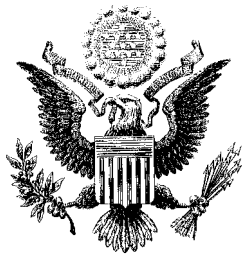
THE MUTUAL FUND INDUSTRY: AN OVERVIEW AND ANALYSIS



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Joint Economic Committee
United States Congress

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Summary

Over the last 30 years, the mutual fund industry has grown tremendously to its current size of almost $7 trillion in funds managed. It has been characterized by rapid innovation and strong competition. The variety of mutual fund types has grown, offering average Americans opportunities to invest money and diversify assets. Mutual fund costs have fallen, driven down by economies of scale and advances in computers and communications. Mutual fund investors have benefited from falling costs, which competition has passed along to them.

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CONTENTS

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I. INTRODUCTION

A mutual fund is an investment company that pools money from shareholders and invests in a diversified portfolio of securities. The most common type of mutual fund is open-ended, that is, it offers to buy and sell its shares continually. A mutual fund is under a legal obligation to redeem shares at their net asset value (NAV). The net asset value is determined each day by dividing the value of the portfolio by the number of shares outstanding. An investment adviser affiliated with the fund usually creates and manages it. Mutual fund shareholders pay for the services of the fund's adviser through an advisory or management fee, which is contractually established. This fee is commonly specified as some percentage of a fund's net assets and covers the costs of both management and non-management services provided by the adviser. One way that some funds charge fees is by carrying a sales premium ("load") that is added to the net asset value of a share, so the purchase price is greater than the value of the share. Shares are usually redeemed at net asset value unless the fund carries a redemption fee (back-end load). Fund that charge no sales premium or redemption fee are called no-load funds.

Mutual funds have a wide variety of objectives, ranging from preservation of capital and short-term investment (as with money market funds), to investment in particular sectors and countries, to use of particular investment strategies. Many mutual funds belong to large fund complexes rather than standing alone. Mutual fund complexes offer a variety of investment niches linked together in an attempt to provide a comprehensive menu of choices for investors.

Over the last 30 years, the mutual fund industry has grown tremendously, increasing in size more than 100-fold to nearly $7 trillion. Mutual funds have come to be an increasing share of total financial assets for American households because mutual funds offer important advantages to many investors:

- *Diversification.* Mutual funds typically hold anywhere from 50 to 200 different stocks. This type of diversification diminishes the risk of a few investments adversely effecting overall returns.[1]
- *Continuous, professional management.* Skilled professionals whose compensation is linked to the performance of the fund manage mutual funds.
- *Economies of scale.* Mutual funds incur proportionately lower trading commissions than do individuals. Lower transaction costs can translate into better investment performance.

[1] Lewellen and others (1977). The authors survey both owners and nonowners of mutual funds and find diversification, a reduced burden of security selection and superior returns as inherent perceived advantages in the minds of respondents.

- *Shareholder services.* Mutual fund complexes offer automatic investment plans, retirement plans, record keeping for tax purposes, and systematic withdrawal plans, and they allow investors to make exchanges or switches between funds over the telephone. Mutual funds also allow the automatic reinvestment of income dividends and capital gains distributions into additional shares.
- *Liquidity.* Mutual funds are very liquid financial instruments since they can be easily purchased or sold with no significant price impact. Redemptions technically have no direct effect on the net asset value at which they were executed. Redemptions might have an indirect effect if there were massive and forced portfolio liquidations before the redemption orders were executed. This indirect effect is expected to be rare. Mutual funds typically offer more liquidity than individual stocks, bonds, or closed-end portfolios.

This paper reviews how the mutual fund industry has grown, what changes it has gone through, how competitive it has been, how competition in the industry has affected investors in mutual funds, and what implications industry competitiveness has for the taxation of capital gains distributed by mutual funds to investors.

II. GROWTH OF THE MUTUAL FUND INDUSTRY

A. Importance of Complete Portfolios and Markets

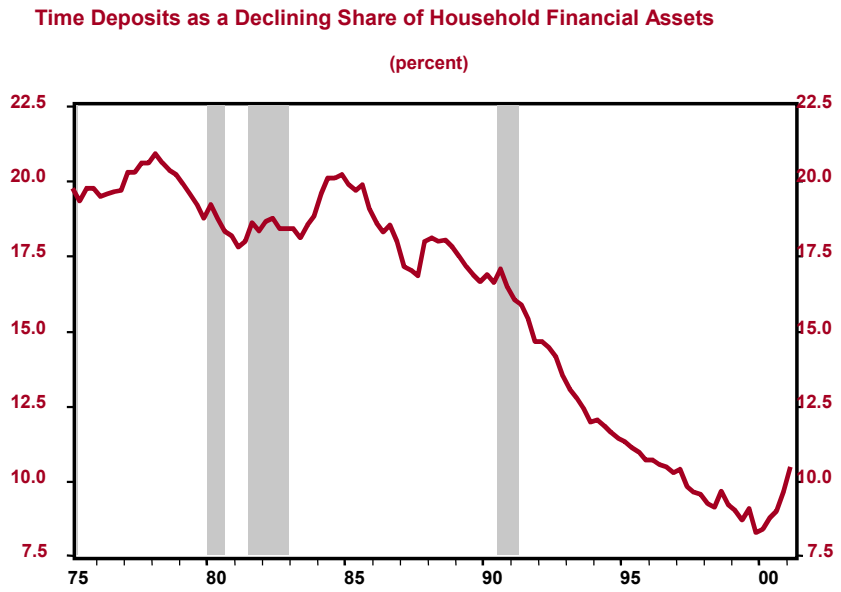
In the United States and, indeed, around the world, investment products were quite limited for individual investors in the late 1960s and early 1970s. Financial planning was primarily for the well-to-do. A typical middle-class household financial portfolio consisted of a bank savings account, a checking account, life and property insurance, and perhaps a company pension. The Great Depression had soured many households on equity (stock) investing of any kind. This type of portfolio was incomplete: it did not offer people the ability to buy different types of financial assets when confronted with significant economic change, and to shift easily from one type of asset to another. However, the disadvantages of the typical portfolio did not become obvious until economic circumstances changed.

Inflation, rising interest rates, rising equity market valuations and higher federal tax rates combined to disrupt old financial habits. In the 1970s and early 1980s, inflation took big bites out of the real value of bank accounts. The Federal Reserve's Regulation Q[2] imposed ceilings on the interest rates banks could pay to depositors, and the ceilings were below the rate of inflation.

[2] Regulation Q was phased out between 1980 and 1986. These regulations were enacted in the *Banking Acts of 1933 and 1935* to strengthen the banking system by limiting bank competition for funds that was perceived, at the time, to have led to competition which drove down bank profitability below safe levels.

Like investors' portfolios, financial markets in the United States were incomplete. In 1966, a sharp rise in interest rates led to disintermediation[3] of deposits at savings and loan associations and a breakdown in mortgage finance. Another credit crunch occurred during the 1973-74 bear stock market. Had markets been more complete, credit would have remained readily available and interest rates would have been less volatile. Again, government regulation was involved: regulations dating from the Great Depression made the U.S. financial services industry more fragmented and vulnerable than it otherwise would have been. In particular, savings and loan associations were required to hold a large percentage of their assets in the form of home mortgages rather than being able to diversify their portfolios. The high interest rates of the late 1970s and early 1980s left savings and loan associations holding long-term mortgages that paid fixed rates of interest below the rate of inflation and below the rates they needed to keep deposits (despite Regulation Q). The result was a wave of insolvencies in the industry. Households began to diversify their investment savings out of time and savings deposits (see Figure 1, source of data from Haver Analytics).

