

This PDF is a selection from an out-of-print volume from the National Bureau of Economic Research

Volume Title: A Study of Aggregate Consumption Functions

Volume Author/Editor: Robert Ferber

Volume Publisher: NBER

Volume ISBN: 0-87014-453-7

Volume URL: <http://www.nber.org/books/ferb53-1>

Publication Date: 1953

Chapter Title: Appendix B: Basic Data and List of Computed Functions

Chapter Author: Robert Ferber

Chapter URL: <http://www.nber.org/chapters/c0825>

Chapter pages in book: (p. 64 - 69)

## Appendix B

### BASIC DATA AND LIST OF COMPUTED FUNCTIONS

Table B-1

#### BASIC DATA USED IN COMPUTATIONS<sup>a</sup>

	S (\$ bil.)	Y (\$ bil.)	N (mil.)	P (1935-39=100)	Y <sub>0</sub> <sup>b</sup> (\$ bil.)	M (\$ bil.)
1922	3.5	56.7	110.0	119.7		
1923	4.8	65.0	111.9	121.9	56.7	
1924	3.0	66.4	114.1	122.2	65.0	
1925	3.4	70.9	115.8	125.4	66.4	
1926	2.5	73.6	117.4	126.4	70.9	
1927	3.1	74.3	119.0	124.0	73.6	
1928	1.9	76.5	120.5	122.6	74.3	54.678
1929	3.7	82.5	121.8	122.5	76.5	55.171
1930	2.9	73.7	123.1	119.4	82.5	54.389
1931	1.8	63.0	124.0	108.7	82.5	52.883
1932	-1.4	47.8	124.8	97.6	82.5	45.415
1933	-1.2	45.2	125.6	92.4	82.5	41.680
1934	-0.2	51.6	126.4	95.7	82.5	45.961
1935	1.8	58.0	127.3	98.1	82.5	49.881
1936	3.6	66.1	128.1	99.1	82.5	55.052
1937	3.9	71.0	128.8	102.7	82.5	57.258
1938	1.0	65.5	129.8	100.8	82.5	56.565
1939	2.7	70.2	130.9	99.4	82.5	60.943
1940	3.7	75.7	132.0	100.2	82.5	66.952
1941	9.8	92.0	133.2	105.2	82.5	74.153
1946	12.0	158.9	141.2	139.3		171.237
1947	3.9	169.5	144.0	159.2	158.9	165.455
1948	10.9	188.4	146.5	171.2	169.5	167.875
1949	8.6	187.4	149.2	169.1	188.4	167.930
1950-H <sub>1</sub>	12.3*	196.5*	151.0	167.7	188.4	

\* At annual rates.

<sup>a</sup> See pages 5-6 for definitions of variables.

<sup>b</sup> The selection of maximum previous values for deflated income ( $Y/P$  and  $Y/NP$ ) for the postwar estimates is a debatable point because the maximum previous values occur in a war year; this does not reflect the standard of living which the nation could otherwise have maintained at that level of income. The procedure followed in this study was to use the 1946 income figure, the income of the first postwar year, as the maximum previous income for the 1947 estimate. However, shortages of consumer goods were still fairly widespread in 1946; moreover, there is some doubt as to the accuracy of the deflation between 1946 and 1947 (see *Conference on Business Cycles* [NBER, 1951], pp. 98-102 and 115). Therefore, the selection of maximum previous deflated income for 1948-50 was made excluding 1946 income from consideration.

Sources: S, Y: 1922-28: Estimates by Harold Barger.

1929-50: National Income Supplements, *Survey of Current Business*, U. S. Department of Commerce.

N: *Statistical Abstract of the United States, 1949*, p. 7; and population releases of U. S. Bureau of the Census.

P: *Statistical Abstract of the United States, 1949*, p. 308; and current issues, *Survey of Current Business*.

M: Successive issues of the *Statistical Abstract of the United States*. Data are called "Total deposits (adjusted) and currency" in source.



Table B-2 (cont.)

