The Wealth Effect: A Contemporary Update

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I. Some Background Observations

As soon as Keynes' macroeconomic reasoning and policy recommendations had been discussed in terms of the underlying mathematical models exemplified in the works of John Hicks, Oscar Lange, and others, it was natural for many economists to raise questions about what had been neglected or glossed-over in the theoretical simplification. They criticized the consumption function, in particular, for neglecting such things as aspects of income distribution, demographics, dynamics, expectations, disaggregation by consumption type, inflation, and wealth variables.

In a widely studied and applied paper published in December, 1947 (Social Research) Franco Modigliani proposed a revision of the Keynesian savings (and consumption) function by adding a variable denoting the "highest previous income peak"[1]. His specification became

$$S_t / Y_t = \alpha + \beta(Y_t - Y_t^0) / Y_t$$

or

$$C_t / Y_t = (1-\alpha) - \beta(Y_t - Y_t^0) / Y_t$$

Y_t = real income per capita in year *t*

Y_t^0 = highest real income per capita in any year preceding *t*.

S_t = saving per capita in year *t*

C_t = consumption per capita in year *t*

[1] An extended paper appeared in volume 11 of *Studies in Income and Wealth* by the National Bureau of Economic Research. See, Modigliani (1949a, 1949b).

In one interpretation, this specification may be considered a dynamic form of the saving or consumption function. Franco Modigliani entitled his paper "Fluctuations in the Saving-Income Ratio: A Problem in Economic Forecasting". As is well known, James Duesenbery proposed an independently studied function of the same general type.

At that time - the period immediately after World War II - there was a persistent question about the macroeconomic prospects for the United States during the reconversion period, from a war to a peace time system. Would the United States return to the conditions of the Great Depression (before the War) or to a positive growth expansion in a civilian environment?

The rationale for our choice of title for this presentation is that a leading piece of statistical evidence in favor of a good recovery pattern was the existence of a large volume of liquid assets coupled with a backlog of demand, carried over from the war years. These were well-known twin results of government promoted bond sales to finance the war and the strict rationing (or complete absence) of available consumer goods during the war.

On several occasions, Franco Modigliani stated that the proposed saving function would perform as a good substitute for the temporary features in the immediate postwar period.

In 1943, A. C. Pigou wrote a paper for the Economic Journal in which he suggested that real cash balances be included as a separate variable in the savings function in order to bring the economy to a full-employment position under a regime with flexible wages. The "Pigou effect" soon became generalized to a wealth effect. Immediately after the War, the novel ingredient of wealth in the hands of a large segment

of the population could be an important factor. The forecaster's problem was that the short history of a variable built around the Pigou effect had little statistical support. Most estimates showed a positive, fairly small effect, but with little sample precision.

Franco Modigliani subsequently moved on to a more sophisticated treatment of saving, based on the lifetime saving hypothesis in which demographics are important. A full statement of this hypothesis, complete with statistical estimates will be published in his collected works and in a forthcoming memorial volume for Albert Ando[2]. Franco Modigliani often said that the simpler function reported in 1947 would be useful, until alternatives were fully developed. A guiding feature of the 1947 analysis was, however, based on the longer term stability of the savings-income ratio. The basic equation was interpreted as being composed of two parts: 1. a secular part coming from the constant term; 2. a cyclical part coming from $(Y_t - Y_t^0)/Y_t$.

Soon after the sudden break in the US stock market in October, 1987, Franco Modigliani presented a seminar at the University of Pennsylvania, in which he concluded that the wealth fluctuations would provide good tests for his more sophisticated specifications. In that episode, the equity portion of wealth decreased precipitously, but the debt portion increased in value following the Federal Reserve's quick response towards lowering policy operative interest rates. By and large, consumption and savings patterns held firmly, as a result of these two offsetting valuation changes.

Some Reconsiderations of the 1947 Equation Estimates

Economic data and structural economic equation estimates are always undergoing change. How does Franco Modigliani's "workhorse" specification hold up in terms of

[2] See also Ando & Modigliani (1963).

data series stretching from his original sample period to the early years of the 21st century?

Concepts have changed, reported data have changed, attitudes of households have changed, and the demographic makeup of the country has changed.