Figure 1



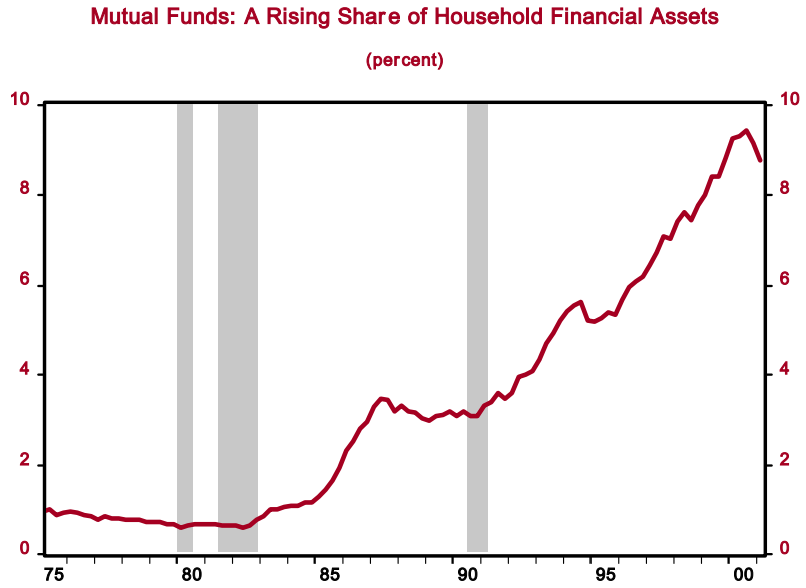
Gaps in portfolios and markets created opportunities to offer new investment products. Mutual funds had been in existence for decades, but Americans had never before keenly felt the need for them. Prior to 1970, most mutual funds were oriented toward domestic equity investments. At that time, only a small number of bond funds provided an alternative to traditional equity investments. The boom in mutual funds began with money market funds, which enabled investors to circumvent Regulation Q and receive higher interest rates than they could at a bank or savings and loan. The introduction of money market funds in 1971 and their popularity in the late 1970s and early 1980s prompted a shift of financial holdings out of banks and into mutual fund

[3] Disintermediation refers to the process whereby investors withdraw funds from a depository institution and investing those funds, often directly, into higher yielding instruments that are often not constrained by interest rate ceilings.

complexes. This shift increased the familiarity of households with mutual funds. Households became accustomed to saving and investing with a financial institution that did not have a branch office down the street. Later, bond funds and equity funds of many different types rose in importance: by 1987, there were 22 types of mutual fund objectives; each designed to meet different investor needs. The development of a wide variety of mutual fund types gave average Americans a more complete menu of investment choices.

Private market innovation in these years gradually forced the government to reduce or even eliminate regulatory barriers to investment choices for households, such as Regulation Q (whose ceilings were phased out by 1986). In this way, the mutual fund industry both filled the gaps in financial markets and helped knock down the barriers that hindered development of more complete markets. The rising importance of mutual funds in household portfolios is represented in Figure 2[4] (gray areas are recession periods).

Figure 2



B. How Mutual Funds Fill Gaps in Markets

Every mutual fund must have an explicitly stated objective explaining its investment goals and policies. The objective is required by law to be explained in the fund's prospectus.

A fund's stated objective acts as a guide for both investors and the fund's advisers. For investors, it signals where a fund fits in the menu of investment choices. Fund advisers use a fund's stated objective as a boundary for their investment activity,

[4] Source of data was Federal Reserve Flow of Funds.

though typically the objective is stated in broad terms designed to allow discretion in pursuing a range of investment options.

An investment company can offer mutual fund shares to the public directly or through a sales force. Shares offered through a sales force are available to brokers, financial planners, banks, and others who may then offer shares to the public. Mutual fund companies fill in the gaps in household financial planning by mixing both the sales method (direct or a sales force) and the product (many different mutual funds) available to investors.

Money market funds are of particular importance because they are fundamentally different from other types of mutual funds. They account for a large portion of the assets currently invested in the industry. Money market funds invest in a diversified portfolio of short-term money market instruments, such as commercial paper, domestic bank certificates of deposit and U.S. Treasury bills. Money market funds are important players in those markets: for example, in 1998 they owned 34.3 percent of commercial paper. Money market funds belonging to mutual fund complexes typically have exchange features that allow investors to use the money market funds as temporary resting places when selling one equity mutual fund and buying another under the same management.

The attraction of equity funds can be understood by looking at the progress of the U.S. stock market. From 1949 to 1966, the Dow Jones Industrial Average rose more than 600 percent. An extended period then followed during which the Dow moved sideways or downwards, but from August 1982 to 1999, the Dow rose over 1,000 percent. These gains provided the incentive for investors and the mutual fund industry alike to develop products that would allow ordinary investors to participate in the market. A seminal study found that returns on investment in stock market indexes outpaced returns on U.S. government and corporate bonds and as well as inflation from 1926 to 1978. [5] This result was especially significant because it covered the period of the Great Depression. Investors were forced to rethink their perceptions of the tradeoff between risk and return in equity investing. As household attitudes changed, many more Americans sought to participate in the equity market performance through mutual funds. Today, mutual funds hold 19.1 percent of U.S. equities.[6]

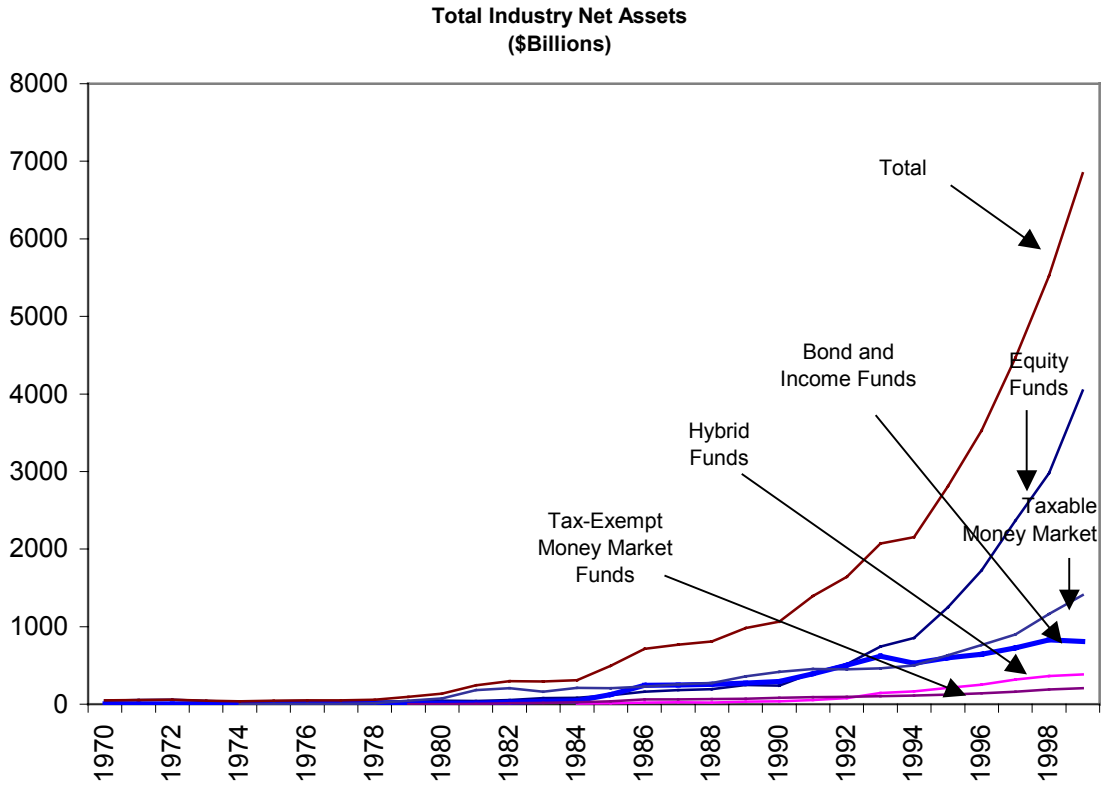
C. How Mutual Fund Assets Have Grown

Americans invested less than $10 billion (nominal) a year in mutual funds until 1982.[7] Then yearly investment inflows rose sharply, reaching $1.6 trillion in 2000. Fed by these new flows of cash and by gains from previously invested money, the total stock of assets in mutual funds rose from $47.6 billion in 1970 to $1.065 trillion in 1990 and reached $6.965 trillion in 2000 (Figure 3).[8] Growth in equity funds was particularly strong. Gains in taxable money market funds were also strong, and has often been

[5] Ibbotson and Sinquefield (1979).
[6] Federal Reserve, Flow of Funds, 3rd quarter 2000.
[7] ICI *Mutual Fund Factbook*, 41th edition, p. 76.
[8] ICI *Mutual Fund Factbook,* 41st edition, p. 64.

overlooked by analysts concerned about the sensitivity of household spending to equity-only wealth. Data from 1980 onward show the ups and downs of flows into mutual funds. Within the overall pattern of growth there have been significant fluctuations among different types of funds due to economic changes. From 1993 to 1994, for example, bond fund assets fell and the growth of equity fund assets slowed as the Federal Reserve raised interest rates.[9]

Figure 3



Growth in mutual fund assets is consistent with the gains in household wealth and lower inflation expectations that have occurred since 1982. In addition, the broader range of financial products has given investors alternative means to achieve their goals. Money funds substitute for savings deposits. Equity funds substitute for direct holdings of equities. Municipal bond funds open up the possibility of tax savings for middle-income households, savings that in the past were largely limited to wealthy households.