FUNCTION NUMBER	FUNCTION*	PERIOD OF OBSERVATION**	R <sup>2</sup>	K†	PERCENTAGE OF ERROR IN ESTIMATE OF SAVINGS†			
					1947	1948	1949	1950-H <sub>1</sub>
(2.5a)	$S = -7.02 + .1952Y - .0568Y_{-1}$ (33.72) (6.78) (1.99)	a	.89	1.594	-335.9	-84.4	-118.6	-68.3
(2.5b)	$S = -5.53 + .2030Y - .0870Y_{-1}$ (24.51) (5.67) (2.42)	b	.74	1.118	-287.2	-65.1	-87.2	-47.1
(2.5c)	$S = -.58 + .1600Y - .1140Y_{-1}$ (2.36) (2.43) (2.34)	c	.36	2.060	-115.4	6.4	8.1	22.8
(2.6a)	$S/P = -10.09 + .2204Y/P - .0306(Y/P)_{-1}$ (41.72) (4.71) (.57)	a	.84	1.231	-303.7	-71.3	-115.9	-68.5
(2.6b)	$S/P = -4.98 + .2391Y/P - .1271(Y/P)_{-1}$ (18.12) (3.73) (1.88)	b	.54	1.130	-143.7	-22.3	-48.0	-22.0
(2.6c)	$S/P = .98 + .1524Y/P - .1311(Y/P)_{-1}$ (4.61) (2.41) (2.19)	c	.35	2.448	40.5	32.3	41.2	
(2.7a)	$S/N = -53.76 + .1996Y/N - .0641(Y/N)_{-1}$ (30.64) (6.40) (2.18)	a	.87	1.494	-303.7	-73.0	-96.6	-54.3
(2.7b)	$S/N = -43.00 + .1998Y/N - .0863(Y/N)_{-1}$ (23.92) (5.67) (2.45)	b	.76	1.169	-251.9	-51.4	-67.2	-33.3
(2.7c)	$S/N = -12.69 + .1748Y/N - .1137(Y/N)_{-1}$ (6.77) (2.81) (2.31)	c	.42	2.034	-140.7	-5.4	-5.2	11.1
(2.8a)	$S/NP = -90.84 + .2420Y/NP - .0284(Y/NP)_{-1}$ (55.66) (5.94) (.64)	a	.88	1.586	-282.4	-62.8	-100.0	-58.3
(2.8b)	$S/NP = -73.89 + .2635Y/NP - .0807(Y/NP)_{-1}$ (39.86) (4.78) (1.38)	b	.68	1.231	-229.4	-48.8	-79.4	-47.9
(2.8c)	$S/NP = .96 + .1598Y/NP - .1229(Y/NP)_{-1}$ (.54) (2.12) (1.97)	c	.32	2.067	-17.6	30.2	20.6	29.2
(2.9a)	$S = -18.17 + .1497Y + .0821N$ (77.12) (7.01) (1.05)	a	.85	1.355	-387.9	-102.4	-157.4	-91.9

Table B-2 (cont.)

(2.9b)	$S = -.82 + .1314Y - .0456N$ (3.20) (4.98) (1.00)	b	.65	1.111	-282.1	-57.8	-97.7	-47.2
(2.9c)	$S = 5.85 + .0325Y - .0419N$ (21.94) (.72) (1.01)	c	.13	2.142	-35.9	46.8	33.7	52.0
(2.10a)	$S/P = 7.98 + .2333Y/P - .1634N$ (39.07) (7.78) (2.03)	a	.88	1.526	-279.2	-52.4	-86.0	-45.2
(2.10b)	$S/P = 12.50 + .2278Y/P - .1968N$ (68.29) (7.54) (5.18)	b	.80	1.271	-242.8	-36.9	-64.8	-29.0
(2.10c)	$S/P = 8.81 + .1474Y/P - .1255N$ (39.31) (2.03) (1.77)	c	.27	1.613	-162.4	-4.4	-26.4	2.7
(2.11a)	$S = -7.74 + .1495Y + .0369T$ (32.93) (7.01) (1.08)	a	.85	1.539	-374.4	-96.3	-147.7	-85.4
(2.11b)	$S = -6.59 + .1334Y - .0149T$ (25.03) (4.95) (.56)	b	.64	1.082	-300.0	-66.1	-108.1	-55.3
(2.11c)	$S = .86 + .0301Y - .0182T$ (3.18) (.65) (.77)	c	.10	2.513	-38.5	45.9	31.4	50.4
(2.12a)	$S/P = -12.80 + .2340Y/P - .0721T$ (62.70) (7.75) (2.02)	a	.88	1.481	-321.2	-72.8	-117.3	-69.0
(2.12b)	$S/P = -11.67 + .2256Y/P - .1017T$ (55.85) (6.41) (4.14)	b	.73	1.059	-275.5	-54.0	-92.5	-50.2
(2.12c)	$S/P = -4.12 + .1074Y/P - .0454T$ (17.17) (1.47) (1.15)	c	.17	1.712	-141.2	2.7	-21.9	7.5
(2.13a)	$S/N = -61.03 + .1493Y/N + .5247T$ (33.84) (7.32) (2.01)	a	.86	1.569	-373.3	-96.1	-144.3	-84.4
(2.13b)	$S/N = -54.78 + .1357Y/N + .1167T$ (25.98) (5.06) (.51)	b	.66	1.041	-303.7	-67.6	-106.9	-55.6
(2.14a)	$S/NP = -100.32 + .2333Y/NP - .2202T$ (62.59) (7.84) (.87)	a	.88	1.606	-291.8	-60.2	-95.9	-53.8

