Robert D. Lamson, John J. Waggoner, and Dale E. Misner, *Navy Medical Care Study, Costs and Economic Efficiency,* Boeing Computer Services, Inc., Consulting Division, December 1973.

this diagnostic group are diseases of the buccal cavity, such as dental caries; abscesses of supporting structures of teeth; other inflammatory diseases of supporting structures of teeth; disorders of occlusion, eruption, and tooth development; toothache from unspecified cause; and other diseases of teeth and supporting structures.

Other professional services.—Included in this category are expenditures for self-employed private-duty nurses, visiting nurses, optometrists, chiropractors, physical and speech therapists, etc. Expenditures for private-duty nurses are allocated by diagnosis according to the distribution of hospital days on the assumption that most of their services are provided in the hospital. The National League of Nurses provided diagnostic data for visiting nurses; optometrists' services were classified in neurological diseases and sense organs; and chiropractors' services in diseases of the musculoskeletal system. The remainder—$319 million—was classified as "other." Since the Internal Revenue Service reports such expenditures in a lump figure, they could not be allocated by diagnosis.

Drugs and drug sundries.—This category was omitted in the 1963 study of the costs of illness, but the availability of new data allowed its inclusion here. As part of its survey of physicians, the NDTI, which collects data on the type of drug prescribed for each patient seen, provided a listing of the number of times each therapeutic category was prescribed for each diagnosis. Price weights were applied, based on the National Prescription Audit of R.A. Gosselin & Co., Inc., which reports data on average wholesale charges per prescription, by therapeutic category.

Nursing-home care.—Expenditures for nursing-home care were allocated according to the number of nursing-home residents and the average monthly charge for each diagnosis reported in the NCHS study, referred to previously.

Morbidity Costs

The definitions and issues involved in calculation of morbidity losses are discussed in the body of this report. The sources of data used for the calculations are described below.

Noninstitutional population.—Losses were calculated separately for three groups—the currently employed, women keeping house, and those unable to work. The NCHS collects disability data for the currently employed and unemployed populations, according to the following classifications of usual activity: Working, keeping house, retired for health reasons, retired for other reasons, and doing something else. These data were supplied by age, sex, and diagnosis. All work-loss days for the currently employed were multiplied by mean annual earnings; bed-days for unemployed women usually keeping house were multiplied by mean housekeeping values (see the text tabulation on page 24). Mean average earnings came from the Current Population Survey of the Bureau of the Census, and housekeeping values were those developed in the Brody study.[25]

The number of persons unable to work in 1972 was reported by age and sex in the January 1973 issue of *Employment and Earnings* (Department of Labor). Employment rates and housekeeping rates for 1970 from the same source, January 1971, were applied and the appropriate dollar values attached. The diagnostic distribution of these dollars, by age and sex, was based on bed-days for the "retired for health" and "something else" categories of the NCHS data. The diagnostic distribution of the group under age 25, however, came from data for disability allowances under the social security program, since the NCHS "something else" category includes students as well as those unable to work.

Institutional population.—The number of persons in each type of institution in 1970 is reported, by age and sex, by the Bureau of the Census.[26] Employment and housekeeping rates for 1970 and the appropriate 1972 dollar values were applied. The diagnostic distribution was based mainly on type of institution, as described on page 26.

Mortality Costs

Mortality costs were calculated by multiplying the number of deaths (by age, sex, and race) by

[25] Wendyce Brody, *op. cit.*

[26] Bureau of the Census, *Persons in Institutions and Other Group Quarters* (PC(2)-4E), 1973.

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the present values of lifetime earnings. The number of deaths was provided by the Mortality Statistics Branch of the NCHS.

The estimating procedure for the development of lifetime earnings was described in detail in the earlier Rice report on the costs of illness. Except for the treatment of housewives, discussed earlier, the procedure used here was essentially the same.

The method developed takes into account the life expectancy for different age, sex, and race groups, varying labor-force participation rates, the current changing pattern of earnings at successive ages, imputed value of housewives' services, and the discount rate. The basic assumptions and economic concepts employed follow.

Life expectancy.—The lifetime earnings data were developed on the assumption that each cohort will follow his or her pattern of life expectancy as reported for 1972 at successive ages. The NCHS publishes life tables by age, sex, and race. Cohort data were obtained for four groups: White and nonwhite males, white and nonwhite females.

Labor-force participation.—The estimate of lifetime earnings takes into account varying labor-force participation rates at different ages. The assumption is that an individual will be in the labor force and productive during his expected lifetime in accordance with the current pattern of labor-force participation for his sex and race group. For this calculation, the Bureau of the Census provided unpublished data from their Current Population Survey for 1970 on the number of employed persons by age, sex, and race. Use of the number employed in 1970 assumes conditions of full employment (approximately 5 percent of the labor force unemployed).

Earnings.—The appropriate measure of output loss for individuals is year-round, full-time earnings, and the proper measure of expected earnings is the arithmetic average or mean. Mean earnings data for 1972 by age, sex, and race were provided by the Current Population Survey of the Bureau of the Census.

In applying these cross-section survey data to the estimates of lifetime earnings, it is assumed that the future pattern of earnings for an average individual within a particular race and sex group will remain the same as that reported for the base year, 1972. This model recognizes that the average individual may expect his own earnings to rise as he ages and gains experience, in accordance with the cross-section survey data for 1972.

The use of these average earnings based on cross-section surveys may understate the present value of expected lifetime earnings because of the failure to take into account future economic growth patterns by age. If, however, an average annual rate of gain in productivity is projected, it can be applied as a partial offset to the discount rate, discussed below.

The discount rate.—The calculation of the present value of expected lifetime earnings raises the question of the importance of discounting and the appropriate discount rate. From the economist's viewpoint, it is recognized that the arithmetic sum of lifetime earnings overstates the present value of an individual. Determining the present value of the future earnings stream is the correct way to measure the economic value over a period of time; discounting converts a stream of earnings into its present value.

Economists agree that comparison of streams of earnings over varying timespans should employ the process of discounting, but there is no agreement on the discount rate to be used.[11] The higher the discount rate, the lower the present value of a given money stream. With a high rate of discount, earnings far into the future yield a relatively small present value.

Conversely, lowering the discount rate increases the present value of these future earnings. The discount rate can be adjusted for expected changes in productivity. An increase in productivity of 1.75 percent a year, for example, can be incorporated into the discounting calculations to obtain a net effective discount rate. Thus, a 6-percent discount rate adjusted for a rise in productivity of 1.75 percent a year will yield an effective dis-

[11] See Herbert E. Klarman, *The Economics of Health*, Columbia University Press, 1975, and P. D. Henderson, "Investment Criteria for Public Enterprises," in *Public Enterprise* (R. Turvey, editor), Penguin Modern Economics Readings, Penguin Books, 1968.

count rate of approximately 4 percent (1.06/1.0175 = 1.042). An 8-pe.. ..t discount rate similarly adjusted results in a rate of 6 percent (1.08/1.0175 = 1.061). These two rates, 4 percent and 6 percent, are intermediate in the range of rates currently employed and were used in this study to estimate the present value of lifetime earnings.

Consumption.—In the past, there was some diversity of opinion regarding the treatment of consumption—whether or not to deduct it from a person's contribution to output.[28] Recently, however, there has been wider agreement among economists that to deduct consumption in cost-of-illness calculations would be wrong since it is the losses to society that are being measured rather than those to the individual family.[29]

[28] See Burton A. Weisbrod, *Economics of Public Health*, University of Pennsylvania Press, 1961; Louis I. Dublin and Alfred J. Lotka, *The Money Value of Man*, The Ronald Press Company, 1946; and Rashi Fein, *Economics of Mental Illness*, Basic Books, 1958.

[29] E. J. Mishan, "Evaluation of Life and Limb," *Journal of Political Economy*, 1971.

Notes and Brief Reports

Self-Employment Income At Low Earnings Levels*

The social security tax rate on self-employment earnings differs from the tax rate on wages. Under certain conditions this situation could lead to the taxing of workers with low earnings at a higher average rate than those with high earnings.

Since 1951, when self-employment first became covered by the social security system, the self-employment tax rate has ranged from about 68 percent to about 75 percent of the combined employee and employer rates on wages. If it is assumed for the purpose of this study that the employee ultimately bears the entire wage tax then the self-employed pay a lower rate than wage earners do. And if self-employment is concentrated among individuals of moderate and higher earnings—the question this study investigates—it follows that the average tax rate is regressive in relation to taxable earnings, that is, the rate is higher for taxable earnings at the lower levels.

This assumption on the burden, or incidence, of the tax means that were it not for the employer tax (a) the market wage structure would be higher by precisely the amount of the tax and (b) employers would therefore have to pay the higher going wage to obtain the employees they desire. Economists disagree on the extent to which the tax burden shifts.[1] (The incidence of the employee's share of the tax is part of the same theoretical question, yet observers appear to agree that at least half of the combined employee-employer tax falls on the worker. Controversy in the literature on the proportion of the tax borne by the worker seems limited to a range that goes from half to all of it.)

This note presents data on the proportion of taxable earnings that is derived from self-employment at various earnings levels and examines the hypothesis of regressivity in the light of the data.

TERMINOLOGY

"Earnings" in the context of taxes and the social security program are not identical with income. They consist only of those portions of income that result largely from the personal effort of the earner—wages and income from self-employment. Dividends, rent, interest, and other forms of property income that involve relatively little personal effort are not called earnings and are not taxable or creditable for benefits under the program.

Earnings from covered employment are taxed each year to the "maximum" amount specified

* By Aaron J. Prero, Division of OASDI Statistics. Acknowledgement is made to Robert H. Finch, Jr., and Katherine P. Merrick for their work in calculating the standard errors.

[1] For a presentation of the views of several economists on the incidence of the social security tax, see John A. Brittain, *The Payroll Tax for Social Security*, The Brookings Institution, 1972, chapters II and III.

SCOMM

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control case—i.e., a country which is *not* "developing"—the Philippines turns out not only to have evaluations of jobs and occupations that correlate highly with the U.S. evaluations (and, indeed, also with the Pakistani evaluations) but also to exhibit strong economic growth as measured by index numbers of industrial production. Coefficients of rank correlation in the ratings of 15 occupations as between the Philippines and the U.S., Pakistan and the U.S., and the Philippines and Pakistan are +.965, +.875, and +.918 respectively—and all are significant at the one percent level.

CONCLUSIONS

For reasons which have been discussed throughout the paper, the conclusions which can be drawn from the data reported here (and from the analysis of them) are necessarily limited. We have found that in both Pakistan and, for a smaller number of occupations, in the Philippines—both of which show clear evidence of vigorous economic development—there is strong similarity in the ways university students evaluate jobs and occupations and also that similarities exist between job and occupation ratings in each of them and the ratings of jobs and occupations made by a broader cross-section of the population of the United States, which we have taken as standard for an economically "developed" country. In the case of the rank ordering of 15 selected occupations, correlations were high and significant. This seems to support the proposition, though, again, it does not demonstrate it conclusively, that evaluations of jobs and occupations, at least by university students in developing countries, may be a useful measure of capacity for rapid modernization in terms of economic growth or development.

HOW BAFFIN ISLAND ESKIMO HAVE LEARNED TO USE ALCOHOL

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ABSTRACT

Eskimo in Frobisher Bay, a new Baffin Island town, became legally entitled to drink alcoholic beverages in 1960. They embraced the opportunity with alacrity, one result being many arrests for drunkenness. To curb drinking, a law in 1962 limited alcohol sales. Public drunkenness has since declined and older Eskimo have begun to learn a drinking pattern resembling that of their Eurocanadian neighbors. Eskimo drinking shows few signs of being deficiency motivated. Men drink for the pleasure it gives them and consumption correlates with economic and social status, being one of the marks of a full-fledged townsman. Regular drinkers furnish only a small part of the trouble with which police must cope.

INTRODUCTION

Only rarely do social scientists arrive on the scene of their study while a theoretically significant, or otherwise important, cultural experiment is in progress. We were thus fortunate in being able to learn about the end of one phase of alcoholic drinking and observe the start of another, while studying other aspects of the newly established white-Eskimo town of Frobisher Bay, Baffin Island, one of the largest urban centers in the Canadian Arctic.[1] Here, where Eskimo culture is undergoing especially rapid and thoroughgoing

[1] Our six months field work in Frobisher Bay, from March through most of August, 1963, was supported contractually by the Northern Co-ordination and Research Centre, Department of Northern Affairs and National Resources, Canada. We owe much to many people for aiding us in our study of drinking, but here we acknowledge only the valuable cooperation extended by Mr. Harold Zuckerman, social worker, and Mrs. T. Allured, manager of the Territorial liquor store in Frobisher Bay.

evolution, we could reconstruct how a curious, intelligent, and adventurous people suddenly introduced to legal drinking at first eagerly embraced the new source of stimulation and then, aided by new laws and other forces of social control, partly recoiled. When we left them, they were in the process of devising another style of drinking, whose outlines we will describe, though without knowing how final it will be.

The Eskimo response to alcohol is theoretically significant for the student of human behavior because it helps to correct the undue emphasis consistently placed on stress and other deficiency motivations as explanations of drinking.[2] To reason that Eskimo rushed to use alcohol because it came to them simultaneously with stressful and wholesale, rapid culture change is to apply theory in a stereotyped fashion, quite without regard for facts. Contrary to what we heard before reaching Frobisher Bay, Eskimo culture change despite its rapid nature and far-reaching extent has not generally traumatized and disorganized the Eskimo who settled in that community. We began our research with the advice that drinking and offenses stemming from drinking represented two kinds of deviant responses to pervasive psychological stress but discovered drinking by Frobisher Bay Eskimo in general not to be primarily deficiency motivated.

Increasingly the anthropologist works in communities where the abundance of written records allows him to collect quantitative data. Of course, he can also build such precision into his field work by designing suitable methods to collect quantifiable data, though counting would be wasteful if his problem did not especially benefit from quantification. There is no virtue in counting for its own sake.

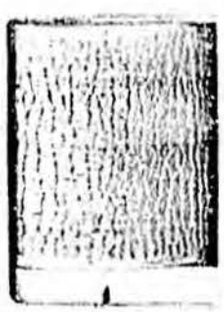
In Frobisher Bay, a town of about 2,000 persons where some 900 Eskimo have settled, administrative records are accumulating rapidly. They were ideal in allowing us to follow changes in response to an administrative order implicitly designed to control excessive drinking by Eskimo, who only two years previously had won the legal right to drink on the same basis as their non-Eskimo peers in the Northwest Territories.

[2] Cf. George D. Spindler, "Alcohol Symposium," *American Anthropologist*, 66 (1964), pp. 341-384.

THE TOWN

The town itself, at the head of the Bay discovered in 1576, came into being in 1942 when the United States Air Force located a weather station nearby. In 1943 construction began on an air strip. After a temporary absence, United States Air Force personnel returned in 1951 and Frobisher Bay became an important site supporting shipment of military material to Thule, Greenland. In 1952 a renewed building program got underway, including construction of a radar station, and in 1955 the place became a center of activity for sending supplies and men to the eastern end of the D. E. W. line, then under construction. In that year Canada's Department of Northern Affairs and National Resources (D. N. A.) began construction of housing for government-employed Eskimo and non-Eskimo personnel. Since then many more houses have been built for Eskimo, some on a cooperative basis, and other facilities have been added. The place increasingly attracted south Baffin Island Eskimo, but the years of heaviest immigration came with the intensified construction of 1957, a year when the Eskimo population totalled about 500 persons.

Eskimo draw livelihood from four main sources: wage labor; full-time hunting and trapping (by a variable number of men, including those who rarely seek wage work and others who have temporarily lost jobs); home industries, including sewing and carving with stone imported from southern Quebec; social assistance, a source of income that runs high in winter for the unemployed and for full-time hunters, and the government-operated Rehabilitation Centre, which in part accommodates disabled Eskimo who have come from various parts of the eastern Arctic to learn new skills that will enable them to survive in their home settlements. Unable to return to a strenuous life on the land, rehabilitants must be prepared for less active careers. Other rehabilitants are social problems, including promiscuous girls whom the court recommended to the Centre. Eskimo live in three dispersed neighborhoods connected by a bus. In Apex Hill rehabilitants live together with most of the Eskimo who are employed by D. N. A. Here the largest and



ost modern houses are to be found, including rivately owned co-op dwellings. In Ikhaluit, here a number of full-time hunters live as ell as Eskimo employed by other organizaons, houses vary from self-made, multiroomed shacks to prefabricated dwellings ought from the Government. At the air base —where eight Eskimo families live in an apartmentlike building next door to Eurocanadian neighbors—the government offices, airport, stores, and the main school are located. Non-Eskimo also live in Apex Hill.

Start of Legal Drinking

Prior to January, 1960, Frobisher Bay Eskimo saw or heard of their Eurocanadian military and civilian neighbors using alcohol, but only illegally could they themselves possess and consume it. Then, in 1960, in consequence of a far-reaching court decision that freed all Canadian Eskimo from discriminatory injunctions concerning drinking, they acquired precisely the same privileges as the white man. They can go to the counter of the Territorial liquor store on any of several afternoons and evenings, show their permit, and order wine, rum, whiskey, gin, or beer (including ale). Nothing can be sold by the liquor store except to a permit holder. Almost any evening they can sit down in the Rustic Room, a hotel tavern, and drink beer or hard liquor.

What happened when alcohol at not too steep prices[3] became legally available to Eskimo in Frobisher Bay? Records as well as knowledgeable informants agree that a number of Eskimo, both men and women, embraced the new opportunity with the same alacrity and enthusiasm they showed for other promising, new experiences. They purchased mostly beer and, lacking a tested pattern of drinking that would have regulated the speed and amount consumed at any one time, drank it without full awareness of consequences. The results are described as disastrous. For example, between 1959 and 1960, total court convictions (Eskimo and non-Eskimo) jumped from 53 to 155 and in 1961 reached 190,[4] the overwhelming proportion of

TABLE I. NUMBER OF ESKIMO OFFENSES BY MONTH FROM DECEMBER, 1961 TO AUGUST 24, 1963 (21 MONTHS)*

Months	Liquor Offenses		Criminal Offenses		Other		Total	
1961								
December	27		7		—		34	
1962								
January	7		—		—		7	
February	6		1		1		8	
March	6		2		—		8	
April	10	96	9	26	—	1	19	123
May	14		3		—		17	
June	4		1		—		5	
July	16		1		—		17	
August	6		2		—		8	
September	10		1		—		11	
October	2		5		—		7	
November	5		2		—		7	
December	4		—		—		4	
1963								
January	2		—		—		2	
February	—		1		1		2	
March	4		3		—		7	
April	1		—		—		1	
May	14		1		2		17	
June	11	42	1	11	—	3	12	56
July	5		1		—		6	
August	1		4		—		5	
TOTAL	155		45		4		204	

*Brackets cover comparable periods of time, from December to August.

persons convicted being Eskimo. Most of the arrests reportedly stemmed from offenses against the Territorial Liquor Ordinance, as they still do today. (Table 1) The increase in convictions far outran the increase in population, which rose from 624 Eskimo in 1958 to 761 in 1961. The social worker's report compares the first half of 1961 with 48 legal convictions, 40 of them Eskimo and six percent falling under the Liquor Ordinance, with the second half of that year when 68 persons were convicted, 65 of them Eskimo and 70 percent coming under the Ordinance. He estimates that over 90 percent of all offenses brought to court during the five years prior to March, 1962, stemmed wholly or partly from the "excessive use of alcohol." Violence is given as a specific "concomitant" of heavy drinking, including violence between spouses. Drinking also led adults to miss work, perform inadequately on the job, and eventually to lose their jobs and so miss payments on houses purchased from the government. Drinking promoted sexual promiscuity, sexual assault, and damage to houses,

[3] In 1963 a bottle of good scotch whiskey cost $6.75; a bottle of sherry, $1.85; a dozen cans of beer, $3.25.

[4] Harold Zuckerman, "Report of the Use of Liquor by the Eskimo People at Frobisher Bay," typescript, 1962.

cars, and garage doors. Due to guilt over drinking, he writes, people remained away from church, non-drinkers looking down on drinkers and making them feel unwelcome. Intoxication stimulated public disturbances and noise, frequently kept up till the early hours of the morning.[5] The town took various measures to curb excessive drinking. Police vigilance, fines, and jail sentences constituted pressure to control alcoholic indulgence. The social worker complained that the Eskimo fails to learn from such punitive measures. When he tried case work with people who drank heavily, he found it to be effective for only short periods of time. Also, each Saturday afternoon a small number of men who drank heavily attended group meetings at which, sometimes, a doctor spoke on drinking or the men played cards and checkers. However, the welfare officer questioned the effectiveness of those meetings. Townspeople also received literature written in Eskimo, describing difficulties that could arise from excessive use of alcohol and explaining the relationship between drinking and offenses committed against the law. Sometime before March, 1962 the superintendent of the Rehabilitation Centre (a man fluent in Eskimo) helped write and produce six radio plays, most of which dealt with drinking and its connection with violence and other social problems. The local station aired the tape-recorded plays, which presented drinking with an unequivocally moral tone, giving drinkers and the tavern a disreputable air.

We did not manage to secure figures of actual alcoholic consumption going back to 1960, but we know that 71 licensed purchasers in a population of approximately 380 adults took, 6,588, 5,520, 3,516, and 4,200 twelve-ounce cans of beer from the liquor store in May, June, July, and August, 1962, respectively, not counting what they drank or took home from the tavern. In addition they purchased 65 ounces of wines and spirits in May and 25 ounces both in July and August, 1962, from the liquor store, the only outlet from which wines and spirits could legally be ordered and paid for, to be picked up by the purchaser 3 weeks later.

An Administrative Order

Where educational and punitive measures to combat the Eskimo's enthusiastic response to alcohol reportedly proved discouraging, two measures administratively introduced in September, 1962, impress Eskimo and non-Eskimo observers as having been considerably more effective. Under the first regulation, the tavern could no longer sell beer to be taken off the premises. Under the second, customers at the liquor store had to wait three weeks before they could pick up their paid-for beer or any other alcoholic commodity. Although unpopular with some local Eurocanadians, who have circulated a petition to repeal the waiting period on beer, these measures have greatly pleased officials and police with the way they have apparently slowed down Eskimo drinking. Beer taken from the liquor store fell from 4,200 cans sold in August to 540 in September. In October, November, and December respectively, 71 licensed Eskimo purchasers took home from that outlet only 864, 1,188, and 1,140 cans of beer, but wines and spirits rose to 245, 750, and 565 ounces in those three months respectively. By May, June, and July, 1963, licensed purchasers had dropped to 32 and they carried home only 864, 1,032, and 660 cans of beer respectively and 190, 425, and 80 ounces of wines and spirits.

Public drunkenness also declined after September, 1962. Offenses against the Liquor Ordinance brought before the justice of the peace by the R. C. M. Police, which totaled 96 from December, 1961, to August, 1962, dropped to 42 between December, 1962 and August, 1963. (Table 1) Criminal offenses also fell, from 26 in the first period to 11 in the second period. Police and others connect these drops to the decline in excessive drinking. We rarely saw drunks abroad, so that the few intoxicated men who came late to the Saturday night dance (after an evening at the tavern) proved noteworthy.

[5] Toshio Yatsushiro's manuscript notes obtained at Frobisher Bay and his paper, "The Changing Eskimo Economy," presented at the annual meeting of the American Anthropological Association in 1960 report drinking, theft, marital discord, deviant sexual behavior, gambling, and other signs of psychological strain and social disorganization to have been provoking concern as far back as 1958, that is, before even the legalization of drinking. He blames these behaviors on tension engulfing the Eskimo in their situation of extensive culture change.

Undoubtedly Eskimo have altered their use of alcohol, partly as a result of an administrative act and partly because they have decided not to make much use of the waiting period on beer and spirits. The decline in arrests, however, can't be confidently linked to the influence of the administrative order. There are other variables to be considered, about which it is difficult to secure any, much less precise, information. For example, did the police consciously or unconsciously relax their vigilance after the waiting period ensued for beer and the tavern ceased to make take-home sales? Another possibility, for which partial evidence will be presented later, is that Eskimo learned to modify their use of alcohol, drinking more cautiously. Some even ceased to drink, voluntarily and involuntarily. They learned not to make public appearances when they were intoxicated, the town's taxi system helping them get home from the tavern. The drinking pattern which we observed during our six months in Frobisher Bay differs considerably from the alarming pattern reported earlier. Even allowing for some degree of exaggeration in the earlier materials, evidence indicates that a change has occurred. To be safe, the dynamics of that change may be partly ascribed to more effective external regulations and advice and partly to personal learning.

Extending the waiting period to beer unquestionably reduced Eskimo patronage of the town's Territorial liquor store. We have comparable data on the number of Eskimo permit holders (all male) in the four months from April (when new annual permits become mandatory) to July 31, 1962—before the waiting period had been extended—and from April to July 25, 1963, after the waiting period. In the former four months, 78 Eskimo received permits from the liquor store; in the second, only 32. Apparently most permits are applied for close to the beginning of the permit year, that is, soon after April 1. We conclude this from the fact that between August 1, 1962, and March 31, 1963, only nine new permit holders joined the 78 who had received theirs between April and July, 1962. Presumably an equally small proportion of permit holders will be added to the 32 who got theirs prior to July 25, 1963, indicating a drop in store patronage by Eskimo.

Why have Eskimo failed to patronize the Territorial liquor store to the same extent after the waiting period began for beer as they did before? A western Arctic Eskimo could not explain why drinkers didn't order beverages three weeks in advance of delivery. He simply treated the idea as preposterous when he said people want to drink when they want to drink. In other words, for many Eskimo drinking is

TABLE 2. VALUE OF PURCHASES BY ESKIMO AT THE TERRITORIAL LIQUOR STORE BY MONTH, FROM JULY, 1962 TO JULY, 1963

Month	Remarks	Wine and Spirits	Beer	Total
1962				
July		$ 6.00	$ 952.25	$ 958.25
August		6.00	1,137.50	1,143.50
September	Waiting period extended.	6.00	146.25	152.25
October		59.05*	234.00*	293.05
November	Purchases for Christmas season?	169.35	321.75	491.10
December	Purchases for Christmas season?	138.40	308.75	447.15
1963				
January		93.00	208.00	301.00
February	A murder occurred.	84.20	263.25	347.45
March	Effect of murder?	33.70	159.25	192.95
April		74.95	165.75	240.70
May		36.30	234.00	270.30
June		98.60	279.50	378.10
July	Summer vacations in coastal camps.	19.35	178.75	198.10
	TOTAL	$824.90	$4,589.00	$5,413.90

*Note how beer sales dropped after the extension of the waiting period while wine and spirits sales rose.

highly spontaneous. When it comes to alcoholic beverages, they do not anticipate wanting to drink three weeks hence. Unlike some whites, they do not keep liquor on hand to entertain guests. In fact they do little ceremonial drinking. Such behavior with respect to alcohol cannot be ascribed to an inability to plan or to a reluctance to project wants into the future, for Eskimo who leave town to spend vacations on the land do shop for the future. Even in town, families buy enough groceries at a time to last for several days. Also, some Eskimo have bought alcohol for delivery three weeks hence and continue to do so; undoubtedly more will learn to shop in this fashion, if they wish to drink at home or give a private party.

Table 2 (to which we will refer again) shows that extending the waiting period to beer sales brought a big drop in the amount of money Eskimo spent at the liquor store, especially for beer. The sale of wine and spirits rose somewhat after September, 1962 and for the next eight months continued to remain up, suggesting that the waiting period helped to alter drinking habits slightly. But we need more data to verify this hypothesis.

The Eskimo's Mode of Drinking

Eurocanadian power and responsibility dominate Eskimo life in Frobisher Bay. Therefore, Eurocanadians ultimately control the flow of alcohol to Eskimo townsmen. Eurocanadians sell beverages; a federal government administrative officer acts as liquor inspector, and police enforce a Eurocanadian system of legal norms that specify where, how, and to whom alcohol may or may not be sold or given. In fact, those Eskimo who are concerned about drinking hold the Eurocanadian responsible for what they deem to be troubles promoted by alcohol.

Unlike Kwakiutl Indians, Frobisher Bay Eskimo do not drink to assert equality with whites nor do they flaunt scoff-law drinking at them.[6] As a group these Eskimo do not have a seriously antagonistic or competitive relationship with Eurocanadians that would give such drinking point, nor are they hostile toward the police, as natives and Métis in the Mackenzie Valley,[7] though such attitudes may be forming in young men just quitting their teenage years.

Alcohol compares with other sources of happiness that Eskimo can tap in Frobisher Bay. Their attitude toward it partakes of the same appreciation for town life that the people reserve for warm houses, movies, bingo games, the security of the Rehabilitation Centre, and the white man's food, especially candy and soda. Eskimo informants put the matter similarly. They say that people drink because it makes them feel good, or to become happy. We conclude that Eskimo drink to realize the effect of alcohol, to promote an optimal degree of intoxication, which instigates good feeling, relaxation, and a sense of gaity. Some drinkers, though, are spoken of as "never happy when drunk" since they grow angry and violent.

Two views frequently reiterated in Frobisher Bay by administrators ascribe Eskimo drinking to boredom ("the people have little to occupy their free time") and to pressures imposed by town life and culture change, with which people cannot cope adequately and from which they seek escape. We see the Eskimo as far from bored in town and, as we have already said, Eskimo have successfully adjusted to their new life, welcoming rather than deploring many town conditions. Officials also view Eskimo drinking as "impulsive," but that word describes rather than explains; though it well explains why more purchases of beer declined following the three-week rule.

While Eskimo drink to realize happiness, ambivalently they also conceive of alcohol as bad and drunkenness as dangerous. They share the North American's traumatized, puritanical attitudes toward alcohol, attitudes that picture drinking as a special category of behavior because it is fraught with menace or connotes depravity. Extremists, of course, hold that any amount of drinking is sinful—and we met such people in Frobisher Bay—Eurocanadians and

[6] Helen Codere, "The Amiable Side of Kwakiutl Life: The Potlatch and the Play Potlatch," *American Anthropologist*, 58 (1956), pp. 334-351; p. 497.

[7] Ronald Cohen, *An Anthropological Survey of Communities in the Mackenzie-Slave Lake Region of Canada*, Department of Northern Affairs and National Resources, Northern Co-ordination and Research Centre, Publication NCRC-62-3 (1962), p. 84; Donald H. J. Clairmont, *Deviance Among Indians and Eskimos in Aklavik, N. W. T.*, Department of Northern Affairs and National Resources, Northern Co-ordination and Research Centre, Publication NCRC-63-9 (1963), p. 54.

Eskimo. More moderate people warn about the danger of alcohol to children, to drivers, and for addiction; they fear lest it unloose illicit sexual and aggressive impulses. In some degree, every Eskimo, moderate, social drinker probably carries these attitudes. Presumably, they enable a moderate drinker to regulate the amount he takes at any one time. In the tavern one night a man reported that a friend, a professional hunter, had warned him that after ten years or so of heavy drinking his hands would become too shaky to hold a gun steadily and so he would have to cease hunting. One night in the tavern, an Eskimo relaxed by considerable beer described somebody else as "a very good man," one reason being that he never drank. A stereotype in Eskimo ideology connects drinking with violent aggression. People blame it for a murder that took place in 1963. At a meeting of the Community Council in June, 1962, the Eskimo chairman described liquor and excessive Eskimo drinking as the worst problem confronting Frobisher Bay. (Incidentally, the Council chairman drinks socially. At his 1962 Christmas party, to which he invited many kinsmen and of which we saw movies, he served champagne.)

Unfavorable attitudes toward alcohol, reinforced by fear of arrest and by the undisguised reproaches with which some Eurocanadians greet Eskimo who drink too much, help Eskimo to regulate their own drinking. A frequent drinker, who is also an elected member of the Community Council, told us that he drinks only until he is a little happy, but doesn't go beyond that. He added that drinking beyond a safe point results in violence. A western Arctic Eskimo said he directly encourages more men to adopt such self-regulation. People in Frobisher Bay, he explained, have not had a chance to observe the style of drinking that goes on "at the Lord Elgin" (a popular hotel in Ottawa) but only the kind that construction workers do.

As part of Eskimo's more general readiness to allocate responsibility to Eurocanadians, most Eskimo quite willingly allow Eurocanadians to regulate their drinking. They accept the waiter's refusal to serve them with more beer once they are already intoxicated. No Eskimo openly disapproved of the three-week waiting period for beer, and some drinkers approved it. A few persons have even asked the welfare officer to inform the tavern owner not to serve them when they go there. One Eskimo employee allows his white supervisor to give him a note to the innkeeper on nights when he need not go on duty. There are a few Eskimo who voluntarily appealed to the court for interdiction.

Sources of Alcohol

Eskimo drinkers secure practically all their alcoholic beverages from two local outlets, the government-owned liquor store—from which no beverage moves except to a permit holder—and the government-licensed tavern.

Despite organized opposition by a pressure group, in which a few Eskimo aligned themselves with a few Eurocanadians, the Territorial liquor store began business in September, 1961, serving only permit holders.[8] Most Eskimo permit holders during the period under survey have been mature men. (Table 3) Mature men and heads of families are in the best position to afford alcoholic beverages, for they hold the steady jobs. Such data support the interpretation that alcoholic drinking in Frobisher Bay is not primarily motivated by deficiency needs, like stress induced through drastic culture change.

Most permit holders actively use them. Seventy-two out of 87 used their 1962-1963 permits, and all 32 who received 1963-1964 permits by July 25, 1963, had used theirs by that date. Mostly they use their permits to buy beer. The strategic significance of extending the three-week waiting period to beer may once more be gauged from the fact that only 30, or 42 percent, of the 72 Eskimo who used their permits in

[8] Volume of sales by the liquor store favors non-Eskimo. Out of 2,218 dozen cans of beer sold from January to July, 1963, 1,760 dozen cans (or 79 percent of the total) went to non-Eskimo and 458 to Eskimo, although non-Eskimo adults don't exceed Eskimo adults in the town population by any such proportion. Undoubtedly non-Eskimo bought far more wines and especially spirits than Eskimo, who rarely buy such alcoholic beverages. Total beverage sales in Frobisher Bay amounted to $180,735.85 in 1962-63, according to the *Annual Report, Commissioner of the Northwest Territories, 1962-63*, p. 19. Between July, 1962, and July, 1963, 74 Eskimo permit holders spent a total of $5,413.90 at the liquor store, an average of $73.16 each. Of course, many drinkers undoubtedly frequented the tavern and spent additional money, of which we have no record.

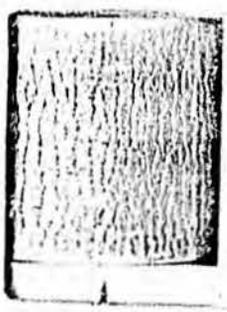


TABLE 3. AGE DISTRIBUTION OF ESKIMO WHO BOUGHT ALCOHOLIC BEVERAGES FROM GOVERNMENT LIQUOR STORE (APRIL 1, 1962 TO JULY, 1963)

Age Category	Number
20*-24	11
25 -29	15
30 -34	17
35 -39	8
40 -44	11
45 -49	4
50 -54	3
55 -59	1
Unknown	4
TOTAL	74

*Twenty-one is the minimum age for securing a permit.

TABLE 4. AMOUNTS SPENT AT THE TERRITO LIQUOR STORE BY ESKIMO PURCHASERS, FROM JU 1962 TO JULY, 1963

Number of Purchasers	Total Amount Sp
1	$275-$299
1	250- 274
1	225- 249
4	200- 224
—	175- 199
2	150- 174
4	125- 149
5	100- 124
11	75- 99
7	50- 74
19	25- 49
19	0- 24
74	

1962-63 bought any wine and spirits (and hence waited three weeks to pick up their paid-for orders); 71 out of the 72 permit users bought some beer. Up to July 25, 1963, only 13 of 32 Eskimo with permits (about the same proportion) bought wine and spirits and 30 bought some beer. However, the volume of wine and spirits sold is over what it was before the waiting period began for beer, amounting to 405, 460, 140, 425, 190, 425, and 80 ounces in the first seven months of 1963 respectively.

NOTE?

Table 2 indicates how Eskimo liquor buying fluctuates from month to month and, apparently, from season to season. We are not sure why, but one reason may be that Eskimo lack a firm pattern of social drinking, which would keep fairly steady the amount and type of alcoholic beverages consumed from month to month. We list other possible reasons under the column headed "Remarks" but cannot at this time test those hunches with concrete data. One hypothesis we did manage partly to test. We reasoned that November buying was a consequence of the approaching holiday season. If this were true, then heavy sales would cluster toward the end of that month. Available data for wines and spirits bear this out. Mainly, though, it turns out that a few sophisticated individuals (who undoubtedly had Christmas in mind) did much of the late November wine and spirit buying. The Community Council chairman, for example, spent $20.00 on 4 bottles of champagne and another $46.00 for assorted wine, whiskey, rum, and liqueur. We lack precise enough data to test the hypothesis with beer buying. HI SES → HI CONS.

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Table 4 shows considerable variation among the liquor purchasers. Some men spent as little as $6.50 in the 13-month period; one went as high as $299.60 in his purchases. Over half the purchasers spent less than $50.00.

If we categorize the Eskimo permit users as either high or low purchasers, and define a high purchaser as someone who spent above the average ($73.16), then we count 29 high purchasers. We can match these with 29 individuals selected simply because they fall at the opposite end of the scale, having spent the smallest amounts at the liquor store. The two categories diverge in certain social characteristics as Table 5 demonstrates. High purchasers who may live in Apex Hill, Ikhaluit, or at the airbase, are most often steadily employed, wage-earning heads of families in their 30's and early 40's. The Eskimo community's leaders are well represented among high purchasers. Generalizing, we can say that the high purchasers are men who have closely assimilated town life. Tutelage has made them familiar with the liquor store and even with deferred buying of alcohol, for note that in this category only eight permit holders failed to renew their permits in 1963, after the waiting period had begun for beer, while low purchasers failed to renew their permits. High purchasers show somewhat better ability to drink and yet stay out of trouble. Between late 1961 and 1963 they appeared in court less frequently than low purchasers. Although drinking undoubtedly encourages offenses against the law (specifically against the Liquor Ordinance), the 14 high

TABLE 5. COMPARISON BETWEEN 20 "HIGH" AND 20 "LOW" ESKIMO PURCHASERS AT THE TERRITORIAL LIQUOR STORE FROM JULY, 1962 TO JULY, 1963*

	High Purchasers	Low Purchasers
Status		
Heads of families (male)	27	19
Unmarried men	1	8
Women	—	—
Other	1	2
Average age	36	29
Employment		
Steadily employed	20	8
Fairly steadily employed	1	2
Rarely employed	5	10
No employment record	3	5
Rehabilitants	—	2
Other	—	2
Social assistance		
Received welfare during 7 sample months in 1962-1963	3	7
Purchased liquor during months they received welfare payments	2	—
Liquor permit holders		
1962-1963	29	27
1963-1964	21	7
Law offenders (between Dec., 1961 and August, 1963)		
Under Liquor Ordinance	12**	19***
Under Criminal Code	6**	6***
No Offenses	14	9
Neighborhood of residence		
Apex Hill	12	13
Airbase	3	—
Ikhaluit	13	15
Other	1	1

*High purchasers are men who spent more than the average of $73.16 in the 13-month period; they spent from $75 to $300. Low purchasers are men who spent the smallest amounts, from $9 to $30.
**Three people were charged under both the Liquor Ordinance and the Criminal Code.
***Five people were charged under both the Liquor Ordinance and the Criminal Code.

purchasers who have no offenses recorded against them demonstrate that Eskimo can drink, and even fairly regularly, without committing offenses that attract police attention.

Low purchasers manifest greater heterogeneity. Again heads of families predominate but the category includes more younger, unmarried men. Low purchasers have spottier employment records and enjoy steady employment less frequently; as a result they also earn less wages. Low purchasers include two rehabilitants and over twice as many men who received social assistance during seven sample months than appear among high spenders. Only one low purchaser ranks as a leader, being an elected member of the Community Council from Ikhaluit.

Judging from these data (they refer only to purchases at the liquor store and don't take account of liquor consumed at the tavern), alcohol consumption correlates directly with economic and social status; it is one mark of a full-fledged Eskimo townsman. The data offer no basis for ascribing most drinking to deficiency motives. We would expect that as employment opportunities and standard of living increase, so will liquor consumption.[9] After all, the same thing has happened in Europe and among other Americans in Canada and the United States.

Many high purchasers at the liquor store also frequent the Rustic Room tavern, with at least one notable exception: the most sophisticated men in the community (for example, those who bought Christmas liquor), who also happen to be high store purchasers, don't regularly frequent the tavern. Also, whereas no woman holds a permit to buy at the store, women of all ages visit the tavern, though always there are many fewer women present than men. We must also add that only one member of the Church Council, holds a liquor permit; he is one of the high purchasers, but drinks socially and in moderation. The Church Council is an elite group. We never saw a known Church Council member in the Rustic Room.

We counted 16 Eskimo men and two women as people whom we identified as steady taverngoers. All the men are family heads. The women in question regularly accompany their husbands. Most of the men in this category also hold or held liquor permits, only two failed to renew in 1963 after the waiting period had begun for beer. Men who frequently avail themselves of one liquor outlet also steadily utilize the other, 12 of the 16 steady taverngoers proving to be high purchasers at the liquor store. As we would expect, since a secure income alone can support steady patronage of both liquor outlets, steady tavern drinkers who are men mostly hold steady jobs. One steady male taverngoer has no regular source of income and another lives in the Rehabilitation Centre, where he earns auxiliary income through

[9] Ronald Cohen, *op. cit.*, p. 100, predicts the same.

carving on his own account. Two of the steady male tavern visitors and one woman are elected members of the Community Council. Between December, 1961 and August, 1963, out of 18 steady taverngoers, nine have been charged under the Liquor Ordinance; four have been charged under the Criminal Code; eight have not been charged with any offense. All offenders and nonoffenders total over 18 because three persons have been charged both with offenses under the Liquor Ordinance and under the Criminal Code.

Among 28 men and women whom we have seen drinking in the Rustic Room, but whom we would call occasional rather than steady taverngoers, we note six rehabilitants (including three girls over 21) and a large proportion of young men and women. About 15 women occasionally visited the tavern.

We have already noted that some but by no means all heavy spenders at the liquor store and steady taverngoers have committed offenses for which they were apprehended by police. We counted 29 heavy purchasers and an additional six steady taverngoers, making 35 so-called regular Eskimo drinkers. Police arrested 17 of these at least once in the 21 months from December, 1961, to August 24, 1963. The other 18 show no arrest record in that period. Regular drinkers in fact furnish only a small part of the trouble with which police cope. Police apprehended a total of 97 persons in those 21 months, 17 of them being persons categorized by us in 1963 as regular drinkers. By our criteria, 78 of the 97 persons arrested are occasional drinkers. It is interesting that practically no non-drinkers got into trouble, but since most arrests were for offenses coming under the Liquor Ordinance (Table 1), this discovery is not really very significant.

In Aklavik, Clairmont[10] sees "excessive drinking" to be "largely a problem among the younger settlement natives," i.e., those between 16 and 20. This finding supports his hypothesis that excessive drinking in Aklavik forms one delinquent response to strain, that age category, in Clairmont's opinion, being especially highly stressed. We cannot readily use his largely unspecified criteria and identify "excessive" drinkers in Frobisher Bay, but if we take the regular drinkers of legal age, t[hey] do not mostly come from the younger [age] levels, as Clairmont also finds (Table 6). Unfortunately we also cannot say much ab[out] illicit drinking by young people under 2[1], though undoubtedly it occurs and often escap[es] police attention. Our records show only ei[ght] Eskimo of both sexes under 20 to have be[en] arrested for any cause in 21 months from D[e]cember, 1961 to August 25, 1963. The eig[ht] account for about eight percent of all pers[ons] arrested for any cause in that interval. Seve[n] of the eight persons were arrested for liqu[or] offenses. If we take arrests rather than perso[ns] arrested, then 14 out of a total of 204 arre[sts] involved persons under 20—that is, seven pe[r] cent. In Aklavik, 22 percent of all *men* a[r]rested for *liquor offenses only* in the 11 mont[hs] from August, 1960 to June, 1961 were under 2[1]. While the figures are not precisely comparab[le] it appears more than likely that police i[n] Aklavik, for whatever reason, apprehend youth[-] ful drinking offenders more often than d[o] police in Frobisher Bay. One plausible infer[-] ence is that younger people in the longer settle[d] western Arctic town experience more difficult[y] with respect to illicit drinking than do the[ir] age mates in the newer town of Frobisher Bay. They may also do more drinking, perhaps as a result of being more highly stressed, as Clairmont assumes.

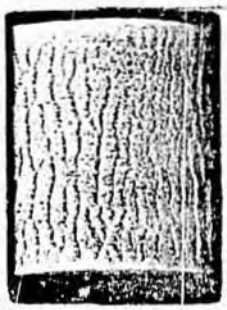
In Frobisher Bay, as older people learned to drink in ways that render them less likely to be picked up by the police for liquor offenses, younger people have come to form a larger pro[-] portion of the people attracting police attention.

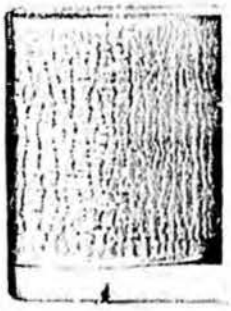
TABLE 6. AGE DISTRIBUTION AND ARREST RECO[RD] REGULAR DRINKERS*

Age Category	Number of Regular Drinkers	Number of Regular Drinkers Arrested Between December, 1961 and August 24, 1963
20–24	1	1
25–29	6	1
30–34	8	4
35–39	7	6
40–44	6	2
45–49	3	3
50–54	3	—
Over 55	1	—
TOTAL	35	17

*Regular drinkers are defined as those who spent more than the a[mount] at the liquor store and/or visited the tavern frequently.

[10] Donald H. J. Clairmont, *op. cit.*, p. 58.





liquor and other offenses. From constituting six percent of all offenders in the 13 months from December, 1961 to December, 1962, offenders under 20 have mounted to 12 percent in the eight months from January to August 25, 1963. However, in absolute numbers there has been no increase in the number of offenders in this age group.

CONCLUSIONS

Although our data fail to confirm allegations that Frobisher Bay is a highly disorganized community, a number of administrators locally and in Ottawa, as well as other commentators quoted in the Canadian press, still view the community as manifesting serious alcohol and other problems. Apprehension concerning drinking, we have shown, exists in Eskimo themselves and constitutes one factor that helps them to control their alcoholic intake. From exuberant and relatively unpatterned drinking following the legalization of alcoholic sales to Eskimo, the people have adopted a relatively rational use of alcohol, aided by administrative regulations. The regular Eskimo drinkers are among the most stable and sophisticated element of the town's native population, being regular jobholders and in other respects full-fledged townsmen. They have learned to drink and to stay out of trouble. We have indications that the rising generation of adults experiences somewhat greater trouble with respect to drinking. How the next generation of townsmen will adjust to alcohol remains to be seen.

PERCEPTIONS REGARDING VALUES AND LEGITIMATE OPPORTUNITY AND NOW

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IMPORTERS AND WHOLESALERS OF LIQUORS, WINES AND BEERS

September 27, 1977

Senator Mike Colletta
P. O. Box 3188
Anchorage, Alaska 99501

Dear Mike:

Enclosed with this letter you will find the response to my inquiry of the Junior League of Spokane, Washington. As a company, Alaska Distributors Co., would be more than willing to participate in the sponsorship of a program such as this in the Anchorage and/or Fairbanks area. The critical support, of course, must come from an organization such as the Junior League in order to make the program work.

Please let me know if I can be of any further service to you in this matter.

Very truly yours,

ALASKA DISTRIBUTORS CO.

Richard Loeb

RL:ia
Enc.

THE JUNIOR LEAGUE OF SPOKANE
DAVENPORT HOTEL
SPOKANE, WASHINGTON 99210

6 September 1977

Mr. Richard Loeb
Alaska Distributors Co.
4601 Sixth Avenue South
Seattle, Washington 98108

Dear Mr. Loeb:

Mrs. Jane Hedequist, our last year's chairman of the Alcohol Education and Awareness Project, forwarded your letter on to me this week.

Our project is as its name suggests -- one of education thereby raising the community awareness of the drug, ethel alcohol. This is provided by my committee of 24 Junior League and community volunteers involved in team speaking engagements at the Junior High school level. Our presentation covers drug alcohol education, discussion of the disease directly resulting from alcohol, and a wrap-up of the presentation with a values clarification session. Each session is presented on separate days, preferably in succession, and one evening of the three is a capsule presentation to the parents of the children.

We are not campaigning for moderation in drinking. We neither endorse nor oppose the use of alcoholic beverages -- rather are concerned that the children and parents we talk to become adequately informed about the drug and better able to choose. Ideally, moderation and responsibility result if the choice is to drink.

The above format of our project is new this year and is just getting under way. The projections are just that -- projections. Yet with the tremendous talents and enthusiasm of these women, I have no doubt each and every one will grow with each presentation made. I've enclosed a copy of "How To Be A Good Host" and our P.R. brochure produced by Whitworth College. Hope they may be of interest to you.

Thank you again for your interest and time in writing to us concerning our Alcohol Education & Awareness project.

Sincerely,

Bridget A. Carstens

BRIDGET A. CARSTENS, Chairman
Alcohol Education & Awareness Project
Junior League of Spokane

A Pioneering Community-Schools Program

Alcohol Education & Awareness

TODAY'S KIDS DON'T DRINK.
Sorry, but the generation gap is greatly exaggerated. The kids' favorite drug is the same as their parents' favorite: alcohol.

Sponsored by

THE JUNIOR LEAGUE OF SPOKANE

with Whitworth College

From Caves to Commercials

Drawings of prehistoric cave dwellers don't depict anything resembling today's glamorized commercials for alcoholic beverage consumption, but they do make it clear that our ancient forebearers knew more than a smidgen about drinking alcohol.

Even a gigantic leap through history to the time of our Puritan ancestors reveals that these austere venturers to the New World carried as their ration across the Atlantic some 14 tons of water, 42 tons of beer, and 10,000 gallons of wine.

And nearly 500 years later an organization of socially active women who promote educational and charitable causes in Spokane, Washington, suddenly start poking around with an alcohol education project.

As it happens, their interest had absolutely nothing to do with a desire to revive the prohibition era and even less to do with moralizing one way or the other about "drinking."

Junior League Study of Alcohol

Rather, the program begun in 1975 by the Junior League of Spokane was centered in a concern that people of all ages seem to know so little about such a powerful and pervasive drug. They began by reviewing what kinds of alcohol education exist on the local, state and national levels.

They learned that the nation that spends more than $17 billion annually to buy alcoholic beverages, and in excess of an additional $25 billion due to problem drinking and alcoholism, does practically nothing to promote general adult or youth awareness of alcohol abuse.

Consultants and Advisors

The next step was to retain consultants Jay Cross and Carolyn Meiding, formerly with the Rutgers University Center of Alcohol Studies and now with decision study group of Science Management Corporation. They provided study materials to the Junior League and helped the group decide how its concern might most effectively be converted to action.

Junior League officials involved private and public schools, local and state agencies, and the business sector in an initial study of what might be done.

The Spokane Community Alcohol Center played an especially important role — advising and contributing staff assistance. Others who encouraged the Junior League through services and cooperation include the Spokane County Medical Society, Spokane County Bar Association, Joey August Distributors, Spokane area private and public schools, State of Washington Department of Social and Health Services, the Western Area Alcohol Education and Training Program, and Distilled Spirits Council of the United States (DISCUS), Washington, D.C.

Alcohol Education Goals

After appraising both available resources and the need, the Junior League established two goals: To *train volunteers* to work with community groups, and to *train teachers*.

The Junior League recruited 16 adult volunteers to undergo a training program which probed the physiological, psychological, historical and cross-cultural dynamics of alcoholic beverage consumption. Extensive reading, visits to local alcohol treatment centers, and interacting with guest speakers were important components of their experience.

Speaker's Bureau and Courses for Teachers

A speaker's bureau was formed to reach out into the community with attractive education and awareness materials and to communicate the Junior League's interest in working with the schools, service clubs, professional groups, churches, and others in the area who might support a broad-based alcohol education effort. The speaker's bureau has been well received and continues to respond to requests.

In the fall of 1975 Whitworth College agreed to develop an alcohol education course for classroom teachers. Forty professionals were awarded scholarships by the Junior League to enroll in the new course. Grades 1-12, public and private schools, and teachers in English, social studies, health, and physical education, plus counselors, were represented.

The class, offered for academic credit, focused on prevention of alcohol abuse — especially on responsible decision-making which grows out of a full understanding of the reasons for imbibing, the alternatives to consumption, and the potential consequences. Value clarification approaches were explored. Teachers developed curriculum materials and teaching strategies to be used in each grade level from first grade through high school.

What Participants Say

Both teachers and the volunteer training group responded enthusiastically to the Junior League program. Some typical written evaluations:

— ". . . very worthwhile. I feel we can begin to teach and seriously make an impression."

— "I have really changed my way of looking at alcohol and how it could be approached in an elementary classroom."

— "I'm going into my classroom excited. . . . I feel good about teaching and searching for more data."

— "This definitely did give awareness and a cultural knowledge. It is a beginning."

The Results

Junior League and Whitworth College officials echo the view of those volunteers and teachers who believe the program has made an impressive and auspicious beginning.

The attempt to link education in the schools with a coordinated program of community level education aimed particularly at parents has been successful. Just as promising is the cooperative spirit between an institution of higher learning and an active community social organization.

The Junior League has found little resistance to the aim of improving alcohol awareness to the point that, regardless of age, *the choice to drink or not is based on factual information rather than ignorance.*

Alcohol Education: The Next Steps

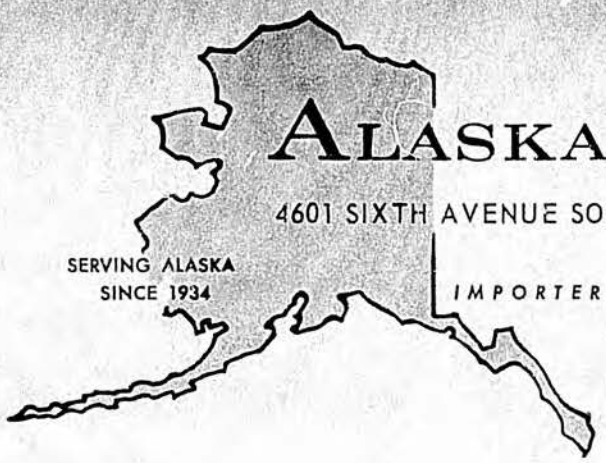
Because of the initial response and the tremendous need, the pioneering effort is continuing into a new phase. Whitworth College will continue to offer the teacher course and is interested in establishing a Center for Alcohol Education which might be a focal point for the development of alcohol education programs and materials.

The Junior League is moving into a cycle of training new adult volunteers and plans to seek funds in the community to provide even more scholarships for teachers.

For Information

If you would like to attend an *alcohol awareness course for teachers*, contact Dr. Tom Savage, Whitworth College, Spokane, WA 99251.

For information about investing in a *scholarship* for the alcohol awareness course or to request a *speaker's bureau* program, call or write The Junior League of Spokane, The Davenport Hotel, W. 807 Sprague, Spokane, WA 99201 (624-6602).



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IMPORTERS AND WHOLESALERS OF LIQUORS, WINES AND BEERS

September 7, 1977

Senator Mike Colletta
P.O. Box 3188
Anchorage, Alaska 99501

Dear Mike:

After talking with you, I was able to find out a little more information with regard to what is going on in Eastern Washington. The Moderation in Alcoholism program is being carried out by the Junior League of Spokane and I have written to a Mrs. Jane Headquist for information on their program. According to Maury Druhl, who was able to get some information for me, they are cooperating with Whitworth College. I will pass on to you whatever I receive from Mrs. Headquist as soon as it arrives in Seattle.

Very truly yours,

ALASKA DISTRIBUTORS CO.

Richard Loeb

RL:cd

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#6:26

"Mental Illness" and "Disease":

Outmoded Concepts in Alcohol and Drug Rehabilitation

Jerome F. X. Carroll, Ph.D.*

ABSTRACT: *Are the addict and alcoholic mentally ill? By traditional standards, yes. The validity of the "mental illness" concept and its associated psychiatric labeling process, however, is challenged. A synthesis of the human ecological systems and third-force frames of reference is presented as a viable alternative to the medical "disease" model of alcoholism and drug dependency. According to the proposed dis-ease model, "alcoholism," "addiction," and "mental illness" are considered to be modes of coping with pain and anger associated with a person's participating in social systems that frustrate self-actualization and diminish self-esteem. Combined treatment of "alcoholics," "addicts," and "nonaddicted psychiatric patients" is supported with qualifications.*

Are the addict and alcoholic mentally ill? If we attempt to answer this question based on the current psychiatric nosological system for "mental disorders," the answer is yes. According to the Committee on Nomenclature and Statistics (1968) of the American Psychiatric Association's *Diagnostic and Statistical Manual of Mental Disorders*, both alcoholism and drug dependence are classified as subdivisions under the heading of "personality disorders and certain other nonpsychotic mental disorders." Of course, the validity of the affirmative answer based on this criterion is only as firm as the validity of the classification system on which it is based. Suffice it to say that this nosological system is not without its critics.

If we attempt to answer the question from a psychometric perspective, based on published studies, the answer again is yes (MacAndrew, 1965; Gilbert & Lombardi, 1967; Sheppard, Florentino, Collins, & Merlis, 1969; Uecker, Kish, & Bell, 1969; Goldstein & Linden, 1969; Goss & Morosko, 1970; Sutker, 1971; Whitelock, Patrick, & Overall, 1971; Rozynko & Stein, 1972; Fitts, 1972; Fitts, Arney, & Patton, 1973; Kammeier, 1973; Kline, Rozynko, Flint, & Roberts, 1973; Overall, 1973; Robinson, 1973). All of the above studies reported extremely deviant scores for alcoholics and addicts on instruments purporting to measure "emotional illness." For the most part the instruments used were the Minnesota Multiphasic Personality Inventory (MMPI) and the Tennessee Self-Concept Scale (TSCS).

Carroll and Klein (1974), however, have demonstrated that when personality characteristics of alcohol and drug addicted men are evaluated with an

* *Dr. Carroll, a clinical psychologist, is Director of Psychological Services, Eagleville Hospital and Rehabilitation Center, Eagleville, Pennsylvania 19408.* *Earlier versions of this paper were presented at the 7th Annual Eagleville Conference, Eagleville, Pennsylvania, in June 1974; at the 17th Annual Institute of Alcohol Studies, Austin, Texas, in July 1974; and at the Alcohol Drug Problems Association of North America, Treatment Section, San Francisco, California, in December 1974.*

instrument oriented toward normal functioning (for example, the Personality Research Form), they appear to be normal. Could it be that investigators expecting to find pathology, as indicated by their choice of tests (for example, the MMPI), have unwittingly biased their results?

Several of these studies (Goldstein & Linden, 1969; Whitelock, Patrick, & Overall, 1971; Rozynko & Stein, 1972) also indicated that the gross labels "alcoholic" and "drug addict" tend to obscure a significant degree of heterogeneity within each category.

If we attempt to answer the question on the basis of "clinical experience," the response once more is in the affirmative (Rossi, Stach, & Bradley, 1963; Doyle & Nyswander, 1965; Dichter, Driscoll, Ottenberg, & Rosen, 1971; Driscoll, 1971; Driscoll & Barr, 1972; Halikas, Goodwin, & Guze, 1972; Moore, 1972; Poze, 1972; Marsh, 1973; Crowley, Chesluk, Dilts, & Hart, 1974).

My own clinical experience leads me to conclude that once detoxification is completed and some degree of abstinence has been established, alcoholics and addicts are much more similar than dissimilar to nonaddicted mental patients. The "etiology," "dynamics," "defenses," and "treatment" overlap to a considerable degree. I might add that I have worked with both hospitalized mental patients and with alcoholics and addicts residing in a therapeutic community. Clinical experience, however, is a criterion that is particularly subject to various biases, especially that of "seeing" what you have been led to believe you should see.

INTERIM SUMMARY

The question of whether or not the addict and alcoholic are "mentally ill" was examined according to three traditional mental health criteria: the current APA nosology, psychometric studies, and clinical experience. All three criteria suggest that alcoholics and addicts are "mentally ill." It would seem logical that given this conclusion, we ought next to examine critically the concept of "mental illness."

Critical Review of "Mental Illness" Concept

The concept of "mental illness," which is based on a medical model, is the current and dominant theoretical explanation for our understanding of unusual or deviant behavior. Its antecedents (Coleman, 1972) include prehistoric and early civilization's emphasis on naturalistic, evil, spiritual forces as causes. Trephining or opening the skull to enable the invading evil spirit to escape was an acceptable though often fatal "professional" intervention.

Beginning with Biblical times through the Middle Ages, sin, Satan, and witchcraft were advanced as causes. Prayers, exorcism, torture, and death were accepted as "cures," and religious officials reigned supreme as the dominant mental health practitioners.

In the eighteenth century more humane treatment for the deviant person began to come into vogue. With this development the medical model, with its emphasis on "disease" and "mental illness," began to emerge as the preeminent explanation of unusual or deviant behavior. Medical practitioners began

to fill the vacuum created by the departure of shamans and priests of another era. The introduction and widespread use of psychotropic drugs in the 1950s merely strengthened the status quo.

Unfortunately the overwhelming majority of "mental illnesses," including alcoholism and drug dependence, do not neatly conform to the "disease" concept. Despite this imperfect fit, the chemically addicted man and woman did begin to receive somewhat better treatment as a result of their being perceived as sick rather than immoral, sinful, or criminal. They are now, for example, more likely to be referred or sent to treatment centers than to jails. The extent to which this development can be viewed as a gain, of course, depends on the relevance, effectiveness, and quality of treatment and rehabilitative services available at such centers.

Thus in adhering to the medical model's emphasis on "disease" we have apparently reached a plateau in our evolutionary understanding of "mental illness." The language, thinking, staffing, policies, and procedures of the "mental health" professions, of course, reflect this arrested development. The fact that many individuals within the mental health professions recognize that the language, concepts, and related practices are anachronistic, inaccurate, and misleading is no guarantee, however, that any significant breakthrough will be made from within the field itself.

This is not to imply that nothing is stirring within the field or that the "mental illness" blockage in the evolutionary process is impervious or insurmountable. A growing number of innovative thinkers within the mental health field are beginning to score some telling blows against the "mental illness" obstruction.

Philosophical and Professional Concerns

Szasz (1961, 1970) was one of the first to call our attention to the shortcomings and dangers of the "mental illness" concept. In addition to branding "mental illness" as a myth, he argued that psychiatric activity is often used as a form of social control, and that mental health concepts and professionals are often used to de-ethicize and depoliticize important and controversial ethical and political issues.

Laing (1967) has expressed similar concerns that the mental health professions tend to preserve the status quo by discrediting persons who fail to conform to social expectations and conventions.

Halleck (1971) has contended that helping individuals "get their heads together" may actually serve to eliminate their desire to change an oppressive and unhealthy social system. He also expressed the belief that traditional psychodynamic interpretations, with their emphasis on individual motivation, tend to neutralize potential political energy for change and reform.

Beit-Hallahmi (1974), too, has challenged psychology to break free of its preoccupation with intrapsychic concerns, for example, internal conflicts, and to begin seriously to recognize and deal with external causative factors such as social oppression, racism, and poverty. He argues persuasively that most psychologists are called on to "rationalize inequalities . . . or . . . the differential allocation of rewards in society" through such explanations as "low IQ," "weak superego," and "low frustration tolerance." He further describes

psychology as the "new opium of the people" and decries psychologists for blindly and mechanically accepting the role of the "resocializers of the nonconformists."

Caplan and Nelson (1973), Braginsky, Braginsky, and Ring (1969), and Braginsky and Braginsky (1973) have expressed similar concerns. That the American Psychological Association considers these matters to be pressing concerns can be appreciated by referring to two lead articles in the April, 1974, *APA Monitor:* "Committing dissidents—Is it a problem in U.S.?" and "Behavior modification under fire." Both articles cautioned against psychologists allowing themselves to become instruments of political oppression.

Lest we consider these claims to be exaggerated, Lesse (1972), although purporting to recognize the importance of psychosocial causes of addiction (for example, prejudice, poverty, and ignorance), recommended "sterilization" and "permanent institutionalization" for narcotic addicts who repeatedly fail in treatment programs or who are convicted of a felony while on heroin, provided the addict has a history of felonious criminal behavior.

A West German brain surgeon, Dr. Fritz Roeder (Muller, Roeder, & Orthner, 1973), announced the use of an operation called a "hypothalotomy" for the treatment of drug addicts. The operation consists of boring two tiny holes in the patient's skull and then inserting two needle-sized electrodes in the brain's hypothalamus. Appropriate cells in this area are then burned by high-frequency electrical impulses. The moral and ethical implications of this approach are staggering.

Research Evidence Regarding "Mental Illness–Health" Practices

Temerlin (1968) demonstrated the biasing and distorting effects of prestigious suggestion on judgments of "mental health–illness." Using psychiatrists, clinical psychologists, and graduate students as experimental Ss, Temerlin had them listen to an audiotape of an inverview that was introduced by a "prestigious confederate" who described the interviewee as "psychotic." The experimental Ss who had been given this suggestion rated the interviewee as much more emotionally disturbed than did a matched, control group of Ss who had received no such suggestion. The latter group actually perceived the interviewee in relatively healthy terms.

Goldman and Mendelsohn (1969) conducted a nationwide survey of psychotherapists in the United States. They concluded from their survey that psychotherapists tend much more to foster social control than the self-actualization of their patients.

Rosenhan's (1973) outstanding in vivo study of psychiatric diagnosis and treatment of "pseudomental patients" led him to conclude, ". . . we cannot distinguish the sane from the insane in psychiatric hospitals. The hospital itself imposes a special environment in which the meanings of behavior can easily be misunderstood. The consequences to patients hospitalized in such an environment—the powerlessness, depersonalization, segregation, mortification, and self-labeling—seem undoubtedly countertherapeutic (p. 257)."

Abramowitz, Abramowitz, Jackson, and Gomey (1973) demonstrated that the political and sexual biases of professional counselors clearly influenced

their judgments of "adjustment/maladjustment." In their study the clinical protocol of a "left-oriented, politically active female client" was rated significantly more "psychologically maladjusted" than matched protocols that differed only in terms of the "client's" sex and political inclination.

Recent studies have clearly documented a strong sex bias among mental health professionals. Neulinger (1968) and Chesler (1971), for example, have demonstrated that the sex orientation of our society is promoted by its clinical personnel. Broverman, Vogel, Broverman, Clarkson, and Rosenkrantz (1972) found evidence of negative stereotyping of women even among experienced professionals. Haan and Livson (1973), moreover, observed that even among "left-oriented, experienced" mental health professionals of both sexes, sex-related biases were in evidence. They concluded that professional status per se is no guarantee of invulnerability to cognitive bias. Both Chesler (1972) and Weisstein (1971) have written eloquently about the insidious and devious ways that sexism manifests itself when women seek therapy from mental health practitioners.

Langer and Abelson (1974) demonstrated that the label affixed to a person does much to influence clinical judgment. Using the same audiotape, but with two different labels, "patient" and "job interviewee," they observed that two groups of matched judges evaluated the former as "disturbed" and the latter in basically "positive" terms. They also observed that the more traditional the judges' training, the more they tended to judge the "patient" as "disturbed."

INTERIM SUMMARY

It is quite clear from the above that the concept of "mental illness" is being seriously questioned and challenged on philosophical, moral, ethical, and experiential grounds. In addition, mounting research evidence indicates that the concept is not associated with a reliable degree of scientific objectivity, but rather is subject to considerable bias, distortion, and misunderstanding.

These conclusions might lead us to ask what concept(s) will replace 'mental illness," and how would alcoholism and addiction relate to these alternative conceptual models?

Alternative Theoretical Frames of References

To appreciate fully the significance of these emerging models, the impact of two phenomena needs to be examined: the emergence of specialized, "self-help" services and the more significant social reform movements of the 1960s and 1970s.

Today there is a plethora of self-help services manned for the most part by nondegreed therapeutic helpers who are effectively assisting countless men and women to cope with a staggering array of serious human problems. Many of these same problems in the past would have been taken to traditional mental health caretakers, assuming there were sufficient funds to pay for such services.

Few, if any, of these self-help services are oriented around the "mental illness" concept. The manner in which services are dispensed is very much influenced by the fact that the helping person and the recipient of services

have shared a common, painful fate. This common history promotes a sense of equality and facilitates authentic communications, as well as suggests numerous nonmedical remediative strategies.

This phenomenon would seem to suggest that the emerging alternative models are most likely to be far less medical in their orientation and feature much more involvement of local, nondegreed therapeutic helpers in the administration and programmatic aspects of the service.

Some of the more significant social reform movements of the 1960s and 1970s include the human rights, antiwar, student dissent, women's, and gay liberation movements. Each of these has forced the mental health field to reexamine and question very fundamental assumptions and values underlying our understanding of "mental illness."

Certain behaviors that once were confidently labeled as "sick" are now considered as a healthy alternative life style, for example, the American Psychiatric Association has officially sanctioned the removal of homosexuality as a classification of mental disorder. The restlessness, boredom, and depression that many women experience in the traditional housewife-mother role are no longer believed to be due solely to intrapsychic events. Thus the newly emerging models are likely to be more balanced in terms of intrapsychic and situational or extrapsychic factors, and thus much more sophisticated and comprehensive in terms of their sociological, economic, and political components.

I have found two of the merging alternative models to be particularly enlightening, namely, the human ecological systems approach (Auerswald, 1968; Ryan, 1971; Caplan & Nelson, 1973; Carroll, 1973) and the "third force" movement in psychology (Goble, 1970; Otto, 1973). By synthesizing these two models, alcoholism, addiction, and "mental illness" would be perceived to be of a similar nature.

Their occurrence would be presumed to be due to an individual's belonging to and participating in several social systems that make contradictory, incompatible, impossible, or inhumane demands on him, or which tend to operate in such a manner as to retard or block the person's progress toward the fulfillment of his potentials (self-actualization).

As most people know, frustration produces pain and anger. Alcoholism, drug addiction, and "mental illness" are merely different routes by which people attempt to deal with the pain and anger. For this reason, I prefer not to employ the labels "addict," "alcoholic," "psychotic," "neurotic," and so on. Each is strongly "titled" toward the medical model that emphasizes the disease concept, intrapsychic causation, and people blaming (Caplan & Nelson, 1973). These labels, furthermore, have a static quality about them and tend to magnify and accentuate what are often superficial differences while attenuating or obliterating important similarities. If such concepts and labels must be employed, I prefer that they be used as adverbs, for example, he is behaving addictively, or neurotically. This usage has a more dynamic, here-and-now quality and implicitly predisposes the treator to consider that improvement may occur.

Remediation, according to this approach, would focus on both the frustrating social systems and the frustrated individual. Whereas some members of

the remediation team would attempt to ameliorate the frustrating aspects of the relevant social systems, others would be attempting to teach the individual how to exercise real, personal power within these systems in such a manner as to facilitate his or her self-actualization.

One reasonably good measure of the degree to which the person is or is not making progress in the direction of self-actualization is the self concept. Basically, the self concept is how an individual views and values himself (Jourard, 1963). When and if a person is making real progress in the direction of self-actualization, he tends to like himself.

The self concept is also an effective, unifying conceptual theme for addiction, alcoholism, and "mental illness." Our assessment program at the Eagleville Hospital and Rehabilitation Center clearly indicates that alcoholics and addicts have very little genuine self-esteem, especially with respect to their family relationships and moral-ethical standards (Kutner, 1974). My own experience with hospitalized mental patients leads me to conclude that they too share this experience of self.

INTERIM SUMMARY

The alternative models likely to replace the present, dominant medical model with its emphasis on "mental illness" are likely to be less medically oriented and better balanced in terms of emphasizing both intrapsychic and extrapsychic factors and thus more sophisticated and comprehensive with respect to sociology, political science, and economics. Nondegreed therapeutic helpers who have shared a common painful fate with the help-seekers will likely be the principal personnel force for the delivery of services. Human ecological systems and "third-force" approaches, with special emphasis on self-actualization and the self concept, were offered as useful concepts in evolving a unifying conceptual frame of reference for understanding alcoholism, addiction, and "mental illness." According to this perspective, the distinction among the three forms of deviant behavior would be less important than their commonalities.

This leads us to the next logical question, "Can alcoholics, addicts, and nonaddicted mental patients be effectively treated together?" My answer is that they are being treated together successfully in many facilities, every day, although the administration and program staff may not be aware of this fact.

Poze (1972) and Pokorny, Rumbaut, Wiggins, and Kyle-Vega (1973), despite their encountering some initial difficulties, reported that they did successfully treat mixed groups of addicts, alcoholics, and nonaddicted mental patients. Poze, however, did mention having received some personal correspondence from a colleague in New York City who had met with "severe behavioral and drug-taking problems" when the groups were mixed.

Typical problems encountered by these two independent ventures in mixed treatment were that addicts had difficulty identifying themselves as "patients"; the mental patients did not want to associate with "criminals"; the addicts were "institution wise" and attempted to "stay cool"; there were significant age differences (addicts being much younger than the other two groups); and the addicts tended to be demanding and manipulative. Staff apprehensions and disapproval of addicts had to be dealt with, as was their

belief that addictions are practically incurable. In addition, record keeping became more complicated.

Gains from mixing the three groups included an increase in energy and spirit brought to the combined groups by the addicts; less obsessive talk by the addicts about their drug use and less use of drug jargon; and a new awareness by alcoholics, addicts, and nonaddicted psychiatric patients that they all have problems in common, especially in the interpersonal sphere.

Both groups recommended maintaining the addicts as a minority in the combined groups (Pokorny, et al., 1973), suggested two addicts for every three nonaddicted patients in therapy groups).

Many of the gains and problems cited above are quite familiar to the Eagleville Hospital and Rehabilitation Center staff who first began to treat alcoholics and addicts together in 1968. Interestingly, apprehension by the staff regarding the presumed dire consequences of mixing alcoholics and addicts was also encountered at the hospital and center (Ottenberg & Rosen, 1971).

If experience seems to indicate that some alcoholics, addicts, and nonaddicted psychiatric patients can be treated together successfully in some programs, does this mean that the three groups should be mixed everywhere? The answer to this question is no.

First there is the matter of training. Many professionals are sorely lacking in education, training, and interest regarding alcoholism and drug abuse (Einstein, Garitano, Quinones, Havenhar, & Doroff, 1972; Bosma, 1973; Ottenberg & Carpey, 1974). On the other hand many nondegreed caretakers in the addiction problems field are inadequately trained to recognize and cope with severe emotional problems. This situation would have to be corrected before more widespread combined treatment could be undertaken.

Second, there is the matter of expenses. Mental health professionals receive considerably more money for their services than do the majority of therapeutic helpers in the addiction problems field, especially the nondegreed, recovering staff member. The discrepancies between the income of these two groups would have to be significantly reduced, otherwise there would be a continuing source of friction to contend with.

Third, the mental health professionals would have to be willing to let go or at least loosen their grip on the medical model and their obsession with intrapsychic phenomena.

Fourth, people who abuse alcohol or other drugs, or a combination of them, do not use mental health facilities (Cohen, 1974), therefore they would have to be attracted to or brought to such facilities, or the mental patients might be allowed out of their institutions for combined treatment.

If these problems could be solved, there are obvious benefits that would follow from a combined treatment approach.

1. The breath of understanding of human problems for mental health professionals and therapeutic helpers in the addiction problems field would be significantly broadened. Under favorable conditions, the combination of these two groups is most effective.
2. Money could be saved by avoiding unnecessary duplication in facilities, staffing, and programs (Ottenberg & Carpey, 1974).

3. The mental health field provides a rich continuum of services which could be adapted to meet many of the needs of the recovering alcoholic and addict (Ottenberg & Carpey, 1974).
4. The mental health field is especially well prepared to provide program evaluation and research services to the addiction problems field (Ottenberg & Carpey, 1974).
5. I believe a considerable amount of the mythology in both the mental health and addiction problems fields would be more rapidly dissipated as a result of combined treatment. Representatives from both fields would be quick to blow the whistle on the other side's myths. In the long run, knowledge would thus be advanced more rapidly and rigorously.
6. Finally, the emotionally distressed and those who abuse alcohol or other drugs—frustrated men and women in pain—would benefit from the cross-fertilization of these two vital fields. Caretakers from both fields would bring a rich array of skills, knowledge, and experience to a common undertaking. The combined efforts of both groups would most likely have a synergistic effect on existing programs.

CONCLUSIONS

The basic question addressed in this paper has been "Are the addict and alcoholic mentally ill?" If we choose to answer the question within the frame of reference of "mental illness," then the answer is yes. A concerted effort has been made throughout this paper, however, to disclose the serious limitations and dangers associated with the "mental illness" concept.

Alternative conceptual frames of references to the medical model have been discussed with a particular emphasis on the human ecological systems and "third force" approaches. According to these points of view, which I strongly endorse, "alcoholism," "addiction," and other forms of "mental illness" can be attributed to an individual's belonging to and participating in social systems that have frustrated his efforts to self-actualize his potentials. All three forms of deviant behaviors can thus be viewed as similar, in that they represent a maladaptive effort to cope with the pain and anger associated with the frustration of self-actualization.

The "self" concept is also recommended as a useful concept common to alcoholism, addiction, and "mental illness" and could be used as an indicator of the extent to which the individual was or was not moving in the direction of self-actualization.

Finally, the notion of treating alcoholics, addicts, and nonaddicted psychiatric patients together is generally supported. Along these lines, a greater degree of cooperation between the mental health and addiction problems fields is advocated, providing the two fields realistically, sincerely, and honestly addressed themselves to certain specified problem areas.

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1. TITLE OF PUBLICATION: COMMUNITY MENTAL HEALTH JOURNAL	2. DATE OF FILING: Sept. 19, 1975
3. FREQUENCY OF ISSUE: Quarterly	3A. ANNUAL SUBSCRIPTION PRICE: $15 indiv./$35 inst

4. LOCATION OF KNOWN OFFICE OF PUBLICATION *(Street, city, county, state and ZIP code) (Not printers)*: 72 Fifth Ave. N.Y. N.Y. 10011

5. LOCATION OF THE HEADQUARTERS OR GENERAL BUSINESS OFFICES OF THE PUBLISHERS *(Not printers)*: 72 Fifth Ave. N.Y., N.Y. 10011

6. NAMES AND ADDRESSES OF PUBLISHER, EDITOR, AND MANAGING EDITOR

PUBLISHER *(Name and address)*: Behavioral Publications, Inc. 72 Fifth Ave. N.Y., N.Y. 10011

EDITOR *(Name and address)*: Lenin Baler, PhD CMH Program, M.5108 SPH 11, University of Mich. School of Public Health. Ann Arbor, Mich. 48104

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Esa Österberg

THE PRICING OF ALCOHOLIC BEVERAGES AS AN INSTRUMENT OF CONTROL POLICY

1) The purpose of the inquiry

In examining the pricing of alcoholic beverages as an instrument of control policy, one's interest is drawn ultimately to the question of whether alcohol consumption can be curtailed and guided by an active pricing policy. An attempt is made in the following to elucidate the problems involved by reviewing econometric studies dealing with the consumption and prices of alcoholic beverages and examining the price trends in certain countries.

2) Have the prices of alcoholic beverages any effect on consumption?

Although doubts have often been expressed, especially in everyday discussion, about the effect of pricing policy on the consumption of alcoholic beverages, it can be stated on the strength of many econometric studies that price changes are bound up with changes perceived in the consumption of alcoholic beverages (Appendices 1A-1D). The effect of prices has been reported in econometric studies in precise numerical terms, price elasticities, besides which it has been sought to explain the changes taking place in alcohol consumption. In the following, then, consideration will be given to the explanation of consumption and the interpretation, generalization and application of the results

of the econometric studies.

3) On explaining alcohol consumption

On quite a general level, it may be observed that the consumption of alcoholic beverages is based in a very complicated way on factors that may be designated as the "use value" of the beverages. There are two distinguishable sides to the use values of alcoholic beverages: on the one side, human beings have preferences or needs, which they seek to satisfy; and, on the other side, alcoholic beverages have properties by means of which human beings are able to satisfy their needs. It is quite significant in this connection to note that human needs are not psychological constants but are bound to time, place and social circumstance. Inasmuch as needs are historically determined, they change in the course of time, in response to evolutionary progress and upon the persons' concerned moving from one region to another. Nor are the properties of alcoholic beverages beneficial to people constant, either, for they likewise change with progress – and they are developed knowingly, too.

By way of example, it may be stated that alcoholic beverages presumably have at least the following use values: as a nutriment (wine, in France and Italy; beer, in Germany), as an essential commodity for alcoholics, as a medicine, and as an agent intended to enhance pleasure by, among other things, aiding in the making of contacts, releasing from inhibitions, breaking the everyday routine and escaping from realities. The significance of these use values varies with different classes of people, different regions and different periods of time. Further, it may be stated that in its many practical ap-

plications, alcohol can be replaced by other commodities, and that the relationship with such substitutes is variable, too. Alcohol consumption and the changes taking place in the consumption of alcoholic beverages may be considered to be connected with the following circumstances: 1) (varying) human needs, which are bound up with time and place, 2) the (varying) properties of alcoholic beverages, or their capability of satisfying human needs, 3) the (varying) capability of other products to satisfy the same needs as alcoholic beverages do, 4) the (varying) real incomes of people and the (varying) distribution of income, 5) the (varying) restrictions imposed on the production and retail distribution of various alcoholic beverages and surrogates, and 6) the (changing) prices of alcoholic beverages in relation to the prices of near substitutes.

When it has been endeavored in econometric studies to interpret the changes taking place in the consumption of alcoholic beverages in the light of changes taking place in consumer incomes, alcohol prices, the prices of near substitutes and the general price level as well as in the distribution systems and sales restrictions, what is involved is only statistical interpretation. In econometric research, explaining consumption in the ordinary sense is therefore not in question.

4. On the problems and limitations of econometric studies

Many problems are involved in econometric studies aimed at interpreting changes in the consumption of alcoholic beverages. First, it should be noted that the analyses performed do not i

themselves produce any new information — but only organize the information that exists in latent form in the basic data used (SOU 1972:91). This circumstance highlights the significance of accuracy and veracity in the primary information. On the other hand, it also means that the results of the analyses apply in principle only to the regions, times and conditions that produced the primary data. If, for instance, the prices used as the dependent variable had risen at an even rate durin the period under investigation, the econometric analysis would not reveal what might have happened had the prices risen abrup ly or if the prices had decreased steadily.

In the second place, it is obvious that all the relevan dependent variables could not be taken into account in econometric studies. Thus, for example, the behavior of the market has in most cases been perforce assumed to have been constant. This means that in econometric studies, preferences or needs, the properties of alcoholic beverages, the properties of other commodities and the distribution of income have in most cases been assumed to remain constant. If the influence of these fac tors has been included in a trend, the assumption will have bee that the effects have been rectilinear.

In econometric studies, also the effect of dependent variables on the independent variable — or elasticities — has most frequently been assumed to be constant. Since, moreover, it has been necessary, on account of the procurement of basic information, to resort to a large aggregate level with respect to both the consumers and the alcoholic beverages, the constant price elasticity depicts the average reaction of different indi

viduals and of the same individual to the average change in the prices of alcoholic beverages taking place during the perio under investigation. In reality, different individuals and groups react in different ways to changes in the prices of alcoholic beverages, and the reaction of the same individual is also apt to change in the course of time.

In the fourth place, it is apparently difficult to distinguish the influence of different dependent factors if the dependent variables have developed along parallel lines during the period under investigation. This is true, for instance, when an increase in consumption is connected with rising incomes, falling prices and a rising trend brought about by non-economic variables.

5. On the results of econometric studies

Although econometric studies include many problems, they can also be made to yield useful information, provided their limitations are borne in mind. The econometric studies carried out show fairly consistently that alcoholic beverages have behaved on the market like other commodites: as prices have risen, the consumption of alcoholic beverages has generally declined, and as prices have fallen, the consumption of alcoholic beverages has generally increased (Appendices 1 A-1 D). Studies have shown, furthermore, that the magnitude of the effect of prices varies in different groups of beverages, different countries, different regions (Appendix 1 C) and different periods even within the same country (Appendix 1 A).

From econometric studies it is obvious that there exist no universal values for elasticities of different beverage groups. For instance the price elastici for beer seems to be very low in Canada (-0.03), Ireland (-0.17) and in Finlar (-0.20), but very high in Sweden (-3.0). Also the elasticities for spirits vary a great deal in different countries (-0.3 to - 2.0). The same is true for wine (-0.3 to -1.72). Although part of the observed differences is due to the different models and methods which have been applied, to the nature of the estimated elasticities (long- and short term elasticities) and also to the method of aggregating the basic data, it is obvious that elasticities are no properties of the beverage types themselves. The values of the elasticities and the differences in these values must be seen in the light of relative prices of alcoholic beverages, systems of distribution and use values. As a moderate conclusion it might perhaps be suggested that price elasticity may be greater for off-sales than for on-sales (Sweden and Finland) and that price elasticity may increase at the lifting of sales restrictions (Sou 1972:91). It seems, however, that the results of econometric studies apply only for the area with which the study is concerned.

If econometric demand analysis has sufficiently explained the observed variation in consumption and if other circumstances can be assumed to be constant, econometric models may be of help to predict the consumption of alcohol. Then also the elasticities may be used in planning price policies. The price elasticity expresses the effect of price changes in consumption and therefore it can be used in estimating how large price rises are required o attain the wanted level of consumption. Price elaticities can also be used to foresee how much an attainable price rise will cut off the consumption and to decide what are the most sensitive objects of restrictive price polici

6. The development of prices in some countries

CANADA: From 1949 to 1971 the real prices of alcoholic beverages have slightly fallen with exception of wine. The real price of beer has fallen mostly (1949 107, 1971 90). The yearly changes have been small. (Appendix 2 A)

NETHERLANDS: From 1952 to 1967 the real prices of alcoholic beverages have fallen. The real price of wine have fallen mostly (1952 137, 1967 89). There are some big changes in prices, for example the real price of genever rose 20 % in 1966 and the consumption of spirits (alcools) decreased 23 %. (Append 2 B)

ITALY: From 1951 to 1966 the real prices of alcoholic beverages have slightly risen. The development of real prices have not been even and in 1965 there ar big changes. (Appendix 2 C)

BELGIUM: From 1953 to 1964 the real prices of alcoholic beverages have slightl fallen. After 1964 the development differs. There are quite large yearly changes in late 1950s and after 1965. (Appendix 2 D)

GERMANY, FED. REP.: From 1955 to 1965 the real prices of alcohol beverages have fallen quite a lot. After 1965 the development of prices differs and there are big yearly changes especially in 1966. (Appendix 2 E)

SWEDEN: From 1956 to 1968 the real prices of alcoholic beverages have risen with exception of light wine (constant) and strong beer (fallen prices). In 1956 and 1957 there are big changes in prices and in consumption. (Appendi 2 G and 2 E)

FINLAND: In the period 1951-1973 the real price of alcohol have been constant The real prices of wine and other spirits have fallen and the real price of vodka has risen. The yearly changes of prices have been small. (Appendix 2 I)

Appendix 1 A

Demand elasticities

Author	Country and time-period	Beverage	Income Elasticity	Price Elasticity	Trend (%/year)
Almqvist (1948)[1]	Sweden 1923-1939	Spirits	0.3	-0.3	
-"- 2	-"-	Wine	1.2	-0.9	
		Liquor	0.30	-0.37	
		Wine	1.32	-0.72	
Lundström-Ekström[1] (1962)	Sweden 1931-1954	Spirits	0.9	-0.3	
		Wine	2.0	-1.6	
Ryding-Rosen 1 (1969)	Sweden 1920-1951	Spirits (Renad Brännvin)	0.6	-0.[illegible]	
				-0.1	
		Wine	0.9	-1.6	
		Medium Beer	0.6	-1.2	
Leitfeldt-Jorner[1] (SOU 1972:91)	Sweden 1956-1968	Off-sale Vodka	0.0	-0.9	-0.3
		-"- Other Spirits	1.4	-2.9	-
		-"- Fortified Wine	0.2	-0.7	-
		-"- Light Wine	-	-0.6	+7.3
		-"- Strong Beer	1.9	-3.0	-
		-"- Spirits	0.4	-1.2	-
		-"- Wine	(0.9)	-0.7	+5.8
		-"- Spirits + Wine	0.7	-1.0	-
		On-Sale Vodka	1.0	-0.3	-7.0
		-"- Other Spirits	0.2	-0.5	-
		-"- Strong Beer	2.0	-0.1	+2.0

Appendix 1 B

Demand elasticities

Author	Country and time-period	Beverage	Income Elasticity	Price Elasticity	Trend (% year
Stone (1954)[1]	United Kingdom 1920-1938	Spirits	0.6	-0.6	
		Wine (imported)	1.4	-0.6	
		Wine (domestic)	1.7	-0.3	
-"- [2]	-"-	Spirits	0.54	-0.72	
		Beer	0.14	-0.73	
Simon (1966)[1,2]	USA 1955-1961	Spirits	-	-0.79	
Niskanen (1960)[2]	USA 1934-1954	Spirits	-	-1.74	
Niskanen (1962)[2]	USA	Spirits	-	-1.42	
Niskanen[1]	USA 1934-41,47-60	Spirits	-	-2.0	
Walsh -Walsh (1970)[2]	Ireland 1953-1967	Spirits	1.94	-0.57	
		(after correcting for serial correlation bias)	2.06	-0.44	
		Beer	0.78	-0.17	
Schweitzer (1969)[2]	Canada	Alcoholic Beverages	0.88	-0.19	
Lau (1973) [2]	Canada 1949-1969	Spirits	0.68	-1.45	+0.94
		Wine	1.43	-1.65	+2.1
		Beer	0.20	-0.03	+0.2

Sources: [1]Efterfrågan på rusdrycker i Sverige, SOU 1972:91, Stockholm 1972

[2]H. H. Lau: Time Series Regression Analysis of Per Adult Consumption of Alcoholic Beverages I. Canada 1949-1969

H. H. Lau: Cost or Alcoholic Beverages as a Determinat of Alcohol Consumption

Author: H.H. Lau (1973)

Country and time-period: Eight Canadin Provinces 1933-1969

Spirits			
Province and time-period	Income Elasticity	Price Elasticity	Trend (% year)
Nova Scotia 1933-1969	1.50	-1.19	-2.99
New Brunswick 1955-1969	1.35	-0.80	negative
Quebec 1939-1969	1.89	-0.60	-4.17
Ontario 1935-1969	1.38	-1.60	no
Manitoba 1944-1969	0.62	-0.58	+2.41
Saskatchewan 1946-1969	0.19	-0.23	+4.03
Alberta 1953-1963	0.00	-1.30	+2.86
British Columbia 1953-1969	0.94	-1.74	-1.24

Wine			
Province and time-period	Income Elasticity	Price Elasticity	Trend (% year)
Nova Scotia 1933-1969	0.82	-1.52	no
New Brunswick 1955-1969	0.78	+1.67	no
Quebec 1939-1969	2.25	-0.40	-0.36
Ontario 1935-1969	0.69	-0.15	no
Manitoba 1944-1969	1.37	-0.56	+2.45
Saskatchewan 1946-1969	0.01	-0.90	positive
Alberta 1953-1969	0.03	-2.75	+7.77
British Columbia 1953-1969	1.94	-4.56	no

Beer			
Province and time-period	Income Elasticity	Price Elasticity	Trend (% year)
Nova Scotia 1933-1969	1.51	-0.95	-2.57
New Brunswick 1955-1969	1.16	-0.58	no
Quebec 1939-1969	2.02	-1.08	-4.45
Ontario 1935-1969	2.11	-0.55	-2.17
Manitoba 1944-1969	0.70	-0.17	no
Saskatchewan 1946-1969	0.07	-0.38	+1.24
Alberta 1953-1969	0.00	-1.19	no
British Columbia 1953-1969	0.53	-1.36	+0.60

Appendix 1 D Demond Elasticities

Author: Nyberg (1967)

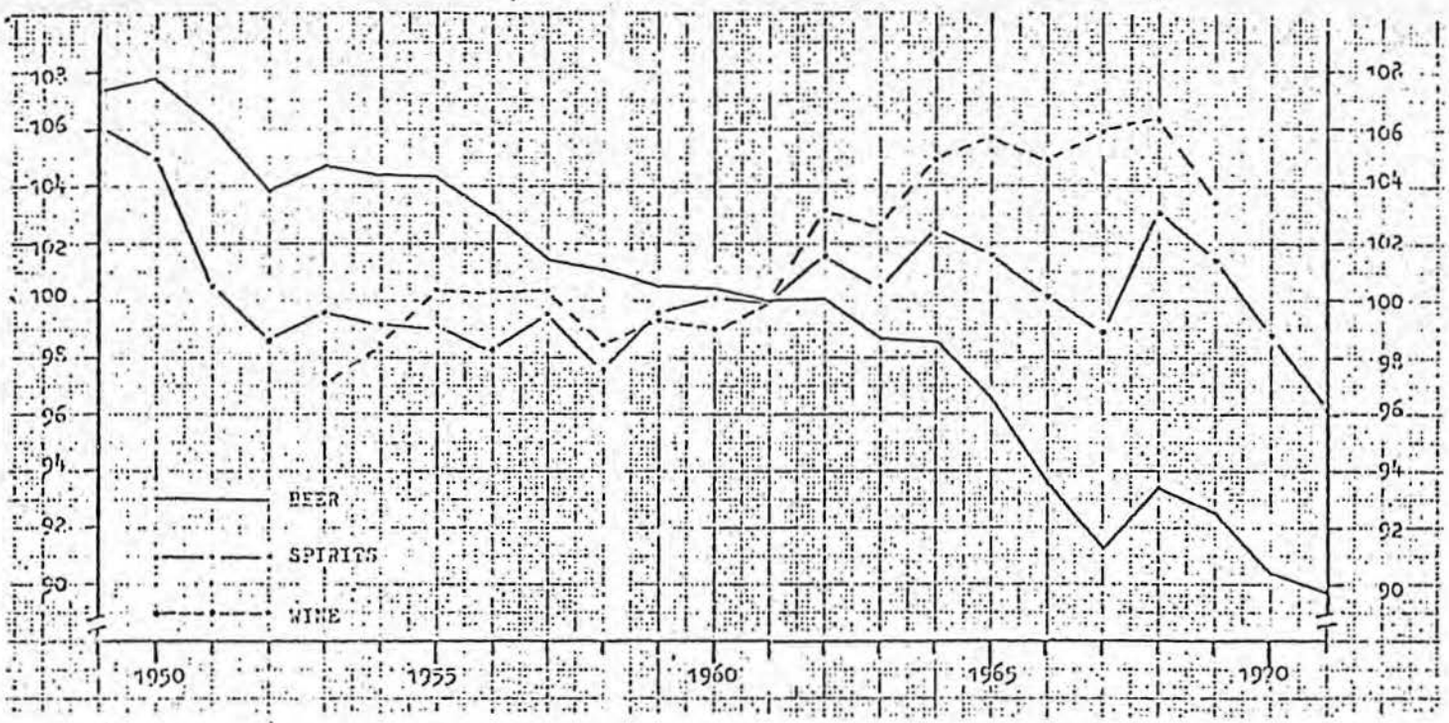
Country and time period: Finland 1949-1962

Static Model		
Beverage	Income Elasticity	Price Elasticity
Vodka	0.42	-0.13
Other Spirits	1.30	-0.95
Wine	0.97	-0.83
Beer	0.97	-0.49
Total Off-Sales	1.05	-1.17
Total On-Sales	0.94	-0.99
Total Sales	1.01	-1.11

Dynamic Model			
Beverage	Income Elasticity		Price Elasticity
	Long run	Short run	
Vodka	0.84	0.25	-0.60
Other Spirits	1.62	0.49	-1.10
Wine	1.29	0.39	-0.99
Beer	0.64	0.17	(+0.01) -0.20
Total Off-Sales	1.14	0.34	-0.99
Total On-Sales	0.87	0.26	-0.38
Total Sales	1.03	0.31	-0.75

Price and cross elasticities $e_{p,ij}$ (estimated by preference funktion)				
i	j			
	1	2	3	4
1. Vodka	0.91	-0.19	-0.09	-0.05
2. Other Spirits	-0.21	1.40	-0.10	-0.05
3. Wine	-0.33	-0.31	1.72	-0.09
4. Beer	-0.17	-0.15	-0.08	0.60

Price Indexes in 1961 Prices, Canada 1949-1971 , 1961=100



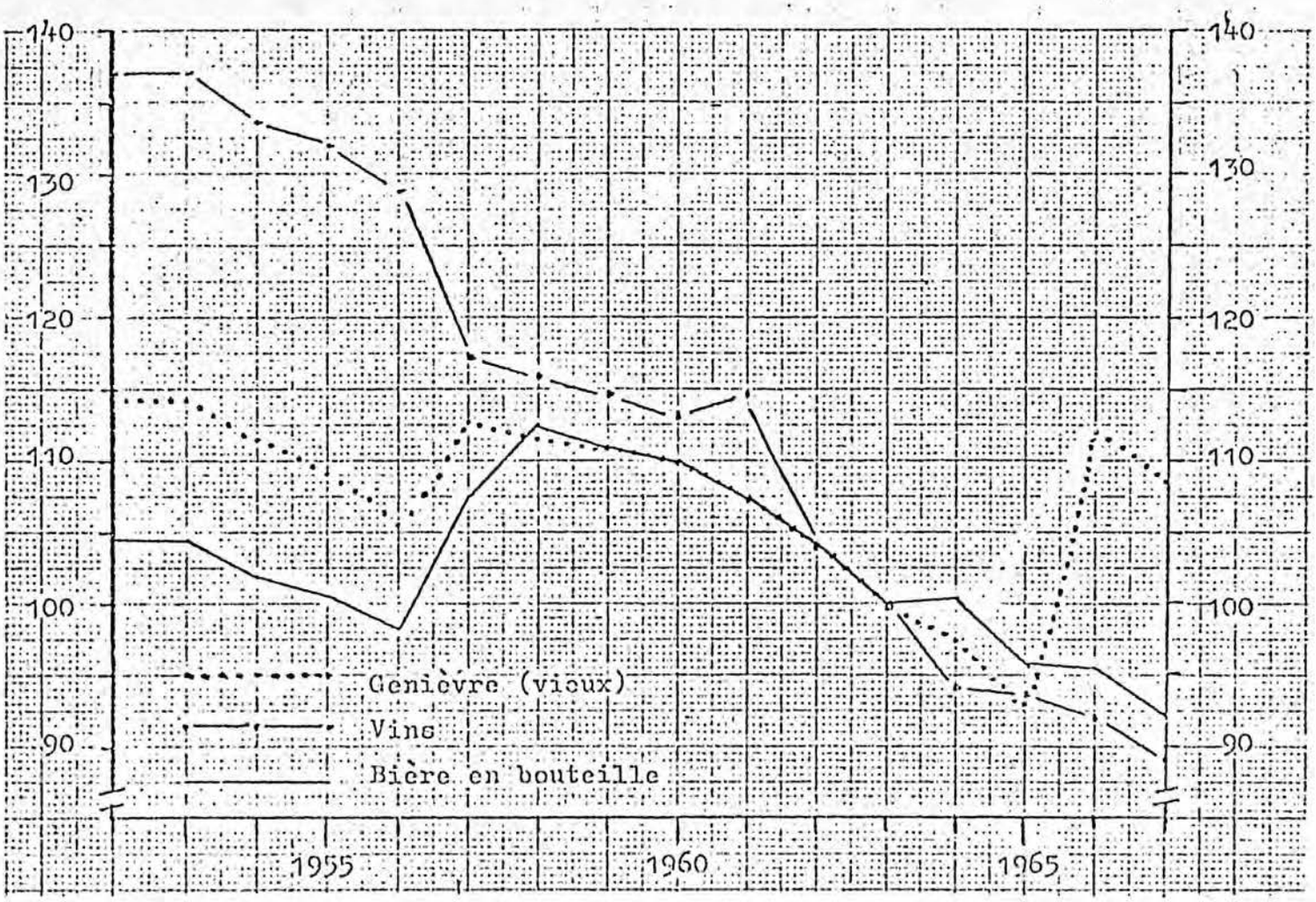
Per Adult Consumption of Alcoholic Beverages (gallons) and Price Indexes in 1961 Prices (1961=100), Canada 1949-1971

	Per Adult Consumption				Price Indexes		
YEAR	BEER	SPIRITS	WINE	ABSOLUTE ALCOHOL	BEER	WINE	SPIRITS
1949	18.0910	0.952386	0.506235	1.36650	107.313		106.163
1950	17.8443	0.987085	0.517351	1.36982	107.709		104.987
1951	18.2279	1.01160	0.523763	1.39984	106.102		100.368
1952	19.3673	1.05261	0.523668	1.47319	103.769		98.6505
1953	19.8296	1.07654	0.526125	1.50627	104.693	97.1730	99.6309
1954	19.0271	1.07206	0.541305	1.46679	104.394	98.5936	99.2658
1955	19.3979	1.11360	0.556040	1.50430	104.351	100.403	99.1343
1956	19.7854	1.17682	0.576087	1.55217	103.652	100.382	98.3479
1957	19.8897	1.19957	0.601678	1.57058	101.548	100.413	99.5970
1958	19.1007	1.25842	0.659578	1.56393	101.074	98.4930	97.6136
1959	19.7640	1.24240	0.668543	1.59212	100.531	99.4609	99.6220
1960	19.8996	1.24303	0.692230	1.60280	100.494	99.0351	100.161
1961	19.9502	1.26439	0.719573	1.61840	100.000	100.000	100.000
1962	20.3272	1.29970	0.743381	1.65538	100.049	103.294	101.660
1963	20.8522	1.36130	0.789456	1.71344	98.7172	102.715	100.534
1964	21.2357	1.34956	0.781154	1.72659	99.5879	104.583	102.357
1965	21.2909	1.49174	0.978154	1.80174	96.5922	105.726	101.676
1966	21.6642	1.56576	0.931782	1.85860	93.5369	104.967	100.190
1967	21.9082	1 63053	0.973926	1.90345	91.3345	105.921	98.9601
1968	21.7415	1.61724	1.008410	1.89532	93.4222	106.358	103.164
1969	22.1904	1.62661	1.131800	1.94125	92.5100	103.477	101.434

Sources: H. H. Lau: Time Series Regression Analysis of Per Adult Consumption of Alcoholic Beverages I. Canada 1949-1969

H. H. Lau: Cost or Alcoholic Beverages as a Determinant of Alcohol Consumption

Price Indexes in 1963 Prices, Netherlands 1952-1967, 1963=100

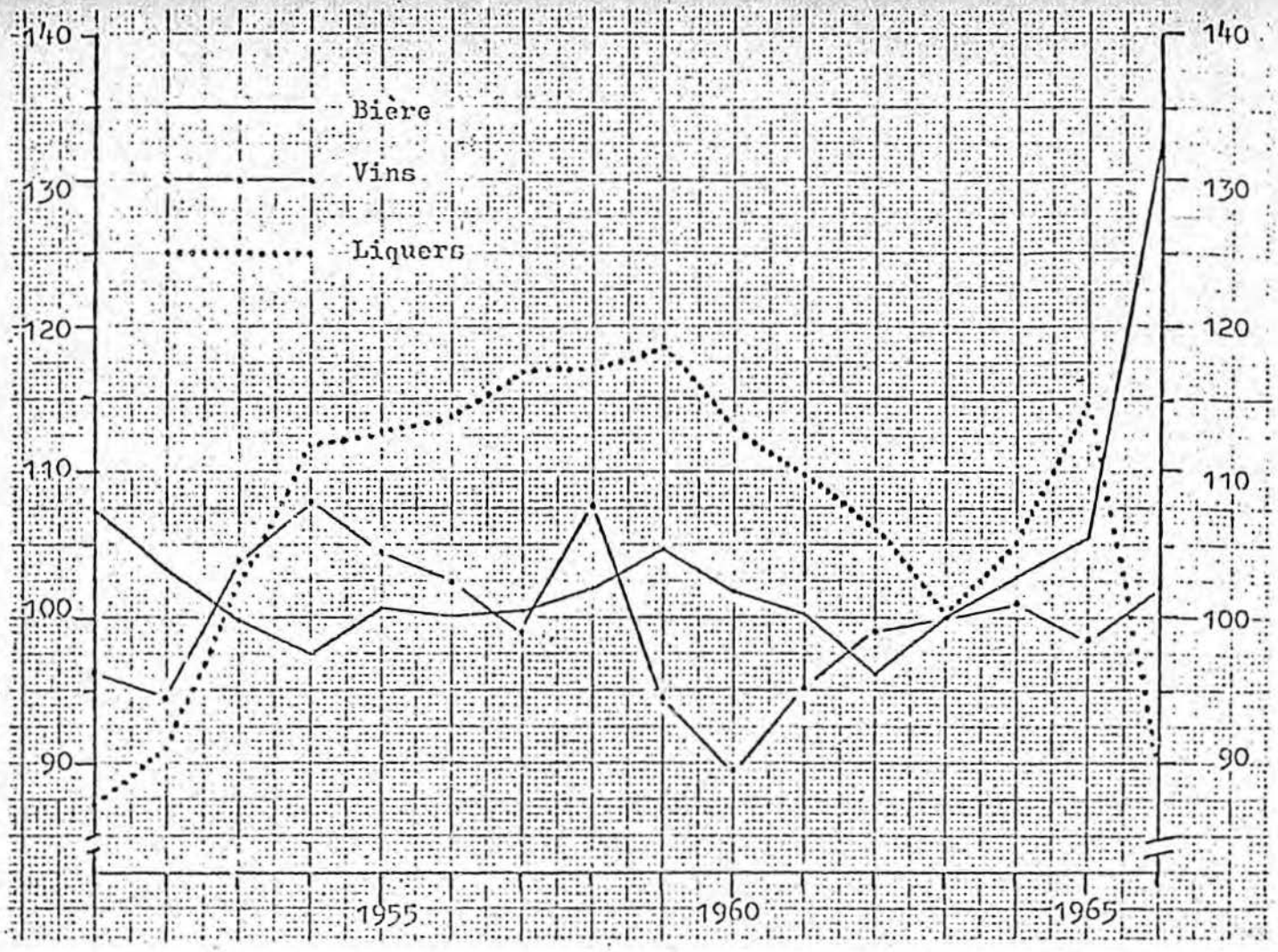


Volume and price indexes, Netherlands 1952-1967, 1963=100

Année	Volume				Price				Consommation privée
	Bière	Vins	Alcools	Indice volume de la consommation privée intérieure	Boissons non alcoolisées	Bière en bouteille	Vins	Genièvre (vieux)	
1952	30,3	19,3	66,9	57	86,0	82,5	108,2	90,3	79
1953	34,6	22,9	65,8	60	86,8	82,5	108,2	90,3	79
1954	38,4	31,3	70,9	64	85,1	82,5	108,2	90,3	81
1955	46,7	40,3	72,5	63	85,1	82,5	108,2	89,3	82
1956	50,5	49,9	81,6	74	84,3	82,5	103,2	88,7	84
1957	58,8	53,0	67,9	74	90,9	94,4	103,2	89,2	88
1958	60,6	52,7	70,2	74	97,5	100,0	103,2	99,7	89
1959	70,0	58,6	69,2	78	100,0	100,0	103,2	100,0	90
1960	73,6	69,2	76,1	82	100,8	100,0	103,2	100,0	91
1961	82,4	87,3	80,5	87	100,8	100,0	106,7	100,0	93
1962	87,6	93,4	92,6	93	100,0	100,0	100,0	100,0	96
1963	100,0	100,0	100,0	100	100,0	100,0	100,0	100,0	100
1964	113,8	111,9	104,2	106	108,3	106,3	100,0	103,2	106
1965	122,6	131,6	135,7	114	109,9	106,3	104,0	103,2	111
1966	130,2	139,1	104,0	117	114,0	112,7	109,0	132,3	118
1967	149,4	167,2	120,1	122	117,4	112,7	109,0	132,3	122

Source: Effets du prix et du revenu sur la consommation des boissons dans les Etats membres des Communautés. Bruxelles 1972

Price Indexes in 1963 Prices, Italy 1951-1966, 1963=100



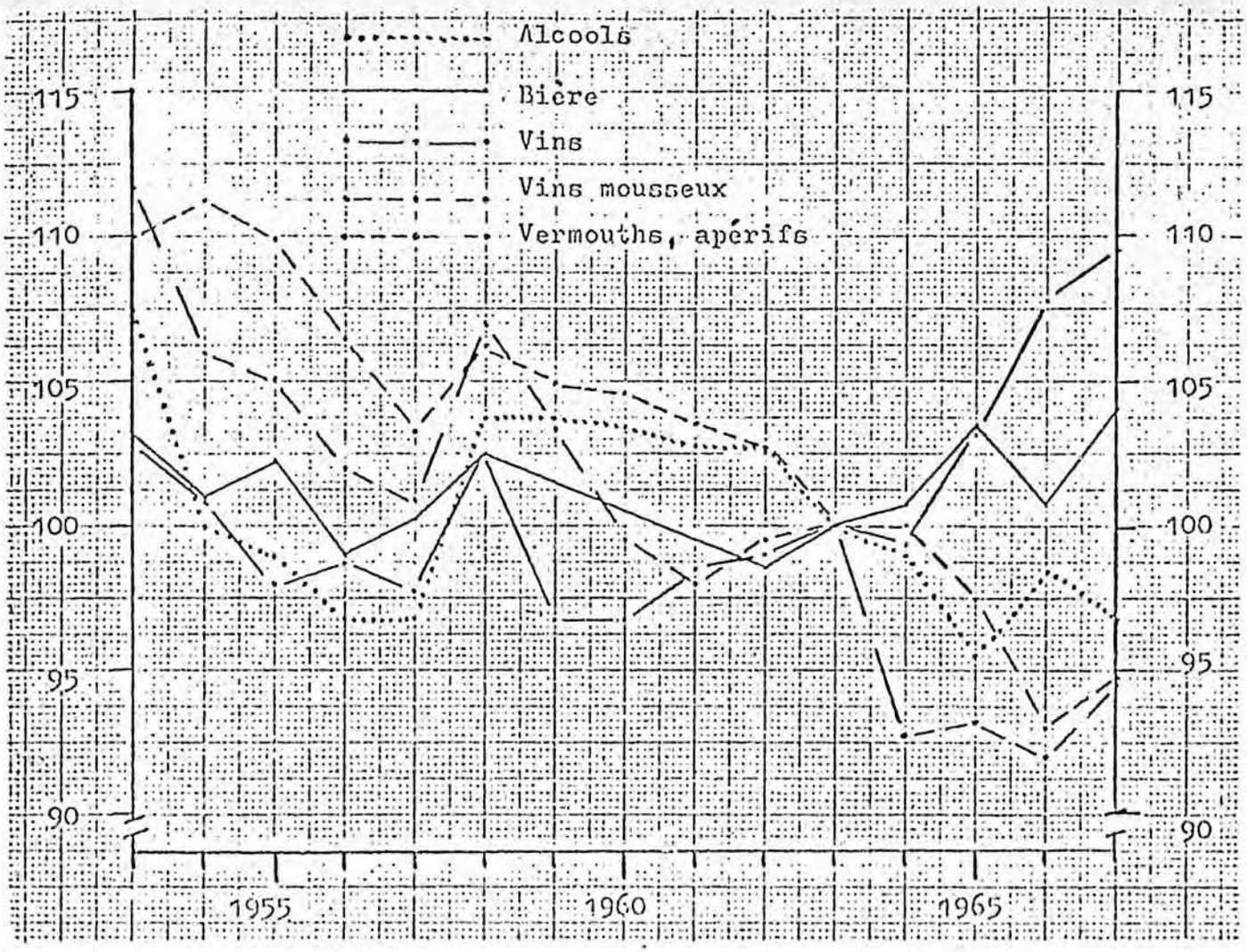
Volume and price indexes, Italy 1951-1966, 1963=100

	Volume				Price					
	Vins	Bière	Liqueurs	Ensemble des boissons alcoolisées	Vins	Bière	Liqueurs	Ensemble des boissons alcoolisées	Ensemble des boissons	Consommation totale
1951	63,9	34,1	39,0	57,9	65,1	72,4	58,7	64,8	70,0	67,5
1952	68,3	35,3	40,7	61,7	67,0	73,3	64,6	67,1	72,2	70,9
1953	72,7	37,6	44,1	65,8	78,2	75,0	76,9	77,9	80,9	75,2
1954	77,2	38,8	45,8	69,6	84,0	75,8	87,0	83,9	87,7	77,8
1955	81,9	41,2	49,2	73,9	83,1	80,0	89,7	83,5	88,4	79,5
1956	85,9	41,2	51,7	77,3	84,2	82,3	93,4	84,9	88,5	82,1
1957	87,0	42,4	53,4	78,5	82,1	83,3	96,8	83,5	87,6	82,9
1958	88,1	45,9	55,9	80,0	92,2	87,2	100,0	92,6	94,7	85,5
1959	91,2	55,3	58,5	83,6	80,8	89,4	101,4	83,2	87,4	85,5
1960	92,6	62,4	62,7	85,9	78,1	88,7	98,6	80,7	85,9	87,2
1961	94,3	75,3	67,8	89,1	84,8	89,1	97,5	86,4	89,9	88,9
1962	96,2	91,8	81,4	93,9	92,4	89,7	99,0	92,9	94,7	93,2
1963	100,0	100,0	100,0	100,0	100,0	100,0	100,0	100,0	100,0	100,0
1964	97,1	103,5	102,5	98,4	107,2	109,1	111,6	108,0	108,1	106,0
1965	102,0	108,2	103,4	102,7	108,7	116,3	126,2	111,7	113,0	110,3
1966	108,1	125,9	105,1	109,4	115,3	149,5	101,6	117,2	117,5	112,8

Source: Effets du prix et du revenu sur la consommation des boissons dans les Etats membres des Communautés Européennes

Appendix 2.D BELGIUM

Price Indexes in 1963 Prices, Belgium 1953- 1967, 1963=100

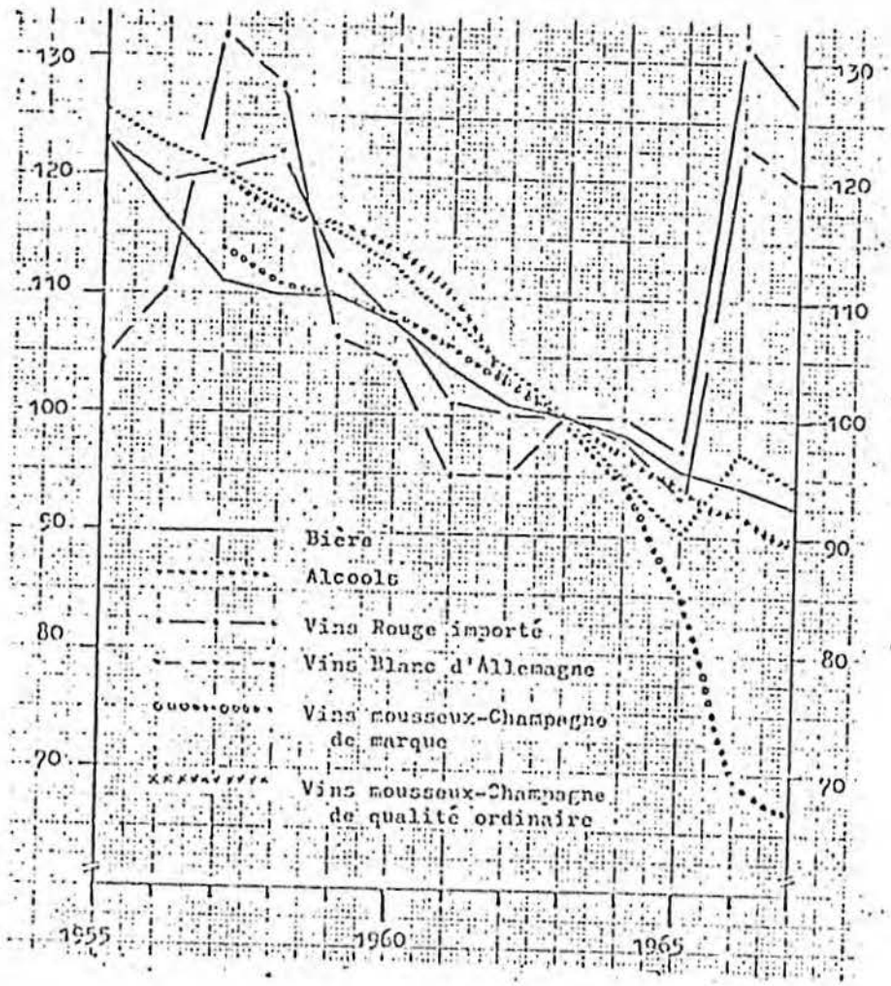


Volume and Price Indexes, Belgium 1953-1967, 1963=100

		1953	1954	1955	1956	1957	1958	1959	1960	1961	1962	1963	1964	1965	1966	1967
Volume	Vins	62,4	71,7	73,3	81,5	83,3	77,4	81,4	93,3	101,0	91,2	100,0	105,2	116,0	112,7	110,9
	Vins mousseux	69,6	75,7	79,3	78,8	83,0	79,9	80,2	89,4	85,4	92,5	100,0	124,9	153,1	143,9	155,9
	Vins et vins mousseux (3)	63,4	72,2	74,1	81,2	83,2	77,8	81,3	92,8	95,9	91,4	100,0	108,6	120,7	115,6	116,3
	Vermouths, apéritifs (4)	98,9	98,9	98,9	100,0	105,6	107,9	109,5	118,8	119,6	116,5	100,0	101,1	114,9	88,0	130,1
	Ensemble des vins (3 + 4)	66,6	74,6	76,4	82,9	89,9	80,5	83,9	95,2	100,8	93,7	100,0	107,9	122,2	114,1	117,5
	Bière	99,5	94,3	96,9	94,5	98,4	99,2	103,5	93,5	101,7	99,5	100,0	104,8	102,6	102,5	105,1
	Alcools	58,5	60,3	61,6	61,7	65,7	62,3	60,0	75,3	74,4	87,8	100,0	103,5	122,1	103,1	98,2
	ENSEMBLE DES BOISSONS ALCOOLISEES	84,9	83,5	85,7	85,4	89,8	87,9	90,6	93,5	95,5	95,9	100,0	104,4	109,7	104,6	107,6
Price	Vins	89,5	89,5	86,0	89,5	91,3	96,7	92,3	93,1	95,8	97,2	100,0	104,0	112,0	122,0	127,0
	Vins mousseux	97,0	93,8	92,2	92,2	94,2	100,8	93,4	95,6	95,4	97,6	100,0	97,2	101,2	104,1	109,7
	Vins et vins mousseux (3)	90,4	90,0	86,8	89,8	91,7	97,2	93,0	93,4	95,9	97,3	100,0	103,0	110,9	119,2	124,0
	Vermouths, apéritifs (4)	96,4	98,6	96,4	96,4	96,4	100,1	100,0	100,6	100,6	100,7	100,0	104,7	105,7	105,2	116,9
	Ensemble des vins (3 + 4)	91,0	93,9	87,7	90,5	92,1	97,4	93,7	94,0	96,2	97,4	100,0	103,2	109,9	118,3	122,6
	Bière	89,7	89,7	89,7	89,7	93,6	96,7	96,7	96,7	96,7	96,7	100,0	105,5	112,4	114,1	122,7
	Alcools	93,3	88,7	86,7	87,6	90,4	97,9	98,9	99,5	100,0	100,8	100,0	103,7	103,6	111,4	112,2
	ENSEMBLE DES BOISSONS ALCOOLISEES	90,7	89,9	89,1	89,7	93,0	97,2	96,9	96,9	97,4	97,7	100,0	104,7	109,9	114,3	119,4

Source: Effets du prix et du revenu sur la consommation des boissons dans les
Etats membres des Communautés Européennes

Price Indexes in 1963 Prices, Germany, Fed.Rep. 1955-1967, 1963=100



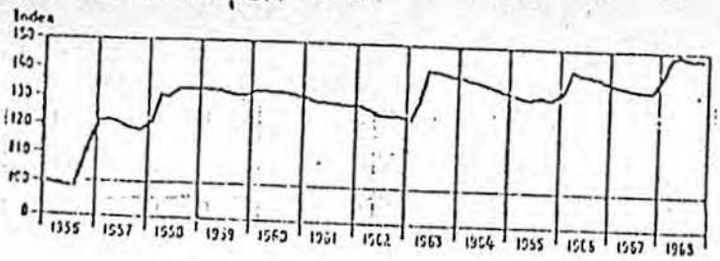
Volume and Price Indexes, Germany, Fed.Rep. 1955-1967, 1963=100.

	Boissons	1955	1956	1957	1958	1959	1960	1961	1962	1963	1964	1965	1966	1967
Volume	Vins mousseux	27,9	35,0	42,2	49,3	58,4	70,3	76,3	90,2	100,0	124,9	155,2	125,1	127,7
	Vins	62,9	64,1	54,2	53,0	73,0	79,2	93,5	94,4	100,0	89,0	103,2	118,9	116,6
	Vins et vins mousseux ...	59,6	61,3	53,1	52,7	71,6	78,4	95,3	94,0	100,0	92,4	112,6	119,5	117,6
	Bière	52,3	57,1	65,9	69,5	75,5	80,5	87,4	93,4	100,0	109,1	110,2	114,8	116,9
	Alcools.....	46,2	52,7	57,7	55,2	53,3	72,6	81,2	92,5	100,0	95,5	110,2	95,6	91,2
Price	Vins mousseux-Champagne de marque			99,9	99,9	99,9	99,9	100,0	100,1	100,0	97,0	90,2	76,3	74,6
	Vins mousseux-Champagne de qualité ordinaire			105,4	105,4	105,4	104,9	103,8	100,2	100,0	99,1	99,3	100,5	100,0
	Vins Blanc d'Allemagne ..	87,6	94,5	115,6	115,0	96,8	96,2	89,8	92,5	100,0	100,5	93,4	134,9	133,9
	Vins Rouge importé	103,3	102,6	103,9	103,9	102,0	99,3	95,4	97,4	100,0	102,0	102,6	144,1	140,2
	Bière	103,2	100,0	97,6	99,2	100,0	99,2	98,4	98,4	100,0	100,8	100,8	103,2	103,2
	Alcools	105,2	105,2	105,7	106,1	106,1	103,5	102,2	101,2	100,0	97,0	95,4	105,4	104,9

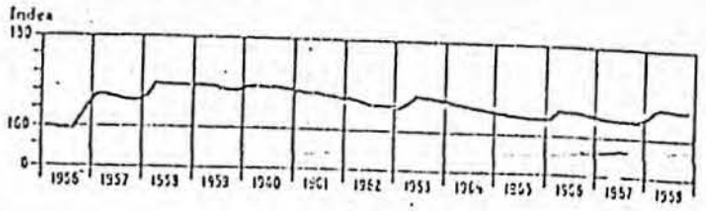
Source: Effets du prix et du revenu sur la consommation des boissons dans les Etats membres des Communautés, Bruxelles 1972.

Price Indexes in 1956 Prices, Sweden 1956-1968, I/1956=100

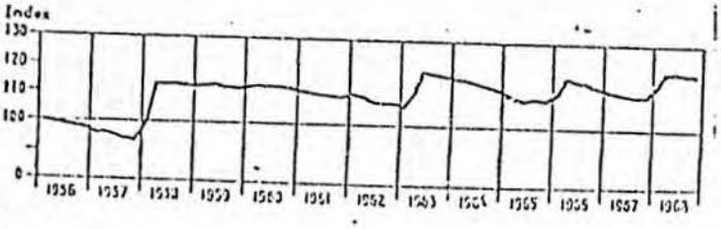
a. Vodka, off-sale



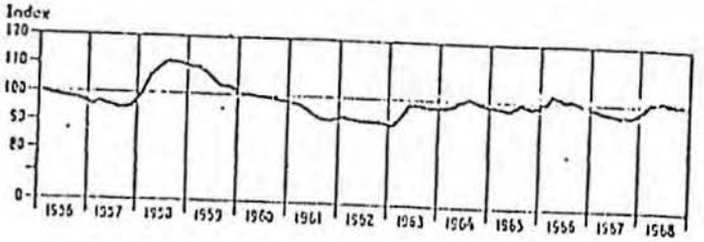
b. Other Spirits, off sale



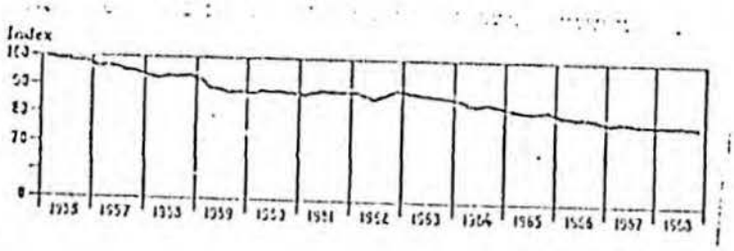
c. Fortified Wine, off sale



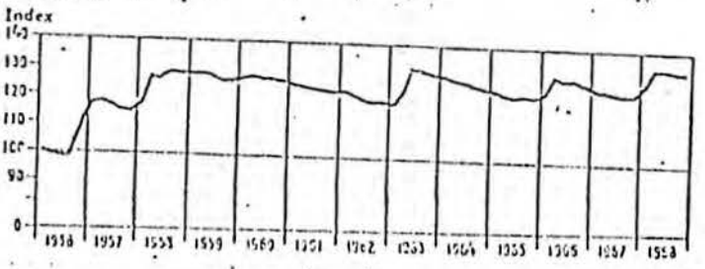
d. Light Wine, off sale



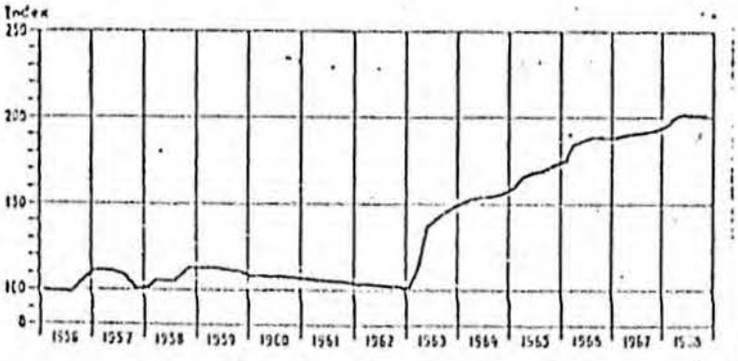
e. Strong Beer, off sale



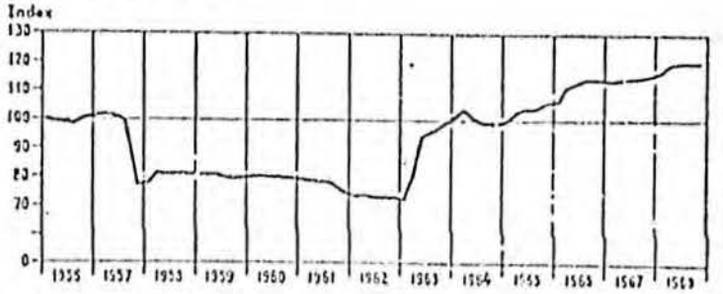
f. All Beverages, off-sale



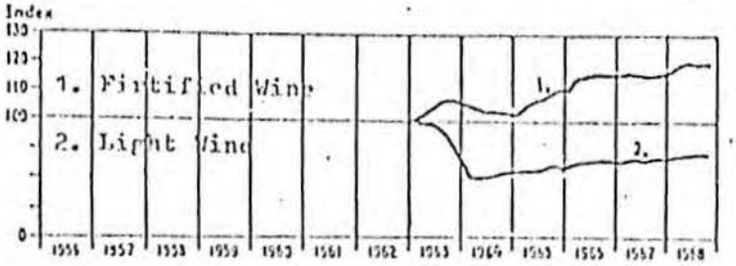
g. Vodka, on-sale



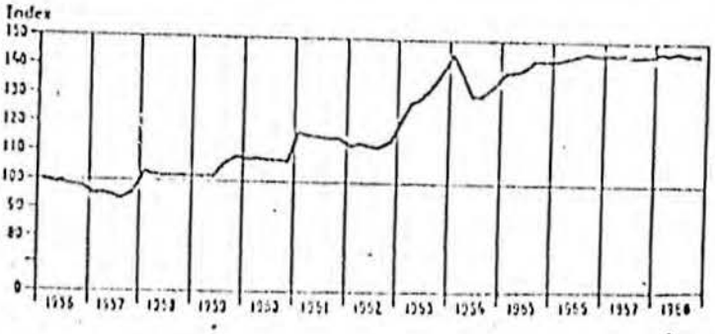
h. Other Spirits, on-sale



i. Fortified and Light Wine, on-sale



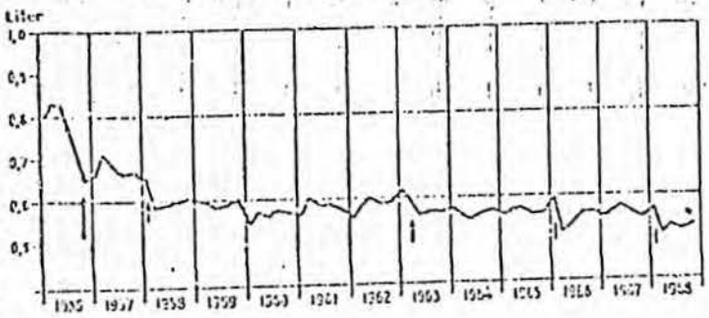
j. Strong Beer, on-sale



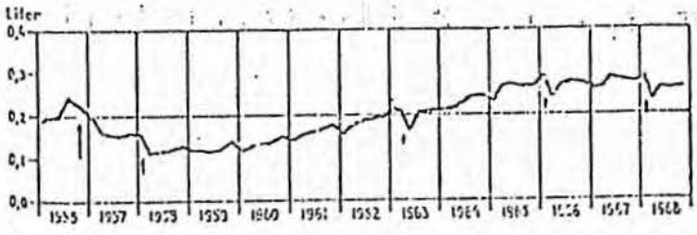
Appendix 2 G. SWEDEN

Consumption of Alcoholic Beverages litres per capita, Sweden 1956-1968

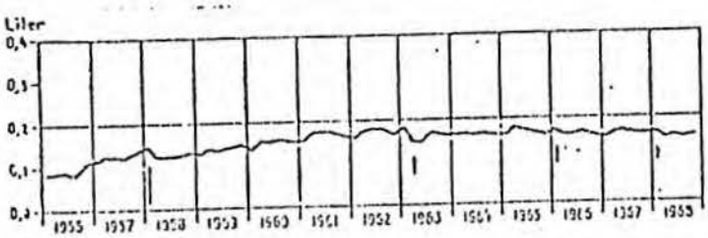
a. Vodkas, off-sale



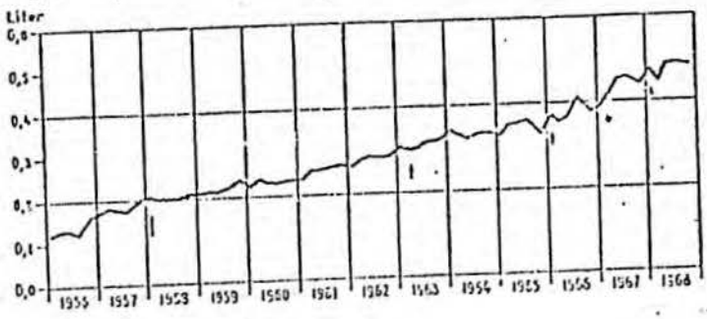
b. Other Spirits, off-sale



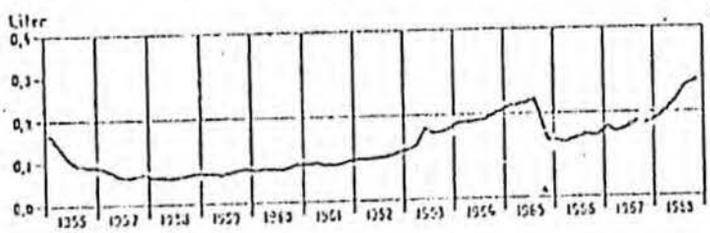
c. Fortified Wine, off-sale



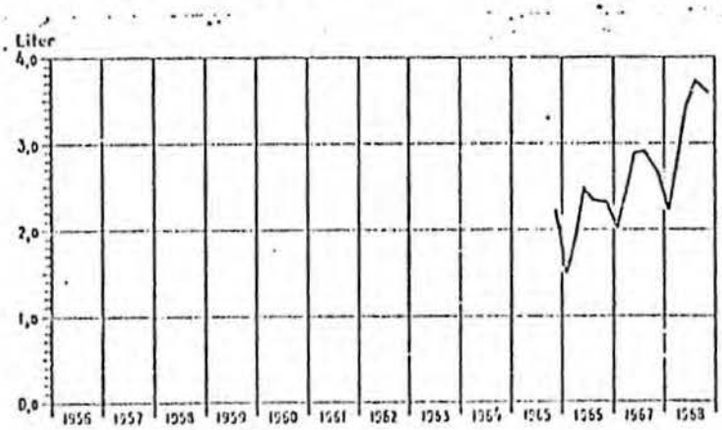
d. Light Wine, off-sale



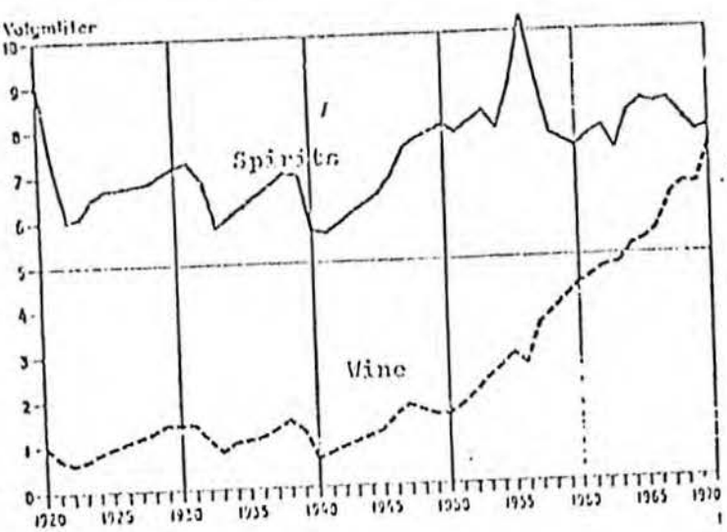
e. Strong Beer, off-sale



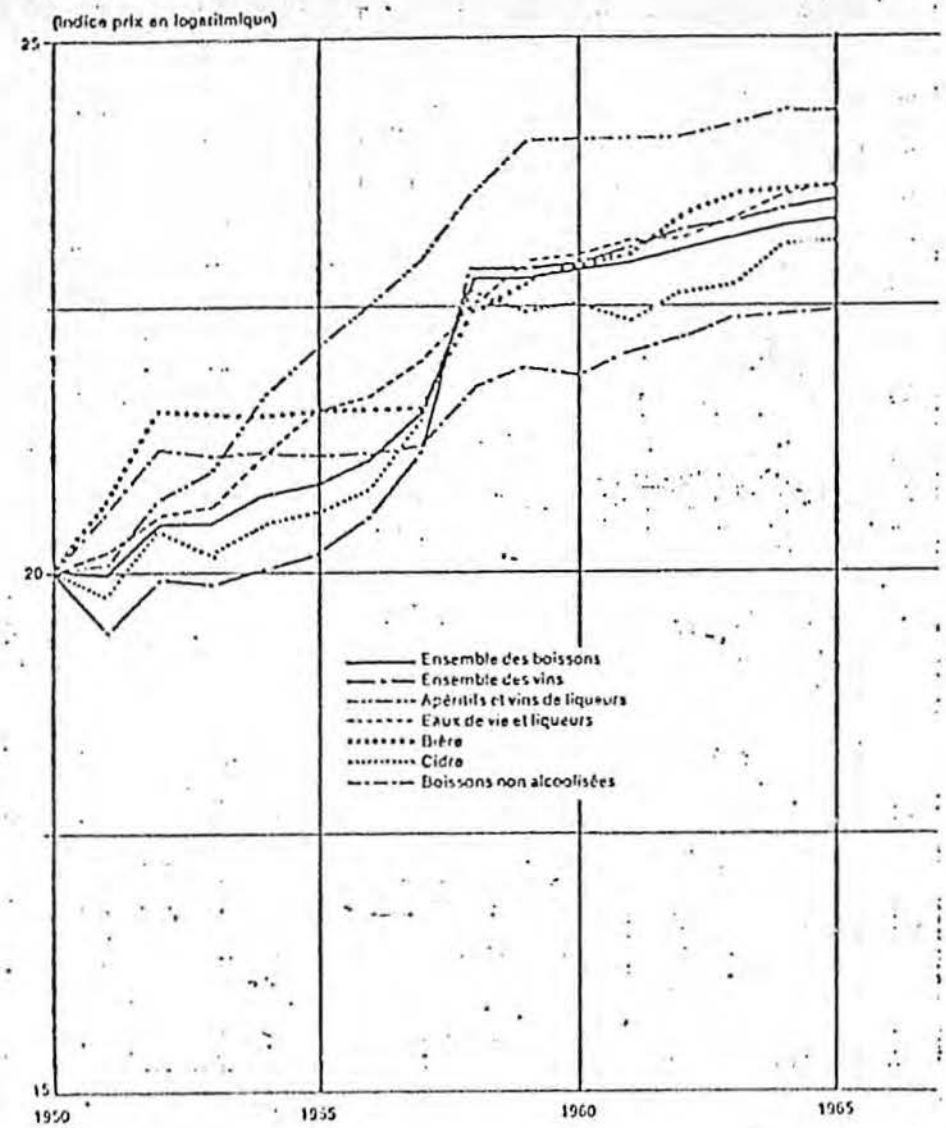
f. Medium Beer, off-sale



g. Total sales, litres per adult



EVOLUTION DU PRIX DES BOISSONS EN FRANCE DE 1950 A 1965



Indices des prix à la consommation, 1951=100

1948	77
1951	100
1952	111
1953	110
1954	110
1955	111
1956	113
1957	116
1958	133
1959	142
1960	147
1961	152
1962	159
1963	167
1964	173
1965	177

TABLEAU I

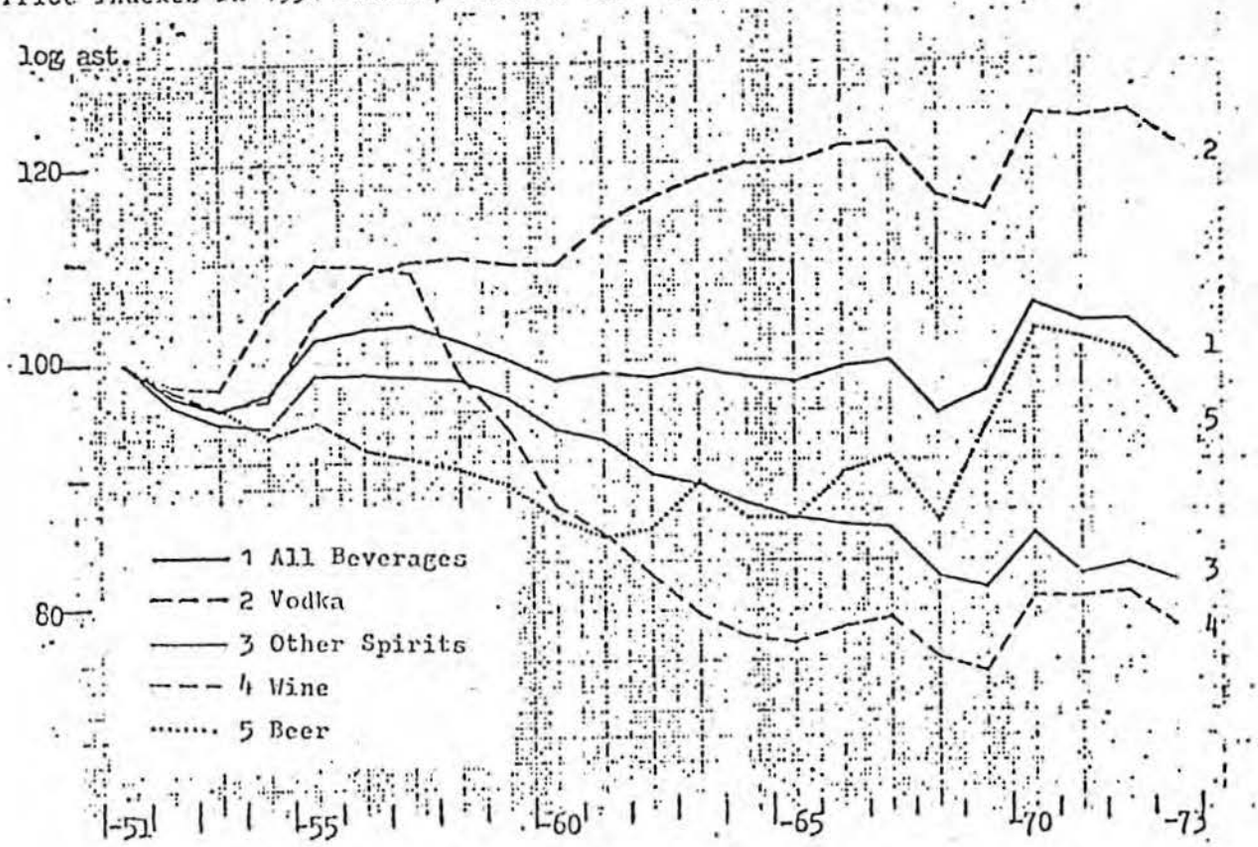
EVOLUTION DE LA CONSOMMATION DES BOISSONS ET DE LA CONSOMMATION TOTALE EN FRANCE DE 1950 A 1965

	1950	1951	1952	1953	1954	1955	1956	1957	1958	1959	1960	1961	1962	1963	1964	1965
Vins courants	100,0	95,6	100,9	102,7	107,3	110,0	111,4	117,7	113,7	103,5	110,0	110,5	114,1	114,4	116,6	117,2
Vins Champagne	100,0	100,0	100,0	100,0	117,0	133,0	155,0	176,0	136,0	141,0	172,0	190,8	29,7	231,1	256,5	295,0
V.D.N.	100,0	100,0	111,4	121,4	161,4	187,1	221,3	248,6	173,6	240,0	235,7	278,1	293,7	310,1	325,0	341,2
Vins A.O.C.	100,0	138,2	147,5	149,3	162,3	177,7	194,7	177,0	164,0	180,0	225,4	207,2	225,6	239,6	244,6	258,2
Ensemble vins	100,0	105,6	109,9	111,8	116,4	123,6	122,1	124,1	115,9	117,9	125,9	125,5	130,4	134,8	138,2	141,7
Apér. et vins de liqueurs	100,0	105,6	104,7	94,1	87,6	78,1	82,6	84,8	76,7	75,3	77,8	85,9	92,8	104,3	119,7	135,3
Eaux de vie et liqueurs	100,0	116,8	112,9	109,4	100,0	88,1	96,5	94,6	88,9	87,1	90,3	94,4	99,3	112,8	113,1	121,6
Bière	100,0	104,4	115,2	123,9	130,4	143,5	150,0	187,0	210,9	228,3	204,3	252,3	250,5	253,8	293,1	231,4
Cidre	100,0	102,0	103,4	93,9	87,2	84,5	71,6	67,6	58,8	62,2	59,1	57,1	54,2	54,4	57,5	46,8
Boissons non alcooliées	100,0	108,4	119,6	132,9	143,4	179,7	195,8	227,3	215,4	232,9	244,5	289,2	309,2	344,8	397,6	390,8
Ensemble des boissons	100,0	106,3	108,8	110,1	111,5	115,4	117,3	121,3	116,4	119,5	123,8	129,0	134,7	142,5	151,5	156,3
Consommation totale	100,0	106,7	110,4	116,4	121,2	128,0	136,9	144,8	145,3	148,1	156,1	165,0	176,7	188,9	197,4	204,0

Source: Effets du prix et du revenu sur la consommation des boissons dans les Etats membres des Communautés, Bruxelles 1972.

Appendix 2 I. FINLAND

Price Indexes in 1951 Prices, Finland 1951-1973, 1951=100.



The Consumption of Alcoholic Beverages in 100 % alcohol litres per capita, Finland 1951-1972

	Vodka			Other Spirits			Wine			Beer			All Beverages		
	off	on	Σ	off	on	Σ	off	on	Σ	off	on	Σ	off	on	Σ
Koko maa 1972	0,997	0,251	1,248	0,728	0,213	0,941	0,530	0,104	0,634	1,430	0,847	2,277	3,685	1,415	5,100
Vuonna 1971	1,019	0,224	1,243	0,638	0,182	0,820	0,521	0,081	0,602	1,281	0,774	2,055	3,459	1,261	4,720
« 1970	0,882	0,211	1,093	0,499	0,166	0,665	0,487	0,078	0,565	1,250	0,729	1,979	3.118	1,184	4,302
« 1969	0,801	0,182	0,983	0,446	0,158	0,604	0,436	0,081	0,517	1,407	0,697	2,104	3,090	1,118	4,208
« 1968	0,732	0,115	0,847	0,441	0,141	0,582	0,440	0,070	0,510	0,577	0,361	0,938	2,190	0,667	2,677
« 1967	0,711	0,090	0,801	0,475	0,150	0,625	0,409	0,068	0,477	0,465	0,270	0,735	2,060	0,578	2,638
« 1966	0,695	0,061	0,756	0,482	0,177	0,659	0,377	0,070	0,447	0,408	0,225	0,633	1,962	0,533	2,495
« 1965	0,701	0,046	0,747	0,460	0,184	0,644	0,335	0,067	0,402	0,363	0,196	0,559	1,859	0,493	2,352
« 1964	0,700	0,015	0,715	0,426	0,184	0,610	0,295	0,067	0,362	0,316	0,179	0,495	1,737	0,475	2,212
« 1963	0,736	0,017	0,753	0,433	0,191	0,624	0,247	0,067	0,314	0,280	0,170	0,450	1,696	0,475	2,171
Koko maa 1962	0,762	0,052	0,814	0,413	0,197	0,610	0,196	0,063	0,259	0,259	0,168	0,427	1,630	0,480	2,110
Vuonna 1961 ..	0,779	0,059	0,838	0,350	0,185	0,535	0,166	0,060	0,226	0,227	0,168	0,395	1,512	0,472	2,014
» 1960 ..	0,795	0,061	0,856	0,279	0,169	0,448	0,140	0,054	0,194	0,186	0,163	0,349	1,400	0,447	1,847
» 1959 ..	0,785	0,063	0,848	0,221	0,156	0,377	0,115	0,046	0,161	0,170	0,160	0,330	1,291	0,425	1,716
» 1958 ..	0,708	0,063	0,771	0,229	0,151	0,380	0,112	0,040	0,152	0,159	0,158	0,317	1,208	0,412	1,620
» 1957 ..	0,662	0,062	0,724	0,272	0,158	0,430	0,195	0,043	0,238	0,167	0,165	0,332	1,296	0,428	1,724
» 1956 ..	0,662	0,065	0,727	0,321	0,164	0,485	0,248	0,051	0,299	0,153	0,170	0,323	1,384	0,450	1,834
» 1955 ..	0,701	0,069	0,773	0,351	0,171	0,525	0,289	0,057	0,346	0,153	0,169	0,322	1,509	0,466	1,975
» 1954 ..	0,625	0,067	0,692	0,375	0,161	0,536	0,288	0,059	0,347	0,134	0,175	0,309	1,422	0,462	1,884
» 1953 ..	0,529	0,061	0,590	0,132	0,155	0,587	0,313	0,057	0,370	0,133	0,171	0,307	1,407	0,447	1,854
» 1952 ..	0,565	0,052	0,617	0,502	0,183	0,685	0,198	0,055	0,253	0,149	0,170	0,319	1,414	0,460	1,874
» 1951 ..	0,624	0,032	0,656	0,199	0,207	0,906	0,058	0,042	0,100	0,150	0,174	0,324	1,331	0,455	1,786
» 1938 ..	0,816	0,011	0,860	0,133	0,088	0,221	0,018	0,010	0,088	0,037	0,232	0,264	1,059	0,374	1,433

SCOMM

#6:28

Public Revenues *from* Alcohol Beverages

DISTILLED SPIRITS COUNCIL OF THE UNITED STATES, INC.
WASHINGTON, D.C. 20004

Compiled and
prepared by
Division of Research
& Statistics

1300 Pennsylvania
Building
Washington, D.C.
20004

1974

PUBLIC REVENUES from ALCOHOL BEVERAGES

Distilled Spirits Council of the United States, Inc. • Washington, D.C. 20004

Foreword

This publication is a compilation of public revenues from alcohol beverages received by Federal, State, and Local Governments for the year 1974.

Included in this report are federal excise, rectification, and occupational taxes, import duties, and miscellaneous direct levies. State and local revenues include such things as excise and sales taxes, profits from state store markups, license fees, gross income taxes, and brand registration fees. In all cases the term "alcohol beverages" refers to an aggregation of distilled spirits, beer, and wine. Most of the data are based on a calendar year; in some states, however, only fiscal-year revenues were obtainable. We have carefully noted the calendar period reflected in each of our figures. State and local revenue figures contained in this publication were gathered by surveying the relevant taxing authorities.

The first section lists total annual public revenues received by all levels of government from alcohol beverages from 1933 through 1974. The second section summarizes these revenues by each of the three levels of government.

The final section (beginning on page thirteen) itemizes, state-by-state, individual taxes and fees, including profits from the operation of state liquor stores, and the revenues attributable to each. This section also indicates the method of control within a state, contains a summary statement regarding the allocation of revenues from alcohol beverages, and includes miscellaneous memorandum comments of interest.

As in the past, when actual receipts were not available, estimates were made by us. Consultations with state and local officials together with improved methodology have enabled us to refine the estimated figures and to determine with greater accuracy whether revenues accrue to state or local authorities. Revised 1973 figures for the states affected are available from the Research and Statistics Division.

We wish to express our sincere appreciation to the personnel of local and state control, licensing, and taxing authorities, and of the Bureau of Alcohol, Tobacco, and Firearms, who so graciously supplied us with the special compilations which make this publication possible.

PUBLIC REVENUES FROM ALCOHOL BEVERAGES 1933–1974

1933	$ 29,704,194
1934	593,566,164
1935	734,937,878
1936	932,145,167
1937	1,022,275,727
1938	947,277,086
1939	1,010,384,672
1940	1,140,110,006
1941	1,395,963,718
1942	1,750,166,010
1943	1,994,841,386
1944	2,703,517,984
1945	3,020,750,637
1946	3,482,244,916
1947	3,111,889,647
1948	2,953,480,752
1949	2,983,279,805
1950	3,261,417,440
1951	3,334,798,423
1952	3,597,757,178
1953	3,730,792,083
1954	3,616,939,888
1955	3,785,058,733
1956	4,096,920,296
1957	3,984,288,138
1958	4,064,527,882
1959	4,298,465,834
1960	4,481,901,665
1961	4,687,872,807
1962	4,871,299,170
1963	5,076,785,415
1964	5,475,785,819
1965	5,712,159,017
1966	5,921,959,616
1967	6,496,345,257
1968	6,823,046,409
1969	7,473,678,631
1970	7,681,639,657
1971	7,964,856,723
1972	8,313,876,306
1973	8,946,265,805
1974	9,331,487,067
Total	$166,836,461,00[illegible]

From Repeal until December 31, 1933.

ALCOHOL BEVERAGE REVENUE RISES TO 9.3 BILLION DOLLARS IN 1974

Public revenues from alcohol beverages during calendar year amounted to $9,331,487,067 an increase of $385,221,262 over the collections of $8,946,265,805 for 1973.

Collections from this source in 1974 showed increases at all levels of government. Federal collections increased 2.1 percent to $5,532,096,765. State receipts of $3,445,104,151 represented an increase of 7.1 percent and local revenue returns increased 13.3 percent to $354,286,151.

During the 41 years of legal control, the total public revenues collected from alcohol beverages have amounted to $166,836,461,008. The amount of these returns to the various levels of government for each of the past twenty-five years is shown in the following table:

PUBLIC REVENUES FROM ALCOHOL BEVERAGES

Year	Federal	State	Local	Total
1950	$ 2,447,479,115	$ 743,035,993	$ 70,902,331	$ 3,261,417,440
1951	2,490,236,305	769,773,020	74,789,097	3,334,798,423
1952	2,756,194,322	764,072,666	77,490,189	3,597,757,178
1953	2,853,943,000	794,731,775	82,117,308	3,730,792,083
1954	2,757,296,000	772,662,750	86,981,138	3,616,939,888
1955	2,852,552,000	842,949,605	89,557,128	3,785,058,733
1956	3,085,327,000	920,658,553	90,934,743	4,096,920,296
1957	2,943,241,000	943,553,691	97,493,447	3,984,288,138
1958	3,015,967,000	951,391,960	97,168,922	4,064,527,882
1959	3,154,556,000	1,043,080,668	100,829,166	4,298,465,834
1960	3,229,259,000	1,135,748,613	116,894,052	4,481,901,665
1961	3,339,282,000	1,225,029,369	123,561,438	4,687,872,807
1962	3,453,418,000	1,290,764,105	127,117,065	4,871,299,170
1963	3,560,421,000	1,387,894,015	128,470,400	5,076,785,415
1964	3,777,435,800	1,554,611,528	143,738,491	5,475,785,819
1965	3,879,648,164	1,660,567,934	171,942,919	5,712,159,017
1966	3,957,973,352	1,789,058,506	174,927,758	5,921,959,616
1967	4,313,028,407	1,967,823,422	215,493,428	6,496,345,257
1968	4,407,976,403	2,181,053,455	234,016,551	6,823,046,409
1969	4,855,583,410	2,358,571,280	259,523,941	7,473,678,631
1970	4,848,002,354	2,553,108,399	280,528,904	7,681,639,657
1971	4,992,446,039	2,704,923,358	267,487,326	7,964,856,723
1972	5,059,795,081	2,971,589,987	282,491,238	8,313,876,306
1973	5,415,932,900	3,217,583,586r	312,749,319r	8,946,265,805
1974	5,532,096,765	3,445,1[illegible]4,151	354,286,151	9,331,487,067

r–Revised

FEDERAL REVENUES

The Federal government collected $5,532,096,765 from various taxes and duties on alcohol beverages in 1974. The receipts represented an increase of $116,163,865 in comparison of collections from this source in 1973.

Ninety-seven percent of these collections were from excise taxes which totaled $5,392,168,780 or an increase of $117,245,505 over the previous year. Receipts from import duties amounted to $94,178,464. Returns from rectification tax of $24,494,885 represented a decrease of 12.0 percent. Collections from special and occupational taxes showed an increase of 6.0 percent, while seizures, penalties, etc. were down 37.8 percent.

FEDERAL TAX COLLECTIONS FROM ALCOHOL BEVERAGES

Class of Tax	1974	Percent to Total	1973 r	Percent to Total	Increase or Decrease	Percent Increase or Decrease
Excise Taxes:						
Domestic	$4,594,016,570	83.1	$4,491,707,135	82.9	$102,309,435	2.3
Imported	798,152,210	14.4	783,216,140	14.5	14,936,070	1.9
Total Excise Taxes	5,392,168,780	97.5	5,274,923,275	97.4	117,245,505	2.2
Import Duties	94,178,464	1.7	92,775,208	1.7	1,403,256	1.5
Rectification Tax	24,494,885	0.4	27,821,072	0.5	(–3,326,187)	(–12.0)
Special & Occupational	20,716,286	0.4	19,548,374	0.4	1,167,912	6.0
Seizures, Penalties, Etc.	538,350	–	864,971	–	(–326,621)	(–37.8)
TOTAL	$5,532,096,765	100.0	$5,415,932,900	100.0	$116,163,865	2.1

 r–Revised

FEDERAL TAX COLLECTIONS FROM ALCOHOL BEVERAGES

Taxes and duties from distilled spirits in 1974 of $4,029,019,717 accounted for 72.8 percent of the total Federal collections from alcohol beverages. Collections from beer amounted to $1,313,007,782 and returns from wine taxes $190,069,266. Total Federal collections from distilled spirits in 1974 represented an increase of 2.0 percent, receipts from beer were up 4.4 percent and returns from wine taxes showed a decrease of 8.0 percent compared to 1973.

Class of Product	1974	Percent to Total	1973[r]	Percent to Total	Increase or Decrease	Percent Increase or Decrease
Spirits						
Excise Taxes	$3,921,117,765		$3,841,873,171		$ 79,244,594	2.1
Import Duties	70,135,860		67,961,157		2,174,703	3.2
Rectification Tax	24,494,885		27,821,072		(- 3,326,187)	(-12.0)
Special & Occupational	12,732,857		12,869,692		(- 136,835)	(- 1.1)
Seizures, Penalties, Etc.	538,350		864,971		(- 326,621)	(-37.8)
Total Spirits	$4,029,019,717	72.8	$3,951,390,063	73.0	$ 77,629,654	2.0
Beer						
Excise Taxes	$1,306,871,151		$1,252,659,923		$ 54,211,228	4.3
Import Duties	2,632,330		2,122,708		509,622	24.0
Special & Occupational	3,504,301		3,258,283		246,018	7.6
Total Beer	$1,313,007,782	23.7	$1,258,040,914	23.2	$ 54,966,868	4.4
Wine						
Excise Taxes	$ 164,179,864		$ 180,390,181		$(-16,210,317)	(- 9.0)
Import Duties	21,410,274		22,691,343		(- 1,281,069)	(- 5.6)
Special & Occupational	4,479,128		3,420,399		1,058,729	31.0
Total Wine	$ 190,069,266	3.5	$ 206,501,923	3.8	$(-16,432,657)	(- 8.0)
Total	$5,532,096,765	100.0	$5,415,932,900	100.0	$116,163,865	2.1

r–Revised

FEDERAL EXCISE TAX RATES ON ALCOHOL BEVERAGES

Class of Product	Rate
Distilled Spirits	$10.50 on each proof gallon
Beer	$ 9.00 per barrel of 31 gallons
Wine	Still wines – Rates per wine gallon
	(a) Not over 14% of alcohol by volume – 17 cents
	(b) Over 14% and not exceeding 21% of alcohol by volume – 67 cents
	(c) Over 21% and not exceeding 24% of alcohol by volume – $2.25
	Champagne and other sparkling wines – $3.40 per wine gallon
	Artificially carbonated wines – $2.40 per wine gallon

FEDERAL LIQUOR TAX COLLECTIONS

Fiscal Years 1945 – 1974

(In Thousands of Dollars)

Year	Distilled Spirits	Beer	Wine	Total All Federal Liquor Tax Collections
1945	$ 1,616,901	$ 642,802	$ 49,802	$ 2,309,504
1946	1,810,637	653,949	61,356	2,525,942
1947	1,751,769	665,081	57,758	2,474,608
1948	1,492,566	701,119	61,617	2,255,302
1949	1,453,215	690,803	66,529	2,210,548
1950	1,473,694	672,195	73,239	2,219,127
1951	1,809,310	669,471	67,916	2,546,697
1952	1,731,907	740,301	76,785	2,548,993
1953	1,929,986	768,681	82,163	2,780,830
1954	1,928,100	774,900	79,904	2,782,904
1955	1,900,294	742,784	83,017	2,726,096
1956	2,044,959	770,581	87,751	2,903,291
1957	2,103,160	763,112	88,672	2,954,944
1958	2,074,990	762,660	91,617	2,929,268
1959[a]	2,117,511	772,505	92,442	2,982,458
1960	2,271,194	800,880	100,369	3,172,442
1961	2,290,572	800,206	97,803	3,188,581
1962	2,394,163	818,000	99,922	3,312,085
1963	2,469,565	830,823	103,733	3,404,121
1964	2,536,138	891,922	110,242	3,538,303
1965	2,703,489	919,944	112,436	3,735,869
1966	2,766,899	891,952	112,573	3,771,423
1967	2,957,035	945,745	122,492	4,025,271
1968	3,138,847	963,019	127,254	4,229,121
1969	3,316,915	1,007,313	157,389	4,481,617
1970	3,501,538	1,081,507	163,337	4,746,382
1971	3,515,487	1,107,722	177,273	4,800,482
1972	3,760,915	1,167,863	181,223	5,110,001
1973	3,755,516	1,202,973r	191,025r	5,149,514
1974	3,918,971	1,265,990	173,515	5,358,476

r – Revised.

[a] Alaska and Hawaii became states in 1959.

The data shown are exclusive of import duties and are not entirely indicative of the Federal tax burden of the respective states since the taxes paid by distilleries, wineries, and breweries may be eventually borne by persons of other states. Individual state collections previously shown on this page are not available.

NOTE: Collections were reported only in thousands of dollars and collections under $500 were not reported, so detail may not add to totals. Collections listed are exclusive of import duties collected.

SOURCE: Internal Revenue Service, U.S. Treasury Department.

STATE REVENUES

Alcohol beverages produced $3,445,104,151 in revenue for the fifty states and the District of Columbia in 1974. This figure represents net revenue after deducting the cost of goods sold and cost of sales operations in those states operating state store systems and cost of administration in both control and license states were available.

Forty-six percent of this revenue was derived from state taxes exclusive of the general sales tax; twenty-two percent from state store profits; twenty-eight percent from general sales taxes and four percent from license fees and miscellaneous income. The following table shows an increase of $227,520,565 in 1974 over 1973. Significant increases were reported in collections from ABC taxes, sales taxes, and state store profits in 1974.

STATE REVENUES FROM ALCOHOL BEVERAGES

Class	1974	Percent to Total	1973r	Percent to Total	Increase or Decrease	Percent Change
ABC Taxes	$1,611,870,894	45.5	$1,521,343,973	45.9	$ 90,526,921	6.0
State Store Profits	761,528,682	21.5	755,921,242	22.8	5,607,440	0.7
Sales Tax	1,016,216,014	28.6	888,284,128	26.8	127,931,886	14.4
License Fees	138,340,569	3.9	134,073,721	4.0	4,266,848	3.2
Misc. Income	17,331,475	0.5	15,137,440	0.5	2,194,035	14.5
Gross Revenue	$3,545,287,634	100.0	$3,314,760,504	100.0	$230,527,130	7.0
Administrative Costs	100,183,483		97,176,918		3,006,565	3.1
Net profit	$3,445,104,151		$3,217,583,586		$227,520,565	7.1

r–Revised

All but 5 states reported increased receipts from alcohol beverages in 1974. The average per capita state and local revenue from alcohol beverages in 1974 amounted to $17.97.

The range of per capita revenue in 50 states which have legalized the sale of distilled spirits extended from a low of $7.53 in Kansas to a high of $37.42 in Nevada.

LOCAL REVENUE

Total local revenues from alcohol beverages in 1974 amounted to $354,286,151 or an increase of $41,536,832 over the receipts from this source in 1973.

STATE PER CAPITA REVENUE FROM ALCOHOL BEVERAGES – 1974

	State	Estimated Population In Thousands[a]	State and Local Revenue	Per Capita Revenue	
1	Alabama	3577	$ 76,325,209	$21.34	1
2	Alaska	337	6,234,321	18.50	2
3	Arizona	2,153	29,782,626	13.83	3
4	Arkansas	2,062	18,056,464	8.76	4
5	California	20,907	323,084,722	15.45	5
6	Colorado	2,496	27,701,128	11.10	6
7	Connecticut	3,088	63,100,280	20.43	7
8	Delaware	573	4,634,384	8.09	8
9	District of Columbia	723	24,685,584	34.14	9
10	Florida	8,090	218,311,387	26.99	10
11	Georgia	4,882	132,425,029	27.13	11
12	Hawaii	847	17,638,931	20.83	12
13	Idaho	799	16,746,755	20.96	13
14	Illinois	11,131	158,659,822	14.25	14
15	Indiana	5,330	52,641,485	9.88	15
16	Iowa	2,855	52,786,135	18.49	16
17	Kansas	2,270	17,097,617	7.53	17
18	Kentucky	3,357	37,426,291	11.15	18
19	Louisiana	3,764	64,835,512	17.23	19
20	Maine	1,047	24,334,353	23.24	20
21	Maryland	4,094	60,599,942	14.80	21
22	Massachusetts	5,800	101,725,436	17.54	22
23	Michigan	9,098	192,044,634	21.11	23
24	Minnesota	3,917	80,486,097	20.55	24
25	Mississippi	2,324	42,569,915	18.32	25
26	Missouri	4,777	43,406,285	9.09	26
27	Montana	735	16,656,299	22.66	27
28	Nebraska	1,543	17,303,600	11.21	28
29	Nevada	573	21,441,005	37.42	29
30	New Hampshire	808	26,684,730	33.03	30
31	New Jersey	7,330	118,003,901	16.10	31
32	New Mexico	1,122	15,901,285	14.17	32
33	New York	18,111	394,962,168	21.81	33
34	North Carolina	5,363	110,424,104	20.59	34
35	North Dakota	637	11,517,734	18.08	35
36	Ohio	10,737	203,542,039	18.96	36
37	Oklahoma	2,709	33,706,275	12.44	37
38	Oregon	2,266	45,357,585	20.02	38
39	Pennsylvania	11,835	177,375,173	14.99	39
40	Rhode Island	937	17,275,257	18.44	40
41	South Carolina	2,784	77,946,911	28.00	41
42	South Dakota	682	11,322,965	16.60	42
43	Tennessee	4,129	76,658,509	18.57	43
44	Texas	12,050	182,260,075	15.13	44
45	Utah	1,173	16,178,783	13.79	45
46	Vermont	470	13,270,927	28.24	46
47	Virginia	4,908	93,837,457	19.12	47
48	Washington	3,476	119,271,508	34.31	48
49	West Virginia	1,791	31,669,683	17.68	49
50	Wisconsin	4,566	74,745,823	16.37	50
51	Wyoming	359	4,736,162	13.19	51
	Total License States	147,771	$2,535,578,851	$17.16	
	Total Control States	63,621	$1,263,811,451	$19.86	
	GRAND TOTAL	211,390	$3,799,390,302	$17.97	

[a]Estimated Population as of July 1, 1974 – Series P-25, No. 539.

Summary

TOTAL PUBLIC REVENUES FROM ALCOHOL BEVERAGES 1974

FEDERAL

Internal Revenue	$5,437,918,301
Import Duties	94,178,464
Total Internal Revenue & Import Duties	**$5,532,096,765**

STATE

Alcohol Beverage Control Revenue	$1,833,233,257
Sales Taxes	1,611,870,894
Total State ABC Revenue & Sales Taxes	**$3,445,104,151**

LOCAL

Alcohol Beverage Control Revenue	$ 354,286,151

GRAND TOTAL

$9,331,487,067

NOTE: The above does not take into account such special taxes as Federal and State corporation income taxes, capital gains taxes, mercantile license taxes, special gross business income taxes, social security taxes, unemployment taxes, etc.

STATE & LOCAL SUMMARY

PUBLIC REVENUES from

State	Total State Sales	State License Fees	State ABC Taxes	Miscellaneous State ABC Income	General Sales Tax	Gross State Receipts	Cost of State Administration, Collection, Etc.
Alabama	$ 122,672,418	$ 260,240	$ 29,704,873	$ 813,566	$ 3,215,169	$ 156,666,266	$ 5,162,141
Alaska	–	807,669	5,681,452	–	–	6,489,121	254,800
Arizona	–	1,655,375	14,620,874	–	10,000,000	26,276,249	228,536
Arkansas	–	737,373	15,774,451	224	1,619,416	18,131,464	375,000
California	–	20,096,311	119,348,000	523,147	148,418,500	288,385,958	9,518,605
Colorado	–	619,541	15,587,048	–	10,877,659	27,084,248	384,953
Connecticut	–	5,094,905	24,608,848	–	34,057,393	63,761,146	660,866
Delaware	–	342,049	4,489,679	42,201	–	4,873,929	239,545
D.C.	–	1,087,015	12,080,662	–	12,000,000	25,167,677	482,093
Florida	–	11,251,315	168,913,954	227,433	36,485,406	216,878,108	1,600,000
Georgia	–	643,253	80,716,446	139,861	29,821,420	111,320,980	1,836,660
Hawaii	–	105	16,144,507	–	–	16,144,612	N.A.
Idaho	27,722,192	624,603	3,115,420	16,322	2,155,871	33,634,408	853,659
Illinois	–	1,047,385	75,696,262	–	56,344,000	133,087,647	985,300
Indiana	–	4,678,574	25,229,843	3,910,000	20,530,000	54,348,417	1,706,932
Iowa	90,620,837	1,202,414	12,915,659	30,964	10,349,445	115,119,319	718,377
Kansas	–	435,900	10,570,010	75,673	6,491,477	17,573,060	671,943
Kentucky	–	920,730	15,439,533	–	15,000,000	31,360,263	510,000
Louisiana	–	1,629,255	40,751,170	1,686	13,300,000	55,682,111	350,000
Maine	43,330,601	987,015	5,982,877	77,643	4,200,000	54,578,136	664,610
Maryland	–	230,790	26,133,825	5,294	26,500,000	52,869,909	802,494
Massachusetts	–	439,515	65,084,448**	22,730	33,000,000	98,546,693	1,524,720
Michigan	353,861,968*	6,796,783	47,393,630	600,788	47,457,331	456,110,500	2,713,262
Minnesota	–	323,150	48,578,916	–	16,100,000	65,002,066	410,917
Mississippi	70,275,541*	1,612,858	16,584,488	309,109	7,477,387	96,259,383	805,330
Missouri	–	1,558,735	22,359,300	880	17,200,000	41,118,915	946,346
Montana	39,728,406*	612,631	1,917,613	9,553	–	42,268,203	***
Nebraska	–	148,386	9,832,168	65,523	5,150,000	15,196,077	448,668
Nevada	–	19,244	8,326,308	–	6,744,358	15,089,910	152,422
New Hampshire	97,805,059	471,537	3,171,107	33,511	–	101,481,214	340,707
New Jersey	–	1,450,877	56,750,054	756,436	54,000,000	112,957,367	1,815,815
New Mexico	–	287,292	5,630,715	9,895	9,555,000	15,482,902	467,011
New York	–	33,470,047	154,573,346	72,775	125,000,000	313,116,168	8,154,000
North Carolina	–	439,639	77,817,856	–	9,275,000	87,532,495	1,202,544
North Dakota	–	222,134	5,858,600	–	4,000,000	10,080,734	63,000
Ohio	367,312,608*	11,424,319	33,576,838	389,697	34,214,240	446,917,702	9,821,914
Oklahoma	–	867,791	30,112,904	–	1,896,827	32,877,522	607,356
Oregon	101,160,922	906,314	3,334,400	101,564	–	105,503,200	1,689,634
Pennsylvania	513,705,112	8,350,188	25,187,067	4,811,764	–	552,054,131	18,700,427
Rhode Island	–	49,700	7,330,319	3,257	9,100,000	16,483,276	208,110
South Carolina	–	2,196,710	61,801,709	644,530	14,500,000	79,142,949	1,196,038
South Dakota	–	104,258	6,554,982	47,425	3,200,000	9,906,665	26,780
Tennessee	–	697,622	36,262,039	57,323	11,726,000	48,7[illegible]2,984	795,590
Texas	–	6,781,014	83,396,137	22,637	83,842,893	174,042,681	7,100,516
Utah	34,592,521*	70,550	1,509,503	18,344	1,436,000	37,626,918	656,237
Vermont	34,918,542*	278,710	2,829,449	16,796	1,500,000	39,543,497	406,096
Virginia	202,200,111*	1,153,960	19,446,373	1,753,019	11,900,000	236,453,463	7,748,766
Washington	196,989,550	2,699,921	9,488,789	698,689	27,363,429	237,240,378	1,907,676
West Virginia	66,905,419*	456,814	6,464,774	1,007,721	2,647,793	77,482,521	1,263,899
Wisconsin	–	88,130	37,003,741	1,160	34,964,000	72,057,031	671,000
Wyoming	17,575,377*	9,923	187,928	12,335	1,600,000	19,385,563	332,188
Total License States	–	$ 99,982,150	$1,311,242,250	$ 6,630,090	$ 851,424,349	$2,269,278,839	$ 45,196,016
Total Control States	$2,381,377,184	$ 38,358,419	$ 300,628,644	$10,701,385	$ 164,791,665	$2,895,857,297	$ 54,987,467
Grand Total	$2,381,377,184	$138,340,569	$1,611,870,894	$17,331,475	$1,016,216,014	$5,165,136,136	$100,183,483

* Includes state excise taxes which are part of a state's mark-up formula.
** Includes 14% surtax.
*** Included in cost of sales operations.
N.A. – Not Available.

ALCOHOL BEVERAGES, 1974

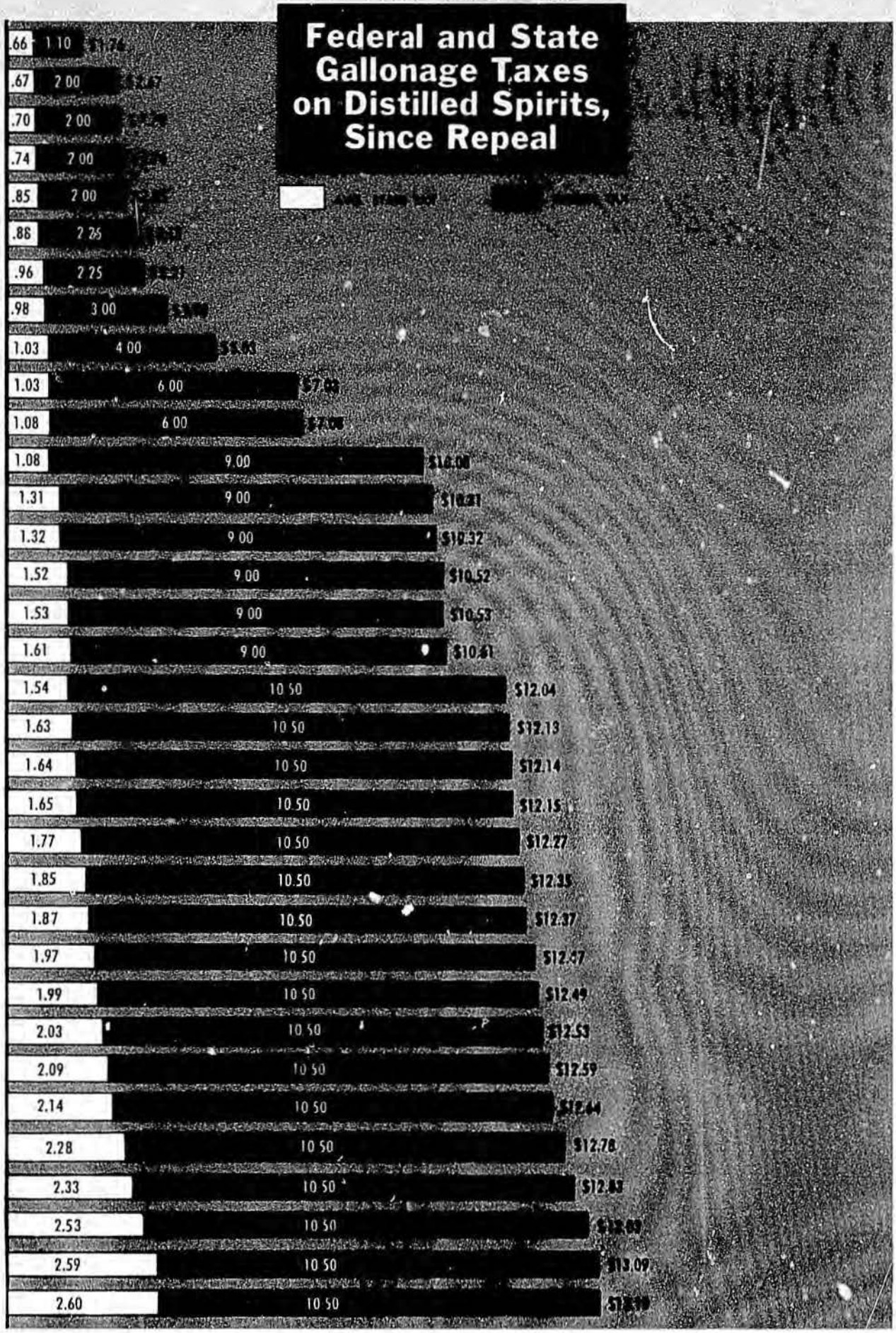
STATE & LOCAL SUMMARY

Cost of Goods Sold	Cost of Sales Operations	Total State ABC Costs	Net State ABC Revenue	Local ABC Revenue	Total State & Local Revenue	Total State & Local Revenue 1934-1974	State
$ 71,964,215	$ 9,582,009	$ 86,708,365	$ 69,957,901	$ 6,367,308	$ 76,325,209	$ 939,057,692	Alabama
–	–	254,800	6,234,321	–	6,234,321	67,095,365	Alaska (A)
–	–	228,536	26,047,713	3,734,913	29,782,626	309,181,921	Arizona
–	–	375,000	17,756,464	300,000	18,056,464	296,226,452	Arkansas
–	–	9,518,605	278,867,353	44,217,369	323,084,722	4,384,360,203	California
–	–	384,953	26,699,295	1,001,833	27,701,128	316,662,238	Colorado
–	–	660,866	63,100,280	–	63,100,280	803,850,105	Connecticut
–	–	239,545	4,634,384	–	4,634,384	70,893,001	Delaware
–	–	482,093	24,685,584	–	24,685,584	377,477,701	D.C.
–	–	1,600,000	215,278,108	3,033,279	218,311,387	2,349,357,821	Florida
–	–	1,836,660	109,484,320	22,940,709	132,425,029	1,392,288,197	Georgia
–	–	–	16,144,612	1,494,319	17,638,931	133,906,804	Hawaii (B)
14,887,072	1,946,922	17,687,653	15,946,755	800,000	16,746,755	241,455,294	Idaho
–	–	985,300	132,102,347	26,557,475	158,659,822	2,682,384,797	Illinois
–	–	1,706,932	52,641,485	–	52,641,485	786,894,788	Indiana
57,233,958	7,265,121	65,217,456	49,901,863	2,884,272	52,786,135	714,483,719	Iowa
–	–	671,943	16,901,117	196,500	17,097,617	219,814,057	Kansas
–	–	510,000	30,850,263	6,576,028	37,426,291	766,402,287	Kentucky
–	–	350,000	55,332,111	9,503,401	64,835,512	993,841,990	Louisiana
26,287,122	3,292,051	30,243,783	24,334,353	–	24,334,353	404,986,627	Maine
–	–	802,494	52,067,415	8,532,527+	60,599,942	734,810,869	Maryland
–	–	1,524,720	97,021,973	4,703,463	101,725,436	1,306,171,753	Massachusetts
248,835,327	12,517,277	264,065,866	192,044,634	–	192,044,634	3,013,750,511	Michigan
–	–	410,917	64,591,149	15,894,948	80,486,097	1,094,305,097	Minnesota
52,206,502	794,320	53,806,152	42,453,231	116,684	42,569,915	415,286,059	Mississippi
–	–	946,346	40,172,569	3,233,716	43,406,285	636,964,394	Missouri
22,424,074	3,418,004	25,842,078	16,426,125	230,174	16,656,299	280,803,231	Montana
–	–	448,668	14,747,409	2,556,191	17,303,600	216,213,756	Nebraska
–	–	152,422	14,937,488	6,503,517	21,441,005	171,654,322	Nevada
68,982,791	5,472,986	74,796,484	26,684,730	–	26,684,730	330,050,817	New Hampshire
–	–	1,815,815	111,141,552	6,862,349	118,003,901	1,255,356,274	New Jersey
–	–	467,011	15,015,891	885,394	15,901,285	190,528,337	New Mexico
–	–	8,154,000	304,962,168	90,000,000	394,962,168	5,293,761,865	New York
–	–	1,202,544	86,329,951	24,094,153++	110,424,104	1,227,187,842	North Carolina
–	–	63,000	10,017,734	1,500,000	11,517,734	175,661,201	North Dakota
215,873,665	20,380,084	246,075,663	200,842,039	2,700,000	203,542,039	3,485,427,143	Ohio
–	–	607,356	32,270,166	1,436,109	33,706,275	400,587,102	Oklahoma
53,300,694	5,155,287	60,145,615	45,357,585	–	45,357,585	680,513,604	Oregon
291,175,790	64,802,741	374,678,958	177,375,173	–	177,375,173	3,958,235,517	Pennsylvania
–	–	208,110	16,275,166	1,000,091	17,275,257	242,241,030	Rhode Island
–	–	1,196,038	77,946,911	–	77,946,911	880,272,684	South Carolina
–	–	26,780	9,879,885	1,443,080	11,322,965	149,242,311	South Dakota
–	–	795,590	47,947,394	28,711,115	76,658,509	740,095,378	Tennessee
–	–	7,100,516	166,942,165	15,317,910	182,260,075	1,483,936,111	Texas
19,311,394	1,949,161	21,916,792	15,710,126	468,657	16,178,783	244,536,306	Utah
23,870,445	2,106,804	26,383,345	13,160,152	110,775	13,270,927	185,676,935	Vermont
124,983,743	14,603,497	147,336,006	89,117,457	4,720,000	93,837,457	1,351,250,803	Virginia
102,701,293	13,359,901	117,968,870	119,271,508	–	119,271,508	1,580,500,381	Washington
37,077,580	7,471,359	45,812,838	31,669,683	N.A.	31,669,683	588,471,302	West Virginia
–	–	671,000	71,386,031	3,359,792	74,745,823	919,876,816	Wisconsin
14,114,335	500,978	14,947,501	4,438,062	298,100	4,736,162	78,649,671	Wyoming
–	–	$ 45,196,016	$2,224,082,823	$311,496,028	$2,535,578,851	$31,842,317,027	Total License States
$1,445,230,000	$174,618,502	$1,674,835,969	$1,221,021,328	$ 42,790,123	$1,263,811,451	$19,720,323,454	Total Control States
$1,445,230,000	$174,618,502	$1,720,031,985	$3,445,104,151	$354,286,151	$3,799,390,302	$51,562,640,481	GRAND TOTAL

\+ Includes profits of county-operated stores in Maryland
++ Includes profits of county stores in North Carolina.

(A) Alaska revenue for years 1959-1974.
(B) Hawaii revenue for years 1960-1974.

Federal and State Gallonage Taxes on Distilled Spirits, Since Repeal



Source: DISCUS