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## CHAPTER 7

# Asset Prices and the General Price Level

### *Information on Asset Prices*

ASSET prices are important as one of the two basic determinants of net worth changes and also, more fundamentally, because they are imbedded in national and sectoral balance sheets, since the estimates for all types of assets other than monetary assets and liabilities and inventories are "constructed" rather than taken from the accounts of the owners. For reproducible tangible assets, this is done by the perpetual inventory method, in which the prices of the different types of assets play a crucial role in transforming gross capital expenditures in current prices (the basis of the calculations) into estimates of the stock of the different types of assets at constant and current prices. Since land is often estimated in proportion to structure value, asset price data indirectly are also crucial for this component of wealth. In the case of common stocks, finally, price indexes are used in Volume II in the calculation of the market value of stock outstanding.

In view of the importance of accurate and comprehensive asset price data, it is unfortunate that information in this field is scarce and not systematic, and that the theoretical problems specific to the measurement of asset prices and the derivation of asset price indexes have been badly neglected.<sup>1</sup>

The difficulties encountered in the measurement of asset prices are of three types, aside from the serious problems common to all price indexes extending over long periods (such as the choice of base, selection of a weighting system, method of averaging, and treatment of quality change). First, price information in the strict sense is necessarily restricted to those assets for which a current market can be said to exist, i.e., assets which are substantially homogeneous or comparable so that reported prices apply not only to specific transactions but to entire categories of generally similar assets. Secondly, even for types of assets for which a market price exists, information is often not system-

<sup>1</sup> Bond prices and bond price indexes are an exception, but even here the most intensive work, reflected in F. R. Macauley's *Some Theoretical Problems Suggested by the Movements of Interest Rates, Bond Yields and Stock Prices in the United States since 1856* (New York, NBER, 1938), was done a quarter of a century ago. Bonds, moreover, are an asset category for which price information is not crucial since face value may be used unless more accuracy is needed than is commonly required. As a matter of fact, in the estimates underlying this report the face value of claims has generally not been adjusted for price fluctuations.

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atically collected and processed. Thirdly, the derivation of indexes of asset prices from these data is often difficult because it is not known how accurate and representative these asset prices are.<sup>2</sup>

Price indexes based on actual transactions and applicable to an entire class of assets are limited to common stocks and bonds (not used here). The common stock price indexes are probably technically satisfactory but they are limited to stocks of the larger corporations listed on stock exchanges. No investigation seems to have been made of the extent to which these stock price indexes are also representative of the movements of other stocks, particularly those of smaller and less actively traded corporations.

Even aside from these questions of representativeness, the concept of a stock price index is an elusive one. Tangible asset prices are values per unit of quantity, and in this case quantity has a clear meaning; a specific deflation of tangible asset values to derive quantities is conceivable. A specific deflation of stock values would yield a measure difficult to interpret because of the difficulty of envisaging the quantities underlying stock prices—which are certainly not units of assets or earning power owned.

For the construction of balance sheets, the stock price indexes are adequate, however. They do indicate the change in market value of holdings. They should not be expected, however, to follow other asset or current prices closely. They contain none of the cost-of-production element which binds other prices together and they can be affected by items hardly relevant to other prices, such as the rate of corporate saving.

Price indexes for single-family homes and farm real estate are another species of data. They do not originate in transactions but mainly in estimates, by owners, of the market value of their property.<sup>3</sup> This applies to the farm real estate data, the 1890-1934 home price index published in Grebler, Blank, and Winnick,<sup>4</sup> Census of Housing and National Housing Inventory average values,<sup>5</sup> and the Survey of Consumer Finances data.<sup>6</sup> The main exception—the series collected by the National Housing Agency (later, the Housing and Home Finance

<sup>2</sup> These problems have been dealt with, though for tangible asset prices only and in very summary form, in *The Price Statistics of the Federal Government*, New York, NBER, 1961, Appendix C.

<sup>3</sup> For an appraisal of the accuracy of such estimates, see Leslie Kish and John B. Lansing, "Response Errors in Estimating the Value of Homes," *Journal of the American Statistical Association*, September 1954.

<sup>4</sup> Leo Grebler, David M. Blank, and Louis Winnick, *Capital Formation in Residential Real Estate: Trends and Prospects*, Princeton for NBER, 1956, p. 351.

<sup>5</sup> Appendix A.

<sup>6</sup> *Ibid*, Table A-8.

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Agency)—consists of selling prices asked by owners, rather than market prices.<sup>7</sup>

A price index for one- to four-family houses, constructed from these assorted pieces of information, appears in column 5 of Table 39. However, the perpetual inventory calculations, on which the balance sheets are based, relied on the construction cost index (column 6 of Table 39). It is therefore necessary to use that index to analyze changes in net worth. It appears possible, from the comparison of the two indexes, that both the gain in net worth of nonfarm households and the share of price changes in that gain may have been understated by the use of the construction cost index.

For most categories of reproducible tangible assets, only cost indexes are available. This is true, for example, of the very large category of nonfarm structures other than homes and of producer and consumer durables. The substitution of cost for price indexes is probably not too dangerous for long periods, although a study of short-term movements in asset prices using cost indexes would be hazardous, as variations between cost and price over shorter periods have been numerous and pronounced. In the longer run, however, the valuations of the market are felt to conform reasonably well to those indicated by cost data. There is evidence that the most important type of reproducible tangible assets for which a reasonably broad and continuous market exists—single-family homes—actually behaves in this way.<sup>8</sup> Since this report deals mainly with periods of between five to ten years in length, the use of cost instead of price indexes for many types of assets should not involve serious error.

Unfortunately, there are serious doubts about how well the available indexes measure actual changes in the cost of identical structures or pieces of equipment. In particular, it is almost certain that the available indexes take inadequate account of changes in quality, mostly quality improvements—a shortcoming that is probably shared by the available house price indexes. It is therefore likely that the indexes overstate the rise in asset prices that has taken place since the turn of the century. Since they share this shortcoming with the more commonly used indexes of wholesale prices and cost of living, it is not certain whether the relationship between asset prices and prices of currently

<sup>7</sup> See notes to Table 39.

<sup>8</sup> For a comparison of market prices with construction cost indexes (which determine replacement cost estimates) in the case of houses, see Grebler, Blank, and Winnick, *Capital Formation in Residential Real Estate*, Appendix C. The conclusion there is "With regard to long-term movements, the construction cost index conforms closely to the price index corrected for depreciation. . . . For long-term analysis the margin of error involved in using the cost index as an approximation of a price index cannot be great." (p. 358). Cf. also, R. W. Goldsmith, *A Study of Saving in the United States*, Princeton, 1955, Volume II, pp. 391 ff.

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produced goods and services, which is often used in this report, is affected to a significant extent. However, the indexes used for asset prices are more heavily weighted than current price indexes with the complex manufactured products most subject to quality improvements, and less heavily weighted with those crude materials and semimanufactured products whose prices are measured most accurately by price indexes. It is probable, therefore, that there is some upward bias in the ratio of asset to current prices as a result of insufficient allowance for quality improvement in both types of indexes.<sup>9</sup>

### *Prices for Specific Types of Assets*

Taken as a whole, the period from 1900 to 1962 was one of rising prices, with prices underlying deflated GNP quadrupling and the consumer price index rising to three and a half times its initial level (Table 39).<sup>10</sup> These price changes did not take place at an even rate. When the whole stretch of sixty years is broken up into the short periods used throughout this report, one finds (Table 40) that the three periods of most rapid price rises in the general price level cover war and postwar years, 1912-22, 1939-45, and 1945-49. There are five periods of more moderate price rises—1900-12, 1933-39, 1949-53, 1953-58, as well as 1958-62—with annual rates of change in the GNP deflator ranging from slightly over 1 per cent to almost 3 per cent. One period, 1922-29, was characterized by price stability, and one, 1929-33, by severe price declines.

Prices of stocks and tangible assets increased, over the sixty years as a whole, more rapidly than the general price level. However, when this period is divided into shorter intervals, two quite different patterns of price behavior emerge.