Table B-2 (cont.)

(2.14b)	$S/NP = -94.90 + 2270Y/NP - .4204T$ (58.16) (6.63) (2.61)	b	.75	1.125	-252.9	-44.2	-73.5	-39.6
(2.14c)	$S/NP = -39.92 + .1204Y/NP - .2501T$ (20.62) (1.56) (1.24)	c	.19	1.608	-141.2	2.3	-20.6	8.3
(2.15a)	$S = -7.05 + 1902Y - .0514Y_{-1} + .0131T$ (32.19) (5.74) (1.54) (.37)	a	.89	1.606	-346.2	-87.2	-124.4	-71.5
(2.15b)	$S = -5.28 + 2014Y - .0891Y_{-1} - .0182T$ (23.15) (5.55) (2.45) (.81)	b	.75	1.035	-262.3	-55.6	-74.8	-37.5
(2.15c)	$S = -.25 + .1551Y - .1140Y_{-1} - .0181T$ (1.08) (2.33) (2.32) (.91)	c	.41	2.392	-89.7	17.4	22.1	33.3
(2.16a)	$S/P = -12.07 + .2700Y/P - .0486(Y/P)_{-1} - .0790T$ (59.49) (5.96) (1.06) (2.19)	a	.90	1.146	-273.9	-62.3	-101.0	-60.0
(2.16b)	$S/P = -10.12 + .2866Y/P - .0889(Y/P)_{-1} - .0934T$ (52.05) (6.12) (1.82) (4.01)	b	.79	1.185	-200.8	-39.4	-69.3	-38.6
(2.16c)	$S/P = -2.84 + .2062Y/P - .1243(Y/P)_{-1} - .0378T$ (13.50) (2.58) (2.08) (1.09)	c	.42	2.043	-53.9	15.5	1.2	16.0
(2.17a)	$S/NP = -95.31 + .2649Y/NP$ (58.97) (5.82)	a	.89	1.666	-247.6	-50.2	-80.6	-45.6
	$-.0423(Y/NP)_{-1} - .2888T$ (.92) (1.09)							
(2.17b)	$S/NP = -83.20 + .2818Y/NP$ (53.79) (6.06)	b	.79	1.205	-179.4	-29.3	-51.5	-26.2
	$-.0799(Y/NP)_{-1} - .4189T$ (1.64) (2.75)							
(2.17c)	$S/NP = -25.91 + .2099Y/NP$ (15.10) (2.56)	c	.42	1.942	-43.5	19.3	8.5	19.6
	$-.1206(Y/NP)_{-1} - .2398T$ (2.00) (1.34)							
(2.18b)	$S/Y = .0476 + .0821 \frac{Y - Y_0}{Y}$ (13.91) (6.61)	b	.73	1.209	-130.4	3.4	-2.2	17.7

Table B-2 (concl.)