Contrary to popular perception, the increase in mutual fund assets during the late 1990s were not solely a product of investment gains (Figure 4)[10]. In 1999, net new flows of cash accounted for 27 percent of the increase in mutual fund assets, with the rest coming overwhelmingly from investment gains. (A small amount also came from newly reporting funds.) Over the bull market period of 1995 to 1999, net new flows of cash

[9] ICI *Mutual Fund Factbook*, 41st edition, p. 71.
[10] ICI *Mutual Fund Factbook*, 41st edition, p. 108.

accounted for a surprisingly high 37.8 percent of the increase in mutual fund assets. Therefore, mutual fund investors were increasing the amount of savings they funneled to mutual funds, and not just letting previously invested money appreciate as the stock market boomed.

Figure 4

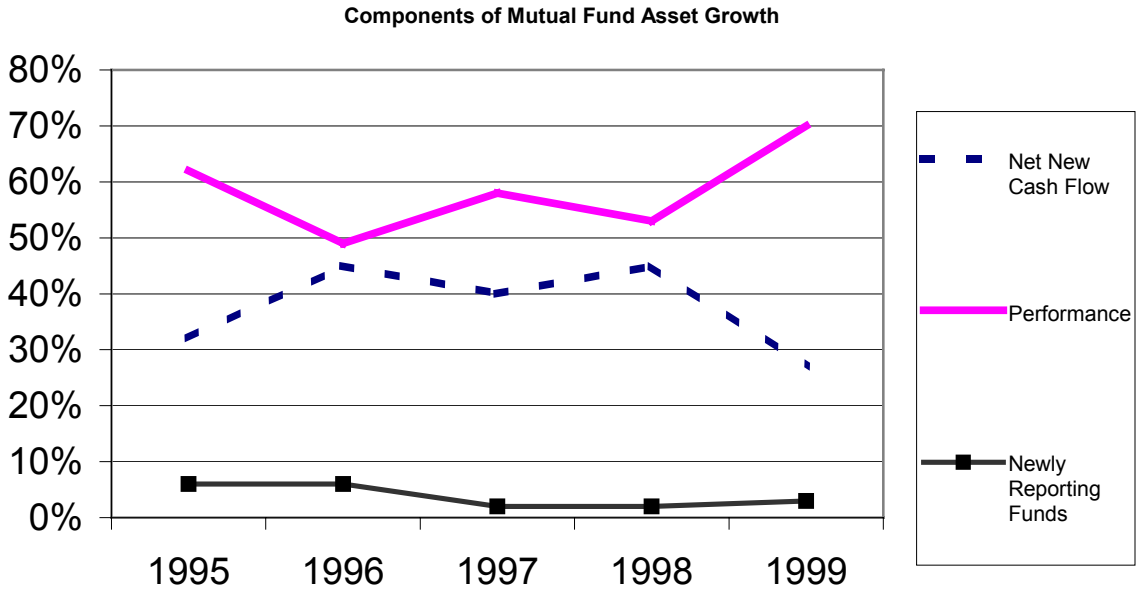
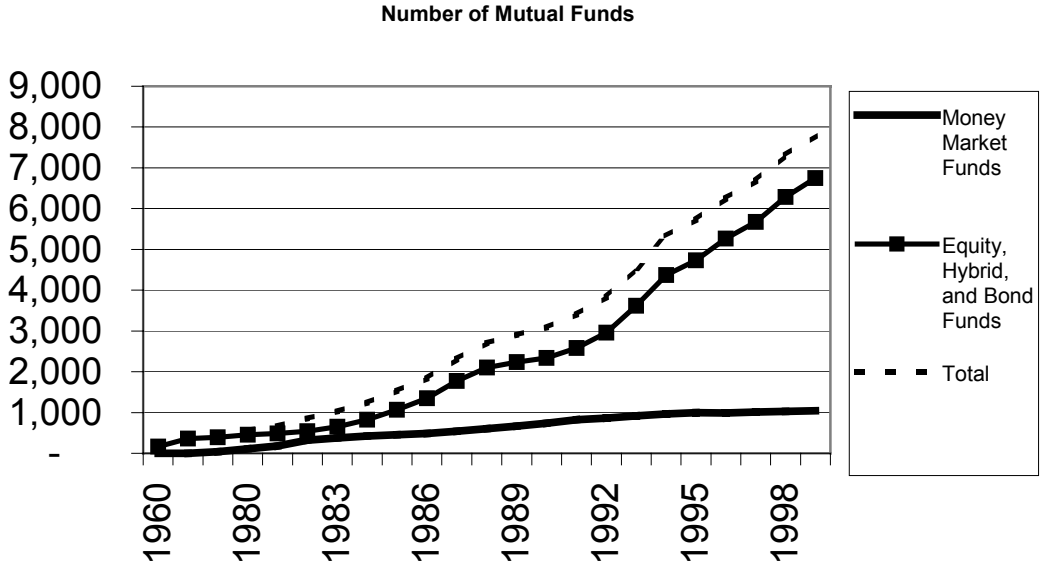


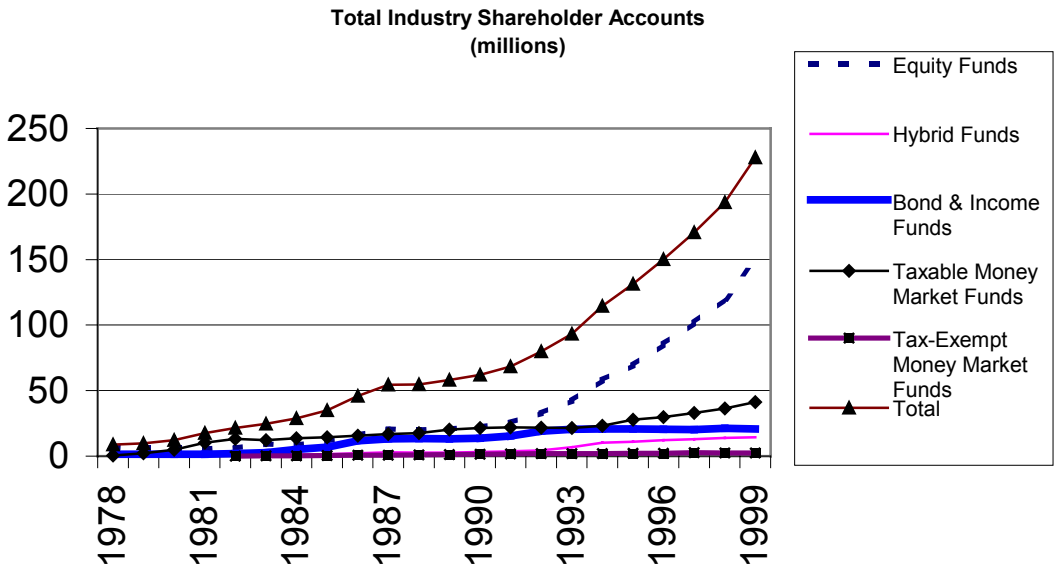
Figure 5



The number of funds rose throughout the 1978 to 2000 period, reaching 8,171 funds last year (Figure 5).[11] The rapid gains in equity funds began with the stock market recovery in 1992. Bond funds also gained from 1992 on, while gains in hybrid and money market funds were modest. The increase in the number of funds emphasizes the competitive nature of the mutual fund industry and the ease of entry into the industry.

Shareholder accounts have risen steadily since 1978, with rapid gains in equity funds evident since 1980 (Figure 6)[12]. The gains in all five categories of mutual funds show the diversification of household portfolios.