<sup>9</sup> No estimate is obtainable on the actual degree of quality improvement, either in output in general or in reproducible tangible assets, that is not reflected in the available price or cost indexes. It is therefore only a conjecture that the net difference can hardly exceed 1 per cent per year and probably is considerably smaller. Not only is the size of such a differential uncertain, but there is some doubt that it exists at all. However, the usual argument that technical progress has been particularly pronounced in the production of equipment, even if not in construction, cannot be brushed aside until a detailed investigation is available of the relative degree of quality improvements not reflected in the usual price indexes.

Milton Gilbert and Irving B. Kravis (*An International Comparison of National Products and the Purchasing Power of Currencies*, Paris, 1954, pp. 79 ff.) want to admit only those improvements in quality that can be expressed in price differences when both qualities are produced contemporaneously. Such improvements may be reflected to some extent in existing price indexes. If their theoretical reasoning is accepted, an adjustment for differential speed in unrecorded quality improvements is therefore less important.

<sup>10</sup> Most of this report does not include developments after 1958, the date of the last national balance sheet, but the price indexes are carried through the end of 1962. None of the price developments after 1958 suggest any substantial changes from the relationships existing up to that time.

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TABLE 39  
CURRENT PRICES AND ASSET PRICES, ANNUAL INDEXES, 1900-62  
(end-of-year data; 1929 annual average = 100)

GNP Deflator (1)	ASSET PRICES											
	Current Prices			Construction Costs			Prices Underlying Deflated			Total		
	Consumer Price Index (2)	Whole-sale Price Index (3)	Prices Received by Farmers (4)	Prices of 1-Family Houses (5)	1- to 4-Family (6)	Comm. and Indust. (7)	Producer Durables (8)	Consum. Durables (9)	Common Stock Prices (10)	Farm Real Estate Prices (11)	Excl. Common Stock (12)	Incl. Common Stock (13)
1900	49.4	57.8	48.0	40.2	47.6	48.0	49.7	43.4	29.0	41.9	47.6	42.3
1901	50.0	60.0	50.0	39.7	47.4	51.8	50.1	44.4	33.4	51.1	50.2	45.4
1902	50.9	65.0	55.4	44.0	48.6	49.0	49.1	45.7	34.4	60.3	51.1	46.3
1903	51.5	61.8	52.7	46.9	49.0	49.4	48.7	46.9	27.6	56.0	50.6	44.1
1904	51.8	63.8	55.4	45.6	49.6	50.0	50.0	47.7	34.7	60.3	51.9	47.0
1905	52.1	64.0	53.4	47.2	51.4	51.8	50.5	48.9	40.4	56.8	52.7	49.2
1906	53.8	67.2	54.1	44.6	53.1	53.5	51.8	52.1	40.4	58.2	54.6	50.6
1907	56.4	65.8	54.4	45.2	53.4	53.8	51.9	54.1	27.9	66.7	55.9	47.9
1908	57.2	67.8	58.8	52.6	53.0	53.4	52.7	52.7	37.6	66.7	55.8	50.6
1909	59.0	75.0	66.2	54.8	53.0	53.4	54.6	52.8	42.5	79.5	58.0	53.6
1910	59.6	69.6	67.9	57.0	52.8	54.0	56.4	54.8	38.1	83.0	58.6	52.8
1911	60.6	68.9	64.5	58.2	53.2	54.8	58.0	57.2	37.9	83.0	59.2	53.2
1912	62.0	73.6	65.9	60.1	52.8	55.5	58.6	60.7	38.8	85.8	60.4	54.2
1913	62.6	72.2	71.3	62.1	52.0	55.0	59.8	62.7	34.2	88.3	60.6	53.1
1914	64.0	71.0	66.6	61.4	52.8	54.5	63.3	63.5	30.7	88.1	60.9	52.3
1915	69.4	79.2	69.9	62.5	55.2	58.6	69.8	67.4	39.8	93.9	65.2	58.0
1916	82.6	105.6	96.3	66.9	61.5	66.8	81.1	76.8	41.0	101.4	74.8	65.2
1917	99.0	130.1	134.5	70.6	72.6	77.1	101.4	90.3	29.7	111.8	88.2	71.5
1918	107.9	142.0	142.2	77.5	85.7	93.1	113.7	103.1	33.3	121.7	101.6	82.1
1919	116.8	161.2	154.0	86.2	105.4	116.8	116.2	117.7	37.5	148.1	121.1	97.3
1920	114.8	123.1	97.6	90.4	107.0	114.9	116.0	126.7	29.5	137.4	116.7	91.9
1921	101.9	99.8	82.8	91.2	91.6	97.6	106.3	117.5	30.9	120.4	100.9	81.0
1922	100.2	106.3	96.6	93.8	93.1	98.8	99.8	106.9	37.4	117.1	100.7	82.6
1923	101.0	103.7	99.3	96.0	97.6	102.2	100.2	103.5	36.8	112.1	102.1	83.5
1924	101.2	100.7	104.1	99.9	96.6	102.9	99.7	102.1	43.9	109.9	101.9	85.4
1925	102.2	104.6	104.4	101.8	96.6	103.4	98.6	99.4	53.1	107.2	101.5	87.7

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1926	101.0	102.5	102.0	92.9	99.2	96.3	102.6	97.6	96.5	55.5	102.8	99.6	97.0
1927	100.4	100.7	101.7	100.3	99.3	95.8	102.4	97.5	96.9	70.3	100.8	99.3	91.1
1928	100.4	99.7	101.2	99.0	100.4	98.0	101.4	99.0	98.6	93.7	100.0	99.8	98.0
1929	98.3	99.9	98.0	98.6	98.6	98.8	96.0	98.1	98.8	81.5	98.3	97.7	93.1
1930	91.6	93.5	83.2	68.9	93.8	93.8	89.6	93.7	91.9	58.2	88.4	90.3	81.2
1931	82.6	84.2	71.8	49.7	86.2	83.0	79.9	89.0	81.0	30.5	78.3	80.2	66.1
1932	77.7	75.7	65.2	40.9	81.0	76.2	76.3	84.4	75.1	25.4	60.5	73.6	59.8
1933	79.4	76.8	75.4	51.7	79.2	79.6	83.6	84.8	76.5	38.4	63.4	78.4	67.0
1934	82.2	78.9	82.2	70.6	80.4	81.8	89.5	87.1	78.0	36.5	65.7	82.5	69.4
1935	82.9	80.8	85.3	75.0	81.6	82.4	92.0	86.7	77.2	51.9	68.6	84.0	74.9
1936	84.7	81.9	89.7	84.5	81.4	89.0	96.6	89.6	79.2	65.6	71.2	88.6	82.0
1937	85.5	83.5	85.8	71.3	85.1	95.0	100.2	94.2	81.5	43.1	71.8	91.6	77.8
1938	84.3	81.6	81.3	65.9	83.8	97.2	101.0	94.9	81.4	48.3	70.4	91.9	79.5
1939	84.5	81.3	83.7	67.6	86.0	99.9	104.0	95.2	81.4	48.4	70.4	93.9	80.9
1940	88.7	82.1	84.9	71.6	88.2	105.6	109.3	99.6	85.1	42.3	71.1	98.2	82.3
1941	97.9	90.9	100.1	98.0	96.2	112.7	117.3	107.1	95.9	35.9	76.9	106.8	86.6
1942	108.4	98.5	107.0	121.3	103.5	118.5	124.0	111.3	108.4	38.7	81.5	113.8	92.4
1943	114.5	101.5	109.0	135.1	112.9	126.6	128.6	112.1	120.1	46.4	92.8	120.5	99.4
1944	117.1	103.8	110.6	137.8	124.1	136.5	134.6	113.6	130.2	53.1	104.0	127.8	106.5
1945	124.2	106.1	113.0	144.3	157.1	148.6	149.4	120.7	132.9	70.8	116.8	138.8	119.4
1946	137.3	125.4	149.3	175.0	173.4	172.3	169.9	136.7	137.4	62.4	132.1	158.8	131.3
1947	149.5	137.5	168.2	207.4	201.0	206.7	198.7	152.3	145.8	60.4	143.1	183.2	148.2
1948	154.0	140.2	167.9	180.7	208.8	216.8	216.1	162.0	149.9	59.8	152.3	193.6	155.4
1949	154.7	137.5	158.7	159.5	199.4	208.4	212.0	167.6	151.7	66.6	148.4	189.1	154.2
1950	161.7	147.1	184.6	193.3	216.0	233.5	232.7	177.0	157.8	81.4	165.9	208.9	172.6
1951	169.3	154.3	183.9	204.4	232.5	241.5	241.8	185.0	163.9	91.9	186.8	217.8	182.0
1952	171.8	155.5	178.3	181.1	249.1	247.3	251.0	187.7	162.6	98.2	190.6	222.2	186.8
1953	173.5	156.9	179.5	173.3	249.4	249.2	238.3	189.3	159.4	96.1	185.1	224.3	187.8
1954	174.9	155.9	178.3	162.8	256.8	250.0	261.1	191.6	162.3	132.7	191.2	226.3	199.6
1955	178.4	156.3	181.3	149.0	273.5	260.1	273.7	200.4	160.8	161.8	199.0	234.7	213.9
1956	185.5	161.1	189.4	155.4	297.2	269.0	283.8	215.4	166.9	167.8	209.8	244.4	222.6
1957	191.3	166.4	192.3	161.5	299.5	272.9	294.5	223.8	169.4	150.1	223.5	252.0	223.0
1958	194.4	168.9	193.8	164.9	301.9	278.0	302.0	229.0	170.3	201.1	239.9	258.4	242.1
1959	197.9	171.0	192.5	155.8	313.6	286.5	311.3	231.0	170.8	215.8	248.6	264.7	250.8
1960	200.5	173.8	193.3	162.9	313.8	286.7	312.3	230.1	169.7	216.6	250.7	265.4	251.5
1961	202.6	174.8	192.9	162.6	317.4	290.0	317.7	229.8	169.8	231.7	257.2	268.8	266.8
1962	205.4	177.1	192.6	163.9	323.4	295.5	324.7	229.2	168.5	237.4	270.3	274.1	262.4