FUNCTION NUMBER	PERIOD OF OBSERVATION**	FUNCTION*	R <sup>2</sup>	K†	PERCENTAGE OF ERROR IN ESTIMATE OF SAVINGS†			1950-H <sub>1</sub>
					1947	1948	1949	
(2.18c)	c	$S/Y = .0452 + .0350 \frac{Y - Y_0}{Y}$ (13.89) (1.64)	.15	1.710	-104.3	15.5	2.2	24.2
(2.19b)	b	$S/Y = .0407 + .1671 \frac{Y/P - (Y/P)_0}{Y/P}$ (14.88) (8.81)	.83	1.451	-26.1	20.7	8.7	19.4
(2.19c)	c	$S/Y = .0411 + .1242 \frac{Y/P - (Y/P)_0}{Y/P}$ (12.71) (2.49)	.34	1.564	-39.1	22.4	8.7	22.6
(2.20b)	b	$S/Y = .0495 + .0759 \frac{Y/N - (Y/N)_0}{Y/N}$ (13.50) (6.00)	.69	1.117	-130.4	3.4	-4.3	19.4
(2.20c)	c	$S/Y = .0458 + .0283 \frac{Y/N - (Y/N)_0}{Y/N}$ (12.35) (1.35)	.13	1.748	-104.3	17.2	2.2	25.8
(2.21b)	b	$S/Y = .0448 + .1567 \frac{Y/NP - (Y/NP)_0}{Y/NP}$ (15.26) (8.06)	.80	1.350	-30.4	19.0	6.5	19.4
(2.21c)	c	$S/Y = .0441 + .0975 \frac{Y/NP - (Y/NP)_0}{Y/NP}$ (12.98) (2.12)	.27	1.523	-52.2	20.7	6.5	24.2
(2.22b)	b	$S/Y = -.1542 + .1981 \frac{Y/NP}{(47.58) (7.11) (Y/NP)_0}$	.76	1.338	-17.4	19.0	8.7	19.4
(2.22c)	c	$S/Y = -.0650 + .1088 \frac{Y/NP}{(19.39) (2.22) (Y/NP)_0}$	.29	1.521	-47.8	20.7	8.7	24.2

\* Figures in parentheses underneath coefficients are the absolute values of the ratios of those particular coefficients to their standard errors. Origin of *T* is Jan. 1, 1935 for functions fitted to 1929-40 and Jan. 1, 1932 for all others. Each unit of *T* is six months.

\*\* a = 1929-40; b = 1923-40; c = 1923-30, '35-40.

† The von Neumann ratio *K* for testing for the presence of auto-correlation in the residuals is the ratio of the mean-square successive difference to the variance (of the residuals). The

expected values of *K* and the 5% and 1% points of its distribution are as follows:

Expected value	5%	1%
1929-40	1.071, 3.293	.797, 3.567
1923-40	1.206, 3.030	.960, 3.276
1923-30, '35-40	1.123, 3.185	.859, 3.449

‡ Negative signs indicate overestimates; positive signs, underestimates.

NATIONAL BUREAU PUBLICATIONS IN PRINT  
(Partial list)

BOOKS

GENERAL SERIES

- 7 *Income in the Various States: Its Sources and Distribution, 1919, 1920 and 1921* (1925) 306 pp., \$3.50  
Maurice Leven
- 9 *Migration and Business Cycles* (1926) 258 pp., 2.50  
Harry Jerome
- 10 *Business Cycles: The Problem and Its Setting* (1927). Listed also as the first number under Studies in Business Cycles. 514 pp., 5.00  
Wesley C. Mitchell
- 12 *Trends in Philanthropy* (1928) 78 pp., 1.00  
W. I. King
- 20 *The Purchase of Medical Care through Fixed Periodic Payment* (1932) 326 pp., 3.00  
Pierce Williams
- 22 *Seasonal Variations in Industry and Trade* (1933) 480 pp., 4.00  
Simon Kuznets
- †23 *Production Trends in the United States since 1870* (1934) 396 pp., 4.00  
A. F. Burns
- †24 *Strategic Factors in Business Cycles* (1934) 256 pp., 2.50  
J. M. Clark
- 25 *German Business Cycles, 1924-1933* (1934) 308 pp., 2.50  
C. T. Schmidt
- 26 *Industrial Profits in the United States* (1934) 692 pp., 5.00  
R. C. Epstein
- 27 *Mechanization in Industry* (1934) 518 pp., 3.50  
Harry Jerome
- 28 *Corporate Profits as Shown by Audit Reports* (1935) 166 pp., 1.25  
W. A. Paton
- 29 *Public Works in Prosperity and Depression* (1935) 482 pp., 3.00  
A. D. Gayer
- 30 *Ebb and Flow in Trade Unionism* (1936) 272 pp., 2.50  
Leo Wolman
- 31 *Prices in Recession and Recovery* (1936) 602 pp., 4.00  
Frederick C. Mills
- 33 *Some Theoretical Problems Suggested by the Movements of Interest Rates, Bond Yields and Stock Prices in the United States since 1856* (1938) 612 pp., 5.00  
F. R. Macaulay  
*The Social Sciences and the Unknown Future*, a reprint of the introductory chapter of Mr. Macaulay's volume. .25
- 38 *Residential Real Estate: Its Economic Position as Shown by Values, Rents, Family Incomes, Financing, and Construction, Together with Estimates for All Real Estate* (1941) 8½ x 12, 330 pp., 3.50  
D. L. Wickens
- 40 *National Income and Its Composition, 1919-1938* (1941) 1012 pp., 5.00  
Simon Kuznets
- 44 *National Product in Wartime* (1945) 174 pp., 2.00  
Simon Kuznets