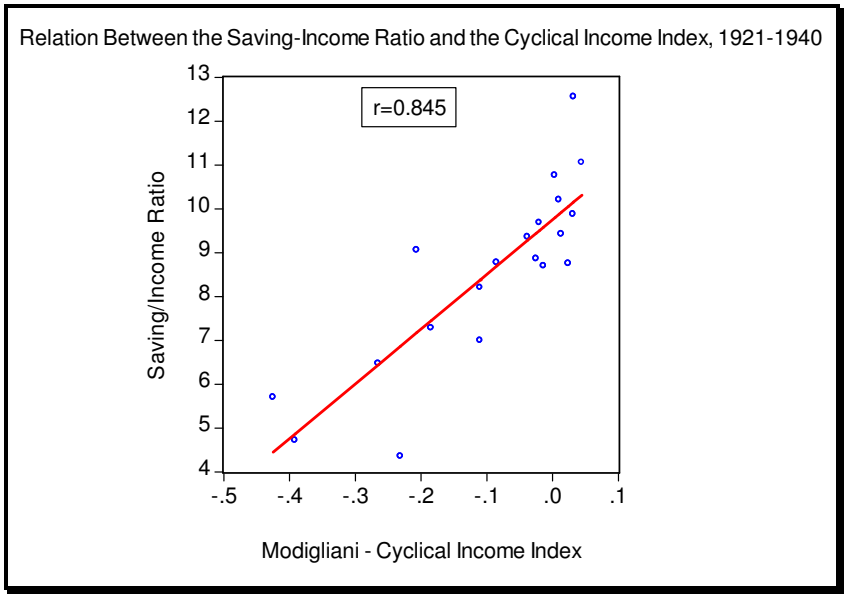
First, let us replicate, with modern software[3], the original results from 1921 to 1940. The dependent variable is the savings-income ratio (original data). The equation is replicated with diagnostic statistics, and the 2-dimensional scatter diagram of the Modigliani saving rate (vertical axis), plotted against the cyclical index. The cyclical part $(Y_t - Y_t^0)/Y_t$ is called "cyclical income index" in Modigliani's 1947 paper. In this paper, it is called the "Modigliani index".

Dependent Variable: Savings-Income Ratio
Method: Least Squares
Sample(adjusted): 1921 1940
Included observations: 20 after adjusting endpoints

Variable	Coefficient	Std. Error	t-Statistic	Prob.
Constant	0.098	0.003	30.922	0.000
Modigliani Index	0.125	0.019	6.700	0.000

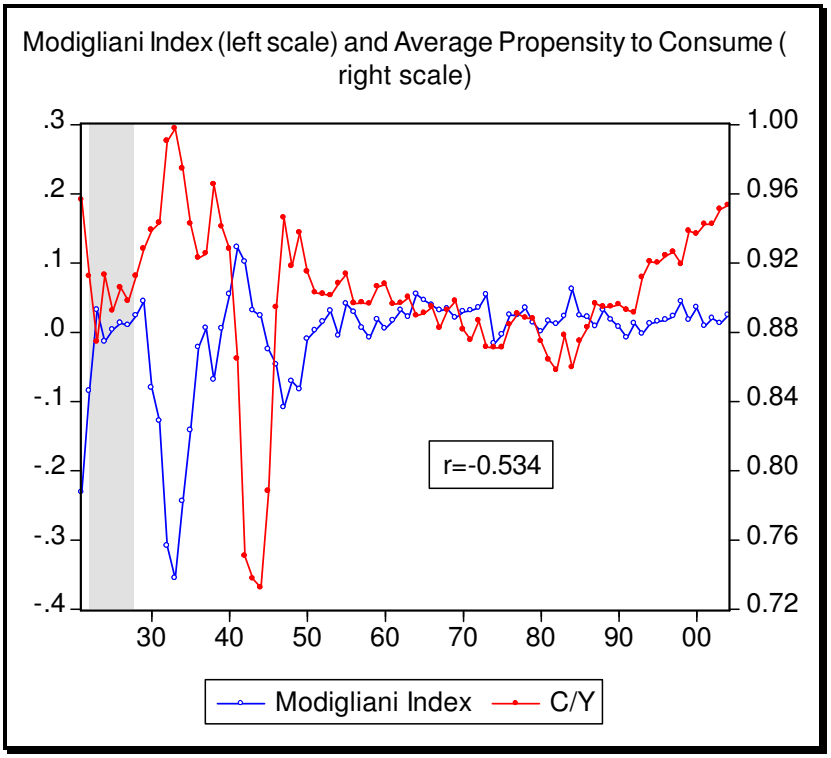
R-squared	0.714	Mean dependent var	0.085
Adjusted R-squared	0.698	S.D. dependent var	0.021
S.E. of regression	0.012	Akaike info criterion	-5.991
Sum squared resid	0.002	Schwarz criterion	-5.892
Log likelihood	61.915	F-statistic	44.891
Durbin-Watson stat	1.953	Prob(F-statistic)	0.000

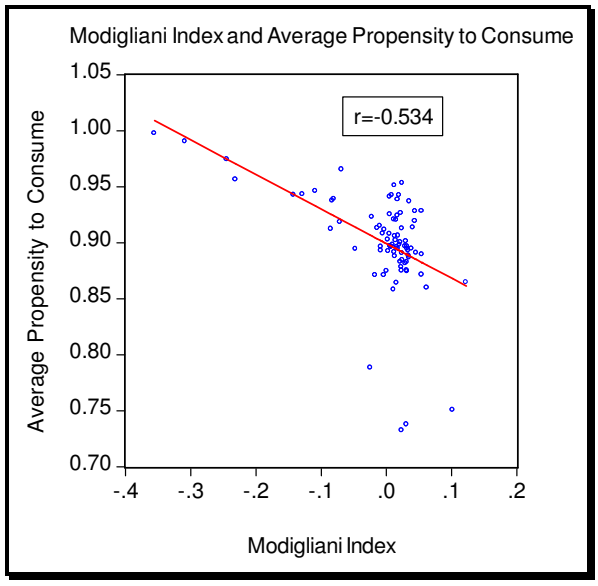
[3] Eviews 5.1 is used in all calculations. See, Quantitative Micro Software (2005).

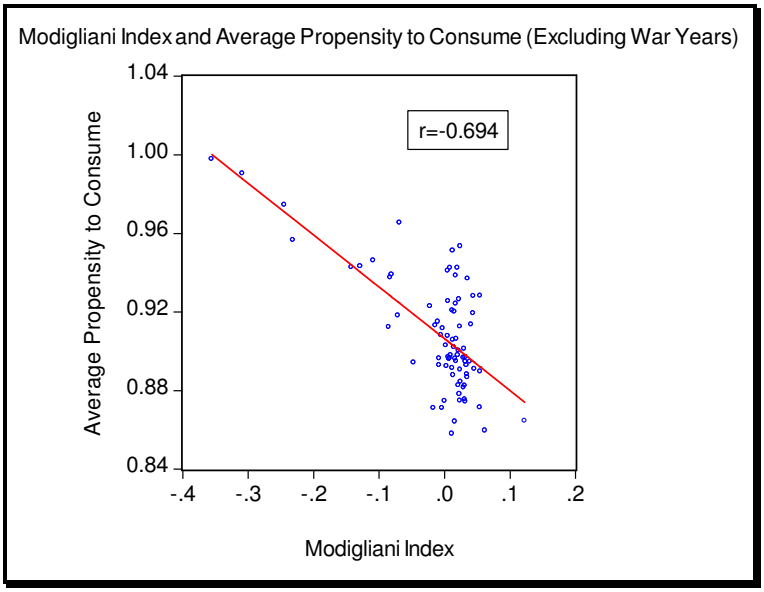


In a plot of the scatter diagram with Franco Modigliani's data 1921-1928 merged with Bureau of Economic Analysis data 1929-1940 and 1929-2004 with BEA data alone we can see that an extended sample requires more variables to explain subsequent movements of the economy, as well as the obvious outliers for the war years[4]. The cyclical index with Franco Modigliani's sample, 1921-1928, is not visibly different from the BEA sample for 1929-1940.

[4] Data are obtained from the web-site of Bureau of Economic Analysis. See, BEA (2005).


Modigliani Index (left scale) and Average Propensity to Consume (right scale)
.3
.2
.1
.0
-.1
-.2
-.3
-.4
1.00
0.96
0.92
0.88
0.84
0.80
0.76
0.72
r=-0.534
30
40
50
60
70
80
90
00
Modigliani Index
C/Y


Modigliani Index and Average Propensity to Consume
Average Propensity to Consume
1.05
1.00
0.95
0.90
0.85
0.80
0.75
0.70
r=-0.534
-.4
-.3
-.2
-.1
.0
.1
.2
Modigliani Index



The equation for the full-sample (1921-2004) is estimated after merging Modigliani's original data with BEA's data, which are not shown here. Since there are differences between the two series, a dummy variable (D192128) which takes the value one for the 1921-1928 period and zero for the 1929-2004 period is also included in the equation. The product of the dummy variable with the Modigliani index is included to allow for varying slopes as well as varying intercepts. Parameters associated with the dummy variable D192128 turn out to be insignificant. The war dummy (D194145) is significant at the one percent level. The adjusted determination coefficient is 0.766, but a very low Durbin-Watson (0.499) is a clear indication of first-order serial correlation. An equation with AR(1) correction, yields similar coefficients, and alleviates the problem of autocorrelation. The adjusted determination coefficient is 0.908, and the Durbin-Watson statistics is 2.08. All coefficients except the ones associated with D192128 are significant at the one percent level. With a term for treatment of serial correlation of residuals, the regression including added explanatory factors is quite stable for more than 50 years with

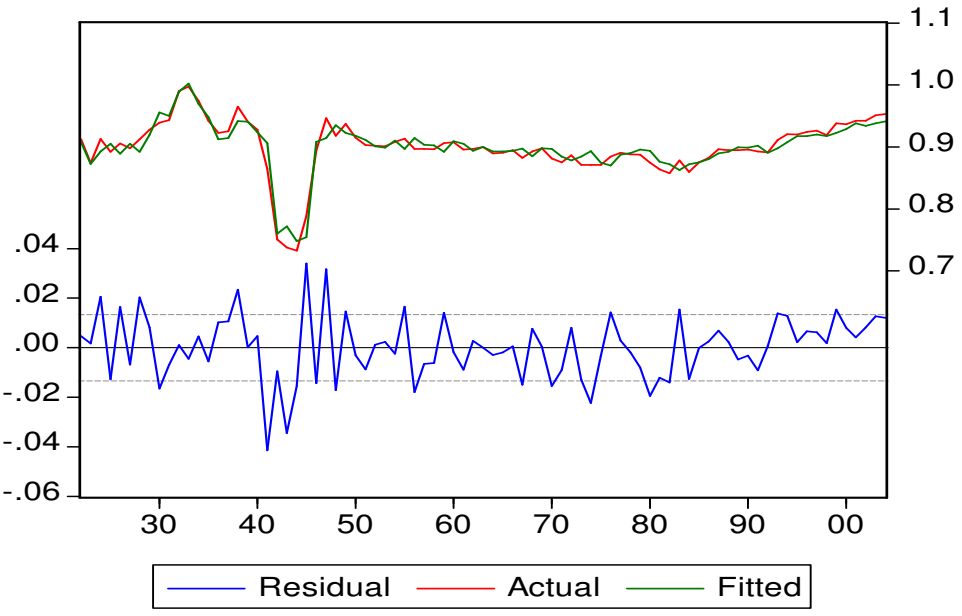
good diagnostics. In this sense, the specification for the "workhorse" equation has held up very well.