Notes on page 172.

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### SOURCE TO TABLE 39

- Col. 1, 1900-28: Ratio of GNP in current dollars to GNP in 1929 dollars from Simon Kuznets, *Capital in the American Economy: Its Formation and Financing* (Princeton for NBER, 1961). End-of-year prices were estimated by averaging adjoining years.  
1929-62: U.S. Dept. of Commerce indexes from *Survey of Current Business*, July 1962, p. 9, and March 1963, pp. S-1 and S-2, and *U.S. Income and Output*. Indexes were shifted to a 1929 base and end-of-year indexes were estimated by averaging adjoining years, 1929-52, and adjoining quarters, 1953-61. For 1962, the fourth-quarter figure was used.
- Col. 2, 1900-12: Cost of living index from Albert Rees, *Real Wages in Manufacturing, 1890-1914* (Princeton for NBER, 1961). Adjoining years averaged for end-of-year estimates.  
1913-62: BLS Consumer Price Index, put on 1929 base. End-year figures are December-January averages.
- Col. 3, 1900-62: BLS Wholesale price index from BLS, *Bulletin 543*, pp. 3-11, and later editions, and *Survey of Current Business* (e.g., March 1963, p. S-8). Year-end figures represent December-January averages.
- Col. 4, 1900-09: Wholesale price index (Warren & Pearson) of farm products from U.S. Bureau of the Census, *Historical Statistics of the U.S., 1789-1945*, Washington, 1949, p. 231, col. 4, linked to later series in 1910. End-of-year prices are averages of adjoining years.  
1910-62: Index of prices received by farmers for all farm products, from U.S. Department of Agriculture, *Crops and Markets*, (e.g., 1955, p. 67), and *Survey of Current Business* (e.g., March 1963, p. S-7). End-of-year figures represent December-January averages.
- Col. 5, 1900-33: Grebler, Blank, and Winnick, *Capital Formation in Residential Real Estate*, p. 351. Adjoining years averaged for end-of-year estimates.  
1934-39: 1934 calendar year index from above extrapolated to January-June 1940 by Washington, D. C. prices of one-family houses compiled by the National Housing Agency (NHA) and quoted in Ernest M. Fisher, *Urban Real Estate Markets, Characteristics and Financing* (New York, NBER, 1951), p. 53. End-of-year figures are July-June averages.  
1940-59: Extrapolated from January-June 1940 (treated as representing April 1) by Census data on average house values, interpolated and extrapolated by other series. The three Census averages were arrived at as follows:  
April 1, 1940: Median value (\$2,996) for owner-occupied urban and rural nonfarm one-family houses without business (*1940 Census of Housing*, Washington, 1943, Vol. III, Part 1, p. 16) multiplied by mean-to-median ratio (Part Three of this volume, Table A-1).  
April 1, 1950: Table A-1.  
Dec. 31, 1956: 1950 value (\$8,538.3) raised by the average change in price of dwelling units present in both 1950 Housing Census and 1956 National Housing Inventory (Part Three of this volume, Table A-8). The interpolator for 1940-49 consisted of the NHA series (through the beginning of 1947) extrapolated to an end-1950 estimate (average of September-April) via unpublished Housing and Home Finance Agency data and then interpolated for 1947, 1948, 1949, and January-June 1950 using the Boeckh construction cost index for residences (see notes to col. 6). The estimates for 1950-56 used the SRC series on house values (Part Three of this volume, Table A-7) to interpolate between 1949 and 1956 and extrapolate to 1959.  
1960-62: Extrapolated from 1959 by col. 6.
- Col. 6, 1900-45: Goldsmith, *Study of Saving*, Vol. I, p. 609. Adjoining years were averaged to arrive at end of year estimates.  
1946-62: Extrapolated from end-1945 by Boeckh index for construction

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SOURCE TO TABLE 39 (concluded)

- costs of residences, published in various issues of U.S. Housing and Home Finance Agency, *Housing Statistics*, and in the *Survey of Current Business* (e.g., March 1963, p. S-10). December and January averaged to obtain year-end figures.
- Col. 7, 1900-45: Goldsmith, *Study of Saving*, Vol. I, p. 609. Adjoining years were averaged to arrive at end-of-year estimates.  
1946-62: Extrapolated from end-1945 by Boeckh index for commercial and factory buildings from U.S. Department of Commerce, *Construction Review*, July 1957, July 1958, August 1959, and May 1961, *Construction Volume and Costs, 1915 to 1950, 1915 to 1951, 1915 to 1954, and 1915 to 1956*, and *Survey of Current Business* (e.g., March 1963, p. S-10). December and January averaged to obtain year-end figures.
- Cols. 8 and 9, 1900-28: Unpublished data from Simon Kuznets' study of capital formation and financing. End-year figures are averages of adjoining years. 1929-62: Same as col. 1.
- Col. 10, 1900-17: Alfred Cowles and Associates, *Common-Stock Indexes, 1871-1937*, Bloomington, 1938. End-of-year figures represent December-January averages.  
1918-62: Standard and Poor's index of common stock prices. March 1, 1957-end 1962 are from the 500-stock index. This is extrapolated back to February 1957 by the 90-stock daily index and from there back by the monthly stock price index (1935-39 = 100) which contained, at the end, 480 stocks. Published in various issues of U.S. Department of Commerce, *Business Statistics*, *Survey of Current Business* (e.g., March 1963, p. S-21), and Standard and Poor's Corp., *Long-Term Security Price Index Record*. End-of-year figures represent December-January averages.
- Col. 11, 1900-10: The value for 1910 was assumed the same as 1911 and then extrapolated back to 1900 by the land price index in Goldsmith, *Study of Saving*, Vol. I, p. 768.  
1911-62: Average value per acre of farm real estate (land and buildings) from U.S. Department of Agriculture, Agricultural Research Service, *Current Developments in the Farm Real Estate Market*, October 1959 and May 1961; *Farm Real Estate Market Developments*, December 1962 and October 1961; and *Agricultural Statistics*, 1953, 1957, and 1958. Data for 1942-61 are averages of November 1 and following March 1; those for 1911 through 1941 are for March 1 of the following year, and the 1962 figure is for July.
- Col. 12: Weighted average of cols. 3, 4, and 6-11 using 1929 weights from *Study of Saving and Supplementary Appendixes to Financial Intermediaries*. Col. 3 was given the weight of nonfarm inventories, col. 4 the weight of farm inventories. Corporate stock assets from *Study of Saving* were divided between common and preferred stock by use of the ratio from *Financial Intermediaries*.