Figure 6



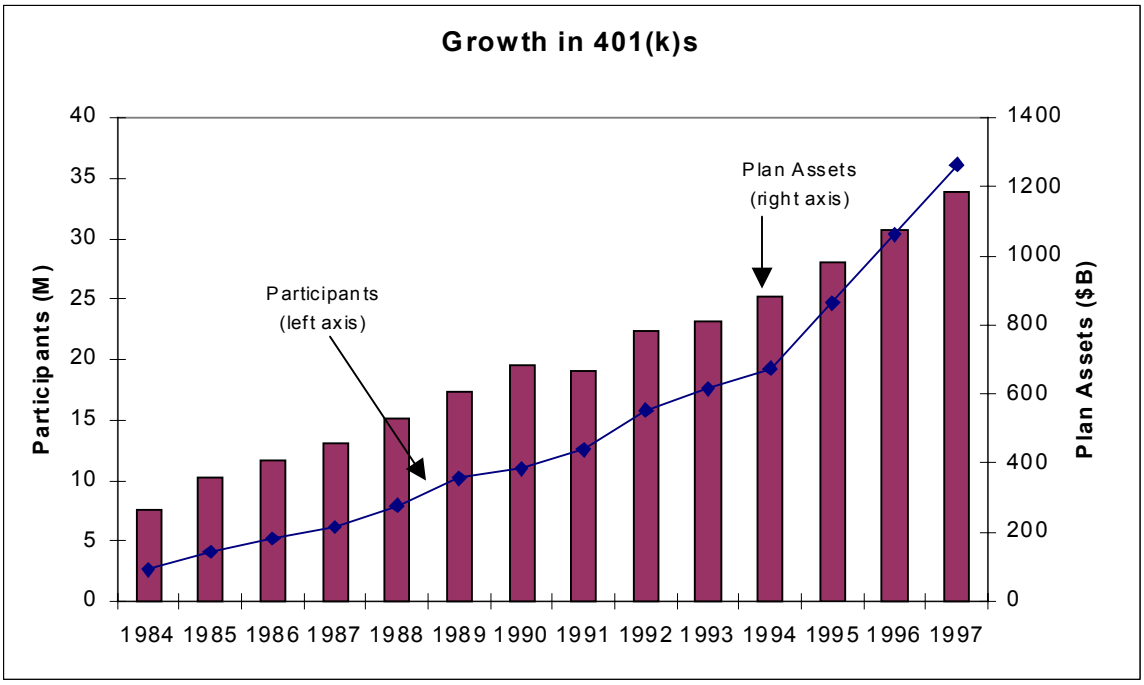
D. Growth in Retirement Accounts

Changes in the law have been an important factor in the growth of mutual fund assets. The *Employee Retirement Income Security Act of 1974* (ERISA) influenced the development of employer-sponsored retirement plans and raised awareness of mutual fund investing among households. Since ERISA, defined-contribution retirement plans have grown in importance relative to defined-benefit plans. The growth in defined-contribution plans has spurred innovations in the types of financial instruments, including mutual funds, offered to employees.[13]

[11] ICI *Mutual Fund Factbook,* 41st edition, p. 64.
[12] ICI *Mutual Fund Factbook,* 41st edition, p. 65.
[13] In a defined-contribution plan, an employer and employee contribute specified amounts of money to a retirement account. The employer does not promise a specified payout to the employee in retirement; the payout depends on how much the account has increased in the meantime. In a defined-benefit plan, an employer promises a specified payout when the employee becomes eligible for retirement benefits. Typically the payout is at least partly financed by money the employer has set aside and invested earlier, but if that is insufficient the employer must make up the difference.

Section 401(k) of the *Revenue Act of 1978* authorized the continued tax-deferred status of salary deferral plans that had informally grown up in the years prior to the legislation. Sponsorship of 401(k) plans grew slowly until the Internal Revenue Service issued a clear set of rules in 1982 answering key questions about how the law was to be interpreted. After that, annual contributions to 401(k) plans grew from $16.3 billion in 1984 to $87.4 billion in 1995, and total assets approximately quadrupled to $1.2 trillion (Figure 7). The nonprofit and government sectors received similar incentives for tax-deferral plans in section 403(b) of the *Revenue Act of 1978*. In 1997, 403(b) plans held $422 billion in assets.[14]

Figure 7

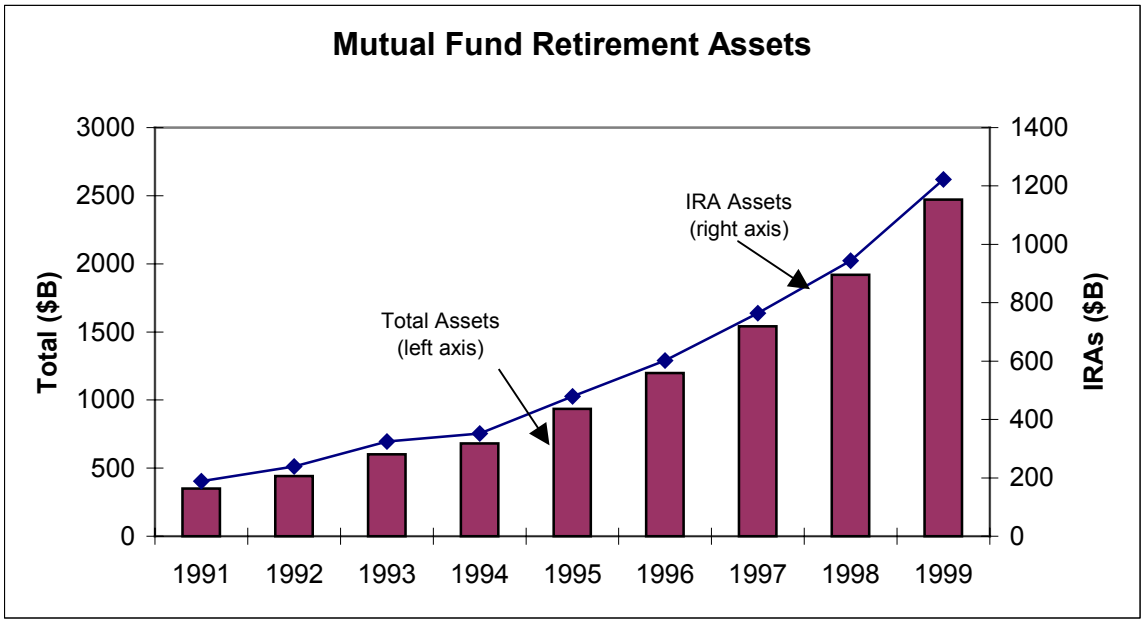


Individual Retirement Accounts (IRAs) were established in 1974 to encourage individuals to save for retirement in cases where individuals were not covered by employer-sponsored retirement plans. In 1981, IRA participation was expanded to include all workers regardless of their participation in an employer pension plan. The *Tax Reform Act of 1986* reversed the expansion of eligibility by limiting IRA participation. Workers with employer-sponsored retirement plans could make tax-deductible contributions only if they met certain income limits. IRA eligibility was expanded later under Public Law 105-34 (1997). Roth IRAs were allowed for calendar 1998 onwards, in limited amounts.

[14] Storey (2000) and U.S. Department of Labor (2001), p. 87.

Mutual fund firms benefited from the increase in retirement investment. From 1991 to 1999, total retirement assets in mutual funds grew from $350 billion to $2.4 trillion. Over the same period, mutual fund holdings in IRAs grew from $189 billion to $1.2 trillion dollars (Figure 8)[15].

Figure 8



Favorable tax treatment of retirement accounts has helped fuel rapid growth in U.S. household financial assets, which grew from $6.6 trillion in 1980 to $33.7 trillion in 2000.[16] In 2000, financial assets were 68 percent of all household assets. (Of the remaining 32 percent, real estate is a large portion.) According to the most recently available data, household investments in equities ($6.5 trillion), and pension fund reserves ($4.9 trillion) exceed holdings of time and saving deposits ($3.2 trillion). Mutual fund shares excluding money market funds were $3.0 trillion—nearly equal to time and saving deposits. Congressional initiatives to offer greater household saving and investment have improved financial security for households and living standards for retirees.

[15] ICI *Mutual Fund Factbook*, 41st edition, p. 52.

[16] Federal Reserve, 4th quarter 2000.

E. Mutual Fund Complexes: Investment "Supermarkets"

Mutual fund managers are often a part of a larger corporate complex that offers a range of financial intermediary and investment services. However, each fund in a complex is usually a separate legal entity. The funds are said to form a complex because each fund has a contract with the same adviser for investment management services.

Fund complexes are able to attract a wide range of investors with different risk preference and investment objectives. Investors are frequently permitted to switch to different funds in the complex at a reduced fee or no fee. In this sense, complexes act as supermarkets. Information on funds is widespread and relatively inexpensive. Therefore, investors can use this information to make informed decisions to switch from one fund family to another. Investors do appear to respond to performance differentials among funds.

Complexes such as Fidelity, Vanguard and Putnam provide a wide array of investment choices with an ease of selection and transferability between funds. In a way, they are portfolio supermarkets where investors can diversify their portfolios with a wide variety of investment choices.

III. COMPETITION IN THE MUTUAL FUND INDUSTRY

A. What Is a Competitive Industry? The Theory of Contestable Markets

Economists sometimes distinguish between competitive markets and contestable markets. A perfectly competitive market is a theoretical construct used for thinking about some highly abstract economic ideas, particularly the idea of general equilibrium. A perfectly competitive market has no barriers to entry, low transaction costs, and equal access by everybody to information and technology. For analyzing actual markets, the concept of contestable markets is more useful then the construct of a perfectly competitive market, and is closer to the meaning of "competition" used in everyday speech. A market is contestable when entry and exit are possible at relatively low cost. Almost all actual markets have some barriers to entry. If the barriers to entry are not high, competitors can come in. New entrants may even be able to leapfrog existing firms technologically because they have no prior investment in the industry. The threat of potential competitors influences existing firms even if the potential competitors do not become actual competitors.[17]

Unless restricted by regulation, financial markets are generally contestable in that there are few significant barriers to entry, and potential entrants can enter at existing firms' prices. The tremendous growth in the number of automatic teller machines in recent decades, including their placement in such locations as shopping malls and convenience stores, is one example of the way in which the financial services industry is a highly contestable market.

[17] For an example of contestable markets in the mutual fund industry, see Katzeff (2001).

The existence of contestable markets has important implications in pricing policy, product innovation and consumer choice for financial services. Mutual funds evolved as entrepreneurs reacted to, and anticipated change in, the financial marketplace. Individual investor choice was expanded as a more complete financial marketplace developed.[18] Technological change enhanced competition by reducing research and transaction costs.

B. Evidence of Competition: New Entrants

History provides some guidance on a market's contestability and the significance of barriers to entry. Growth in the mutual fund industry has been achieved through growth in the number of funds, new investment in existing mutual funds, and capital appreciation of existing fund assets. As we have seen, the numbers of mutual funds and individual shareholder accounts have increased steadily since 1970, with rapid growth in the last decade.

Because the financial services market is contestable, potential entrants can, without restriction, serve the same market demands and use the same productive techniques as those available to incumbent firms.[19] Market forces have led to a large number of firms because of the low cost of entry and the expectation of profit. The increasing willingness of households to invest in mutual funds has provided fertile ground for new providers of mutual funds. Banks, brokerage firms, insurance companies, and new specialist mutual fund firms have all jumped into the market. This entry exemplifies the competitive environment among financial services firms as they diversify by entering other businesses.[20]

As of 2000, there were 8,171 open-end investment funds in the United States, compared to 5,728 in 1995 and 3,405 in 1991.[21] These funds are grouped into more than 400 complexes. In 1999, the top five complexes held 35 percent of total industry assets, down from 37 percent in 1990. The top 25 complexes held 73 percent of all assets in 1999, down from 76 percent in 1990.

As with financial services in general, in the mutual fund industry the cost of entry is quite low and entrants suffer no disadvantages in the investment techniques available to them. The cost of exit is also quite low, as evidenced by the regular closing and merging of funds and fund complexes. Entrants and incumbents compete on symmetric terms, and entry is not impeded by fear of retaliatory price alterations by incumbent firms.

Potential entrants can evaluate the profitability of entry at incumbent firms' pre-entry prices, that is, potential entrants do not expect incumbent firms to retaliate by

[18] Wall Street has also recognized investor choice, in the context of market dynamics. See Glenn (2001).
[19] Baumol and others (1998), p. 5.
[20] William D. Jackson, Mergers and Consolidation Between Banking and Financial Services Firms: Trends and Prospects, CRS Report RL30516, November, 2001.
[21] ICI *Mutual Fund Fact Book*, 41st edition, 2001, p. 63.

lowering prices when new entrants come and then raising prices if they succeed in driving the new entrants out. Rather than being characterized by short-term price wars, fees in the mutual fund industry are characterized by long-term downward pressure, which will be discussed later.[22]

C. Evidence of Competition: New Products

Contestable markets are characterized by product innovation as well as by new entrants. Mutual fund offerings have expanded to fill every conceivable market niche in terms of pricing and type of fund. This section briefly describes some of the major mutual fund products and products that compete closely with mutual funds. These examples emphasize the search by entrepreneurs in the financial services industry to offer a complete market of financial alternatives to individual investors.

Table 1

Product Innovation in a Contestable Marketplace

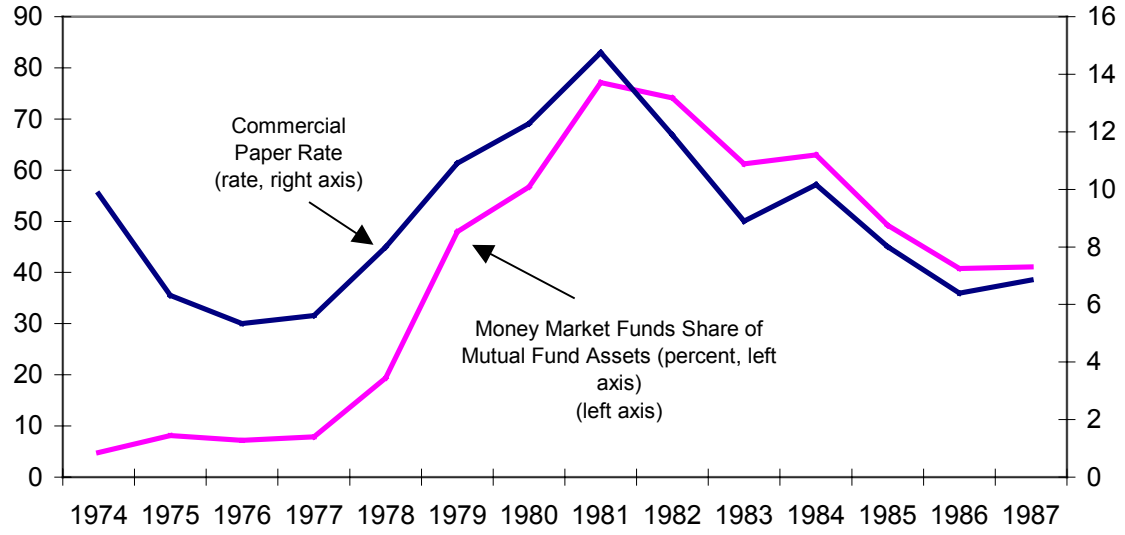
Money Market Funds	Exchange-traded Funds
Specialized Bond Funds	Mutual Fund Complexes
Hybrid Funds	Folios
Sectoral Equity Funds	Managed Accounts
Stock Index Funds	Hedge Funds
Closed-end Funds	

Money market funds. In the 1970s, money market funds became the first mutual fund product to attract a mass base of customers. Money market funds invest in short-term securities such as Treasury bills, bank certificates of deposit, and commercial paper, which have highly liquid markets (there are many buyers and sellers). Their initial popularity came from their ability to offer higher yields than were available on savings deposits because they were exempt from Regulation Q ceiling on interest rates. In addition, money market funds often came with a check-writing capability that offered liquidity and convenience to families.

[22] Bogle (1999), Ch. 6.

Figure 9

Money Market Funds Share of Mutual Fund Assets and Commercial Paper Rate



The share of assets in money market funds as a percentage of mutual fund assets rose from 1974 to 1981. After the peak in commercial paper interest rates in 1981, the share of assets in money market funds declined (Figure 9). The general decline in the level of short-term interest rates and rejuvenation of stock market caused many investors to switch assets out of money market funds into equity investments and long-term bond funds.[23]

Specialized Bond funds. Bond funds invest in longer-term and typically less liquid securities than money market funds. There are bond funds that specialize in various types of bonds. Municipal bond funds offer tax-free returns to investors. Rising tax rates in the 1970s prompted the development of the first municipal bond fund in 1976. In addition, regulation changed in the mid-1970s that permitted funds to pass tax-exempt interest to fund shareholders. Before then, the interest would have been taxed as dividend income. As long-term rates fell in the 1980s, utility funds and the first government income and Ginnie Mae funds were founded. High-yield bond funds hold the high-risk but high-interest corporate bonds that became an important tool of corporate finance in the 1980s.

Hybrid funds. The negative impact of higher interest rates and inflation on growth stocks led to the first option-income fund in 1977. After that, mutual fund advisers developed a range of hybrid equity/bond mutual funds that provided a range of return/risk possibilities for investors.

[23] Baumol and others (1990), pp. 35-8.

Sectoral stock/bond funds. In the late 1970s and early 1980s, gold funds were developed in response to fears of high inflation. The early 1990s saw emerging market equity and bond funds, while Internet funds became popular in the late 1990s.

Stock index funds. An index fund is an open-end fund, registered under the *Investment Company Act of 1940,* which seeks to replicate a particular market index, such as the Standard and Poor's 500 stock index. Index funds may or may not hold all of the stocks in the index. These funds generally have low costs and appeal to investors who do not wish to track the volatility of price performance and dividend yield of individual stocks. Index funds do not actively manage their portfolios, although they adjust their portfolios to reflect changes in the index and cash inflows and outflows from the purchase and sale of fund shares. Because index funds typically have lower portfolio turnover than actively managed funds, they tend to distribute a smaller percentage of their assets as capital gains than actively managed funds.

Closed-end funds. These funds, which are registered under the *Investment Company Act of 1940*, are diversified and professionally managed (like managed mutual funds) but they trade on an exchange (like regular stocks). Because closed-end funds generally do not continuously offer to issue new shares or to redeem them, the number of shares outstanding remains fairly constant.

Exchange-traded funds. Shares of exchange-traded funds (ETFs), which are registered under the *Investment Company Act of 1940* as either unit investment trusts or open-end funds, trade on the American Stock Exchange or the New York Stock Exchange like stocks. Some of the largest exchange-traded funds are Spiders (SPDRs, an acronym for S&P 500 Depositary Receipts), which target the S&P500, Diamonds (DIA), which target the Dow Jones Industrial Average, and Cubes (QQQ), which target the NASDAQ 100 Index. "iShares" are sector specific index funds. Exchange Traded Funds are often among the most actively traded securities on the American Stock Exchange.

Exchange-traded funds offer intraday pricing and trading and can be purchased on margin. They tend to have relatively low annual operating expenses. Retail investors buy and sell exchange-traded funds through an exchange; these exchange trades do not result in activity in the underlying portfolio and therefore do not trigger capital gain distributions.

The total market value of exchange-traded funds was $73 billion at the end of April 2001—rapid growth from the value of $15 billion at the end of 1998. Exchange-traded funds exist worldwide and not just for major indexes.

Mutual fund complexes. The proliferation of new fund types has given increased importance to fund complexes. These complexes offer households another option in the complete marketplace by reducing the cost to transfer between funds and the search and information costs of finding different investment advisers for different investment objectives.

Competitors to mutual funds: Folios. The remaining products this section discusses are competitors to mutual funds. Two aspects are key. First, unlike index mutual funds, exchange-traded funds, and closed-end funds, they do not need to be registered under the *Investment Company Act of 1940*. Second, owners of these funds can control the timing of capital gains realizations because they can control the portfolio management decisions with respect to the underlying assets.

Folio is a proprietary trading system that allows an investor to create a personalized portfolio of individual stocks. This portfolio can be structured for different levels of risk or beta relative to the overall equity market by the individual investor. The investor may also change a Folio anytime before or after purchasing it by adding stocks, removing stocks, or modifying the dollar amount. A Folio can hold anywhere from one to 50 stocks, although a "Ready-to-go" Folio can be purchased on-line at Foliofn[sm]. This service provides three Folios and covers all trading costs for a flat fee of $29.95 a month or $295 a year. Proponents of Folios contend that, relative to mutual funds, folios offer lower fees (although the $295 per year charge amounts to a 295 basis point "expense ratio" for a $10,000 account and a folio owner would have to invest $164,000 to pay a lower "expense ratio" than the Vanguard Index 500 fund), more advantageous tax consequences (although every sale of a stock in a folio is a taxable event), and less loss of investor control over trading and profit-taking than with the traditional mutual fund.

Managed accounts. Managed accounts are individual investment accounts offered by financial consultants who provide advisory services and are managed by independent money managers. These accounts offer a more customized investment approach to reach specific financial objectives such as a specified income per year or minimization of taxes. The fee structure is asset-based rather than commission-based. The fee may include investment counseling, portfolio management and brokerage fees for example. Investments may be managed for tax efficiency. Investors may make specific portfolio requests. The initial size of the portfolio is often $250,000 or more.

Compared to mutual funds, the managed account approach is more personalized and investment managers can respond to specific client mandates. Portfolios are more customized. However, the size of the initial investment is significantly greater than the minimum required for most mutual funds and the asset-based charges are often greater than for funds.

Hedge funds. Hedge funds are privately offered investment partnerships that are not registered under the *Investment Company Act of 1940*. Published figures estimate there are 2,500 to 5,800 hedge funds, with a total of $200 to $400 billion under management.[24] Hedge funds are structured as limited partnerships, with one or two general partners who also serve as investment managers. These managers receive a performance–based compensation and therefore, by the *Investment Advisers Act of 1940*, may only accept qualified investors, that is, people whose net worth is $1 million or more.

[24] Jickling (2001), p.2.

Hedge funds buy or sell a wide range of investment products. "Macro funds," for example, can invest their capital in any market in the world where the fund managers see opportunities for profit. Hedge funds are allowed to employ more aggressive investment strategies than publicly sold mutual funds. A hedge fund can sell short and use leverage through borrowed funds or derivatives without complying with the shareholder protections mandated by the *Investment Company Act of 1940*. Hedge funds are also allowed to hold more illiquid assets than mutual funds. These assets are hard to price and therefore make return on capital calculations sometimes difficult.

IV. EFFECTS OF COMPETITION ON MUTUAL FUNDS

A. Pressure for Product Differentiation

As has been mentioned, every mutual fund must have an explicitly stated objective, which is required by law to be explained in a fund's prospectus. An objective is a statement of the fund's investment goals and policies, and is a broad statement designed to give the fund's adviser discretion in pursuing a range of investment options. These statements act as signals to investors that the mutual fund company is trying to meet investor needs by filling in a particular investment gap.

Mutual fund firms compete in a variety of ways. Many offer a wide range of fund types for investors. They tout their investment performance to attract the attention of investors. Many offer periodic newsletters, investment software and other educational material to shareholders. Firms attempt to distinguish themselves as growth or value investors in equities or advertise rock-bottom expenses and an array of indexed portfolios. Some funds tout their international expertise, others their sector-specific allocations.

Individual mutual funds and mutual fund complexes try to establish reputations and brand recognition to differentiate them from rivals. To the extent they are successful, they make investors more likely to stay with them than to invest with a competing firm. However, because there are so many mutual funds and so many fund complexes offering similar products, fund advisers must innovate to retain market share. New products and investment styles can be easily imitated by rivals, so the competitive advantages they give are fleeting.

B. Lower Costs, Which Are Passed on to Shareholders

In 1970, almost 95 percent of total mutual fund assets were invested in *load* funds, with typical sales loads between 7.5 to 8.75 percent. By 1983, 73 percent of all mutual fund assets were invested in *no-load* funds. Competitive pressures have forced the reduction or elimination of sales loads on mutual fund purchases as well as putting a lid on the growth of other shareholder expenses. Investors have better information and

search capability. Sales loads reduce investor mobility. Lower loads reduce the cost of moving between funds.[25]

A study by the Securities and Exchange Commission (SEC) found that the median front-end sales load (before quantity discounts) fell from 8.5 percent in 1979 to 4.7 percent in 1999. The SEC went on to evaluate total shareholder costs and to amortize the sales load over five- and ten-year investor holding periods. The results show a decline in total ownership costs, as measured by the weighted expense ratio, from 2.28 percent in 1979 to 1.88 percent in 1999. [26]

When the SEC evaluated variations among fund operating expense ratios, it found that as fund assets increase, operating expense ratios decline (Table 2).[27] Operating expense ratios vary by fund category, with equity funds having a higher operating expense ratio than bond funds and specialty funds having a higher expense ratio than equity funds. Index funds have lower operating expense ratios than other funds**.** Newer funds tend to have higher operating expenses than older funds. Newer funds have not yet reached the critical size needed to pass on economies to their shareholders.[28]

Table 2:Mutual fund asset size and expense ratio

Assets (millions of dollars)	*Weighted expense ratio (% of assets per year)*
1-10	1.61
11-50	1.42
51-200	1.25
201-1,000	1.14
Over 1,000	0.87

Source: Securities and Exchange Commission (2000), p. 51.

In an earlier study of average operating expenses, the Investment Company Institute found that the average operating expense ratio for equity funds fell as asset size grew. For funds with assets over $5 billion, the operating expense ratio was just 70 basis points. (A basis point is one-hundredth of a percentage point.) Over time, average operating expense ratios fell for 74 percent of the funds studied. The vast majority of funds have lower operating expense ratios today than when they were established. [29]

Subsequently, the researcher Brian Reid examined a broader view of total shareholder cost that represents the annual cost that the investor would expect to incur over the period of time the investor plans to hold the fund. This cost includes annual fund expenses and sales loads. Reid found that shareholder costs declined for equity, bond and

[25] Reid (2001), pp.17-18.
[26] Securities and Exchange Commission (2000), p. 44.
[27] Securities and Exchange Commission (2000), p. 55.
[28] Securities and Exchange Commission (2000), p. 50.
[29] Rea and others (1999).

money market funds over the period 1990 to 1998. Shareholder costs for bond funds, for example, fell from 171 to 109 basis points, a decline of 36 percent.[30] William Baumol, a professor of economics at New York University, found that overall economies of scale were present and were statistically significant for the mutual fund industry. Moreover, Baumol and his fellow researchers also found economies of scope where the mutual fund firm is considered a multiproduct firm and the cost of production of several outputs together is more efficient than the production of each separately.[31] This result for mutual funds is not unique. Economies of scale and scope have also been found in banks and other financial institutions.[32] There is a significant concern by some policymakers that fund costs have not fallen in direct proportion to the scale of individual fund growth over the years.

C. Product Innovation

The reduction and removal of loads has reduced the costs associated with mutual fund transactions and increased investor mobility. The decline in the percentage of load fund assets is consistent with the theory of contestable markets and a competitive market for financial services. Expectation of potential entrants may have inhibited established firms' willingness to take advantage of the opportunity presented by unsustainable prices. As a result, sales loads fell while expenses were restrained on new funds. With entry being easy, the pressure was on to reduce sales loads over time as well as to eliminate sales loads completely when investors switched between funds in the same family of funds.

Mutual funds compete regarding quality of service as well as regarding expenses. There are toll-free numbers, 24-hour access to account information and transaction processing, consolidated account statements, free exchanges and check writing privileges on money market funds. Mutual funds provide investor education and shareholder communications. Mutual funds are also sold through many distribution channels. In recent years there has been a rapid growth in sales through third-party vendors and intermediaries, which include bank trust departments and fee-based advisors. In 1999, 43 percent of mutual funds were sold directly while the rest was sold via third parties.[33] This competition on the sell side also helped to reduce total shareholder costs as load fees were reduced as fund complexes competed for investors on the basis of performance and price.

[30] Reid (2000), p. 17.
[31] Baumol, and others (1990), pp. 186, 190.
[32] Benston (1972).
[33] Reid (2000), p. 12.

V. BENEFITS OF COMPETITION FOR CONSUMERS

A. Diversification, Liquidity, Information

What is the economic justification for mutual funds? The pure theory of finance argues that in an economy with a riskless asset (money) and a set of risky assets, an individual investor could directly purchase an array of individual assets in the proper proportion for his level of risk-aversion. The resulting portfolio would maximize performance for any given level of risk.[34]

The theory assumes that there are no transaction costs, that each security is perfectly divisible so that any proportion of the security can be transacted, and that information is costless and perfectly available to all investors.[35] None of these assumptions holds in the financial markets today. Securities cannot be bought without transactions costs, although competitive markets have reduced the cost of transactions over time. Securities are not perfectly divisible; this problem became an opportunity for money market funds. Finally, information is expensive, making professional portfolio management worthwhile.

Therefore, from this perspective mutual funds provide three benefits to investors. First, they provide diversification. Individual investors diversify away from security specific risks. Second, mutual funds have lower transaction costs due to discounts on large trades. Third, mutual funds enable investors to share liquidity risk. The tradeoff between investing on personal account and investing in mutual funds depends on the tradeoff between greater diversification, lower transaction costs, and better sharing of risks, on the one hand, and fund charges (including taxes), on the other hand. Households prefer mutual funds as long as the charges are not large enough to dissipate the advantages just described.

B. Why Consumers Need So Many Choices

Mutual fund investors can buy shares in funds from different companies, much as they can buy both Pepsi and Coke at the grocery store. Consumers can choose distinct mutual fund products that retain a character independent of the fund companies themselves. The possibility of doing so spurs competition and is essential for complete markets.

Mutual fund objectives have evolved over the years. Prior to 1970, most mutual funds were oriented toward investment in U.S. stocks only. At that time, only a small number of bond funds provided an alternative to traditional equity investments. After 1970, however, investment objectives broadened so that by 1987 there were 22 types of mutual funds. The dynamics of the marketplace provided an incentive for the industry to offer more varied products to meet investor needs. As a result, investors may own several mutual funds each of which may be offered by different companies. Investors, therefore,

[34] Cass and Stiglitz (1970).
[35] Klein (1973) and Magill (1976).

can build diversified portfolios offered by professional money managers in many different companies. This aspect of the industry enhances consumer choice and supplier competition.

Do consumers really find it useful to have so many choices among mutual funds? A single index fund and some combination of borrowing and lending could provide the individual investor with all the combinations of risk and return necessary. However, a well-known study makes the case that since riskless borrowing and lending rates do not exist, an index fund may fail to provide all the combinations of risk and return necessary to satisfy the investment needs of every investor. Different mutual fund risk types of mutual funds are necessary to satisfy diverse needs. The study evaluated 62 funds across ten risk-aversion categories. At one time or another, every fund in the sample provided an investment medium comparable to or better than the market portfolio for at least one of ten special groups of risk-averse investors identified by the authors of the study.[36] Another study, which examined risk and return for equity mutual funds, found that risk, as measured by the standard deviation of annual returns, is consistent with financial theory (specifically, the capital asset pricing model[37]): portfolios of funds with higher risk tend to have higher returns.[38]

Researchers from the Federal Reserve find that household ownership of mutual funds has continued to grow, continuing a trend going back to 1989. In the latest Federal Reserve Survey of Consumer Finances, ownership increased for all age groups in the survey except persons 55 to 65 years old.[39] These different age groups serve as useful proxies for different risk-averse groups of investors.

C. More Efficient Financial Markets

Mutual funds invest in a wide range of financial instruments. In addition, mutual funds develop new financial products for consumers and themselves provide new markets for financial entrepreneurs who develop new financial instruments, such as high-yield bonds. Figure 10 illustrates the breadth of assets in the aggregate portfolio of money market funds at the end of last year.[40]

Two steps are essential to the efficient allocation of capital in society. First, a mutual fund must examine the risk-return tradeoff. Does a security offer higher return for the same level of risk as another security? In an efficient portfolio, desired risk-return calculation should yield the mutual fund as indifferent between the balance of risk and return. Second, the mutual fund must evaluate alternative assets, asking itself what is the balance between investment return and a security's price compared to the balance available on any other security.

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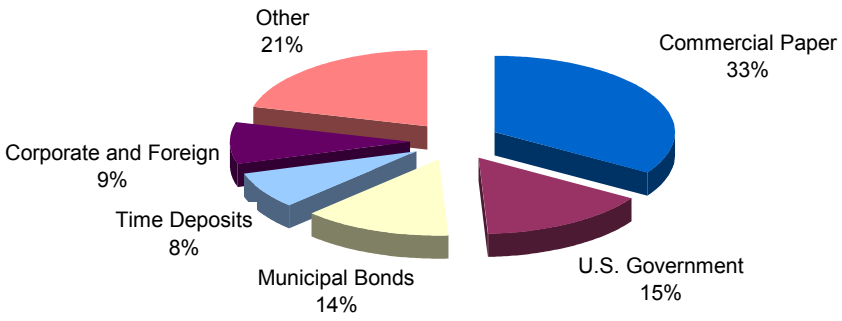
[36] Ang and Chua, (1982).
[37] See William F. Sharpe, Capital Asset Prices: A Theory of Market Equilibrium under Conditions of Risk, Journal of Finance 19 (September, 1964): 425-442.
[38] Droms and Walker (1995).
[39] Kennickell and others (2000), p. 12.
[40] Source of data was the Federal Reserve Flow of Funds.

Figure 10

Money Market Mutual Funds



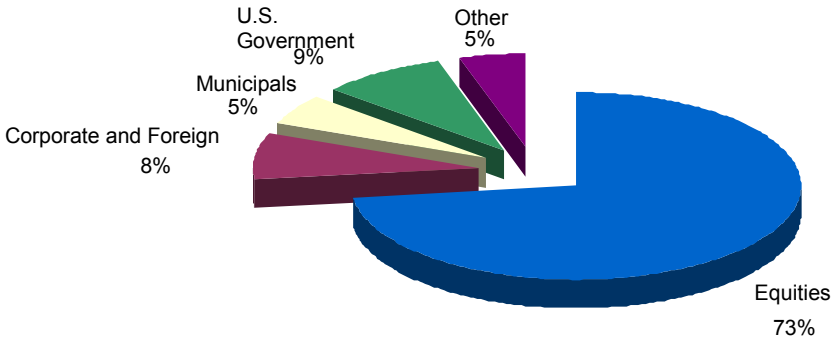
The size and flexibility of mutual fund complexes, and of some individual funds, enable them to choose among a much wider range of investments than individual investors can. Mutual funds make markets in those investments more efficient by allocating capital so its marginal product tends to be substantially the same for different users. Mutual funds are one of just a few institutions that can, at the margin, bring supply and demand together for different types of financial instruments to maximize the aggregate real return on capital in society. Through intermediation, mutual funds help equate saving and the form of investment needed in society in four distinct ways. First, intermediation helps equate the size of credit demand and supply needs. Corporate borrowers issue large bond or commercial paper offerings but savers only wish to buy small denominations. Intermediaries such as money market funds help equate these disparate needs. Second, the timing of income needs may differ. Corporations may need funds today, while investors need funds later for college funding or retirement. The use of mutual funds helps bridge this time gap. Third, investors and borrowers may need liquidity on one side of the transaction or on both sides. Mutual funds provide liquidity to investors through easy redemption of shares. Finally, diversification through mutual funds may reduce aggregate portfolio risk for investors.

How do mutual funds allocate their portfolios? Figure 11[41] illustrates the broad range and relative weights of different assets in the aggregate portfolio of mutual funds. Flow of Funds data from the Federal Reserve illustrates the significance of mutual fund ownership in selected markets. Last year, mutual funds owned 44.5 percent of outstanding open-market commercial paper, 15.2 percent of Treasury securities, 30.3 percent of municipal bonds, 19.1 percent of equities, and 10.6 percent of corporate and foreign bonds. [42] The breadth and depth of this ownership underlies the efficiency of the capital allocation process in our country's financial markets.

[41] Source of data was the Federal Reserve Flow of Funds.
[42] Federal Reserve, Flow of Funds, 1995-2000.

Figure 11

Mutual Funds



VI. IMPLICATIONS FOR CAPITAL GAINS TAXES ON MUTUAL FUND DISTRIBUTIONS

An investor in search of income who surrenders his liquidity and purchases real assets (or equity therein by buying shares) undertakes a risk. The introduction of a tax worsens the tradeoff between risk and return by reducing the expected rate of return; a tax therefore tends to decrease investment below what it otherwise would have been. The *Tax Reform Act of 1986* provides an example of the tradeoff at work. The *Act* increased the capital gains tax from 20 percent to 28 percent. Meanwhile, the *Act* did not take effect until 1987, providing taxpayers with notice of the impending higher tax rate. In 1986 capital gains realizations soared to $327.7 billion, while taxes paid rose to $52.9 billion.[43] Those totals were not approached until ten years later, despite substantial economic growth over that period. Taxpayers altered their behavior to reflect the higher taxes. They moved toward a less optimal financial asset allocation and remain there today.

Mutual funds must pay out a portion of their capital gains to shareholders each year, subjecting investors to ongoing taxes if the portfolio is held in a taxable account. By contrast, direct equity ownership allows the deferral of any capital gains realization until the stock is actually sold. The same is true for bonds. This tax problem does not appear for investments in tax-deferred retirement accounts such as IRAs or 401(k) plans.

[43] Tax Foundation (2000), pp. 144-5.

Taxation has significant effects on mutual fund returns. John Bogle, founder of the Vanguard Group of mutual funds and a pioneer in establishing no-load and index funds, uses examples of two hypothetical funds to show lower returns caused by taxes over the ten years ending in 1992.[44] The first fund, whose total return reflects fewer capital gains realizations than the second fund, saw a loss of 110 basis points in performance compared to a no tax alternative. Meanwhile the second fund registered a loss of 270 basis points. Another study by KPMG Peat Marwick LLP found that taxes due on the annual distributions made by mutual funds can decrease the performance of a mutual fund by up to 61 percent, or 7.7 percent a year.[45]

Deferring taxes on mutual fund capital gains until investors cash out of the funds would increase the incentives for households to invest and save for their future by increasing their after-tax rate of return while reducing the distortion to economic welfare by differential taxation.[46] Because of the highly competitive nature of the mutual fund industry, the gains from tax deferral would be passed along to consumers rather than absorbed by mutual funds in the form of higher fees.

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[44] Bogle (1994), pp.212-20.
[45] KPMG Peat Marwick LLP, Tax-Managed Mutual Funds and the Taxable Investor-2000 Edition, Pages 18,19.
[46] For a review of current practice and suggested policy options on mutual fund taxation, see Fichtner (2000) and (2001).

APPENDIX: THE GEOMETRY OF PORTFOLIO CHOICE

Risk and Return

The tradeoff between return can be shown graphically as in Figure A1 (below).[47] The rate of return is measured on the vertical axis, while the degree of risk is shown on the horizontal axis. To simplify, suppose an investor can choose between two assets: cash and a corporate bond. Line OA shows the combination of risk and return available to him by choosing different mixes of the two assets. Each indifference curve (I) shows combinations of risk and return that are equally satisfactory to the investor, with I_3 superior to I_2 and I_2 superior to I_1. Indifference curve I_3 is superior because at each level of risk on the horizontal axis, this curve offers a higher level of return on the vertical axis. Before the tax is imposed, the investor places himself at E_1, the point of tangency of the opportunity line OA with the highest available indifference curve. At equilibrium, risk is equal to Or_2 and the investor's return equals OS_1.

Now, suppose there is a change in the return so that the after-tax rate of return the investor receives for each level of risk assumed. The market tradeoff of risk and return available to the investor swivels down from OA to OA' and the investor's new equilibrium would be at tangency point E_2 with risk taking decreased to Or_2 and the after-tax rate of return now at OS_2.

Effect of Taxing Returns

Given a budget constraint, a rational investor allocates funds between alternative assets, *a* and *b,* so that the marginal returns are equal and the marginal returns are equal. Changes in relative tax rates alter returns and force the investor to reallocate his investment portfolio to re-establish equality of marginal returns. In Figure A2, the investor has a choice of how to allocate his portfolio between two assets, A_1 and A_2. For the given budget constraint, line BC, the investor reaches the equilibrium E_1 on the I_1 indifference curve. The indifference curve represents investor's risk tradeoff between the two financial assets.

The imposition of a higher tax on asset A_1 shifts the income constraint to BD, since the investor suffers a reduction in after-tax income from asset A_1. As a result, the investor reallocates his portfolio to reduce holdings of A_1 and increase holdings of A_2. The new equilibrium is established at point E_2. The investor establishes a new equilibrium with slightly less of asset A_1 and more of asset A_2; his level of overall satisfaction is lower than before, as represented by the new equilibrium on a lower indifference curve I_2.

[47] Tobin (1958).

Figure A1: Risk and Return Tradeoff

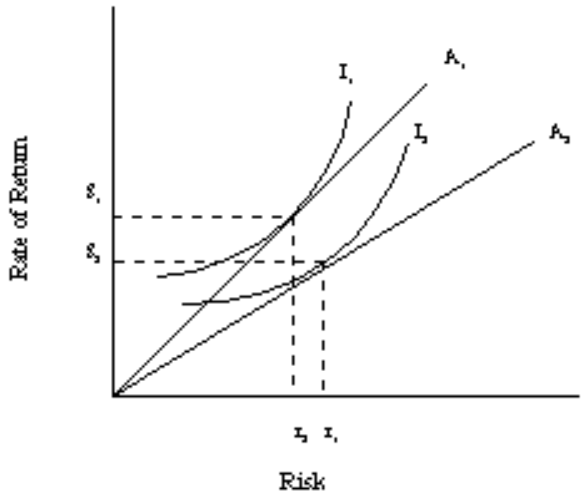
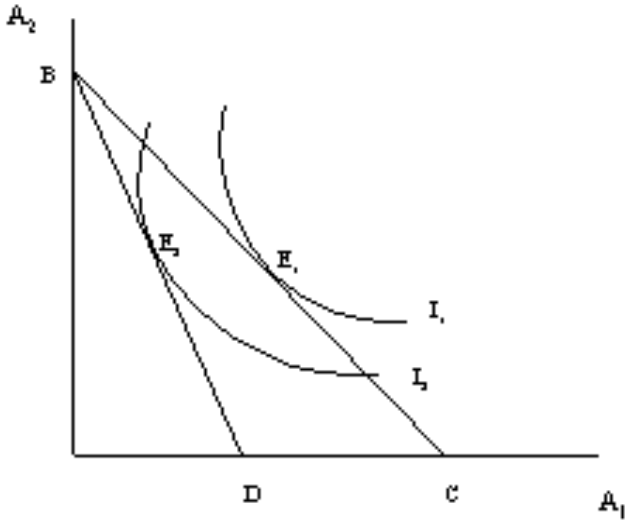


Figure A2: Taxation Lowers Investor Satisfaction and Forces A Reallocation of Portfolios Between Asset A1 and Asset A2



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