Dependent Variable: Consumption-Income Ratio
Method: Least Squares
Sample(adjusted): 1922 2004
Included observations: 83 after adjusting endpoints
Convergence achieved after 9 iterations

Variable	Coefficient	Std. Error	t-Statistic	Prob.
Constant	0.911	0.010	93.018	0.000
Modigliani Index	-0.256	0.036	-7.043	0.000
D192128	-0.014	0.015	-0.912	0.365
Modigliani Index*D192128	-0.103	0.098	-1.050	0.297
War Dummy	-0.112	0.010	-11.125	0.000
AR(1)	0.844	0.069	12.258	0.000

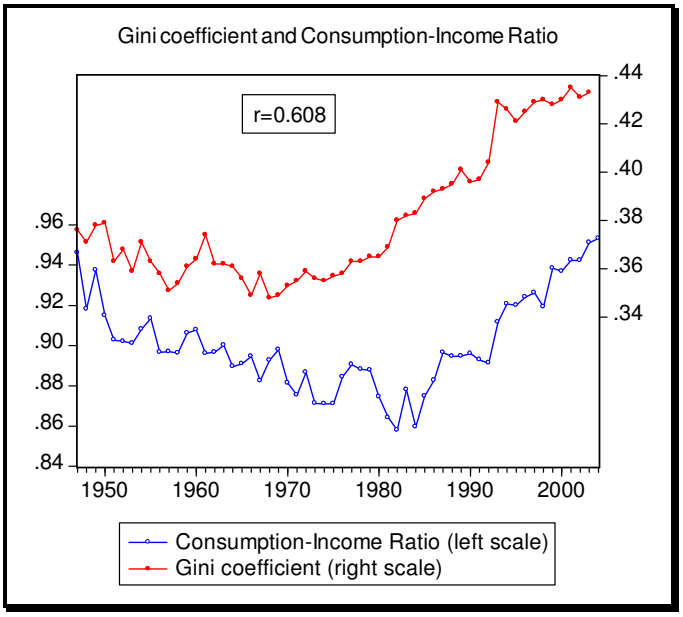
R-squared	0.913	Mean dependent var	0.900
Adjusted R-squared	0.908	S.D. dependent var	0.044
S.E. of regression	0.013	Akaike info criterion	-5.718
Sum squared resid	0.014	Schwarz criterion	-5.544
Log likelihood	243.316	F-statistic	162.515
Durbin-Watson stat	2.080	Prob(F-statistic)	0.000

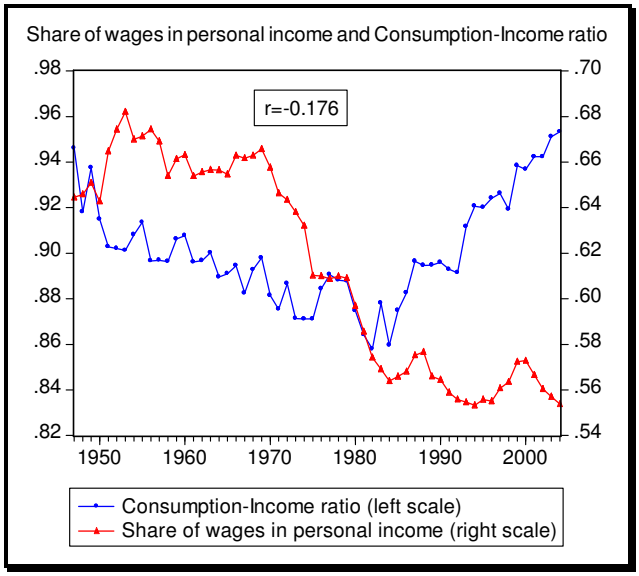
Inverted AR Roots .84

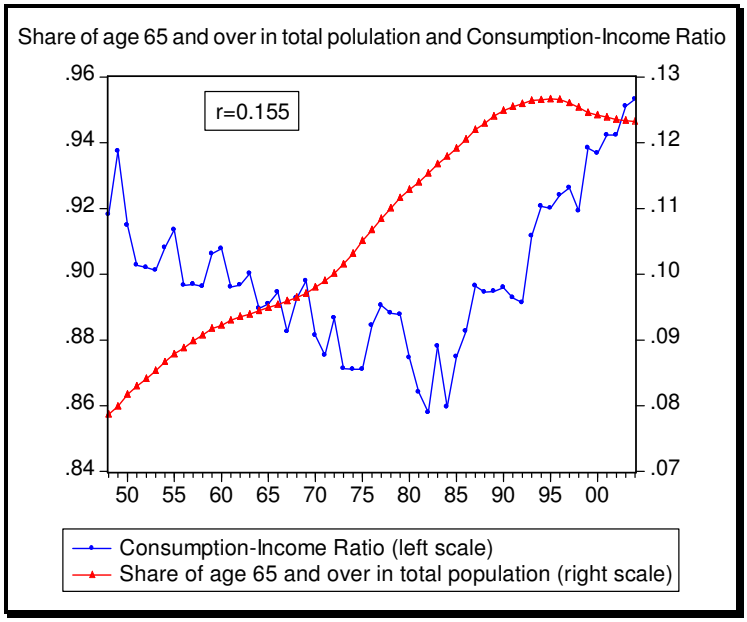


A sample from BEA data alone, from 1949-2003, using the corresponding variables from Franco Modigliani's investigation of 1947, and omitting the war years, needs some additional variables, but follows the same spirit as the original investigation. Changes in distribution of income (factor shares and Gini) and in demographics (share of age 65 and over in the total population) yield very interesting findings[5]. The three added variables are all significant in the postwar period, during which the personal saving rate has dropped from about 8 to 10 percent to about 2 percent. The correlation coefficient between the Gini coefficient and consumption-income ratio is 0.608 for the 1947-2003 period. Although factor share and demographic variables, individually, are not highly correlated with the consumption-income ratio, they increase the explanatory power of the equation. Adjusted R^2 is 0.873, and highly significant. All variables are significant at the five percent level, with the exception of the share of age 65 and over in the total population. This variable is significant at the seven percent level. As expected, all three additional variables have positive coefficients. A higher Gini coefficient, an indicator of relatively unequal distribution of incomes, is a contributing factor to a higher consumption-income or lower savings-income ratio. A higher share of wages in personal incomes leads to a higher consumption-income ratio. Similarly, an increase in the share of age 65 and over in the total population contributes to a higher consumption-income ratio.

[5] Data sources: BEA for the share of wages in personal income, US Census Bureau for the Gini coefficient and US Bureau of Labor Statistics for the share of age 65 and over in total population. See, BEA (2005), US Census (2005), and BLS (2005).


Gini coefficient and Consumption-Income Ratio
r=0.608
.96
.94
.92
.90
.88
.86
.84
.44
.42
.40
.38
.36
.34
1950
1960
1970
1980
1990
2000
Consumption-Income Ratio (left scale)
Gini coefficient (right scale)

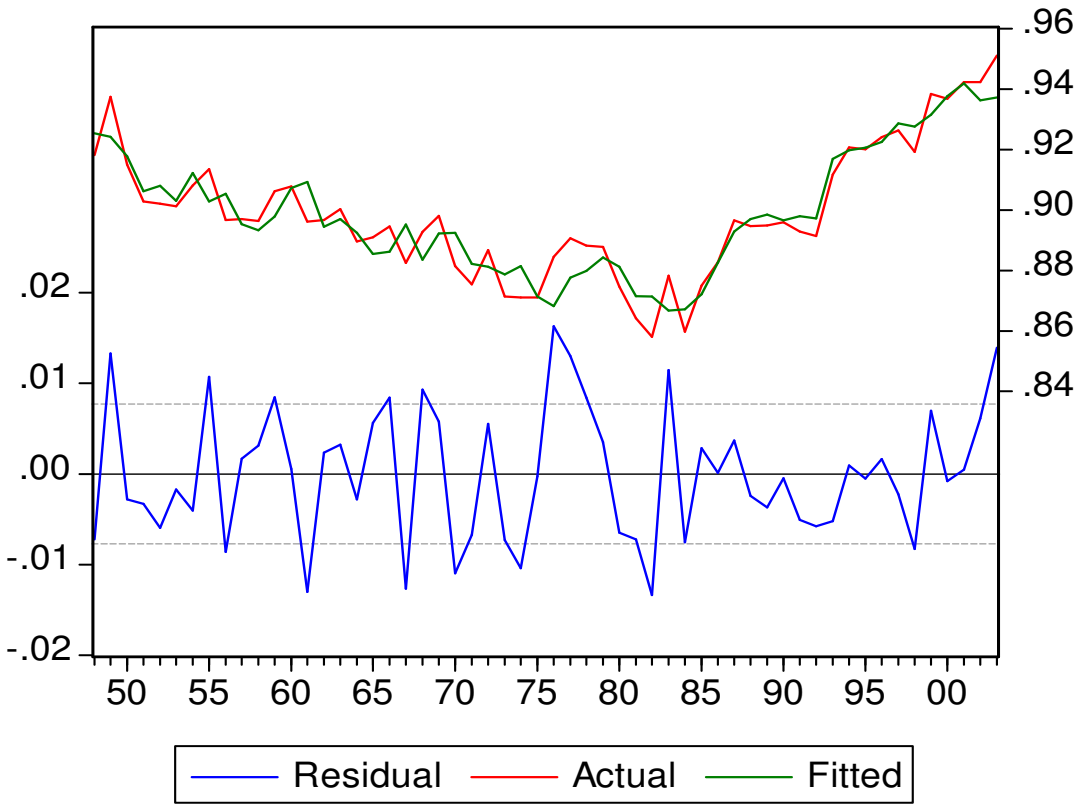

Share of wages in personal income and Consumption-Income ratio
r=-0.176
.98
.96
.94
.92
.90
.88
.86
.84
.82
.70
.68
.66
.64
.62
.60
.58
.56
.54
1950
1960
1970
1980
1990
2000
Consumption-Income ratio (left scale)
Share of wages in personal income (right scale)