Prices of tangible assets are closely related to the general price level (Chart 14), whether annual changes or annual rates of change during longer periods are examined. They even fall fairly close to the line representing equal changes in both series, although a slightly higher slope (representing asset price changes greater on the average than the corresponding price level changes) would produce a better fit.

Common stock prices, on the other hand, appear completely unrelated to the general price level. Their fluctuations covered a much wider range and the largest increases were in years of little or no rise

INFLUENCE OF PRICE CHANGES ON NET WORTH

TABLE 40

CURRENT PRICES AND ASSET PRICES: CHANGES BETWEEN BENCHMARK YEARS, 1900-62  
(per cent)

	Current Prices				ASSET PRICES		
	GNP Deflator (1)	Cost-of- Living Index (2)	BLS Wholesale Price Index (3)	Index of Prices Received by Farmers (4)	Prices of 1-Family Houses (5)	Construction Costs	
						1- to 4- Family (6)	Comm. and Indust. (7)
1900-12	25.5	16.0	27.3	37.3	49.5	10.9	15.6
1912-22	61.6	71.0	44.4	46.6	56.1	76.3	78.0
1922-29	-1.9	1.9	-7.8	2.1	5.1	6.1	-2.8
1929-33	-19.2	-23.1	-23.1	-47.6	-19.7	-19.4	-12.9
1933-39	6.4	5.9	11.0	30.8	8.6	25.5	24.4
1939-45	47.0	30.5	35.0	113.5	82.7	48.7	43.7
1945-49	24.6	29.6	40.4	10.5	26.9	40.2	41.9
1949-53	12.2	14.1	13.1	8.7	25.1	19.6	21.8
1953-58	12.0	7.6	8.0	-4.8	21.1	11.6	16.9
1958-62	5.7	4.9	-0.6	-0.6	7.1	6.3	7.5
1900-29	99.0	102.2	69.6	105.4	145.3	107.6	100.0
1900-45	151.4	114.8	95.5	200.6	290.8	212.2	211.2
1900-58	293.5	241.9	235.3	243.5	651.0	484.0	529.2
1900-62	315.8	258.5	233.2	241.5	704.5	520.8	576.5
1929-45	26.3	6.2	15.3	46.3	59.3	50.4	55.6
1929-58	97.8	69.1	97.8	67.2	206.2	181.4	214.6
1929-62	109.0	77.3	96.5	66.2	228.0	199.1	238.2
1945-58	56.5	59.2	71.5	14.3	92.2	87.1	102.1
1945-62	65.4	66.9	70.4	13.6	105.9	98.9	117.3
1953-62	18.4	12.9	7.3	-5.4	29.7	18.6	25.7

SOURCE

Cols. 1-11: Table 39, cols. 1-11.

Cols. 12-13: Price changes from Table 39, weighted by asset holdings at the beginning of each period. Asset holdings are derived from Vol. II, Tables I and Ia, and from Goldsmith, *Study of Saving*, Vol. III, Tables W-9 through W-15, and *National Wealth*. Corporate stock was divided between common and preferred stock using ratios derived from Goldsmith,

in the price level. Only the 1929-33 downturn imposed agreement on all the price series. Aside from that period, even the direction of change was frequently different; twenty-three of the sixty-two points in the annual chart fell in the second and fourth quadrants, indicating disagreement in direction between stock price and general price level changes.

ASSET PRICES AND THE GENERAL PRICE LEVEL

ASSET PRICES							
Prices Underlying Deflated				Averages			
				Shifting Weights		1929 Weights	
Producer Durables (8)	Consumer Durables (9)	Common Stock Prices (10)	Farm Real Estate Prices (11)	Total (12)	Total, Excl. Stock (13)	Total (14)	Total, Excl. Stock (15)
17.9	39.9	33.8	104.8	35.8	36.1	28.1	26.9
70.3	76.1	-3.6	36.5	53.7	64.2	52.4	66.7
-1.7	-7.6	117.9	-16.1	16.3	-3.6	12.7	-3.0
-13.6	-22.6	-52.9	-35.5	-29.1	-19.7	-28.0	-19.8
12.3	6.4	26.0	11.0	21.4	20.2	20.7	19.8
26.8	63.3	46.3	65.9	47.7	48.1	47.6	47.8
38.9	14.1	-5.9	27.1	28.1	36.2	29.1	36.2
12.9	5.1	44.3	24.7	21.3	17.9	21.8	18.6
21.0	6.8	109.3	29.6	28.2	14.8	28.9	15.2
0.1	-1.1	18.1	12.7	7.9	5.1	8.4	6.1
97.4	127.6	181.0	134.6	142.7	115.5	120.1	105.3
142.9	206.2	144.1	178.8	208.5	207.9	182.3	191.6
360.8	292.4	593.4	472.6	514.6	467.7	472.3	442.9
361.2	288.2	718.6	545.1	563.2	496.7	520.3	475.8
23.0	34.5	-13.1	18.8	27.2	42.9	28.2	42.1
133.4	72.4	146.7	144.0	153.3	163.4	160.0	164.5
133.6	70.5	191.3	175.0	173.3	176.8	181.8	180.6
89.7	28.1	184.0	105.4	99.2	84.4	102.8	86.2
89.9	26.8	235.3	131.4	114.9	93.8	119.8	97.5
21.1	5.7	147.0	46.0	38.3	20.7	39.7	22.2

SOURCE (concluded)

*Supplementary Appendixes to Financial Intermediaries*, Appendix F.  
Weights were assigned to the price indexes as follows:

- Col. 3: Nonfarm inventories
- 4: Farm inventories
- 6: Nonfarm residential structures and land
- 7: Nonfarm nonresidential structures and land
- 8: Producer durables
- 9: Consumer durables
- 10: Common stock
- 11: Farm structures and land

