

The World Market Wealth Portfolio*

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Three years ago in this Journal, we presented returns and market values for the United States Market Wealth Portfolio.¹ That hypothetical portfolio included the principal investable asset classes in the United States: equities, fixed income securities, cash, and real estate.

The wealth of the United States makes up only a fraction of the world's wealth, however. Indeed, this phenomenon is not purely a recent occurrence. Great Britain, for example, had the world's largest capital markets in 1850. In the twentieth century, United States capital markets have been larger than those of any other single country, but they account for appreciably less than half of the world supply of equities, bonds, and real property.

The sheer size of the foreign capital markets motivates us to reexamine the concept of a market wealth portfolio from a world perspective. In addition, returns in foreign markets have proved attractive to United States investors. Therefore, we have constructed a World Market Wealth Portfolio consisting of equities, bonds, cash, and monetary metals plus real estate in the United States (the returns on foreign real estate being difficult to measure). The analysis covers the capital markets of the United States, Northern and Western Europe, Japan, Hong Kong, Singapore, Canada, and Australia. Our study runs from the beginning of 1960 through the end of 1980.

Our World Market Wealth Portfolio consists of a value-weighted combination of five major categories of assets: (1) equities (stocks), (2) bonds, (3) cash, (4) real estate, and (5) metals. Each category of assets includes several components. United States equities are a value-weighted aggregate of the stocks listed on the New York and American stock exchanges and NAS-

DAQ over-the-counter stocks. Foreign stocks are a value-weighted aggregate of returns in seventeen countries. United States bonds include corporate issues (including preferred stocks) and government issues, while foreign bonds include both domestic corporate and government bonds traded within a country's national capital markets and crossborder bonds traded outside the confines of any one country's markets. Cash includes United States issues and those of thirteen foreign countries. United States real estate, for which we measure returns and year-by-year market values, is composed of business, residential, and farm real estate. We estimate the value of world real estate only as of the end of 1980. Monetary metals include the world supply of gold and the non-communist world supply of silver.

The aggregate market values of the categories serve as weights for the purpose of constructing value-weighted portfolios, including the World Market Wealth Portfolio and subsidiary portfolios. We measure returns and form cumulative wealth indices. We present these results in year-by-year form and as summary statistics. We include cross-correlations and regression results to measure the relationships among the series and between the series and inflation. Finally, we provide detailed information on the sources of the market value and return data for each series.

WHAT IS THE WORLD MARKET PORTFOLIO?

The World Market Wealth Portfolio theoretically reflects the entire wealth of the world. Its return is the weighted sum of all the return components, where the weight for each component is its proportionate share of the world wealth.

Why should we want to construct such a portfolio? As we said in our earlier work, the primary reason is curiosity. We want to know what has happened to the market values of aggregate wealth in the world. We want to know the dimensions of the world market in which we invest, and we want to be able to compare historical returns on a broad range of assets, both those that have been traditionally held by United

* We are grateful to the First National Bank of Chicago for providing the principal financial support for this study. We wish especially to thank Gary Brinson, Jeffrey J. Diermeier, and L. Randolph Hood, Jr. of the First National Bank of Chicago for their continuing advice and consultation. We appreciate the help of Wendy Freyer and James R. Porter.

1. Footnotes appear at the end of the article.

States investors and those that are non-traditional.

In addition, we have some theoretical reasons for studying the World Market Portfolio. According to what has come to be known as modern portfolio theory, the market portfolio — not just common stocks, and not just in the United States — is considered to be perfectly diversified with a capital asset pricing model beta of 1.0. A literal interpretation of the theories as originally formulated would suggest that the ideal portfolio should represent each asset class in proportion to its prevalence in the world market — the ultimate index fund.

No individual or institutional investor, of course, would actually want to hold a world index fund. Each investor has his or her own risk preferences, tax considerations, information costs, and time horizons. The most obvious example is that only a high-tax investor would want to hold municipal bonds (which, incidentally, we have excluded from this study because of the effect of their tax-exempt status on returns). Other clienteles will cluster in other ways. Suffice it to say that we wish to construct the World Market Portfolio, not for its eventual purchase, but for the insights it might reveal about the behavior of our capital markets.

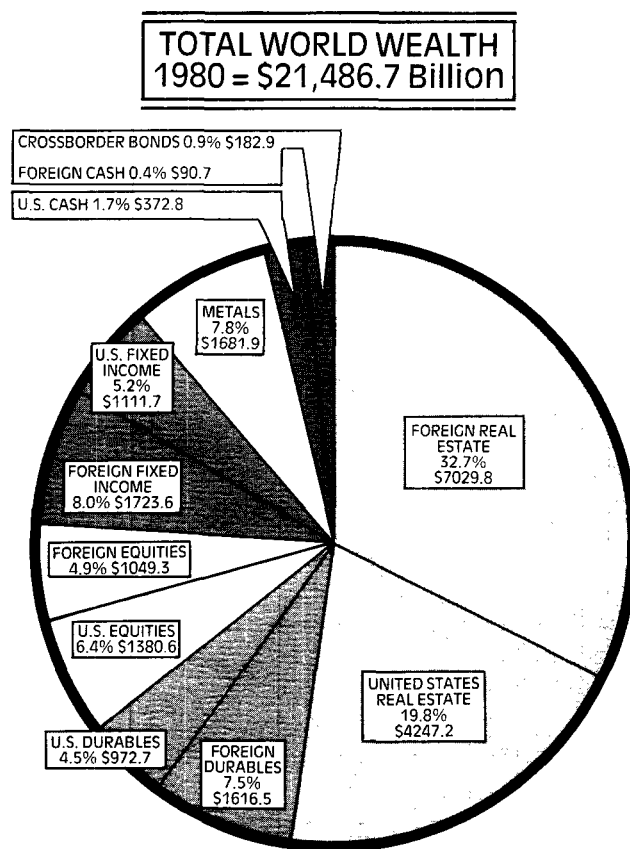
Given that we want to construct the World Market Portfolio, what should be included in it? As stated earlier, we have included equities, bonds, cash, metals, and U.S. real estate. The astute reader will have already noted that the sum of these securities does not represent the "market." We have left huge categories out of the portfolio, while at the same time we have included categories that are not wealth at all.

As in our earlier work, the most important omission is human capital, which is probably the largest single component of world wealth. We have also excluded the value of foreign real estate (except as a rough illustrative estimate in Figure 1). We have excluded the value and returns from proprietorships and partnerships as well as many small corporations. We have excluded (except in Figure 1) personal holdings such as automobiles, cash balances, and various consumer capital goods. We have not only omitted a large proportion of wealth, but we also have little idea as to how large the omitted proportion is.

Our inclusions may misrepresent the market even more than our omissions. We have included U.S. and foreign government debt that is almost certainly not backed dollar-for-dollar by government-owned assets such as parks and bridges. More likely, it is backed by claims on a future tax base. Other inclusions in our portfolio also misrepresent wealth. For example, some corporations own parts of other corporations, causing double counting.

While this study does not really measure the wealth of the world then, it nevertheless presents

Figure 1



market values and returns for asset classes that make up a large part of that wealth. We measure the values and returns of the capital market securities that are most marketable and most readily identifiable. These are the securities that make up the opportunity set faced by most investors.

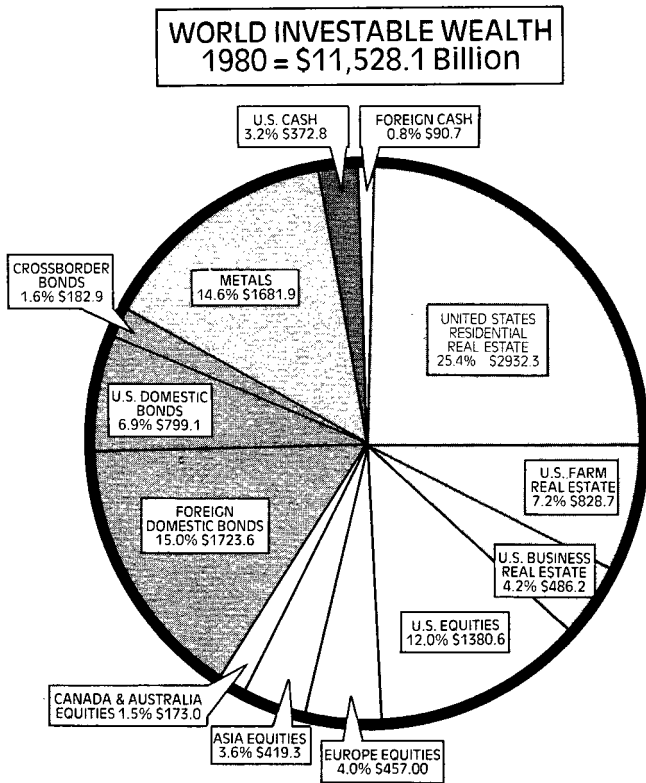
MARKET VALUES AND RETURNS

Later in the paper, we discuss the sources of the data. For now, let us discuss the results, which appear in detail in the tables at the end of the article.