Dependent Variable: Consumption-Income Ratio (C/Y)
Method: Least Squares
Sample(adjusted): 1948 2003
Included observations: 56 after adjusting endpoints

Variable	Coefficient	Std. Error	t-Statistic	Prob.
Constant	-0.085	0.104	-0.814	0.420
Modigliani Index	-0.166	0.056	-2.964	0.005
GINI coefficient	0.726	0.127	5.718	0.000
N65/N	0.545	0.296	1.842	0.071
W/YP	0.474	0.106	4.467	0.000
C(-1)/Y(-1)	0.402	0.097	4.147	0.000

R-squared	0.885	Mean dependent var	0.899
Adjusted R-squared	0.873	S.D. dependent var	0.022
S.E. of regression	0.008	Akaike info criterion	-6.793
Sum squared resid	0.003	Schwarz criterion	-6.576
Log likelihood	196.207	F-statistic	76.637
Durbin-Watson stat	1.959	Prob(F-statistic)	0.000



Wassily Leontief's Commentary

At the meeting in New York, when Franco Modigliani's paper was presented, Wassily Leontief spoke in admiration of the "… excellent piece of work", but offered some suggestions for further research on the sample of data that would treat a different lag structure, consisting not only of the highest previous income, Y_t^0, but also the incomes of the previous years, $Y_{t-1}, Y_{t-2}, \ldots$. He even suggested a lag distribution as long as a trailing 5-year moving average. We have implemented the Leontief suggestion. There were not many observations available; as Franco Modigliani observed; so it would not be useful to include a 5-year trailing average and also the highest previous income in the original sample available at the time of the Leontief-Modigliani exchange, but with the

war years assigned dummy variables and the sample extended for the period from 1929 through 2004 we estimated a consumption equation with Leontief's cyclical index, a dummy variable for the war years, and an autoregressive adjustment for the error term. The Leontief cyclical index is calculated as:

$(Y_t - Y_t^0)/Y_t$, where $Y^o = (Y_{t-1}+Y_{t-2}+Y_{t-3}+Y_{t-4}+Y_{t-5})/5$.

The result is a very good alternative and hardly different from the estimate with the original cyclical index, but otherwise unchanged.[6]

A Summary Up-date, with alternative treatments of lags, the war years, Leontief/Modigliani's cyclical index, and additional variables such as income distribution (Gini or factor shares) and demographics provide the following results: The specification for the "workhorse" equation has held up very well. Both Modigliani and Leontief indexes have significant explanatory power in a consumption (or savings) equation. Other variables such as income distribution, demographic composition, and lagged consumption-income ratio are also important determinants of the consumption-income ratio.

[6] Since savings, consumption, and income satisfy a linear identity, it does not matter whether we estimate the savings or the consumption function.

Equation Summary, Using the Modigliani Index

Dependent Variable: Real Personal Consumption Expenditures/Real Personal Disposable Income

	C/Y	C/Y	C/Y	C/Y	C/Y	C/Y	C/Y
constant	0.899 (198.7)	0.907 (349.3)	0.906 (91.7)	0.215 (3.98)	0.500 (9.02)	0.735 (11.15)	-0.085 (-0.8)*
Modigliani index	-0.319 (-5.28)	-0.271 (-7.97)	-0.259 (-7.22)	-0.157 (-4.31)	-0.195 (-7.03)	-0.271 (-7.49)	-0.166 (-3.0)
War dummy		-0.146 (-12.84)	-0.112 (-11.27)		-0.087 (-7.54)	-0.101 (-9.62)	
C(-1)/Y(-1)				0.761 (12.7)	0.449 (7.34)	0.191 (2.65)	0.401 (4.15)
Gini							0.726 (5.71)
N65/N							0.545* (1.84)
W/YP							0.474 (4.47)
AR(1)			0.845 (12.23)			0.795 (8.74)	
Adjusted R^2	0.264	0.771	0.918	0.772	0.871	0.926	0.873
F	27.9	127.2	277.8	126.1	168.1	229.9	76.64
Durbin-Watson	0.33	0.45	1.96	1.061	0.842	2.097	1.959
Durbin's h				4.07	5.01	-0.532	0.222
Period	1929-2004	1929-2004	1930-2004	1930-2004	1930-2004	1931-2004	1948-2003

Notes: All coefficients are significant at the five percent level, with the exception of 2 that are marked with (*).