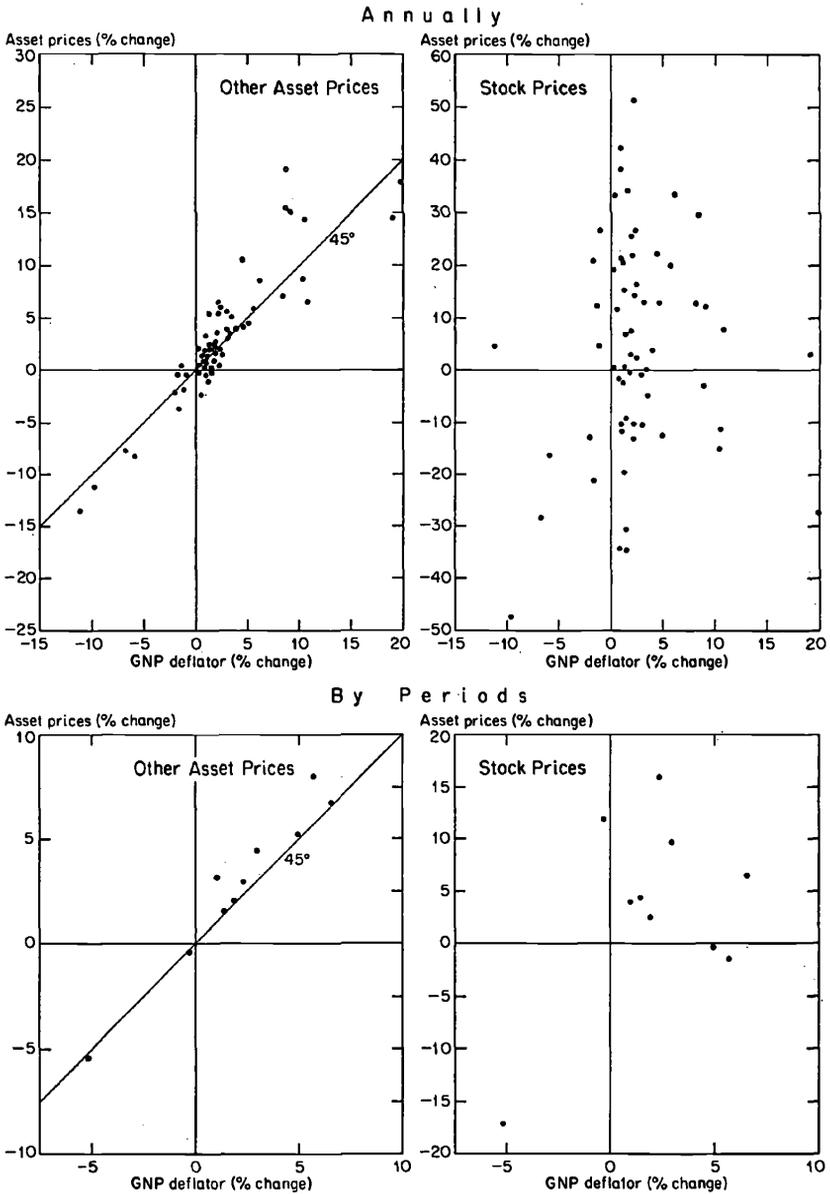
For intervals covering more than one period, shorter-period indexes were linked.

Cols. 14-15: Table 39, cols. 12-13.

INFLUENCE OF PRICE CHANGES ON NET WORTH

CHART 14

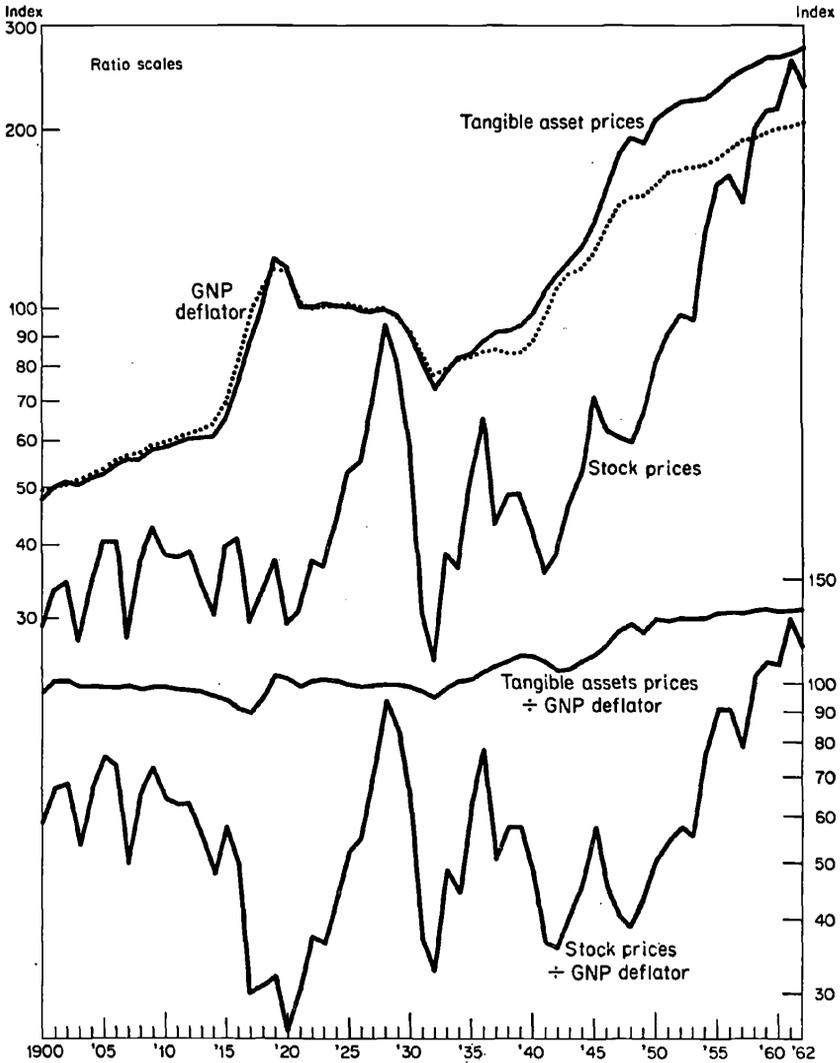
Annual Rates of Change: Common Stock Prices and Other Asset Prices Compared with GNP Deflator, 1900-62



ASSET PRICES AND THE GENERAL PRICE LEVEL

CHART 15

Prices of Stocks and Tangible Assets Compared  
with GNP Deflator, 1900-62  
(end-of-year data; 1929 annual average = 100)



Source: Table 39, cols. 1, 10, and 12, and cols. 10 and 12 divided by col 1.

The relations between asset prices and the price level are illustrated in another way by Chart 15. Tangible asset prices hardly deviated from the GNP deflator until the late 1930's or early 1940's; most of the relative rise in tangible asset prices took place between 1942 and 1948.

There had been a similarly sharp but much briefer climb around the time of World War I. Tangible asset prices thus increased relative to the price level during two periods of rapid inflation. During the 1920's, when the price level was stable, and during the milder inflations of 1900-12 and the 1950's, asset prices increased very slightly or even declined relatively. Only during the 1930's did their ratio to the price level rise substantially while other prices were increasing slowly.

The lack of synchronization between changes in stock prices and those in the price level stands out clearly in Chart 15. Relative, or "real," stock prices were cut almost in half during and after World War I, as stocks failed to reflect the wartime inflation. Then they rose sharply through the 1920's while the price level was quite stable. Between 1928 and 1936 stock prices fell and rose at the same time as the general price level (but much more violently). Real stock prices were sharply reduced by the World War II inflation but, as after World War I, climbed rapidly once the price level gains had tapered off.

It is thus clear that price level increases are not uniformly favorable to stock owners. Very rapid inflations have cut the real value of stockholdings, and stockholders' greatest gains have come in periods of price stability or mild inflation.<sup>11</sup>

Even the long-term increase in relative stock prices since 1900, substantially greater than the rise in tangible asset prices, is the result of the experience of the last few years. If this study had ended with 1953, for example, or almost any earlier year, it would have reported that stock prices had, at best, barely kept up with the general price level. The fluctuations in relative stock prices have been so wide that they have altered the direction of the trend several times.

As has been mentioned, the stock price index does not measure price in the usual sense because there is no definable quantity to match the value outstanding. A crude measure of value per unit of quantity can be derived from the data in Table 25, which shows the market value of corporate stock outstanding and the adjusted book value of corporate equity (adjusted to put tangible assets in current prices). Dividing equity by the GNP deflator yields a quantity we can call real corporate equity, and the ratio of the value of stock to this quantity is a measure of the price of real corporate net worth. This price—the cost

<sup>11</sup> Another marked difference between stock prices and other prices can be observed during the last quarter of the nineteenth century. From 1875 to 1900, the Cowles index of common stock prices rose by one-half while the GNP deflator declined by about 25 per cent. This sharp rise in the real price of common stock may provide some explanation of the decline, in terms of the general price level, during the first two decades of the twentieth century. If the entire period from 1875 to 1922 is considered, common stock prices doubled while the general price level rose by nearly 50 per cent.

to a stock buyer of a unit of corporate net worth of fixed purchasing power—rose approximately four times between 1900 and 1958, compared to six times for the conventional stock price index and three times for the GNP deflator. This difference between the two stock price measures can be attributed mainly to the inclusion in the conventional index of the effects of corporate saving. In other words, a stock price refers to an identical piece of paper at different times, but this paper represents an increasing amount of physical assets or quantity of net worth.

The ratio of market value to current value of net worth is also of some interest; it is the cost to a stock purchaser of a dollar of corporate equity. Changes in the ratio presumably reflect the influence of changes in expectations regarding future interest rates, prices, and corporate earnings. A peak was reached in 1929 at a ratio of 1.28 which has not been approached at any time since World War II. It was .82 at the end of the war, fell almost to .50 by 1949, as stock prices failed to reflect the growth of corporate net worth, and then rose to .83 in 1958. The conventional stock price index, in contrast, more than tripled between 1949 and 1958.

Owners of tangible assets, on the other hand, found their assets rising in value approximately in step with the price level.<sup>12</sup> Considering the shortness of the interval within which relative tangible asset prices rose, it is not advisable to project such an increase into the future. But it seems safe to expect that tangible asset prices will at least keep up with other prices.

### *Asset Prices for Sectors and Subsectors*

Since we have data on the composition of each sector's asset holdings and on the behavior of the various asset prices, it is possible to construct sectoral asset price indexes. This is done, for each period separately, using asset holdings at the beginning of the period as weights. These indexes are then linked to form a set of asset price indexes which take some account of changes in the composition of portfolios.

As can be seen in Table 40, there is substantial diversity in asset price behavior, not only between stocks and tangible assets as a group, but also among tangible assets. Over the sixty-two years as a whole,

<sup>12</sup> Some of this agreement between tangible asset prices and other prices depends on the choice of ingredients for the former. Use of the house price index (Table 39, col. 5) in place of construction costs (Table 39, col. 6) would have led to a more rapid rise of asset prices and several larger discrepancies between the two sets of prices. On the other hand, use of a farm construction cost index in place of the farm real estate price index (Table 39, col. 11) would have increased the agreement, particularly in the first period or two.

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the real estate and construction series rose the most, and producer and consumer durable prices rose the least. All the tangible asset prices increased more than any of the current prices, with one exception (durable consumer goods rose slightly less than the GNP deflator).<sup>13</sup>

This diversity among asset prices, in combination with the differences among sectors in the composition of their asset portfolios, produces considerable variation among sector asset price indexes for short periods (Table 41). This was less true for the whole sixty-two years, in which the average annual rates of increase ranged from 2.9 per cent (agriculture) to 3.1 per cent (state and local governments).

The agricultural sector's asset prices almost doubled between 1900 and 1912, increasing four times as much as the prices of any other sector because of the great rise in farm real estate values. Sector price changes were much less variable in the next period, but in 1922-29 all sector asset price indexes fell except those for households and corporations, the only sectors enjoying the benefits of the stock boom. The same two groups and agriculture were then the most affected by the subsequent price decline.

During World War II nonfarm households and agriculture both prospered, but neither sector kept up with the other sectors' price increases in the immediate postwar period. In 1953-58 households were again paired with corporations as beneficiaries of rising stock prices, while in two periods, 1949-53 and 1958-62, all sector price indexes were in a narrow range of about 5 per cent.

Asset price indexes extending back to 1900 can be computed only for very broad sectors of the economy. Only for such sectors are data available on the distribution of asset holdings over a long period of time. For a few recent years, however, estate tax returns and consumer surveys yield asset structure information on subgroups within the household sector. Asset price indexes can thus be constructed for different income or wealth groups and possibly for other breakdowns of the nonfarm households.

<sup>13</sup> It should be pointed out that there is considerable duplication between the asset price index and current price indexes. The indexes underlying deflated producer and consumer durables are represented in both asset price and GNP deflators, and we have used wholesale and farm price indexes to represent prices applying to inventories.

Comparisons among the indexes are somewhat ambiguous because the indexes differ in construction and weighting. The three deflators are Paasche price indexes for several periods chained together. The three current price series, the two construction cost series, and the stock price index are chained Laspeyres indexes. The housing and farm real estate series are average value rather than price data and therefore contain some effects of changing composition. Farm real estate average values are combined into a set of Laspeyres indexes. House prices are a mixture of national average values, average values in one city, and some Laspeyres indexes.

ASSET PRICES AND THE GENERAL PRICE LEVEL

TABLE 41

SECTORAL PRICE INDEXES FOR PRICE-SENSITIVE ASSETS, 1900-62<sup>a</sup>

	Nonfarm House- holds	Agri- culture	Unincor- porated Business	Nonfinancial Corporations and Finance	State and Local Govt.	Federal Govt.	Total	Total, Excl. Stock
1912/1900	1.214	1.859	1.199	1.192	1.156	1.156	1.358	1.361
1922/1912	1.514	1.412	1.675	1.622	1.779	1.780	1.537	1.642
1929/1922	1.321	0.873	0.971	1.155	0.972	0.972	1.163	0.964
1933/1929	0.673	0.648	0.840	0.750	0.871	0.871	0.709	0.803
1939/1933	1.211	1.132	1.214	1.215	1.242	1.242	1.214	1.202
1945/1939	1.494	1.704	1.415	1.398	1.435	1.427	1.477	1.481
1949/1945	1.215	1.238	1.407	1.329	1.418	1.381	1.281	1.362
1953/1949	1.214	1.191	1.179	1.207	1.216	1.207	1.213	1.179
1958/1953	1.325	1.219	1.150	1.273	1.168	1.159	1.282	1.148
1962/1958	1.089	1.084	1.042	1.066	1.072	1.063	1.079	1.051
1958/1900 <sup>b</sup>	5.780	5.148	5.368	5.810	6.248	5.965	5.723	5.429
1962/1900 <sup>b</sup>	6.294	5.580	5.593	6.193	6.698	6.341	6.203	5.758

SOURCE

Assets prices from Table 39.

Weights from Vol. II, Tables Ia (1900-39) and I; Goldsmith, *National Wealth*; and Goldsmith, *Study of Saving*, Vol. III, Tables W-9 through W-14. Corporate stock was divided between common and preferred stock using ratios derived from Goldsmith, *Supplementary Appendixes to Financial Intermediaries*, Appendix F.

Price indexes were assigned to assets as follows:

Asset	Price Index (Table 39)
Nonfarm residential land and structures	Construction costs: 1- to 4-family homes (col. 6)
Nonfarm nonresidential land and structures	Construction costs: commercial and industrial (col. 7)
Producer durables	Implicit price index underlying deflated producer durables (col. 8)
Consumer durables	Implicit price index underlying deflated consumer durables (col. 9)
Nonfarm inventories	Wholesale price index (col. 3)
Equity in unincorporated business	Implicit price index underlying deflated gross national product (col. 1)
Common stocks	Common stock price index (col. 10)
Farm land and structures	Farm real estate price index (col. 11)
Farm inventories and livestock	Prices received by farmers (col. 4)

<sup>a</sup> Weighted by asset structure in first year of each period and with first-year price equal to 1.0.

<sup>b</sup> Chained indexes.

The relation between wealth and asset price changes can be examined for that part of the population with assets over \$60,000. Estate tax records for 1944 and 1953 have been adjusted (by the use of mortality rates by age) to yield estimates of the asset holdings of living persons in

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estate tax brackets. From these we calculate asset price indexes by wealth class (Table 42) for 1944-53, using 1944 estate tax asset weights, and for 1953-58 and 1953-62, using 1953 weights. There are striking differences between the two periods. In 1944-53 the whole range of wealth classes from \$60,000 to \$10 million and over produced a range

**TABLE 42**  
**PRICE INDEXES FOR PRICE-SENSITIVE ASSETS, 1944-53, 1953-58, AND 1953-62:**  
**HOUSEHOLDS, BY GROSS ESTATE CLASS**

Gross Estate Size (thousand dollars)	1953/1944 (1)	1958/1953 (2)	1962/1953 (3)
60 to 70	} 1.77	1.43	1.59
70 to 80		1.42	1.59
80 to 90		1.44	1.61
90 to 100	} 1.77	1.46	1.64
100 to 120		1.49	1.67
120 to 150		1.51	1.71
150 to 200	1.77	1.55	1.75
200 to 300	1.77	1.60	1.83
300 to 500	1.78	1.70	1.95
500 to 1,000	1.78	1.79	2.08
1,000 to 2,000	1.80	1.92	2.23
2,000 to 3,000	} 1.79	1.81	2.09
3,000 to 5,000		1.95	2.27
5,000 to 10,000		2.06	2.42
10,000 and over	} 1.80	2.07	2.44
Total	1.78	1.67	1.91

**SOURCE**

Data on asset holdings are from:

1944: *Study of Saving*, Vol. III, Table E-53.

1953: Robert J. Lampman, *The Share of Top Wealth-Holders in National Wealth, 1922-56*, Princeton for NBER, 1962. Miscellaneous assets were divided among interest in unincorporated business, tangible personal property, and other assets by the 1944 distribution.

Assets and prices (from Table 39) are matched as follows:

<i>Asset</i>	<i>Price index</i>
Real estate	Average of: Construction costs, 1- to 4-family homes (col. 6); and construction costs, commercial and industrial (col. 7)
Tangible personal property	Implicit price index underlying deflated consumer durables (col. 9)
Corporate stock	Common stock prices (col. 10)
Interest in unincorporated business	Implicit price index underlying deflated gross national product (col. 1)

## ASSET PRICES AND THE GENERAL PRICE LEVEL

of asset price increases varying only between 77 and 80 per cent. In 1953-58 the increase in asset prices rises steadily as one moves up the wealth scale, from an increase of 42-44 per cent in the three lowest classes to more than 100 per cent in the two highest classes. The increase in asset price indexes as wealth increases is even greater for 1953-62. The main reasons for the relation between wealth and asset prices change in these years are the behavior of stock prices and the fact that the proportion of assets held in the form of common stock increases, compared with real estate, as wealth increases. During 1953-58 stock prices more than doubled while nonfarm real estate prices rose by less than a quarter, whereas in the earlier period the movements of these two most important asset prices were almost identical.

The relationship between net worth and asset price changes can be extended to lower wealth classes by using data from the Survey of Consumer Finances for 1950. We have computed asset price indexes for 1949-58 and 1949-62 from these data, and very crudely extended them to upper wealth classes by making use of unadjusted estate tax returns for 1949. These estate tax data have not been adjusted to represent all living persons in the same wealth brackets and they are therefore not exactly comparable with the data in Table 42. However, Mendershausen's tabulations for 1944<sup>14</sup> suggest that the adjustment does not greatly change the composition of the asset portfolio.

The two sets of data do not fit together very well, as can be seen from a comparison of the two indexes (Table 43) and the two asset distributions for the \$60,000 and over wealth group; the estate tax data show a much higher proportion of common stock. One reason for this discrepancy may be that the wealthiest groups are more heavily weighted in the estate tax data than in the SCF sample. If the SCF group \$60,000 and over is actually comparable to the first few estate tax classes, the discrepancy is not so serious.<sup>15</sup>

The positive relationship between wealth and asset price change in this period of rapid stock price increases stands out very clearly, extending almost the whole length of the wealth scale. The two ends of the scale do not fit in so well. Those spending units with negative net worth show a slightly higher price change than the next two classes. Those at the upper end show a smaller price change than the seven classes just below because of a sudden jump in real estate holdings at the top level.

<sup>14</sup> Goldsmith, *Study of Saving*, Vol. III, Tables E-15 and E-56.

<sup>15</sup> Part of this discrepancy might be explained if the understatement known to exist in the Survey of Consumer Finances data was particularly pronounced in the case of upper wealth groups and for common stock holdings. However, no direct evidence is available on this point.

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TABLE 43

PRICE INDEXES FOR PRICE-SENSITIVE ASSETS, 1949-58, AND 1949-62, BY WEALTH CLASSES: SURVEY OF CONSUMER FINANCES AND ESTATE TAX DATA

Survey of Consumer Finances			Estate Tax Data		
Net Worth Class (dollars)	Price Index 1958/1949	Price Index 1962/1949	Gross Estate Class (thousand dollars)	Price Index 1958/1949	Price Index 1962/1949
Negative	1.24	1.28			
100 - 499	1.19	1.21			
500 - 999	1.18	1.20			
1,000 - 1,999	1.25	1.30			
2,000 - 4,999	1.34	1.42			
5,000 - 9,999	1.34	1.43			
10,000 - 24,999	1.38	1.48			
25,000 - 59,999	1.45	1.57			
60,000 and over	1.71	1.90	60 and over	2.39	2.76
			60 to 70	1.98	2.24
			70 to 80	1.99	2.26
			80 to 90	2.02	2.29
			90 to 100	1.99	2.26
			100 to 120	2.06	2.34
			120 to 150	2.12	2.42
			150 to 200	2.21	2.53
			200 to 300	2.30	2.65
			300 to 500	2.42	2.80
			500 to 1,000	2.53	2.95
			1,000 to 2,000	2.69	3.14
			2,000 to 3,000	2.72	3.18
			3,000 to 5,000	2.79	3.26
			5,000 to 10,000	2.84	3.34
			10,000 and over	2.27	2.61

SOURCE

Survey of Consumer Finances: Prices from Table 39 weighted by assets from *Study of Saving*, Vol. III, Table W-49, as follows:

Prices (Table 39)

Col. 9  
Col. 6  
Col. 11  
Average of cols. 6 and 7  
Col. 1  
Col. 10  
Col. 4

Assets (Table W-49)

Automobiles  
Owner-occupied homes  
Owner-occupied farms  
Other real estate  
Business interest  
Corporate stock  
Livestock and crops

Estate tax data: Prices from Table 39 weighted by assets from *Statistics of Income for 1949*, Washington, 1954, Part I, Estate Tax Table 3, pp. 362-365, as follows:

Prices (Table 39)

Average of cols. 6 and 7  
Col. 9  
Col. 1  
Col. 10

Assets (Estate Tax Table 3)

Real estate  
Tangible personal property  
Interest in unincorporated business  
Corporate stock

## ASSET PRICES AND THE GENERAL PRICE LEVEL

A special retabulation of the 1950 Survey of Consumer Finances, described in Chapter 12, Part Three, permits the computation of asset price indexes for other classifications of households. Three housing status groups—home-owners without mortgages, home-owners with mortgages, and renters—can be subdivided by income, age, or occupation (Table 44).

Among renters, higher income was associated with greater asset price increase between 1949 and 1958. Among home-owners, only the highest income class showed an increase significantly greater than in the other income classes. Home-owners without mortgages enjoyed slightly larger increases than those with mortgages, and renters, except at the lowest income levels, showed the largest increases.

TABLE 44

PRICE INDEXES FOR PRICE-SENSITIVE ASSETS, 1949-58, BY INCOME,  
AGE, AND OCCUPATIONAL CLASS:  
SURVEY OF CONSUMER FINANCES DATA

	Home-Owners Without Mortgages (1)	Home-Owners With Mortgages (2)	Renters (3)
<b>Income of spending unit (dollars)</b>			
Under 1,000	1.368	1.361	1.223
1,000 - 1,999	1.353	1.329	1.224
2,000 - 2,999	1.397	1.336	1.464
3,000 - 3,999	1.422	1.317	1.666
4,000 - 4,999	1.371	1.330	1.755
5,000 - 7,499	1.372	1.335	1.543
7,500 and over	1.705	1.599	1.871
<b>Age of head of family</b>			
18-24	1.318	1.298	1.253
25-34	1.304	1.316	1.338
35-44	1.357	1.518	1.388
45-54	1.405	1.364	1.916
55-64	1.515	1.370	1.665
65 and over	1.695	1.364	2.427
<b>Occupation of head of family</b>			
Professional and semiprofessional	1.533	1.395	1.436
Self-employed	1.466	1.526	1.776
Managerial	1.489	1.399	1.615
Clerical and sales	1.399	1.366	1.611
Skilled and semiskilled	1.359	1.323	1.271
Unskilled and service	1.402	1.352	1.448
Retired	1.739	1.339	2.777

SOURCE: See Part Three of this volume, Chapter 12.

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Age was positively related to asset price increases for both renters and owners of mortgage-free homes, but not for owners of mortgaged homes. Only at the three upper age levels were there large differences by housing status within age groups. These were in the same order as differences within income classes, and, by and large, within occupations as well.

### *Real Asset Prices*

For many purposes changes in the real price of price-sensitive assets, that is, changes in their purchasing power, are of more interest than the absolute price movements. The real asset prices show the extent to which the price-sensitive part of the asset portfolio protected its owners against price changes. They do not, of course, represent the whole effect of price changes on real net worth, which also involves the leverage ratio and the change in the general price level.

Real prices for all of the major types of assets except consumer durables increased between 1900 and 1962. Consumer durable prices were at virtually the same level in 1958 as in 1900, and by 1962 they had fallen to more than 6 per cent below the initial level. Among the other assets, price increases ranged from 11 per cent for producer durables to more than 90 per cent for one-family homes (but less than 50 per cent for one- to four-family home construction costs) and 97 per cent for common stock (Table 45). For individual periods there were many instances where prices of particular assets fell behind the general price level, even disregarding 1929-33. This occurred, for example, in two out of nine periods (aside from 1929-33) for construction costs on one- to four-family houses, and farm real estate prices. A real price decline occurred in three out of nine periods for commercial and industrial construction costs, prices underlying deflated investment in producer durables, and common stock prices, and in five out of nine periods for prices underlying deflated consumer durables purchases.

Real sector asset price indexes increased by 35 to 60 per cent over the whole period since 1900 (Table 46). In two recent periods of price rises, 1949-53 and 1953-58, they rose in every sector, as they did in 1933-39, but there was no such unanimity in other periods of rise in the general price level. Five out of six sectors suffered real asset price declines in 1900-12, two out of six in 1912-22 and 1945-49, and four out of six in 1939-45. Real asset prices also fell during the decline of 1929-33 in three out of six sectors and during the 1922-29 period in four out of six sectors.

The cross-section data from which asset price indexes were constructed (Tables 43 and 44) yield little further information when they are put in real terms since the real asset price indexes are simply a

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TABLE 45

REAL ASSET PRICE INDEXES,<sup>a</sup> BY TYPE OF ASSET, 1900-62

	Construction Costs			Price Index Underlying Deflated		Common Stock Prices (6)	Farm Real Estate Prices (7)
	Price Index 1-Family Houses (1)	1- to 4- Family (2)	Commercial and Industrial (3)	Producer Durables (4)	Consumer Durables (5)		
1922/1912	0.966	1.091	1.101	1.054	1.090	0.597	0.845
1929/1922	1.071	1.082	0.991	1.002	0.942	2.221	0.855
1933/1929	0.994	0.998	1.078	1.069	0.958	0.583	0.798
1939/1933	1.021	1.180	1.169	1.055	1.000	1.184	1.043
1945/1939	1.243	1.012	0.978	0.863	1.111	0.995	1.129
1949/1945	1.018	1.125	1.139	1.115	0.916	0.755	1.020
1953/1949	1.115	1.066	1.086	1.006	0.937	1.286	1.111
1958/1953	1.081	0.996	1.044	1.080	0.954	1.869	1.157
1962/1958	1.013	1.006	1.017	0.947	0.936	1.117	1.066
1958/1900	1.909	1.484	1.599	1.171	0.997	1.762	1.455
1962/1900	1.935	1.493	1.627	1.109	0.934	1.969	1.551

SOURCE: Table 39.

<sup>a</sup> Asset price indexes divided by GNP deflator.

TABLE 46

REAL ASSET PRICE INDEXES,<sup>a</sup> BY SECTOR, 1900-62

	Nonfarm House- holds (1)	Agri- culture (2)	Unincor- porated Business (3)	Nonfinancial Corporations and Finance (4)	State and Local Govt. (5)	Federal Govt. (6)	Total (7)	Total, Excl. Stock (8)
1912/1900	0.967	1.481	0.955	0.950	0.921	0.921	1.082	1.084
1922/1912	0.937	0.874	1.037	1.004	1.101	1.101	0.951	1.016
1929/1922	1.347	0.890	0.990	1.177	0.991	0.991	1.186	0.983
1933/1929	0.833	0.802	1.040	0.928	1.078	1.078	0.877	0.994
1939/1933	1.138	1.064	1.141	1.142	1.167	1.167	1.141	1.130
1945/1939	1.016	1.159	0.963	0.951	0.976	0.971	1.005	1.007
1949/1945	0.975	0.994	1.129	1.067	1.138	1.108	1.028	1.093
1953/1949	1.082	1.061	1.051	1.076	1.084	1.076	1.081	1.051
1958/1953	1.183	1.088	1.027	1.137	1.043	1.035	1.145	1.025
1962/1958	1.030	1.026	0.986	1.009	1.014	1.006	1.021	0.994
1958/1900 <sup>b</sup>	1.469	1.308	1.364	1.476	1.588	1.516	1.454	1.380
1962/1900 <sup>b</sup>	1.514	1.342	1.345	1.489	1.611	1.525	1.492	1.385

SOURCE: Tables 39 and 41.

<sup>a</sup> Asset price indexes divided by GNP deflator.

<sup>b</sup> Chained indexes.

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scaled-down version of the absolute changes. Some interest attaches to the cross-section data by net worth because they showed such a consistent relationship to asset price changes. Asset prices increased in all the wealth classes listed (Table 43) but the estimates of the real change in asset prices include several classes at the lower end of the wealth scale whose asset prices failed to keep up with the general price level in 1949-58 and 1949-62 (Table 47). The wealth classes concerned were those spending units whose net worth was under \$2,000, almost two-fifths of all the spending units in the population. Thus even during a period when asset prices for the nonfarm household sector as a whole were gaining on the general price level, there were substantial groups in this sector whose asset prices were falling behind.

TABLE 47

REAL PRICE INDEXES FOR PRICE-SENSITIVE ASSETS, 1949-58 AND 1949-62, BY WEALTH CLASSES:  
SURVEY OF CONSUMER FINANCES AND ESTATE TAX DATA

<i>Survey of Consumer Finances</i>			<i>Estate Tax Data</i>		
Net Worth Class (dollars)	Real Price Index 1958/1949	Real Price Index 1962/1949	Gross Estate Class (thousand dollars)	Real Price Index 1958/1949	Real Price Index 1962/1949
Negative	0.987	.964			
100 - 499	0.947	.911			
500 - 999	0.939	.904			
1,000 - 1,999	0.995	.979			
2,000 - 4,999	1.07	1.07			
5,000 - 9,999	1.07	1.08			
10,000 - 24,999	1.10	1.11			
25,000 - 59,999	1.15	1.18			
60,000 and over	1.36	1.43			
			60 and over	1.90	2.08
			60 to 70	1.58	1.69
			70 to 80	1.58	1.70
			80 to 90	1.61	1.72
			90 to 100	1.58	1.70
			100 to 120	1.64	1.76
			120 to 150	1.69	1.82
			150 to 200	1.76	1.91
			200 to 300	1.83	2.00
			300 to 500	1.93	2.11
			500 to 1,000	2.01	2.22
			1,000 to 2,000	2.14	2.36
			2,000 to 3,000	2.16	2.40
			3,000 to 5,000	2.22	2.46
			5,000 to 10,000	2.26	2.52
			10,000 and over	1.81	1.97

SOURCE: Tables 39 and 43.

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The differentiation of families by wealth is the only one that reveals substantial groups with real declines in asset prices between 1949 and 1958. In the breakdowns by housing status, income, age, and occupation (Table 44), only three cells show asset price changes smaller than the 25.7 per cent increase in the GNP deflator. These were renters with incomes under \$2,000 (two cells) and renters aged 18-24.