Figure 1 shows the approximate asset class distribution of a broadly defined World Wealth Portfolio as of the end of 1980. We estimate that this broadly defined portfolio had a value of \$21,486.7 billion. Foreign real estate is the largest component of the market. Assets residing in foreign countries clearly make up a larger share of wealth than United States assets. Note that only seventeen of the most important foreign industrial countries were used to make these estimates; other countries also hold a substantial share of the world wealth. We see also that automobiles and other consumer durables, excluded in the main body of the study, comprise a substantial portion of world wealth.

In Figure 2, we show the distribution as of the end of 1980 of the asset classes included in the World Market Portfolio for which we measure returns. Here we exclude durables, foreign real estate, the municipal bond component of U.S. bonds, art, venture capital,

Figure 2

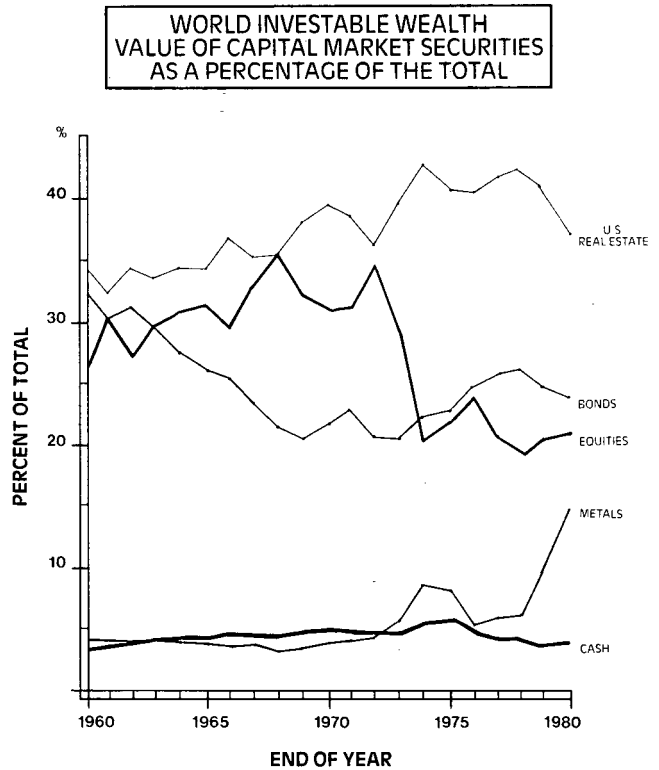


and convertible bonds. Of the remaining asset classes, U.S. real estate is the largest. By our measure, the World Market Portfolio at the end of 1980 was \$9,846.2 billion excluding monetary metals, and \$11,528.1 billion including these metals.

Table 1 shows aggregate market values of the various series and the total market on a year-by-year basis. Table 2 gives a direct measure of the proportions. A graphic representation of the proportions for major categories is displayed in Figure 3. Equities have been decreasing as a proportion of the total market, while metals have been increasing. Bonds have had a declining share of world wealth. The real estate proportion has fluctuated but ended the period at approximately its beginning level. From Table 2, we can also discern that the U.S. share has decreased over the period studied.

Table 3 presents the year-by-year total returns for the various components of the market portfolio. Each component is grouped into one of the five major categories. The return of each major category is the market-value-weighted sum of the return of its components. The world market return is the market-value-weighted sum of all of the component returns. We present returns for the world market both with and without monetary metals, since these metals have a large weight and unusual returns and, thus, alter the return on the world portfolio considerably. The returns then are linked or compounded into cumulative wealth indices, which are presented in Table 4. Each wealth index is initiated at 1.000 at year-end 1959 and

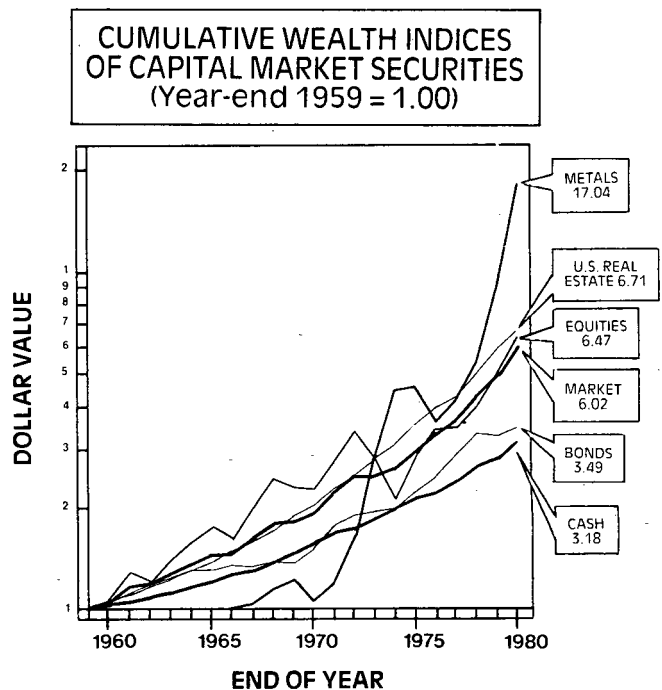
Figure 3



includes reinvestment of all income as well as retention of all capital gains.

Figure 4 presents a graphic summary of the results in Table 4. The most risky category, metals, had the highest return over the period. Real estate and equities had lower returns, but still had generally good performance. As measured by the standard deviation of annual returns, real estate was much less risky than equities. The risk of real estate, however, is probably underestimated here as a consequence of the lesser

Figure 4



marketability of real estate and the probable understatement of the volatility of annual returns. Cash had returns that tracked the United States inflation rate. U.S. bonds were the worst performer, not keeping up with inflation over the 1960-1980 period, while foreign bonds had better results.

The results presented in Tables 3 and 4 are summarized statistically in Table 5. The biggest winners over the period were silver, with a 16.09% compound annual rate of return, Asian equities (15.93%), gold (14.39%), and U.S. farm real estate (13.22%). The high return on farms was apparently without the high level of risk or variation that characterized the other high-performing series. Other U.S. real estate also did well for its level of risk. The least desirable investment was U.S. corporate bonds. They earned a compound annual rate of return of only 3.37%; these bonds also were riskier than any class of cash or real estate (as measured) and were as risky as the much better performing foreign bond portfolio.

The World Market Wealth Portfolio, excluding metals, had a compound annual return of 8.36% over the study period. Year-by-year returns ranged from 17.48% in 1975 to -1.35% in 1974. The world market portfolio, including metals, had higher returns: a compound rate of 8.92%, ranging from 21.51% in 1980 to 0.99% in 1966. Thus, the inclusion of monetary metals produced a portfolio with positive total returns in every year from 1960 through 1980.

THE RELATIONSHIPS AMONG THE SERIES

We can get a good idea of the interrelationships among the series by looking at the cross-correlation matrix presented in Table 6. The various equity, bond, cash, real estate, and metal series seem to exhibit high correlation *within* each category. World equities and world bonds have a correlation coefficient of approximately 0.16. World cash and gold (sometimes considered a form of cash) are highly correlated. Real estate is uncorrelated with most assets but highly correlated with cash, probably reflecting the impoundment of inflation rates into real estate returns.

These results collectively suggest that two factors — economy or market risk and inflation risk — are important in determining security returns. We proceed to investigate these influences by regression analysis.

Table 7 gives results for each of the excess return series regressed upon the excess return series of the larger category in which the series appears. Each major category's excess return is then regressed on the excess return of the world market, excluding metals. Finally, the excess return of the world market, excluding metals, and the excess returns on metals are regressed on the excess return of the complete world market. The returns are all input as the excess of the

security return over the riskless (U.S. Treasury bill) return. Thus, in a market model context, the alpha is a measure of beta-adjusted performance, the beta is a measure of the economy risk of the asset, and the R-square is a measure of the percent of the variance that is explained by the world market.

The results show that world equities were a relatively poor performer, exhibiting a beta of 2.68 and an alpha of -3.17 relative to the total world market. Real estate and metals had positive alphas relative to the world market, while fixed-income securities accompanied equities with a negative alpha. Real estate and metals also had very low betas; cash had both a low alpha and a low beta. Over the study period, short-term cash outperformed longer-term bonds as a result of generally rising inflation rates. On a beta-adjusted basis, the U.S. Market Wealth Portfolio outperformed the foreign market wealth portfolio.

Inflation appears to be the remaining factor that may describe the series. Table 8 presents the results of each of the return series regressed against U.S. inflation rates. We see that nearly all categories of equities and bonds were negatively related to inflation, while cash, real estate, and metals were positively related to inflation.

SOURCES OF DATA

The following section describes the sources of both the market values and the yearly returns for each of the series. The publications cited are included in a reference listing following the text. Here we describe the manner in which we utilized the data from those sources, or, in some circumstances, calculated our own estimates. In each category, the reported return series is the value-weighted sum of the returns of the components of the category. For example, the return for U.S. equities is the value-weighted sum of NYSE, AMEX, and OTC returns. The reported value for U.S. equities is the sum of the values of these three categories of stocks.

1. Equities

Yearly values and returns for NYSE stocks (1960-1980) and AMEX stocks (1963-1980) were obtained from the Center for Research in Security Prices (CRSP) at the University of Chicago. We constructed an equally-weighted index of AMEX stock returns for 1960-1962 using a 30-stock random sample. We extrapolated AMEX values for 1960-1962 from the 1963 value, using a given year's return as the divisor of that year's ending value to arrive at the previous year's ending value ("extrapolation by returns").

OTC stock values and returns for 1960-1978 were obtained from Ibbotson and Fall (1979). OTC values for 1979-1980 were obtained from the *NASDAQ Factbook*. To calculate OTC returns for those two years,

we used the NASDAQ index to measure capital appreciation; we obtained the dividend income data from Media General.

Yearly U.S. dollar-adjusted values and returns for foreign equities are taken from Ibbotson, Carr, and Robinson (1982) and represent 17 countries. The underlying source is *Capital International Perspective*.

2. Bonds

The U.S. fixed-income group consists of corporate bonds, including preferred stock, and government and agency bonds. The returns and market values for U.S. corporate bonds were obtained from the unpublished Ibbotson corporate bond study for 1960-1972. Returns for 1973-1980 were obtained from the Lehman Brothers Kuhn Loeb (LBKL) intermediate-term (one to ten years) and long-term (ten years or more) corporate bond indexes. Values for U.S. corporate bonds for 1973-1977 were also taken from the Ibbotson corporate bond study. We obtained values for 1978-1980 from the LBKL corporate bond index reports. The preferred stock return series was calculated from yields in Moody's *Public Utility Manual*, using the assumption that preferred stocks are a perpetuity. We used High Grade public utility yields for 1959-1974 and "AA" quality for 1975-1980. Yearly preferred stock values were measured as the difference between the total value of all NYSE stocks and NYSE common stocks; these data were supplied by the NYSE research department.

The long-term U.S. Treasury bond return series was taken from Ibbotson and Sinquefeld (1982). Returns for U.S. Treasury notes for 1960-1976 are taken from the two- to five-year maturity series in the unpublished Ibbotson and Vaughan paper; for 1977-1980, we formed an equally-weighted portfolio of every bond of two- to five-years maturity appearing in Lawrence Fisher's CRSP U.S. Government Bond File. To obtain the return series for U.S. agency bonds, we constructed a one-bond portfolio using prices and coupons quoted in the *Bank and Quotation Record*. Our method was to "purchase" an agency bond with five years to maturity at the beginning of the year. The bond was then "sold" one year later. The return was measured as the change in price plus the coupon.

Yearly values for Treasury bonds and notes were obtained by summing the market values of the individual bonds and notes, respectively, in Fisher's CRSP U.S. Government Bond File. Values for agencies were obtained from *Flow of Funds Accounts*.

Yearly U.S. dollar-adjusted values and returns for foreign domestic and crossborder bonds are as calculated in Ibbotson, Carr, and Robinson (1982).

3. Cash

U.S. cash consists of U.S. Treasury bills, com-

mercial paper, and bankers' acceptances. U.S. Treasury bill returns are taken from Ibbotson and Sinquefeld (1982). Values of U.S. Treasury bills were calculated as price times the amount outstanding from Fisher's CRSP U.S. Government Bond File, summed across all Treasury bills in the file.

We obtained commercial paper and bankers' acceptances yields from the *Federal Reserve Bulletin*; returns are equal to yields lagged one year. For commercial paper, the yield utilized is the average quarterly yield on four- to six-month paper for 1959-1972, and on 90- to 119-day paper for 1973-1980. For bankers' acceptances, the yields are annual averages of issue yields on 90-day prime issues. Values of commercial paper and bankers' acceptances are taken from *Flow of Funds Accounts*.

For the fourteen foreign countries studied, Treasury bill yields for 1960-1980 came from OECD *Interest Rates 1960-1974* and *Financial Statistics: Part I*. (The yields for France and Switzerland in 1979-1980 were official discount rates, not bill yields.) The 1959 yield data were obtained from *International Financial Statistics*; for that year, we obtained bill yields for seven countries and official discount rates for seven countries. Returns are equal to yields lagged one year, and are converted to U.S. dollars.

Market values for cash for these countries were taken from the *Government Financial Statistics Yearbook*, and converted to U.S. dollars. Values for missing years were interpolated or were extrapolated by returns (see above).

4. Real Estate

The year-end 1980 estimate of foreign real estate value was produced by summing the flows (change in stocks) from 1959 through 1980 after conversion to constant (1980) dollars. The raw data were provided by the First National Bank of Chicago. This method assumes that no stocks existed at the beginning of the reporting period (1959) and that no depreciation or demolition occurred thereafter. These two biases operate in opposite directions and, thus, tend to cancel each other.

U.S. real estate consists of business, residential, and farm real estate. Our index of business real estate for 1960-1974 is the sum of the annual changes in the *Engineering News Record Building Cost Index*, less 2.5 percentage points per year for depreciation, taken as the capital gain, and the assumed income return of 3.49% per year, which is the average annual income return reported by Sprinkel and Genetski (1977) for residential properties. For 1975-1980, we took total returns (change in appraised value plus net operating income) on a group of business properties and formed equally-weighted portfolios of the property returns: one for the Western states, one for the Southern states,

and one for the Northeastern and North Central states combined. (We followed U.S. Bureau of the Census allocation of states to regions.) The property return data were supplied by the First National Bank of Chicago. We then formed a population-weighted portfolio of the three regional return series, where the weights are the 1980 census populations of the regions as reported in the *Statistical Abstract of the United States*. We took this population-weighted series as the return series for U.S. business real estate.

Values for business real estate were taken from Musgrave (1981). We used the series for current dollar net stocks of non-corporate non-residential structures. We chose the non-corporate series to avoid double counting of real estate already counted as parts of corporations.

For residential real estate, the capital appreciation returns are the changes in the home purchase index of the Consumer Price Index (CPI), published by the Bureau of Labor Statistics, U.S. Department of Labor. This index represents unlevered houses and thus excludes the influence of mortgage rates. The income returns as a percent of value, after management costs, were obtained year-by-year from Sprinkel and Genetski (1977) for 1960-1975, and from Robert Genetski by interview for 1976-1980.

Values for residential real estate were obtained from Musgrave (1981). The series used was current dollar net stock of owner-occupied residential structures. We then multiplied the numbers in this series by 1.2 to account for the value of the land beneath the structures. This multiplier was derived by examining several studies of urban land value, all of the results of which cluster around a 1.2 multiplier.

We obtained the capital appreciation series for farm real estate in the form of a price per acre of farmland, which we used directly. The U.S. Department of Agriculture supplied us with the series. Income returns as a percent of value after management costs were obtained from *Economic Indicators of the Farm Sector 1980*.

The market values of farms, including farm houses, were also obtained from *Economic Indicators of the Farm Sector 1980*.

5. Metals

Total returns for gold are the change in year-end price as reported in the *Wall Street Journal*. The world gold supply as of the end of 1980 was obtained from *Business Week* (September 21, 1981). The underlying source is J. Aron & Company. Preceding years' supplies were estimated by subtracting year-by-year production. Production data were supplied by the U.S. Bureau of Mines. Gold supply and production are measured in ounces. Our market value series equals the price times the estimated supply.

Handy and Harman supplied the year-end prices with which we constructed the total return series for silver. We calculated aggregate values for silver under the assumption that the silver stock equals five times the annual production. We obtained annual production rates from the *Minerals Yearbook 1980* for 1960, 1965, 1970, and 1975, and from *Mine Production of Silver in 1980* for 1980. The estimate excludes silver held in communist countries.

6. Other Data

The U.S. inflation rate is taken from Ibbotson and Sinquefeld (1982). The underlying source is the CPI (see above). Exchange rates used to convert foreign returns and amounts to U.S. dollars were supplied by the First National Bank of Chicago.

In Figure 1, we present estimates of the end-of-1980 value of various assets not included in the main body of this study. The value of municipal bonds (included in U.S. fixed income securities in Figure 1) at the end of 1980 was taken from the *Flow of Funds Accounts*. The 1980 value of venture capital was supplied by Venture Capital, Inc. We calculated the 1980 value of convertible bonds by summing the amounts outstanding (adjusted for price) reported in *Moody's Bond Record*. For the 1980 value of art, we summed the total net sales over the period 1976-1980 for Christie's and Sotheby Parke Bernet, the two largest auction houses (thus assuming that the aggregate value equals the last five years' volume of trade). The 1980 value of U.S. durable goods was provided by John C. Musgrave. The number includes automobiles, furniture, appliances, and other personal effects. We estimated the value of foreign durable goods by adding the 1980 value of foreign motor vehicles (at an assumed price of \$3,000 per vehicle, with the number of vehicles supplied by the Motor Vehicles Manufacturers' Association) and the value of foreign personal goods (estimated by assuming that foreign personal goods were held in the same proportion to foreign motor vehicles as the proportion, derived from the Musgrave data, of U.S. personal goods to U.S. motor vehicles).

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TABLE 1
 Aggregate Value of Capital
 Market Securities (Billions of Dollars)

End of Year	Equities						Bonds								
	U. S.	Foreign				Equities Total	Corp incl Pref Stock	U. S.			Foreign				Bonds Total
		Europe	Asia	Other	Total			Gov't	Total	Domestic		Cross-border	Total		
1959	346.1	103.0	14.6	23.4	141.0	487.2	70.2	145.4	215.6	121.8	192.7	17.8	332.4	548.0	
1960	345.0	135.1	17.7	27.4	180.2	525.2	75.2	155.1	230.3	140.2	238.0	18.6	396.9	627.2	
1961	436.2	168.4	20.5	32.6	221.5	657.7	78.5	157.0	235.5	139.6	253.5	19.8	412.9	648.4	
1962	383.5	146.6	17.1	31.4	195.0	578.5	83.5	163.2	246.7	136.1	260.0	21.4	417.5	664.2	
1963	452.4	153.9	23.1	34.2	211.2	663.6	87.4	163.8	251.2	141.4	241.8	22.7	405.9	657.1	
1964	523.5	149.9	20.3	41.7	211.9	735.4	89.7	158.5	248.2	139.5	236.2	24.0	399.8	648.0	
1965	594.3	145.1	18.5	40.9	204.4	798.7	90.7	162.3	253.0	135.6	229.5	24.5	389.6	642.6	
1966	534.5	150.8	23.1	38.9	212.8	747.4	88.8	168.1	256.9	133.3	227.6	24.6	385.5	642.4	
1967	686.9	174.9	27.5	42.8	245.1	932.1	95.7	164.7	260.4	130.4	233.5	25.5	389.4	649.8	
1968	789.4	199.0	31.9	51.6	282.4	1071.8	110.9	175.1	286.0	129.0	232.1	27.1	388.2	674.2	
1969	710.7	196.7	43.8	55.9	296.4	1007.1	106.5	169.1	275.6	123.5	219.7	27.1	370.3	645.9	
1970	700.9	194.4	50.6	64.2	309.2	1010.2	127.2	195.6	322.8	125.6	234.4	30.3	390.4	713.2	
1971	827.5	208.5	63.2	63.8	335.5	1163.0	155.5	207.4	362.9	159.2	293.4	33.5	486.1	849.0	
1972	991.2	269.9	109.2	80.3	459.5	1450.6	171.8	221.4	393.2	181.2	314.0	38.2	533.4	926.6	
1973	791.4	322.9	171.9	80.3	575.1	1366.5	169.4	233.9	403.3	201.5	340.4	41.7	583.7	987.0	
1974	545.1	227.2	126.0	62.5	415.8	960.9	163.5	247.2	410.7	212.8	376.3	44.8	633.9	1044.6	
1975	736.2	242.1	143.7	66.5	452.3	1188.4	191.5	302.3	493.8	240.8	413.3	63.1	717.2	1211.0	
1976	911.6	233.5	176.9	77.3	487.6	1399.3	214.0	373.0	587.0	274.3	522.4	86.6	883.2	1470.2	
1977	868.0	247.3	195.9	72.3	515.4	1383.4	229.7	428.9	658.6	337.7	682.9	109.4	1130.0	1788.6	
1978	903.2	300.5	267.1	85.0	652.7	1555.8	209.9	481.0	690.9	428.2	878.8	129.6	1436.6	2127.5	
1979	1062.7	403.5	310.9	131.6	846.0	1908.7	203.2	537.4	740.6	429.7	980.8	147.3	1557.9	2298.5	
1980	1380.6	457.0	419.3	173.0	1049.3	2429.9	205.1	594.0	799.1	515.7	1207.9	182.9	1906.5	2705.6	

End of Year	Cash Equivalents			Real Estate				Metals			Market Wealth Portfolios			
	U. S.	Foreign	Cash Total	U. S.			Real Estate Total	World		Metals Total	U. S.		World	
				Business	Residential	Farm		Gold	Silver		U. S.	Foreign	Metals Excl	Metals Incl
1959	44.0	13.6	57.6	58.8	458.5	137.2	654.5	67.0	1.1	68.1	1260.2	487.0	1747.2	1815.3
1960	45.9	13.9	59.8	61.9	476.9	138.5	677.3	68.3	1.1	69.4	1298.5	591.0	1889.5	1958.9
1961	50.8	15.2	66.0	66.6	494.0	144.5	705.1	69.9	1.2	71.1	1427.6	649.6	2077.2	2148.3
1962	57.0	15.5	72.5	71.4	514.7	150.2	736.3	71.2	1.4	72.6	1423.5	628.0	2051.5	2124.1
1963	62.1	16.2	78.3	76.8	527.2	158.6	762.6	72.7	1.6	74.3	1528.3	633.3	2161.6	2235.9
1964	68.3	16.9	85.2	82.5	562.4	167.5	812.4	74.3	1.6	75.8	1652.4	628.6	2281.0	2356.8
1965	70.4	17.7	88.1	90.6	589.8	179.2	859.6	75.9	1.7	77.5	1777.3	611.7	2389.0	2466.5
1966	82.2	18.7	100.9	100.6	635.3	189.1	925.0	77.5	1.7	79.1	1798.6	617.0	2415.6	2494.7
1967	89.8	18.0	107.8	109.8	667.7	199.7	977.2	79.1	2.6	81.8	2014.3	652.5	2666.8	2748.6
1968	100.4	17.7	118.1	120.6	745.3	209.2	1075.1	90.6	2.5	93.1	2250.9	688.3	2939.2	3032.3
1969	111.9	19.9	131.8	139.9	813.0	215.8	1168.7	97.6	2.3	99.9	2266.9	686.6	2953.5	3053.4
1970	128.0	23.1	151.1	156.1	870.7	223.2	1250.0	87.3	2.4	89.8	2401.7	722.7	3124.4	3214.2
1971	136.9	25.8	162.6	170.4	960.2	239.6	1370.2	100.8	2.1	102.9	2697.5	847.4	3544.9	3647.8
1972	145.5	31.1	176.5	187.8	1082.6	267.3	1537.7	145.9	3.0	148.9	3067.6	1024.0	4091.6	4240.5
1973	157.7	37.1	194.8	216.8	1262.3	327.7	1806.8	247.8	4.7	252.6	3159.2	1195.9	4355.1	4607.7
1974	186.0	52.8	238.8	267.9	1422.1	359.8	2049.8	411.1	6.6	417.7	3191.6	1102.5	4294.1	4711.8
1975	219.2	53.2	272.4	269.8	1534.7	418.2	2222.7	421.8	6.1	427.9	3671.9	1222.7	4894.6	5322.5
1976	235.6	55.7	291.3	280.8	1727.9	496.4	2505.1	332.2	6.5	338.6	4239.3	1426.5	5665.8	6004.4
1977	250.6	71.8	322.4	318.1	2000.3	554.6	2873.0	399.1	7.0	406.1	4650.2	1717.2	6367.4	6773.5
1978	266.9	85.0	351.9	368.1	2390.6	655.1	3413.8	528.5	8.8	537.4	5274.8	2174.3	7449.1	7986.5
1979	289.2	80.0	369.2	427.0	2663.5	756.2	3846.7	851.5	32.5	883.9	5939.2	2483.9	8423.1	9307.0
1980	372.8	90.7	463.5	486.2	2932.3	828.7	4247.2	1654.7	27.1	1681.9	6799.7	3046.5	9846.2	11528.1

TABLE 2
Value of Capital Market Securities as
a Percentage of the Total

End of Year	Equities						Bonds							
	U. S.	Foreign			Total	Equi- ties Total	U. S.			Foreign				Bonds Total
		Europe	Asia	Other			Corp incl Pref Stock	Gov't	Total	Domestic		Cross- border	Total	
										Corp	Gov't			
1959	19.07	5.67	0.80	1.29	7.77	26.84	3.87	8.01	11.88	6.71	10.62	0.98	18.31	30.19
1960	17.61	6.90	0.90	1.40	9.20	26.81	3.84	7.92	11.76	7.16	12.15	0.95	20.26	32.02
1961	20.30	7.84	0.95	1.52	10.31	30.62	3.65	7.31	10.96	6.50	11.80	0.92	19.22	30.18
1962	18.05	6.90	0.81	1.48	9.18	27.23	3.93	7.68	11.61	6.41	12.24	1.01	19.66	31.27
1963	20.23	6.88	1.03	1.53	9.45	29.68	3.91	7.33	11.23	6.32	10.82	1.01	18.15	29.39
1964	22.21	6.36	0.86	1.77	8.99	31.20	3.81	6.73	10.53	5.92	10.02	1.02	16.96	27.49
1965	24.10	5.88	0.75	1.66	8.29	32.38	3.68	6.58	10.26	5.50	9.30	0.99	15.79	26.05
1966	21.43	6.04	0.93	1.56	8.53	29.96	3.56	6.74	10.30	5.34	9.12	0.98	15.45	25.75
1967	24.99	6.36	1.00	1.56	8.92	33.91	3.48	5.99	9.47	4.74	8.50	0.93	14.17	23.64
1968	26.03	6.56	1.05	1.70	9.31	35.35	3.66	5.77	9.43	4.26	7.66	0.89	12.80	22.23
1969	23.28	6.44	1.43	1.83	9.71	32.98	3.49	5.54	9.03	4.05	7.20	0.89	12.13	21.15
1970	21.81	6.05	1.57	2.00	9.62	31.43	3.96	6.09	10.04	3.91	7.29	0.94	12.15	22.19
1971	22.68	5.72	1.73	1.75	9.20	31.88	4.26	5.69	9.95	4.37	8.04	0.92	13.33	23.27
1972	23.37	6.36	2.58	1.89	10.84	34.21	4.05	5.22	9.27	4.27	7.41	0.90	12.58	21.85
1973	17.18	7.01	3.73	1.74	12.48	29.66	3.68	5.08	8.75	4.37	7.39	0.91	12.67	21.42
1974	11.57	4.82	2.67	1.33	8.82	20.39	3.47	5.25	8.72	4.52	7.99	0.95	13.45	22.17
1975	13.83	4.55	2.70	1.25	8.50	22.33	3.60	5.68	9.28	4.52	7.76	1.19	13.47	22.75
1976	15.18	3.89	2.95	1.29	8.12	23.30	3.56	6.21	9.78	4.57	8.70	1.44	14.71	24.49
1977	12.81	3.65	2.89	1.07	7.61	20.42	3.39	6.33	9.72	4.99	10.08	1.62	16.68	26.41
1978	11.31	3.76	3.34	1.06	8.17	19.48	2.63	6.02	8.65	5.36	11.00	1.62	17.99	26.64
1979	11.42	4.34	3.34	1.41	9.09	20.51	2.18	5.77	7.96	4.62	10.54	1.58	16.74	24.70
1980	11.98	3.96	3.64	1.50	9.10	21.08	1.78	5.15	6.93	4.47	10.48	1.59	16.54	23.47

End of Year	Cash Equivalents			Real Estate				Metals			Market Wealth Portfolios			
	U. S.	Foreign	Cash Total	U. S.			Real Estate Total	World			U. S.	Foreign	World Excl Metals	World Incl Metals
				Business	Resid- ential	Farm		Gold	Silver	Total				
1959	2.42	0.75	3.17	3.24	25.26	7.56	36.06	3.69	0.06	3.75	69.42	26.83	96.25	100.00
1960	2.34	0.71	3.05	3.16	24.35	7.07	34.58	3.49	0.06	3.54	66.29	30.17	96.46	100.00
1961	2.36	0.71	3.07	3.10	23.00	6.73	32.82	3.25	0.06	3.31	66.45	30.24	96.69	100.00
1962	2.68	0.73	3.41	3.36	24.23	7.07	34.66	3.35	0.07	3.42	67.02	29.57	96.58	100.00
1963	2.78	0.72	3.50	3.43	23.58	7.09	34.11	3.25	0.07	3.32	68.35	28.32	96.68	100.00
1964	2.90	0.72	3.62	3.50	23.86	7.11	34.47	3.15	0.07	3.22	70.11	26.67	96.78	100.00
1965	2.85	0.72	3.57	3.67	23.91	7.27	34.85	3.08	0.07	3.14	72.06	24.80	96.86	100.00
1966	3.30	0.75	4.04	4.03	25.47	7.58	37.08	3.11	0.07	3.17	72.10	24.73	96.83	100.00
1967	3.27	0.65	3.92	3.99	24.29	7.27	35.55	2.88	0.09	2.98	73.28	23.74	97.02	100.00
1968	3.31	0.58	3.89	3.98	24.58	6.90	35.45	2.99	0.08	3.07	74.23	22.70	96.93	100.00
1969	3.66	0.65	4.32	4.58	26.63	7.07	38.28	3.20	0.08	3.27	74.24	22.49	96.73	100.00
1970	3.98	0.72	4.70	4.86	27.09	6.94	38.89	2.72	0.07	2.79	74.72	22.48	97.21	100.00
1971	3.75	0.71	4.46	4.67	26.32	6.57	37.56	2.76	0.06	2.82	73.95	23.23	97.18	100.00
1972	3.43	0.73	4.16	4.43	25.53	6.30	36.26	3.44	0.07	3.51	72.34	24.15	96.49	100.00
1973	3.42	0.81	4.23	4.71	27.40	7.11	39.21	5.38	0.10	5.48	68.56	25.95	94.52	100.00
1974	3.95	1.12	5.07	5.69	30.18	7.64	43.50	8.72	0.14	8.86	67.74	23.40	91.14	100.00
1975	4.12	1.00	5.12	5.07	28.83	7.86	41.76	7.92	0.11	8.04	68.99	22.97	91.96	100.00
1976	3.92	0.93	4.85	4.68	28.78	8.27	41.72	5.53	0.11	5.64	70.60	23.76	94.36	100.00
1977	3.70	1.06	4.76	4.70	29.53	8.19	42.42	5.89	0.10	6.00	68.65	25.35	94.00	100.00
1978	3.34	1.06	4.41	4.61	29.93	8.20	42.74	6.62	0.11	6.73	66.05	27.23	93.27	100.00
1979	3.11	0.86	3.97	4.59	28.62	8.13	41.33	9.15	0.35	9.50	63.81	26.69	90.50	100.00
1980	3.23	0.79	4.02	4.22	25.44	7.19	36.84	14.35	0.24	14.59	58.98	26.43	85.41	100.00

TABLE 3
Year-By-Year Total Returns on
Capital Market Securities (Percent)

Year	Equities						Bonds							
	U. S.	Foreign				Equities Total	U. S.			Foreign				Bonds Total
		Europe	Asia	Other	Total		Corp incl Pref Stock	Gov't	Total	Domestic		Cross- border	Total	
1960	0.83	13.65	38.50	- 0.69	13.84	4.60	7.79	12.16	10.74	5.89	0.00	4.66	2.41	5.69
1961	27.52	15.11	- 13.03	26.49	14.08	22.91	4.96	1.55	2.66	6.15	6.41	6.14	6.31	4.97
1962	- 9.29	- 2.35	4.68	- 3.43	- 1.86	- 6.79	5.90	5.96	5.94	4.44	7.89	7.99	6.72	6.44
1963	21.04	7.08	8.78	19.19	9.18	17.04	3.59	1.69	2.32	11.24	4.03	6.03	6.49	4.94
1964	16.71	- 2.13	10.93	16.12	2.25	12.11	4.75	3.83	4.15	5.55	1.71	5.90	3.28	3.61
1965	15.26	3.74	21.39	- 1.27	4.46	12.15	- 2.81	1.18	- 0.26	4.04	1.90	1.88	2.65	1.54
1966	- 8.21	- 5.93	9.04	- 3.92	- 4.17	- 7.18	- 4.27	4.08	1.09	6.01	4.05	0.48	4.51	3.16
1967	30.45	18.98	- 4.85	22.41	17.02	26.63	- 3.91	- 4.49	- 4.29	4.20	0.58	3.71	2.03	- 0.50
1968	14.95	35.05	26.43	27.46	32.76	19.63	2.69	1.93	2.21	5.77	3.71	6.28	4.57	3.62
1969	- 9.86	1.51	34.15	8.26	6.43	- 5.57	- 7.50	- 2.82	- 4.64	2.80	-0.72	- 0.08	0.50	- 1.68
1970	- 1.00	- 9.04	- 4.09	1.10	- 6.40	- 2.59	14.00	14.58	14.36	9.12	9.36	5.03	8.97	11.27
1971	18.16	27.33	48.41	7.59	26.68	20.77	11.71	9.75	10.52	24.29	21.47	15.70	21.93	16.77
1972	17.71	16.45	134.88	29.15	41.17	24.48	7.12	4.82	5.81	10.05	2.77	11.48	5.75	5.78
1973	-18.68	- 7.78	- 24.62	- 5.72	-11.42	-16.38	1.22	2.03	1.68	7.69	5.30	7.18	6.24	4.30
1974	-27.77	-23.34	- 19.75	-28.54	-22.99	-25.76	- 5.70	8.23	2.38	3.62	2.49	5.33	3.08	2.79
1975	37.49	44.78	23.84	27.61	35.86	36.78	16.61	7.82	11.32	11.40	8.16	14.31	9.68	10.32
1976	26.68	- 7.56	26.17	3.81	4.83	18.36	18.90	12.73	15.12	15.55	7.01	16.84	10.75	12.53
1977	- 3.03	21.26	13.39	2.89	15.50	3.43	4.29	2.00	2.83	33.27	26.73	12.46	27.36	17.57
1978	8.53	25.51	51.13	21.06	34.62	18.25	0.44	2.05	1.49	21.38	22.40	9.24	20.82	13.70
1979	24.18	15.38	- 5.57	49.75	11.29	18.77	- 2.89	4.42	2.20	- 6.65	0.75	2.03	- 1.35	- 0.20
1980	33.22	14.53	34.09	30.95	24.27	29.25	- 1.14	3.38	2.14	12.19	3.83	4.26	6.18	4.88

Year	Cash Equivalents			Real Estate				Metals			Market Wealth Portfolios			
	U. S.	Foreign	Cash Total	U. S.			Real Estate Total	World		Metals Total	U. S.	Foreign	World Excl Metals	World Incl Metals
				Business	Resid- ential	Farm		Gold	Silver					
1960	2.78	2.38	2.69	2.49	4.33	4.07	4.11	0.00	0.00	0.00	4.30	5.72	4.70	4.52
1961	2.36	2.92	2.49	2.69	4.69	9.10	5.41	0.00	13.19	0.21	10.69	8.60	10.04	9.69
1962	2.75	3.01	2.81	3.29	4.20	8.98	5.09	0.00	16.50	0.29	0.75	3.71	1.67	1.63
1963	3.13	3.37	3.18	4.29	6.03	9.79	6.62	0.00	7.50	0.15	9.62	7.25	8.89	8.60
1964	3.53	4.06	3.64	2.99	5.13	7.58	5.42	0.00	0.00	0.00	8.48	2.96	6.86	6.63
1965	3.92	4.93	4.12	4.09	5.61	12.64	6.91	0.00	0.00	0.00	8.35	3.32	6.96	6.74
1966	4.69	4.64	4.68	4.89	5.25	12.23	6.67	0.00	0.00	0.00	0.82	1.61	1.02	0.99
1967	4.48	0.41	3.73	6.39	6.29	10.30	7.12	0.00	59.97	1.26	12.30	7.15	10.98	10.68
1968	5.18	5.86	5.29	10.69	7.83	8.71	8.33	12.29	- 4.85	11.72	9.66	15.19	11.01	11.04
1969	6.40	6.46	6.41	6.09	10.53	7.24	9.39	5.60	- 7.65	5.24	0.72	3.09	1.27	1.40
1970	6.95	9.51	7.34	9.99	11.69	7.77	10.76	-12.29	- 9.94	-12.24	7.32	2.35	6.16	5.56
1971	5.41	13.05	6.58	15.49	7.69	11.70	9.38	13.19	-14.72	12.44	11.88	23.68	14.61	14.55
1972	4.20	4.50	4.25	9.49	6.34	18.94	8.93	42.23	42.45	42.22	10.96	19.73	13.06	13.88
1973	6.28	9.86	6.91	7.39	6.56	35.27	11.65	66.90	58.59	66.73	0.32	- 1.58	- 0.15	2.19
1974	8.06	9.75	8.38	8.09	13.21	19.80	13.79	63.29	39.81	62.85	1.64	- 9.25	- 1.35	2.17
1975	7.33	- 0.15	5.68	8.86	13.02	18.52	13.44	1.13	- 6.83	1.00	16.92	19.08	17.48	16.01
1976	5.44	4.86	5.33	8.02	7.31	19.54	9.70	-22.41	6.36	-22.00	13.58	8.30	12.26	9.51
1977	5.15	18.81	7.76	8.99	11.38	11.20	11.08	18.36	8.28	18.17	6.57	22.97	10.70	11.12
1978	6.60	19.92	9.57	12.17	14.22	18.18	14.76	30.55	25.90	30.47	11.28	24.92	14.96	15.89
1979	9.34	- 2.48	6.48	14.52	18.92	19.70	18.60	58.83	367.45	63.91	16.94	2.40	12.70	16.14
1980	11.11	16.37	12.25	11.42	14.46	10.47	13.34	91.71	-24.78	87.43	15.39	12.67	14.59	21.51

TABLE 4
Cumulative Wealth Indices of Capital
Market Securities (Year-End 1959=1.00)

End of Year	Equities						Bonds							
	U. S.	Foreign			Equities Total	U. S.			Foreign				Bonds Total	
		Europe	Asia	Other		Corp incl Pref Stock	Gov't	Total	Domestic		Cross-border	Total		
1959	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
1960	1.008	1.136	1.385	0.993	1.138	1.046	1.078	1.122	1.107	1.059	1.000	1.047	1.024	1.057
1961	1.286	1.308	1.205	1.256	1.299	1.286	1.131	1.139	1.137	1.124	1.064	1.111	1.089	1.109
1962	1.166	1.277	1.261	1.213	1.275	1.198	1.198	1.207	1.204	1.174	1.148	1.200	1.162	1.181
1963	1.412	1.368	1.372	1.446	1.392	1.403	1.241	1.227	1.232	1.306	1.194	1.272	1.237	1.239
1964	1.648	1.339	1.522	1.679	1.423	1.572	1.300	1.274	1.283	1.378	1.215	1.347	1.278	1.284
1965	1.899	1.389	1.847	1.658	1.486	1.763	1.264	1.289	1.280	1.434	1.238	1.372	1.312	1.304
1966	1.743	1.307	2.014	1.593	1.424	1.637	1.210	1.342	1.294	1.520	1.288	1.379	1.371	1.345
1967	2.274	1.554	1.916	1.950	1.667	2.073	1.162	1.282	1.239	1.584	1.295	1.430	1.399	1.338
1968	2.614	2.099	2.423	2.485	2.213	2.480	1.194	1.306	1.266	1.675	1.343	1.520	1.463	1.387
1969	2.356	2.131	3.250	2.690	2.355	2.341	1.104	1.270	1.207	1.722	1.334	1.519	1.470	1.363
1970	2.333	1.938	3.117	2.720	2.204	2.281	1.259	1.455	1.381	1.879	1.459	1.595	1.602	1.517
1971	2.756	2.468	4.626	2.926	2.792	2.755	1.406	1.596	1.526	2.336	1.772	1.845	1.953	1.771
1972	3.244	2.874	10.866	3.779	3.942	3.429	1.506	1.673	1.614	2.571	1.821	2.057	2.065	1.874
1973	2.638	2.651	8.191	3.563	3.492	2.867	1.524	1.707	1.642	2.768	1.917	2.205	2.194	1.954
1974	1.906	2.032	6.573	2.546	2.689	2.129	1.438	1.848	1.681	2.869	1.965	2.323	2.262	2.009
1975	2.620	2.942	8.140	3.249	3.653	2.912	1.676	1.992	1.871	3.196	2.126	2.655	2.481	2.216
1976	3.319	2.719	10.270	3.373	3.830	3.446	1.993	2.246	2.154	3.693	2.275	3.102	2.747	2.494
1977	3.219	3.298	11.646	3.470	4.424	3.564	2.079	2.291	2.215	4.921	2.883	3.499	3.499	2.932
1978	3.493	4.139	17.600	4.201	5.955	4.215	2.088	2.338	2.248	5.973	3.528	3.811	4.228	3.334
1979	4.338	4.775	16.620	6.291	6.627	5.006	2.028	2.441	2.297	5.576	3.555	3.888	4.171	3.327
1980	5.779	5.469	22.286	8.239	8.236	6.470	2.004	2.524	2.346	6.256	3.691	4.054	4.428	3.489

End of Year	Cash Equivalents			Real Estate				Metals			Market Wealth Portfolios			
	U. S.	Foreign	Cash Total	U. S.			Real Estate Total	World		Metals Total	U. S.	Foreign	World Excl Metals	World Incl Metals
				Business	Residential	Farm		Gold	Silver					
1959	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
1960	1.028	1.024	1.027	1.025	1.043	1.041	1.041	1.000	1.000	1.000	1.043	1.057	1.047	1.045
1961	1.052	1.054	1.052	1.052	1.092	1.135	1.097	1.000	1.132	1.002	1.154	1.148	1.152	1.146
1962	1.081	1.085	1.082	1.087	1.138	1.237	1.153	1.000	1.319	1.005	1.163	1.191	1.171	1.165
1963	1.115	1.122	1.116	1.134	1.207	1.359	1.230	1.000	1.418	1.007	1.275	1.277	1.275	1.265
1964	1.154	1.168	1.157	1.168	1.269	1.461	1.296	1.000	1.418	1.007	1.383	1.315	1.363	1.349
1965	1.199	1.225	1.205	1.215	1.340	1.646	1.386	1.000	1.418	1.007	1.499	1.358	1.458	1.440
1966	1.256	1.282	1.261	1.275	1.410	1.848	1.478	1.000	1.418	1.007	1.511	1.380	1.473	1.454
1967	1.312	1.287	1.308	1.356	1.499	2.038	1.584	1.000	2.268	1.019	1.697	1.479	1.634	1.610
1968	1.380	1.363	1.377	1.501	1.616	2.215	1.715	1.123	2.158	1.139	1.861	1.704	1.814	1.788
1969	1.468	1.451	1.466	1.593	1.786	2.376	1.877	1.186	1.993	1.198	1.874	1.756	1.837	1.813
1970	1.570	1.589	1.573	1.752	1.995	2.560	2.078	1.040	1.795	1.052	2.011	1.798	1.951	1.913
1971	1.655	1.796	1.677	2.023	2.149	2.860	2.273	1.177	1.530	1.182	2.250	2.223	2.236	2.192
1972	1.725	1.877	1.748	2.215	2.285	3.402	2.476	1.674	2.180	1.682	2.497	2.662	2.528	2.496
1973	1.833	2.062	1.869	2.379	2.435	4.601	2.765	2.795	3.457	2.804	2.505	2.620	2.524	2.551
1974	1.981	2.263	2.025	2.571	2.756	5.512	3.146	4.563	4.834	4.566	2.546	2.378	2.490	2.606
1975	2.126	2.259	2.140	2.799	3.115	6.533	3.569	4.615	4.504	4.612	2.977	2.831	2.925	3.023
1976	2.242	2.369	2.255	3.024	3.343	7.810	3.915	3.581	4.790	3.597	3.381	3.066	3.283	3.311
1977	2.357	2.815	2.430	3.295	3.723	8.684	4.349	4.238	5.187	4.251	3.603	3.771	3.635	3.679
1978	2.513	3.376	2.662	3.696	4.253	10.263	4.991	5.533	6.530	5.546	4.010	4.710	4.179	4.263
1979	2.747	3.292	2.835	4.233	5.058	12.285	5.919	8.788	30.524	9.091	4.689	4.823	4.709	4.951
1980	3.053	3.831	3.182	4.717	5.789	13.571	6.709	16.847	22.960	17.038	5.410	5.434	5.396	6.017

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TABLE 5

World Capital Market Total Annual Returns 1960-1980

	Compound Return	Arithmetic Mean	Standard Deviation		Compound Return	Arithmetic Mean	Standard Deviation
Equities				Cash Equivalents			
United States	8.71%	10.23%	17.68%	United States	5.46	5.48	2.20
Foreign				Foreign	6.60	6.76	5.91
Europe	8.43	9.63	16.16	Cash Total	5.67	5.69	2.42
Asia	15.93	19.71	33.04	Real Estate**			
Canada & Australia	10.56	11.92	17.07	Business	7.67	7.73	3.73
Foreign Total	10.56	11.78	16.30	Residential	8.72	8.79	4.04
Equities Total	9.30	10.52	15.80	Farms	13.22	13.42	6.79
Bonds				Real Estate Total	9.49	9.55	3.65
United States				Metals			
Corporate*	3.37	3.61	7.13	Gold	14.39	17.59	29.21
Government	4.51	4.61	4.74	Silver	16.09	27.49	79.26
United States Total	4.14	4.27	5.25	Metals Total	14.46	17.61	28.96
Foreign				US Market Wealth Portfolio	8.37	8.50	5.25
Corporate Domestic	9.12	9.43	8.36	Foreign Market Wealth Portfolio	8.40	8.76	8.91
Government Domestic	6.42	6.66	7.44	World Market Wealth Portfolios			
Crossborder	6.89	6.99	4.68	Excluding metals	8.36	8.50	5.44
Foreign Total	7.34	7.57	7.13	Including metals	8.92	9.07	5.70
Bonds Total	6.13	6.26	5.31	US Inflation Rate	5.26	5.33	3.81

*Including preferred stock.
**United States only.

TABLE 6
World Capital Market Security Returns
Correlation Matrix

	U. S. Equities	Europe Equities	Asia Equities	Canada & Aust. Equities	Foreign Total Equities	World Total Equities	U. S. Corporate Bonds
U. S. Equities	1.000						
Europe Equities	0.627	1.000					
Asia Equities	0.260	0.391	1.000				
Canada and Australia Equities	0.787	0.676	0.296	1.000			
Foreign Total Equities	0.666	0.904	0.704	0.717	1.000		
World Total Equities	0.967	0.774	0.422	0.818	0.831	1.000	
U. S. Corporate Bonds and Preferred Stock	0.350	0.229	0.220	0.052	0.262	0.347	1.000
U. S. Government Bonds	-0.083	-0.201	0.077	-0.303	-0.156	-0.120	0.715
U. S. Total Bonds	0.154	0.021	0.169	-0.117	0.065	0.132	0.919
Foreign Domestic Corporate Bonds	0.054	0.321	0.292	-0.119	0.352	0.172	0.407
Foreign Domestic Government Bonds	-0.047	0.335	0.117	-0.082	0.280	0.078	0.330
Crossborder Bonds	0.272	0.345	0.342	0.019	0.399	0.340	0.781
Foreign Total Bonds (incl. Crossborder)	0.005	0.343	0.197	-0.098	0.322	0.128	0.403
World Total Bonds	0.068	0.284	0.227	-0.122	0.290	0.160	0.683
U. S. Cash	0.050	0.032	-0.077	0.202	0.028	0.038	-0.176
Foreign Cash	-0.280	0.018	0.145	-0.246	0.090	-0.166	-0.064
World Total Cash	-0.105	0.024	0.025	0.015	0.068	-0.055	-0.171
Business Real Estate	0.196	0.386	0.254	0.360	0.410	0.278	0.110
Residential Real Estate	0.081	0.187	-0.063	0.324	0.139	0.105	-0.148
Farm Real Estate	-0.168	-0.147	-0.082	-0.077	-0.133	-0.170	0.001
U. S. Total Real Estate	0.035	0.139	-0.049	0.268	0.109	0.060	-0.105
Gold	-0.142	-0.033	0.038	0.145	0.020	-0.106	-0.440
Silver	0.094	0.014	-0.195	0.432	-0.058	0.042	-0.272
World Total Metals	-0.141	-0.033	0.026	0.159	0.014	-0.107	-0.447
U. S. Market Wealth Portfolio	0.916	0.625	0.256	0.780	0.660	0.904	0.360
Foreign Market Wealth Portfolio	0.484	0.815	0.622	0.467	0.880	0.663	0.392
World Market Wealth Portfolio (excl. metals)	0.854	0.789	0.445	0.746	0.843	0.922	0.429
World Market Wealth Portfolio (incl. metals)	0.771	0.715	0.400	0.759	0.779	0.837	0.222

	U. S. Govt Bonds	U. S. Bonds	Foreign Corp Bonds	Foreign Govt Bonds	Cross- borders	Foreign Bonds	World Bonds
U. S. Government Bonds	1.000						
U. S. Total Bonds	0.931	1.000					
Foreign Domestic Corporate Bonds	0.145	0.286	1.000				
Foreign Domestic Government Bonds	0.148	0.249	0.888	1.000			
Crossborder Bonds	0.436	0.642	0.696	0.615	1.000		
Foreign Total Bonds (incl. Crossborder)	0.176	0.301	0.957	0.982	0.696	1.000	
World Total Bonds	0.503	0.632	0.889	0.893	0.809	0.928	1.000
U. S. Cash	0.091	-0.025	-0.024	-0.056	0.059	-0.055	-0.027
Foreign Cash	0.008	-0.034	0.741	0.718	0.247	0.726	0.586
World Total Cash	0.052	-0.052	0.354	0.373	0.068	0.359	0.280
Business Real Estate	0.174	0.167	0.317	0.444	0.344	0.411	0.390
Residential Real Estate	0.063	-0.028	0.048	0.211	-0.013	0.143	0.110
Farm Real Estate	0.010	0.004	0.013	0.070	0.281	0.065	0.052
U. S. Total Real Estate	0.070	-0.004	0.076	0.239	0.119	0.180	0.147
Gold	-0.170	-0.314	-0.071	-0.043	-0.139	-0.070	-0.178
Silver	-0.100	-0.180	-0.454	-0.201	-0.225	-0.302	-0.325
World Total Metals	-0.173	-0.319	-0.093	-0.052	-0.147	-0.083	-0.191
U. S. Market Wealth Portfolio	0.060	0.239	0.138	0.114	0.370	0.141	0.211
Foreign Market Wealth Portfolio	-0.039	0.191	0.733	0.686	0.629	0.728	0.667
World Market Wealth Portfolio (excl. metals)	0.029	0.256	0.414	0.375	0.533	0.413	0.439
World Market Wealth Portfolio (incl. metals)	-0.036	0.116	0.340	0.315	0.387	0.336	0.323

	U. S. Cash	Foreign Cash	World Cash	Bus. Real Estate	Resi- dential Structures	Farm- land	Total Real Estate
U. S. Cash	1.000						
Foreign Cash	0.335	1.000					
World Total Cash	0.873	0.749	1.000				
Business Real Estate	0.703	0.413	0.683	1.000			
Residential Real Estate	0.882	0.302	0.767	0.720	1.000		
Farm Real Estate	0.362	0.098	0.301	0.326	0.261	1.000	
U. S. Total Real Estate	0.877	0.310	0.766	0.778	0.940	0.564	1.000
Gold	0.683	0.367	0.667	0.466	0.541	0.511	0.633
Silver	0.329	-0.365	0.025	0.355	0.494	0.360	0.547
World Total Metals	0.682	0.341	0.652	0.473	0.553	0.525	0.648
U. S. Market Wealth Portfolio	0.327	-0.108	0.170	0.503	0.412	0.022	0.387
Foreign Market Wealth Portfolio	-0.008	0.416	0.200	0.476	0.134	-0.088	0.129
World Market Wealth Portfolio (excl. metals)	0.224	0.103	0.205	0.551	0.343	-0.024	0.324
World Market Wealth Portfolio (incl. metals)	0.454	0.222	0.429	0.654	0.515	0.061	0.494

	Gold	Silver	World Metals	U. S. Market	Foreign Market	World Market excl. Metals	World Market incl. Metals
Gold	1.000						
Silver	0.371	1.000					
World Total Metals	0.999	0.416	1.000				
U. S. Market Wealth Portfolio	0.070	0.282	0.078	1.000			
Foreign Market Wealth Portfolio	-0.052	-0.213	-0.064	0.529	1.000		
World Market Wealth Portfolio (excl. metals)	0.018	0.096	0.018	0.930	0.802	1.000	
World Market Wealth Portfolio (incl. metals)	0.344	0.205	0.342	0.902	0.709	0.937	1.000

TABLE 7
Regression Results for World Capital
Market Returns In Excess of U.S. Treasury Bill Rates

#	Dependent Variable	Independent Variable	Alpha &	Alpha T Statistic	Beta	Beta T Statistic	R ²	Standard Deviation of Residuals	1st Order Autocorr of Residuals
1	Europe Equities	Foreign Equities	-1.52	-0.89	0.90	9.42	0.814	7.26	-0.52
2	Asia Equities	Foreign Equities	5.11	0.89	1.44	4.46	0.486	24.56	-0.17
3	Other Equities	Foreign Equities	1.91	0.66	0.72	4.46	0.486	12.30	-0.01
4	Foreign Equities	World Equities	1.97	0.90	0.86	6.67	0.685	9.53	0.00
5	US Equities	World Equities	-0.69	-0.63	1.08	16.79	0.934	4.73	-0.03
6	World Equities	World Wealth excl. metals	-3.17	-2.15	2.68	11.64	0.871	5.93	0.29
7	US Corporate Bonds	US Total Bonds	-0.35	-0.59	1.28	13.01	0.894	2.73	-0.28
8	US Government Bonds	US Total Bonds	0.15	0.40	0.83	13.51	0.901	1.71	-0.31
9	US Total Bonds	World Total Bonds	-1.75	-1.79	0.72	4.50	0.490	4.43	0.00
10	Foreign Corporate Bonds	Foreign Total Bonds	1.60	2.79	1.12	15.52	0.923	2.53	-0.19
11	Foreign Government Bonds	Foreign Total Bonds	-0.92	-2.71	1.01	23.42	0.965	1.51	0.05
12	Crossborder Bonds	Foreign Total Bonds	0.42	0.46	0.54	4.80	0.524	3.96	0.28
13	Foreign Total Bonds	World Total Bonds	1.14	1.80	1.18	11.34	0.864	2.88	-0.05
14	World Total Bonds	World Wealth excl. metals	-0.87	-0.65	0.56	2.67	0.235	5.39	0.26
15	US Cash	World Cash	0.04	0.35	0.14	1.60	0.072	0.51	0.28
16	Foreign Cash	World Cash	0.14	0.31	4.16	12.24	0.882	1.96	0.27
17	World Cash	World Wealth excl. metals	0.14	0.43	0.05	1.01	0.001	1.29	-0.19
18	US Business Real Estate	US Real Estate	-0.73	-0.56	0.74	2.61	0.225	2.53	0.30
19	US Residential Real Estate	US Real Estate	-0.49	-0.66	0.94	5.80	0.620	1.45	0.28
20	US Farm Real Estate	US Real Estate	1.73	0.58	1.52	2.35	0.184	5.80	0.33
21	US Real Estate	World Wealth excl. metals	3.88	7.82	0.09	1.11	0.011	1.99	0.52
22	US Equities	US Market Wealth	-5.37	-3.75	3.29	13.87	0.905	5.64	0.12
23	US	US Market Wealth	-2.37	-1.56	0.40	1.60	0.072	5.97	0.22
24	US Cash	US Market Wealth	-0.05	-0.43	0.04	2.13	0.150	0.49	0.42
25	US Real Estate	US Market Wealth	3.88	7.62	0.09	1.04	0.005	2.00	0.55
26	US Market Wealth	World Wealth excl. metals	0.43	0.89	0.86	11.46	0.867	1.94	-0.10
27	Foreign Equities	Foreign Market Wealth	1.20	0.62	1.54	7.96	0.757	8.36	0.10
28	Foreign Total Bonds	Foreign Market Wealth	0.10	0.08	0.62	5.09	0.554	5.22	0.11
29	Foreign Cash	Foreign Market Wealth	0.44	0.36	0.28	2.31	0.178	5.17	-0.20
30	Foreign Market Wealth	World Wealth excl. metals	-1.00	-0.75	1.41	6.76	0.691	5.36	-0.09
31	World Wealth excl. metals	World Wealth incl. metals	-0.58	-1.05	1.00	11.54	0.869	2.09	0.39
32	Gold	Metals	-0.12	-0.32	1.01	80.65	0.997	1.56	-0.45
33	Silver	Metals	8.43	0.47	1.12	1.84	0.107	7.58	-0.38
34	Metals	World Wealth incl. metals	11.38	1.49	0.23	0.19	0.000	2.86	0.54

TABLE 8
Capital Market Returns Regressed On U.S. Inflation

#	Dependent Variable	Independent Variable	Alpha &	Alpha T Statistic	Beta	Beta T Statistic	R ²	Standard Deviation of Residuals	1st Order Autocorr of Residuals
1	US Equities	U. S. Inflation	13.44	1.94	-0.60	-0.57	0.000	18.44	-0.05
2	Europe Equities	"	10.33	1.62	-0.13	-0.14	0.000	16.98	-0.21
3	Asia Equities	"	26.67	2.07	-1.31	-0.66	0.000	34.34	-0.06
4	Other Equities	"	9.09	1.36	0.53	0.52	0.000	17.82	0.02
5	Foreign Equities	"	13.10	2.04	-0.25	-0.25	0.000	17.11	-0.06
6	World Equities	"	13.22	2.14	-0.51	-0.54	0.000	16.49	-0.07
7	US Corporate Bonds	"	6.50	2.42	-0.54	-1.32	0.036	7.17	0.33
8	US Government Bonds	"	4.48	2.40	0.03	0.09	0.000	4.98	0.03
9	US Total Bonds	"	5.22	2.55	-0.18	-0.57	0.000	5.47	0.21
10	Foreign Corporate Bonds	"	9.67	2.93	-0.04	-0.09	0.000	8.79	0.23
11	Foreign Government Bonds	"	5.77	1.97	0.17	0.37	0.000	7.80	0.25
12	Crossborder Bonds	"	7.39	4.01	-0.07	-0.26	0.000	4.91	0.54
13	Foreign Total Bonds	"	7.20	2.56	-0.07	0.16	0.000	7.49	0.28
14	World Total Bonds	"	6.39	3.05	-0.02	-0.07	0.000	5.58	0.40
15	US Cash	"	2.62	8.29	0.54	11.11	0.860	0.84	0.28
16	Foreign Cash	"	3.75	1.73	0.56	1.70	0.087	5.79	-0.13
17	World Cash	"	2.85	5.47	0.53	6.72	0.688	1.39	-0.21
18	US Business Real Estate	"	4.32	3.88	0.64	3.77	0.398	2.97	0.36
19	US Residential Real Estate	"	3.76	5.22	0.95	8.60	0.785	1.92	0.20
20	US Farm Real Estate	"	8.48	3.71	0.93	2.66	0.232	6.10	0.30
21	US Real Estate	"	-4.79	9.15	0.89	11.18	0.861	1.40	0.00
22	Gold	"	-14.29	-1.98	5.98	5.44	0.589	19.20	0.43
23	Silver	"	-24.47	-0.89	9.75	2.31	0.179	73.60	-0.32
24	Metals	"	-14.30	-2.03	5.99	5.58	0.601	18.75	0.47
25	US Market Wealth	"	7.07	3.48	0.27	0.88	0.000	5.41	-0.03
26	Foreign Market Wealth	"	9.55	2.72	-0.15	0.28	0.000	9.35	0.11
27	World Wealth excl. metals	"	7.69	3.61	0.15	0.46	0.000	5.68	0.04
28	World Wealth incl. metals	"	6.24	-2.97	0.53	1.66	0.080	5.60	0.02