Equation Summary, Using the Leontief Index

Dependent Variable: Real Personal Consumption Expenditures/Real Personal Disposable Income

	C/Y	C/Y	C/Y	C/Y	C/Y	C/Y	C/Y
constant	0.928	0.916	0.926	0.266	0.423	0.826	-0.041
	(127.24)	(180.4)	(56.0)	(5.44)	(7.49)	(13.4)	(-0.38)*
Leontief index	-0.472	-0.193	-0.333	-0.294	-0.216	-0.327	-0.097
	(-5.47)	(-2.92)	(-7.51)	(-6.25)	(-4.76)	(-7.42)	(-2.02)
War dummy		-0.132	-0.091		-0.057	-0.085	
		(-9.12)	(-9.84)		(-4.36)	(-8.53)	
C(-1)/Y(-1)				0.725	0.547	0.111	0.416
				(13.56)	(8.73)	(1.68)*	(4.12)
Gini							0.710
							(5.35)
N65/N							0.378
							(1.24)*
W/YP							0.426
							(3.83)
AR(1)			0.909			0.887	
			(15.49)			(13.54)	
Adjusted R^2	0.292	0.677	0.922	0.806	0.847	0.924	0.862
Durbin-Watson	0.267	0.334	1.799	1.158	0.914	1.933	1.969
F	29.9	74.3	272.0	146.4	129.8	210.2	69.7
Period	1934-2004	1934-2004	1935-2004	1934-2004	1934-2004	1935-2004	1948-2003

Note: All are significant at the five percent level, with the exception of three marked with *, which also includes the coefficient of C(-1)/Y(-1), which is only significant at the ten percent level.

References

Ando, Albert & Franco Modigliani (1963). "The 'Life Cycle' Hypothesis of Saving: Aggregate Implication and Tests". *The American Economic Review*, Vol. 53, No.1 (March 1963), pp. 55-84.

Leontief, W.Wassily (1949). "Comment". *Studies in Income and Wealth*, No. 11, National Bureau of Economic Research, New York. pp. 441-443.

Modigliani, Franco (1947). "Fluctuations in the Saving-Income Ratio: A Problem in Economic Forecasting". *Social Research*, Vol. 14, No. 4 (December), pp. 413-420.

Modigliani, Franco (1949a). "Fluctuations in the Saving-Income Ratio: A Problem in Economic Forecasting". *Studies in Income and Wealth*, No. 11, National Bureau of Economic Research, New York. pp. 371-441.

Modigliani, Franco (1949b). "Reply". *Studies in Income and Wealth*, No. 11, National Bureau of Economic Research, New York. pp. 443.

Pigou, A.C (1943). "The Classical Stationary State", *Economic Journal*, Vol. 53, No.212 (December 1943), pp. 343-351.

Quantitative Micro Software (2005), *Eviews 5.1 User's Guide*. Irvine, California. <www.eviews.com>

U.S. Census Bureau (2005). *Historical Inequality Tables*. <http://www.census.gov/hhes/income/histinc/ineqtoc.html>

U.S. Department of Commerce, Bureau of Economic Analysis (2005). *National Income and Product Accounts* Table 1.1.6. and Table 2.1.< http://www.bea.gov>

U.S. Department of Labor, Bureau of Labor Statistics (2005). *Status of the Non institutional Population*. <http://www.bls.gov>

Appendix: Data

	Consumption-Income ratio	Modigliani Index	Leontief Index	Share of age 65 and over in total civilian population	Share of wages in personal income	Gini Coefficient
1919	NA	NA	NA	NA	NA	NA
1920	NA	NA	NA	NA	NA	NA
1921	0.956439	-0.231263	NA	NA	NA	NA
1922	0.912281	-0.084906	NA	NA	NA	NA
1923	0.874433	0.031987	NA	NA	NA	NA
1924	0.913043	-0.013652	NA	NA	NA	NA
1925	0.892351	0.003356	NA	NA	NA	NA
1926	0.905738	0.013245	NA	NA	NA	NA
1927	0.897959	0.009836	NA	NA	NA	NA
1928	0.912467	0.024000	NA	NA	NA	NA
1929	0.928020	0.044343	NA	NA	0.593420	NA
1930	0.938962	-0.080362	NA	NA	0.605505	NA
1931	0.943124	-0.128304	NA	NA	0.600306	NA
1932	0.990330	-0.308570	NA	NA	0.611222	NA
1933	0.997603	-0.355272	NA	NA	0.618337	NA
1934	0.974432	-0.244255	-0.073532	NA	0.627561	NA
1935	0.942656	-0.141964	0.059559	NA	0.607616	NA
1936	0.922846	-0.021842	0.168688	NA	0.611354	NA
1937	0.925389	0.005780	0.172798	NA	0.622132	NA
1938	0.965339	-0.068483	0.064814	NA	0.628655	NA
1939	0.940896	0.005411	0.089246	NA	0.631001	NA
1940	0.928131	0.054516	0.100080	NA	0.635669	NA
1941	0.864521	0.122352	0.178364	NA	0.646202	NA
1942	0.750631	0.101714	0.226544	NA	0.664777	NA
1943	0.737655	0.031258	0.200611	NA	0.693824	NA
1944	0.732489	0.023489	0.155359	NA	0.704217	NA
1945	0.788178	-0.024679	0.074087	NA	0.684333	NA
1946	0.894235	-0.046935	0.005792	NA	0.627100	NA

	Consumption-Income ratio	Modigliani Index	Leontief Index	Share of age 65 and over in total civilian population	Share of wages in personal income	Gini Coefficient
1947	0.946162	-0.108658	-0.076193	NA	0.644503	0.376000
1948	0.918147	-0.070863	-0.030082	0.078701	0.645853	0.371000
1949	0.937446	-0.082613	-0.032141	0.079913	0.650893	0.378000
1950	0.914921	-0.009752	0.052733	0.081736	0.642795	0.379000
1951	0.902798	0.002498	0.061346	0.082988	0.664729	0.363000
1952	0.902046	0.014764	0.065901	0.084127	0.674292	0.368000
1953	0.901175	0.030448	0.072324	0.085332	0.682083	0.359000
1954	0.908094	-0.005139	0.045404	0.086674	0.669949	0.371000
1955	0.913496	0.040863	0.067081	0.087878	0.671307	0.363000
1956	0.896647	0.028889	0.075598	0.088800	0.674323	0.358000
1957	0.896960	0.006100	0.059318	0.089850	0.669083	0.351000
1958	0.896323	-0.007951	0.031188	0.090760	0.653930	0.354000
1959	0.906208	0.018276	0.043366	0.091729	0.661405	0.361000
1960	0.907768	0.005136	0.029214	0.092255	0.663183	0.364000
1961	0.896163	0.016766	0.034219	0.093005	0.653846	0.374000
1962	0.896709	0.031876	0.056185	0.093553	0.655573	0.362000
1963	0.900207	0.021808	0.063013	0.093909	0.656589	0.362000
1964	0.889580	0.054787	0.095868	0.094447	0.656432	0.361000
1965	0.891004	0.045972	0.113697	0.094938	0.654670	0.356000
1966	0.894557	0.039039	0.117480	0.095392	0.662858	0.349000
1967	0.882507	0.031468	0.110508	0.095959	0.661731	0.358000
1968	0.892774	0.033742	0.105926	0.096461	0.662921	0.348000
1969	0.897965	0.020588	0.087305	0.097067	0.665768	0.349000
1970	0.881439	0.029492	0.083226	0.098035	0.657606	0.353000
1971	0.875374	0.031283	0.083780	0.098998	0.646375	0.355000
1972	0.886690	0.035212	0.089361	0.100131	0.643498	0.359000
1973	0.871322	0.054285	0.112010	0.101553	0.638156	0.356000
1974	0.871086	-0.016629	0.064741	0.103143	0.632096	0.355000
1975	0.871102	-0.003531	0.051534	0.105083	0.610262	0.357000
1976	0.884418	0.024971	0.056513	0.106738	0.609981	0.358000
1977	0.890568	0.024182	0.057788	0.108458	0.608682	0.363000
1978	0.888217	0.034483	0.070929	0.110058	0.609947	0.363000
1979	0.887752	0.013407	0.067332	0.111650	0.609058	0.365000
1980	0.874640	0.000531	0.046139	0.112888	0.596950	0.365000

	Consumption-Income ratio	Modigliani Index	Leontief Index	Share of age 65 and over in total civilian population	Share of wages in personal income	Gini Coefficient
1981	0.864192	0.016089	0.042330	0.114000	0.585613	0.369000
1982	0.857945	0.011540	0.036399	0.115355	0.574244	0.380000
1983	0.878139	0.022998	0.044088	0.116760	0.569122	0.382000
1984	0.859638	0.062227	0.091747	0.117928	0.563885	0.383000
1985	0.874882	0.023876	0.092072	0.119142	0.565883	0.389000
1986	0.882676	0.021602	0.086205	0.120522	0.568128	0.392000
1987	0.896461	0.008270	0.066969	0.121997	0.575239	0.393000
1988	0.894601	0.032208	0.071427	0.122923	0.576651	0.395000
1989	0.894771	0.017992	0.060559	0.124023	0.565914	0.401000
1990	0.895966	0.007565	0.047845	0.124899	0.564506	0.396000
1991	0.892875	-0.008148	0.022985	0.125475	0.558899	0.397000
1992	0.891353	0.012391	0.031725	0.125937	0.555819	0.404000
1993	0.911623	-0.002559	0.015512	0.126408	0.554592	0.429000
1994	0.920698	0.012103	0.023006	0.126514	0.553205	0.426000
1995	0.920043	0.015393	0.031797	0.126672	0.555776	0.421000
1996	0.924107	0.017431	0.040939	0.126590	0.555102	0.425000
1997	0.926300	0.022502	0.050059	0.126032	0.560744	0.429000
1998	0.919251	0.044176	0.079450	0.125362	0.563573	0.430000
1999	0.938394	0.017627	0.074198	0.124577	0.572426	0.428000
2000	0.936808	0.035647	0.085592	0.124211	0.572879	0.430000
2001	0.942332	0.008833	0.067839	0.123891	0.566568	0.435000
2002	0.942311	0.020132	0.062561	0.123515	0.560464	0.431000
2003	0.951098	0.012872	0.050826	0.123398	0.557052	0.433000
2004	0.953275	0.024525	0.056203	0.123224	0.553814	NA

Sources:
Consumption-Income ratio - 1921-1928 Modigliani (1949a), 1929-2004 – BEA (2005)
Modigliani cyclical income index – 1921 -1928 Modigliani (1949a), 1929-2004, calculated by authors using Modigliani's concept and data from BEA (2005)
Leontief cyclical income index – 1929-2004, calculated by authors using Leontief's (1949) suggestion and data from BEA (2005)
Share of age 65 and over in total civilian population – BLS (2005). Data are obtained from Global Insight US database.
Share of wages in personal income – BEA (2005).
Gini Coefficient – Census Bureau (2005).