† Available from Augustus M. Kelley, Inc., 31 East 10th Street, New York 3, N. Y.



46	<i>National Products since 1869</i> (1946) Simon Kuznets	258 pp.,	3.00
47	<i>Output and Productivity in the Electric and Gas Utilities, 1899-1942</i> (1946) J. M. Gould	208 pp.,	3.00
48	<i>Value of Commodity Output since 1869</i> (1947) W. H. Shaw	320 pp.,	4.00
49	<i>Business Incorporations in the United States, 1800-1943</i> (1948) G. Heberton Evans, Jr.	8¾ x 11¼, 192 pp.,	6.00
50	<i>The Statistical Agencies of the Federal Government: A Report to the Commission on Organization of the Executive Branch of the Government</i> (1949) F. C. Mills and C. D. Long	224 pp.,	2.00
51	<i>The Transportation Industries, 1889-1946: A Study of Output, Employment, and Productivity</i> (1951) Harold Barger	304 pp.,	4.00
52	<i>Deterioration in the Quality of Foreign Bonds Issued in the United States, 1920-1930</i> (1951) Ilse Mintz	112 pp.,	2.00
53	<i>Wesley Clair Mitchell: The Economic Scientist</i> (1952) Arthur F. Burns (ed.)	398 pp.,	4.00
54	<i>A Study of Moneyflows in the United States</i> (1952) Morris A. Copeland	620 pp.,	7.50
55	<i>Shares of Upper Income Groups in Income and Savings</i> (1953) Simon Kuznets	768 pp.,	9.00
56	<i>The Trend of Government Activity in the United States since 1900</i> (1952) Solomon Fabricant	288 pp.,	4.00
57	<i>The Cumulation of Economic Knowledge</i> (in press) Arthur F. Burns		

OCCASIONAL PAPERS

3	<i>Finished Commodities since 1879: Output and Its Composition</i> (1941) William H. Shaw		.25
5	<i>Railway Freight Traffic in Prosperity and Depression</i> (1942) Thor Hultgren		.25
10	<i>The Effect of War on Business Financing: Manufacturing and Trade, World War I</i> (1943) C. H. Schmidt and R. A. Young		.50
11	<i>The Effect of War on Currency and Deposits</i> (1943) Charles R. Whittlesey		.35
12	<i>Prices in a War Economy: Some Aspects of the Present Price Structure of the United States</i> (1943) Frederick C. Mills		.50
13	<i>Railroad Travel and the State of Business</i> (1943) Thor Hultgren		.35
14	<i>The Labor Force in Wartime America</i> (1944) Clarence D. Long		.50
15	<i>Railway Traffic Expansion and Use of Resources in World War II</i> (1944) Thor Hultgren		.35
17	<i>National Product, War and Prewar</i> (1944) Simon Kuznets		.50
18	<i>Production of Industrial Materials in World Wars I and II</i> (1944) Geoffrey H. Moore		.50

19	<i>Canada's Financial System in War (1944)</i>	.50
	Benjamin H. Higgins	
20	<i>Nazi War Finance and Banking (1944)</i>	.50
	Otto Nathan	
22	<i>Bank Liquidity and the War (1945)</i>	.50
	Charles R. Whittlesey	
23	<i>Labor Savings in American Industry, 1899-1939 (1945)</i>	.50
	Solomon Fabricant	
24	<i>Domestic Servants in the United States, 1900-1940 (1946)</i>	.50
	George J. Stigler	
25	<i>Recent Developments in Dominion-Provincial Fiscal Relations in Canada (1948)</i>	.50
	J. A. Maxwell	
27	<i>The Structure of Postwar Prices (1948)</i>	.75
	Frederick C. Mills	
28	<i>Lombard Street in War and Reconstruction (1949)</i>	1.00
	Benjamin H. Higgins	
29	<i>The Rising Trend of Government Employment (1949)</i>	.50
	Solomon Fabricant	
30	<i>Costs and Returns on Farm Mortgage Lending by Life Insurance Companies, 1945-1947 (1949)</i>	1.00
	R. J. Saulnier	
31	<i>Statistical Indicators of Cyclical Revivals and Recessions (1950)</i>	1.50
	Geoffrey H. Moore	
32	<i>Cyclical Diversities in the Fortunes of Industrial Corporations (1950)</i>	.50
	Thor Hultgren	
33	<i>Employment and Compensation in Education (1950)</i>	1.00
	George J. Stigler	
34	<i>Behavior of Wage Rates during Business Cycles (1950)</i>	1.00
	Daniel Creamer	
35	<i>Shares of Upper Income Groups in Income and Savings (1950)</i>	1.00
	Simon Kuznets	
36	<i>The Labor Force in War and Transition: Four Countries (1952)</i>	1.00
	Clarence D. Long	
37	<i>Trends and Cycles in Corporate Bond Financing (1952)</i>	.75
	W. Braddock Hickman	
38	<i>Productivity and Economic Progress (1952)</i>	.75
	Frederick C. Mills	
39	<i>The Role of Federal Credit Aids in Residential Construction</i>	1.00
	Leo Grebler	
TECHNICAL PAPERS		
3	<i>Basic Yields of Corporate Bonds, 1900-1942 (1942)</i>	.50
	David Durand	
4	<i>Currency Held by the Public, the Banks, and the Treasury, Monthly, December 1917-December 1944 (1947)</i>	.75
	Anna Jacobson Schwartz and Elma Oliver	
5	<i>Concerning a New Federal Financial Statement (1947)</i>	1.00
	Morris A. Copeland	
7	<i>Factors Affecting the Demand for Consumer Instalment Sales Credit (1952)</i>	1.50
	Avram Kisselgoff	
8	<i>A Study of Aggregate Consumption Functions (1953)</i>	1.50
	Robert Ferber	

# BOOKS ON DEMAND

MASTER BOOK RECORD

A BOOK PUBLISHING SERVICE OF UNIVERSITY MICROFILMS INTERNATIONAL  
300 N. Zeeb Road, Ann Arbor, MI 48106 • 18 Bedford Row, London, WC1R 4EJ, England

BOOK ORDER NUMBER 2006847 SUFFIX 0 0 0 60 DATE AVAILABLE \_\_\_\_\_

U.S. PAPER BOUND (X) \$ 10.00 CLOTH BOUND (LB) \$ 15.00  
PRICES 35MM ROLL MICROFILM (M) \$        MICROFICHE (F) \$       

Paper and cloth bound reprints are photocopies of the original book produced from either microfilm or the original book. All copies are perfect bound. Please add 10% to these prices for delivery to Canada or Mexico and 15% for the rest of the world. U.S. customers please add state sales tax. Prepayment is required from individuals. Shipping charges are also extra. (If this book has more than one volume, pricing information is on the attached sheet.) All prices are subject to change without notice.

Cancel 01AC 00000	CR No. 01AD	CR Suffix 01AE	No. S/P 01AF 0000A
No. F/O 01AG 0000	No. Binds 01AH 01	Format 01AI 2B	Contract 01AJ A
Book 01AK A	Film 01AL A	Catalog 01AMA	Pg Count 03AA 82
Unit 03AB .1200	Reduce 03AG 130	Enlarge 03AH 130	78226

AUTHOR 05AA National Bureau of Economic Research.  
TITLE 07AA A study of aggregate consumption functions <by> Robert Ferber.  
SERIES 11AA (National Bureau of Economic Research, Technical paper 6).  
PUBLISHER 13AA <New York> National Bureau of Economic Research, 1953.

Restrictions 23AA 23AB

R.R. No. 25AA R00 1098C

LC Class No. 27AA H80801.F46

23AC

Roy % Mic 25AB .10000

LC Card No. 27AB 53-11148

23AD

Roy % Xerox 25AC .10000

COMMENTS:

