

The Global Growth of Mutual Funds

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With few exceptions, mainly in Asia, mutual funds grew explosively in most countries around the world during the 1990s. Equity funds predominated in Anglo-American countries; bond funds in most of Continental Europe and in middle-income countries. Capital market development (reflecting investor confidence in market integrity, liquidity and efficiency) and financial system orientation were the main determinants of mutual fund growth. Restrictions on competing products acted as a catalyst for the development of money market and (short-term) bond funds.

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I. Introduction

Explosive growth. One of the most interesting financial phenomena of the 1990s was the explosive growth of mutual funds. This was particularly true in the United States where total net assets of mutual funds grew from USD 1.6 trillion in 1992 to 5.5 trillion in 1998, equivalent to an average annual rate of growth of 22.4 percent. But, with the exception of some East Asian countries (including Japan), it was also true of most other countries around the world.

The 15 countries that are members of the European Union witnessed an increase in their total mutual fund assets from USD 1 trillion in 1992 to 2.6 trillion in 1998 (average annual growth rate of 17.7 percent). Among EU member countries, Greece recorded the highest growth rate at 78 percent, followed by Italy at 48 percent and Belgium, Denmark, Finland and Ireland, all with growth rates of around 35 percent. Some developing countries, such as for example Morocco, registered even higher growth rates, but from much smaller starting points.

In the United States, not only did mutual fund assets grow explosively over this period, but household ownership of mutual funds also experienced rapid growth. Survey estimates reported by the Investment Company Institute (the trade association of US mutual funds) show that the proportion of US households owning mutual funds grew from 6 percent in 1980 to 27 percent in 1992 and 44 percent in 1998 (ICI 2002).¹

The global growth of mutual funds was fuelled by the increasing globalization of finance and expanding presence of large multinational financial groups in a large number of countries and by the strong performance of equity and bond markets throughout most of the 1990s. A third factor was probably the demographic aging that characterizes the populations of most high and middle-income countries and the search of financial instruments that are safe and liquid but also promise high long-term returns by growing numbers of investors.

Mutual fund attributes. Mutual funds offer investors the advantages of portfolio diversification and professional management at low cost. These advantages are

¹ The proportion of US households owning mutual funds continued to increase after 1998 and reached 52 percent in 2001, before falling back slightly to 49.6 percent in 2002 (ICI 2002).

particularly important in the case of equity funds where both diversification and professional management have the potential to add value. For bond and money market mutual funds, the main advantage is transactional efficiency through professional management. In fact, as argued below, tax incentives and regulatory factors have played a big part in stimulating the development of bond and money market funds.

One of the distinguishing features of mutual funds is a high level of operational transparency relative to other financial institutions, such as banks, thrifts, insurance companies and pension funds, that also cater to the needs of households. Unlike banks and insurance companies, mutual funds do not assume credit and insurance risks² and thus do not need to make subjective provisions against non-performing loans or to create actuarial reserves against future insurance claims. Mutual funds invest in marketable instruments and are able to follow a “mark-to-market” valuation for their assets. But the investment risk is borne by investors who, especially in the case of equity funds, participate in the upside potential of corporate equities but are also exposed to substantial losses when markets are falling.³

For their successful operation and development, mutual funds require a robust and effective regulatory framework.⁴ As in all cases of agency contracts, investors need to be protected from fraudulent behavior on the part of mutual fund managers and the diversion of funds into projects or assets that benefit fund managers (agents) at the expense of fund investors (principals). Fund investors bear the investment risk, but they rely on the advertised investment strategies of mutual fund managers for making their selections. It is therefore essential that fund managers should abide by their advertised strategies and should not deviate from their declared objectives without proper prior authorization.

² The operational transparency of mutual funds is reduced if they promise guaranteed rates of return, a practice that has been followed in some countries, most notably India, but is frowned upon by experienced practitioners and regulators. It is also reduced if they invest in unlisted or illiquid instruments when mark-to-market valuations are replaced by subjective or, at most, mark-to-model valuations. Operational transparency is a relative concept and is clearly more relevant for mutual funds that invest predominantly in liquid listed instruments.

³ The high volatility of market returns has stimulated the development of funds offering protected investments whereby the nominal or real value of the principal invested (and sometimes a small additional return) is protected but investors give up some of the upside potential of investment returns. These funds invest in both cash and derivative markets and raise important regulatory concerns that have yet to be properly addressed.

Accounting and auditing rules as well as information disclosure and transparency requirements are of paramount importance.

Mutual funds also require well-developed securities markets with a high level of market integrity and liquidity. Market integrity implies that insiders are barred from taking advantage of privileged information, while large shareholders and market intermediaries are prevented from engaging in market manipulation. Market integrity also requires that officers of listed corporations observe high standards of corporate governance and honesty and do not engage in extensive fraud and theft. Market liquidity ensures that transaction costs are low and investors do not suffer from large adverse price movements when they initiate transactions in individual securities.

The recent corporate, accounting and securities market scandals in the US have undermined confidence in the integrity of US markets and may have contributed to the increased volatility of markets. Their implications for the future evolution of mutual funds are difficult to assess at this juncture, although efforts to strengthen corporate governance, ensure auditor independence, and enhance the credibility of published corporate information would help in averting any further erosion of investor confidence in market integrity.

Statistical problems. This paper uses aggregate data from a cross section of 40 developed, developing and transition countries to study the structure and growth pattern of mutual funds in different countries and analyze the determinants of mutual fund growth. The data cover the period 1992-98 and were collected from a variety of sources. Some were primary, such as mutual fund industry associations and capital market regulatory authorities. Others were secondary, such as the European Federation of Investment Funds and Companies (FEFSI), the Investment Company Institute (ICI) of the United States, the Organization of Economic Co-operation and Development (OECD), and Goldman Sachs Investment Research.

The collected data suffer from a number of important deficiencies. Mutual funds have been created to serve the financial needs of households. Indeed, under the right

⁴ Beneficial regulation has been attributed as a key factor behind the strong growth of the US mutual fund industry (Reid 2000).

circumstances, they have the potential to become the most important financial institutions for households, surpassing banks and insurance companies. But in several countries, mutual funds are also heavily used by corporations and institutional investors. This is often the case with money market mutual funds and short-term bond funds, which meet the liquidity needs of small corporations, while equity funds tend to be used by pension funds operated by small companies.

Brazil is a country where the non-household sector accounts for a large share of mutual fund shares. This is partly attributed to the tax on financial transactions that pension funds avoid by investing in mutual funds that are exempt from it. Other countries with a large presence of non-households in mutual fund ownership include France and the United States. Presence of non-households among mutual fund investors complicates the analysis of the determinants of mutual fund growth since non-household investors are likely to be influenced by different factors in their investment decisions than household investors.

The use of mutual funds by nonresident investors creates another complication. Luxembourg is an extreme example of this phenomenon, but Hong Kong, Ireland, Singapore and Switzerland also have a strong nonresident presence. The holdings of nonresident investors are also probably large in absolute terms in the United States, although their relative share is unlikely to be important. In the case of Hong Kong and Singapore, reported statistics cover the whole of the asset management industry, including assets of foreign investors that are entrusted to local managers but are not invested in collective investment schemes. It is difficult to disentangle such investments from holdings of mutual fund shares.

A third complication arises from the institutional coverage of published statistics. Indeed, the annual mutual fund report of ICI publishes a table with aggregate data on mutual funds around the world but also includes a strong warning that because of differences in definitions and coverage, the published data lack comparability. Differences relate, *inter alia*, to the inclusion, or not, of closed end funds, unit-linked funds operated by life insurance companies, and retirement funds that operate on mutual fund principles (such as the AFP system of Chile or the defined-contribution pension

plans that have proliferated in Australia, New Zealand, South Africa and the United States).⁵

Determinants of Mutual Fund Growth. The growth of mutual funds in the United States and other high-income countries has stimulated a large and ever increasing literature on the factors that explain the performance of mutual funds. Most of these studies follow the structure-conduct-performance paradigm and are usually focused on the performance of mutual funds in one country. There is also growing interest in the impact of international fund investment on emerging markets (Kaminsky et al 2000). Very few studies have examined the development and performance of mutual funds in several countries. An interesting exception is the study by Otten and Schweitzer (1998) that compared the US and European mutual fund industries. Otten and Schweitzer found that the European mutual fund industry is lagging the American industry with regard to total assets, average fund size and capital market importance. European investors have a preference for fixed income mutual funds, while mutual fund markets in individual European countries are dominated by a few large domestic groups, mostly bank-centered, possibly implying a lower level of competition. Other papers, such as Walter (1999) and Davis (2001), have looked at the European asset and pension management industries respectively rather than mutual funds *per se*.

Seen as financial institutions that serve the needs of households, the growth of mutual funds is likely to be determined by a number of factors. First and foremost is the level of income and wealth of the residents of a country. Conceptually, investing in mutual funds, like purchasing life insurance and saving for retirement, should be seen as a luxury good with a positive income elasticity of demand. In practice, however, the relationship between per capita income (used as an indicator of economic development and wealth) and holdings of mutual fund assets (expressed as a percentage of national income) is not always positive.

The availability or not of substitutes as well as complements also greatly affects the growth of mutual fund assets. Houses are distant substitutes of mutual fund shares in

⁵ Reported Australian statistics on mutual funds registered a very large jump in 1999, the most likely explanation of which is the inclusion of the mandatory pension plans that operate on mutual fund principles.

household wealth but most other instruments are either close substitutes or close complements, in some cases both at the same time. Bank deposits, both the traditional form of checking accounts and savings deposits and the more modern money market deposit accounts, are close substitutes of money market mutual funds. The interest rate spread between bank deposits and money market funds would be expected to play an important part in determining the demand for money market mutual funds.

The role of bonds, equities and contractual savings (savings with life insurance and pension funds) is more complex. At the level of individual investors, marketable securities are substitutes of mutual fund shares. Demand for mutual funds would depend on their cost efficiency in offering portfolio diversification and professional management. But at the aggregate level, mutual fund shares and marketable securities look more like complements. As already noted, Mutual funds need well-developed markets for bonds and equities for their successful operation. Given the importance of complementarity between mutual funds and securities markets, indicators of investor confidence in market integrity, liquidity and efficiency tend to acquire major significance and to outweigh the impact of income and wealth.

Contractual savings and mutual funds would also be expected to be substitutes, at least at the margin. However, the growing tendency of insurance companies and pension funds to offer products that are either directly linked to mutual funds or have many similar features has created an increasing complementarity between the two types of instruments.

The regulation of the investments of pension funds and insurance companies could also affect the growth of mutual funds. The impact of contractual savings institutions on mutual fund growth would be smaller in countries where they are compelled to invest in government bonds. In contrast, freedom to invest in mutual funds or “funds of funds” would stimulate the development of the mutual fund industry.

The demand for mutual funds would be expected to respond to differences in the level and volatility of real returns on mutual funds and alternative instruments. The challenge here lies in constructing good indicators of rates of return and their volatility and allowing for differences in the time horizons and responses of mutual fund investors.

Return differentials are also affected by tax policies and financial regulation. In several countries, investing in mutual funds enjoys a significant tax incentive in the form of a rate of withholding tax that is lower than the marginal tax rate of wealthy investors. This often explains the strong demand for bond mutual funds in countries where securities markets are not well developed.

In addition, demand for mutual funds may be distorted by indirect taxes (VAT or transaction taxes) that are imposed on other financial instruments or on transactions by other financial institutions but from which mutual funds are exempt. In Brazil, the exemption of mutual funds from the tax on financial transactions has been a major factor behind the creation of exclusive mutual funds for company pension funds which, in turn, has contributed to the rapid development of the Brazilian mutual fund industry.

In several countries, including in particular the United States and France, the growth of money market mutual funds has been stimulated by the imposition of tight restrictions on the interest rate that banks could pay on retail deposits. Such Regulation Q-type restrictions tend to have a ratchet effect on the growth of mutual funds. Their removal does not result in a reversal of the process, because once money market mutual funds have taken hold, investors are unlikely to revert to their banks, unless the latter can offer some attractive service or benefit that mutual funds cannot match.

A factor of major importance that would be of universal relevance and would explain the growth of mutual funds in many countries is the advent of electronic technology and the concomitant large reduction in the cost of operating a large number of accounts and an even larger volume of transactions. This has made mutual funds, especially money market funds, more competitive vis-à-vis banks.

A final factor that may affect the growth of mutual funds in a particular country is the “proximity” of a better developed or tax advantaged overseas center offering mutual fund investments to foreign investors. The countries with large offshore business, such as Luxembourg, Ireland and Switzerland in Europe or Hong Kong and Singapore in Asia, have a negative effect on the growth of mutual funds in their neighboring countries. However, it is difficult to estimate the impact of such proximity since this depends not only on geographical distance but also on cultural and other factors. For instance, the

large presence of German banks in Luxembourg is likely to have a bigger restraining impact on the growth of mutual funds in Germany compared to other neighboring European countries. When combined with an unfriendly regulatory regime (as was the case in Germany before the 1990s), the negative impact can be very large as well as difficult to reverse after domestic regulations are relaxed.

Main Findings: Bearing in mind the deficiencies of the collected data and the difficulties of correctly modeling the various influences set out above, the main findings of this paper are as follows:

- Mutual fund assets grew from 8 to 16 percent of GDP between 1992 and 1998 for the countries covered in the paper.
- In high-income countries, mutual fund assets expanded from 10 to 24 percent of GDP over this period, but in middle-income countries they first grew from 4 to 8 percent but then fell back to 4 percent of GDP after the East Asian crisis. This reversal was mostly caused by the experience of Asian countries.
- A total of 16 countries had mutual fund sectors with net assets exceeding 20 percent of GDP in 1998. 11 of these countries were from Continental Europe.
- In 12 countries equity funds represented more than 40 percent of total mutual fund assets. However, in only 5 countries (Hong Kong, South Africa, Sweden, Switzerland and the United Kingdom) did they exceed 60 percent of the total.
- In 10 countries bond funds accounted for more than 40 percent of total assets. In 4 of these, they represented more than 60 percent of the total (Brazil, Hungary, Thailand and Tunisia).
- In 4 countries (Argentina, Chile, France and Greece) the largest share of the sector was held by money market funds. With the exception of France, the share of money market funds exceeded 60 percent of the total.
- In 4 countries (Czech Republic, India, New Zealand, and Poland) balanced funds were the predominant type.
- Mutual funds are more advanced in countries with better developed capital markets (reflecting investor confidence in market integrity, liquidity and efficiency and a greater supply of investable securities) and market-based financial systems.

- Higher market returns and liquidity and lower volatility have also contributed to mutual fund growth.
- Openness to trade and a high share of high-tech exports are significant factors in high income countries, while per capita income and strong banking systems are related to mutual fund development in middle-income countries.
- Per capita income has been strongly significant with the correct sign in middle-income countries, but weakly significant with a negative sign in high-income countries.
- Legal origin is significantly correlated with mutual fund development. Equity funds are more advanced in common law countries, while bond funds are more developed in countries with civil law systems.
- Restrictions on competing products, namely limits on interest rates on sight and retail time deposits of banks, have been a significant determinant of the growth of money market and (short-term) bond mutual funds. Such restrictions have probably played the role of catalyst in many countries and have had a ratchet effect. Their removal has not reversed mutual fund progress.

This paper is divided in two main parts. Following this introduction and summary of findings, the next section reviews the structure and growth patterns of mutual funds in different countries. This is followed by a section that summarizes the quantitative results of the study. A concluding section notes a number of questions with important policy implications at the macro level.

The period 1992-98 covers several years of fast growth in equity markets and mutual funds. It also covers the East Asian crisis that has had an adverse effect on mutual fund growth in Asian countries. But it does not include 1999 when equity markets and mutual funds continued their rapid expansion in most developed countries. Equity markets and mutual fund growth reversed gear after 1999, raising some interesting and unanswered questions regarding the long-term persistence and significance of recent trends.

II. Structure and Growth Patterns

Historical Overview. The first mutual funds in the form of closed-end investment trusts appeared during the last quarter of the nineteenth century. The first open-end mutual fund was created in Boston in 1924. Mutual funds of both the closed and open-end varieties experienced hectic growth in the 1920s, but they suffered a major setback from mismanagement and fraud as well as from the stock market crash of 1929. Between 1930 and 1970 mutual funds grew relatively little, although there was an upsurge of interest in equity funds during the stock market boom of the early and mid 1960s. However, this was reversed in the 1970s following the first oil crisis and the poor performance of equity markets. The collapse of International Overseas Services, a fraudulent fund management group, in the late 1960s contributed to the loss of investor confidence in mutual funds.

A major product innovation occurred in the 1970s with the launching of money market mutual funds. These specialized in investing in money market instruments and competed with banks by offering market-related returns and lower spreads than traditional bank deposits, while ensuring liquidity and ease of access. Money market mutual funds were launched in the United States in the 1970s in response to the regulatory restrictions that prohibited US banks from paying market rates of interest on their retail deposits at a time when high inflation was pushing market rates to very high levels compared to the ceilings imposed on banks. They also achieved high levels of development in other countries with rigid restrictions on bank deposit rates, such as France, Greece and Japan. But even in the absence of regulatory distortions, money market mutual funds, once invented, tend to grow to meet the demand from sophisticated investors who need a convenient place for parking their liquid investment balances.

Growth of equity and bond funds resumed in the early 1980s as macroeconomic performance and equity markets started to improve. But growth did not become explosive until the early 1990s. It is still unclear why investors started to change their financial asset allocations so drastically after 1990. In the United States, the widening of bank spreads as commercial banks attempted to rebuild their capital following their disastrous results of the late 1980s may have provided an early stimulus to equity funds. As the gap

between returns on bank deposits and returns on equity funds widened considerably, investors showed an increasing preference for equity funds.

In the United States, the increased demand for mutual funds reflected a broader pickup in demand for financial assets, buoyed by rising equity prices, low and stable interest rates, and subdued inflation (Reid 2000). The expansion of retirement savings plans, both the employer-sponsored 401(k) plans and individual retirement accounts (IRAs), provided additional stimulus. Assets of retirement savings plans invested in mutual funds rose from one-fifth of all fund assets in the early 1990s to more than one-third by the end of the decade. The response of the industry, both by expanding the number and variety of mutual funds and by lowering the cost of acquiring and holding mutual funds, was another contributing factor.

In Europe and other regions, the growth of equity funds lagged somewhat behind, both because equity markets were less well established outside Anglo-American countries and because the operating costs of mutual funds continued to be relatively high. But bond funds experienced steady growth as governments favored the development of long-term bond markets and provided incentives for investments in mutual funds.

Total Net Assets. The total assets of mutual funds for the 40 countries covered in this paper amounted to over 9 trillion US dollars in 1998. The US market accounted for 60 percent of total worldwide assets (Table 1), followed by the countries of the European Union with nearly 30 percent. Japan and other East Asian countries represented 6 percent, while all developing countries as a group accounted for less than 4 percent of the total.

Among the countries for which data are reported in this paper, Luxembourg is a special case because of its very large role as an offshore center. Other countries where business with nonresidents is relatively large include Ireland and Switzerland in Europe and Hong Kong and Singapore in Asia. The presence of these centers has important implications for the evolution of markets in other countries, especially those from the same region, but these are difficult to assess because the business with nonresidents itself is difficult to identify.

Table 1: Overview of Mutual Funds, 1998

Country	Assets (US \$Bn)	% of Total	Number of Funds	Average Fund Size (US \$ Mn)	Equity Funds %	Bond Funds %	Balanced Funds %	M M Funds %
<u>Anglo American</u>								
Australia	43.92	0.48	569	77.2	23	6	17	21
Canada	213.45	2.34	1130	188.9	53	10	17	11
Ireland	N/A							
New Zealand	7.25	0.08	633	11.5	16	18	40	7
South Africa	12.16	0.13	191	63.7	63	6	9	17
United Kingdom	285.54	3.13	1541	185.3	83	8	8	1
United States	5,525.20	60.57	7314	755.4	54	15	7	24
<u>Scandinavian</u>								
Denmark	19.46	0.21	240	81.1	45	54	1	
Finland	5.72	0.06	114	50.2	36	24	24	16
Norway	11.17	0.12	264	42.3	57	16	4	23
Sweden	55.25	0.61	366	151.0	75	11	14	
<u>Central European</u>								
Austria	63.69	0.70	821	77.6	10	58	26	5
Belgium	56.54	0.62	631	89.6	56	15	26	3
Germany	195.55	2.14	848	230.6	43	40	3	14
Luxembourg	509.73	5.59	4524	112.7	28	46	8	16
Netherlands	77.95	0.85	334	233.4	58	23	9	7
Switzerland	71.84	0.79	325	221.0	70	30		
<u>Southern European</u>								
France	589.70	6.46	5581	105.7	18	26	24	31
Greece	32.15	0.35	179	179.6	5	19	9	66
Italy	435.93	4.78	703	620.1	18	51	8	19
Portugal	23.26	0.25	197	118.1	13	39	10	30
Spain	238.85	2.62	1866	128.0	20	37	18	25
Turkey	1.11	0.01	197	5.6	1	33	3	31
<u>East European</u>								
Czech Republic	0.56	0.01	56	10.0	1	19	40	40
Hungary	1.47	0.02	66	22.3	4	60	24	12
Poland	0.51	0.01			28	21	51	
<u>Latin American</u>								
Argentina	6.93	0.08	229	30.3	4	14	5	77
Brazil	118.69	1.30	2438	48.7	8	80	7	6
Chile	2.91	0.03	102	28.5	7	17		76
Mexico	12.20	0.13	312	39.1				
<u>Asian</u>								
Hong Kong	98.77	1.08	712	138.7	70	13	10	6
India	8.69	0.10	97	89.5	15	37	47	1
Japan	376.54	4.13	4534	83.0	17	40	10	33
Korea								
Malaysia	10.19	0.11	95	107.3				
Thailand	1.63	0.02	128	12.7	22	76	2	
Sri Lanka	0.04	0.00	10	3.9				
<u>MENA</u>								
Israel	5.50	0.06			15		15	
Morocco	1.93	0.02	48	40.3				
Tunisia	0.66	0.01	19	34.8		87	13	

Table 2: Net Assets of Mutual Funds (USD billion and average growth rate)

Country	1992	1998	%
<u>Anglo American</u>			
Australia	12.07	43.92	24.0
Canada	52.92	213.45	26.2
Ireland 1992-97	5.93	23.73	31.9
New Zealand	0.59	7.25	51.9
South Africa	4.52	12.16	17.9
United Kingdom	91.12	285.54	20.9
United States	1642.60	5525.20	22.4
<u>Scandinavian</u>			
Denmark	3.43	19.46	33.5
Finland 1994-98	1.09	5.72	51.4
Norway 1994-98	5.14	11.17	21.4
Sweden	18.17	55.25	20.4
<u>Central European</u>			
Austria	15.08	63.69	27.1
Belgium	8.91	56.54	36.1
Germany	70.41	195.55	18.6
Luxembourg	182.59	509.73	18.7
Netherlands	32.73	77.95	15.6
Switzerland	19.57	71.84	24.2
<u>Southern European</u>			
France	448.44	589.70	4.7
Greece	1.02	32.15	77.7
Italy	41.24	435.93	48.1
Portugal	7.96	23.26	19.6
Spain	54.79	238.85	27.8
Turkey 1993-98	1.05	1.11	1.1
<u>East European</u>			
Czech Republic 1996-98	0.46	0.56	10.4
Hungary 1996-98	0.73	1.47	41.9
Poland 1993-98	0.43	0.51	3.5
<u>Latin American</u>			
Argentina	0.18	6.93	83.8
Brazil	18.76	118.69	36.0
Chile	0.92	2.91	21.2
Mexico	16.57	12.20	-5.0
<u>Asian</u>			
Hong Kong	16.35	98.77	35.0
India	7.69	8.69	2.1
Japan	346.92	376.54	1.4
Korea 1992-97	85.61	86.24	0.1
Malaysia	6.02	10.19	9.2
Thailand 1993-98	0.36	1.63	35.3
Sri Lanka 1996-98	0.05	0.04	-10.6
<u>MENA</u>			
Israel	10.38	5.50	-10.0
Morocco 1996-98	0.31	1.93	149.6
Tunisia 1993-98	0.10	0.66	45.9

Growth rates have varied considerably across countries and regions (Table 2). Most Anglo-American countries, where mutual funds were already well developed in the early 1990s, registered growth rates of between 20 and 30 per cent per year. In Europe, some countries, such as Greece and Italy, experienced very rapid growth, while others, most notably France, recorded low growth. Among middle-income countries, Morocco, Argentina, Hungary and Tunisia achieved very high growth from low starting points. Except for Hungary, where mutual funds are increasingly integrated into the European market, the experience of mutual funds in the other three countries has suffered in later years.

Setting Luxembourg aside as a very special case, the United States is in a class of its own in the development of mutual funds. Following their spectacular growth in the 1990s mutual fund assets rose from the equivalent of 26 percent of GDP in 1992 to 65% in 1998 (Table 3). Only in Hong Kong (China) do mutual funds come anywhere near this level, having grown from 16 percent of GDP in 1992 to 52 percent in 1998.⁶ In Canada and several European countries (Spain, France, Italy and Austria) mutual fund assets correspond to between 30 and 40 percent of GDP. Several European countries, including Belgium, Greece, the Netherlands, Portugal, Switzerland, Sweden and the United Kingdom, have mutual fund assets ranging between 20 and 30 percent of GDP.

In continental Europe, Denmark, Finland, Germany and Norway continue to have relatively underdeveloped mutual fund sectors. In the case of Germany, this is partly offset by two factors: the strong presence of closed-end funds, which are not included in the above statistics; and the use of mutual funds based in Luxembourg by many German investors, mostly for tax reasons. The effect of Luxembourg on the size of German mutual funds is likely to be much greater than on mutual funds in other European countries because of the prominent role played by leading German banks in the Luxembourg market.

⁶ It should be noted, however, that the data on Hong Kong mutual funds represent an estimate of the component that relates to domestic holdings. By far the largest component of the market is represented by holdings of nonresidents.

Table 3: Net Assets of Mutual Funds, 1992-98 (percent of GDP)

Country	1992	1993	1994	1995	1996	1997	1998	Average
<u>Anglo American</u>								
Australia	4.13	5.54	5.39	5.18	10.32	10.92	10.16	7.38
Canada	9.27	15.65	16.59	18.66	25.54	31.63	35.69	21.86
Ireland	11.55	10.96	14.82	13.50	72.92	32.46		26.03
New Zealand	1.48	3.08	3.45	9.45	11.75	11.57	10.14	7.27
South Africa	3.77	4.92	6.20	6.89	7.42	9.84	8.57	6.80
United Kingdom	8.68	13.90	13.09	13.89	16.24	18.38	21.31	15.07
United States	26.31	31.57	31.03	38.70	46.02	55.09	64.92	41.95
<u>Scandinavian</u>								
Denmark	2.34	3.17	3.59	3.56	5.05	7.76	10.41	5.13
Finland			1.12	0.95	2.01	2.99	4.33	2.28
Norway			4.18	4.63	6.04	8.65	7.65	6.23
Sweden	7.33	13.99	10.21	11.65	13.93	20.33	22.03	14.21
<u>Central European</u>								
Austria	8.06	9.99	11.91	14.43	17.28	22.03	30.04	16.25
Belgium	3.96	7.10	8.14	8.77	10.20	14.00	21.15	10.47
Germany	3.57	4.14	5.51	5.57	5.70	7.08	8.47	5.72
Luxembourg	1450.05	1958.90	1811.91	1835.30	2060.42	2445.07	2792.95	2050.66
Netherlands	10.16	14.62	14.20	15.04	16.98	21.06	20.62	16.10
Switzerland	8.12	14.75	15.10	14.64	16.51	16.97	20.40	15.21
<u>Southern European</u>								
France	33.97	38.76	37.48	34.07	34.37	36.05	38.57	36.18
Greece	1.04	3.76	5.65	8.92	12.74	21.81	26.79	11.53
Italy	3.38	6.80	7.83	7.34	10.63	18.33	34.46	12.68
Portugal	8.42	11.13	14.65	12.69	14.32	17.65	20.73	14.23
Spain	9.50	15.05	17.57	17.92	23.42	33.77	40.82	22.58
Turkey		0.56	0.54	0.30	0.63	0.45	0.52	0.50
<u>East European</u>								
Czech Republic					0.81	0.69	0.98	0.82
Hungary					1.64	1.46	2.71	1.94
Poland		0.50	0.63	0.24	0.35	0.40	0.34	0.35
<u>Latin American</u>								
Argentina	0.08	0.09	0.14	0.23	0.63	1.62	1.94	0.68
Brazil	4.80	5.48	9.97	9.04	13.39	13.51	13.42	9.94
Chile	2.20	2.74	4.10	3.87	4.05	5.49	3.43	3.70
Mexico	4.55	6.43	2.73	2.68	3.16	3.42	2.75	3.68
<u>Asian</u>								
Hong Kong	16.19	26.84	22.54	24.24	26.63	33.60	51.60	28.81
India	2.83	2.98	3.80	2.93	2.70	2.36	1.99	2.80
Japan	9.33	10.62	9.29	9.14	9.13	7.41	8.15	9.01
Korea	27.80	31.58	32.05	31.12	29.62	19.47		24.52
Malaysia	10.33	16.23	19.24	19.90	23.89	8.81	9.46	15.41
Thailand		0.28	0.63	1.14	2.34	0.39	1.47	1.04
Sri Lanka					0.33	0.30	0.25	0.29
<u>MENA</u>								
Israel	12.81	19.45	8.32	5.75	3.99	5.08	5.95	8.76
Morocco				0.01	0.83	3.27	5.25	2.34
Tunisia		0.66	2.86	3.66	2.73	3.27	3.18	2.73

An interesting feature of the European market is the growing strength of mutual funds in several countries with unfunded social security systems (Austria, Belgium, France, Greece, Italy, Portugal and Spain). Some of these countries have also experienced strong growth of their life insurance industries. For instance, French life insurance assets exceeded 55 percent of GDP in 1997, a level that is much higher than in Canada, Germany or the United States and close to the levels prevailing in the Netherlands, Switzerland and the United Kingdom. This provides indirect evidence that the saving public is responding to various tax incentives to accumulate long-term savings as a defense against the likely future inability of their national social security systems to honor promised benefits in full.

Among Anglo-American countries, which generally have well-developed securities markets and common law traditions, Australia, New Zealand and South Africa are notable for their relatively underdeveloped mutual fund industries with total assets around 10 percent of GDP. However, in all three countries mutual funds experienced considerable growth during the 1990s. The presence of a well-developed contractual savings industry in South Africa and the continuing credibility of tax-financed universal pensions in Australia and New Zealand are clearly relevant factors. As already noted, inclusion of the compulsory pension funds, which are mostly based on DC plans, causes a very large increase in the reported Australian statistics.

In East Asia, the experience of Japan is worth noting. Since the collapse of the Tokyo stock market in 1990, the mutual fund industry has stagnated. Total assets under management declined in relation to GDP from 9 to 8 percent. Mutual funds were better developed in Korea at the beginning of the decade with assets corresponding to 28 percent of GDP. They subsequently rose further to 32 percent of GDP by 1994 but suffered a major setback in the aftermath of the East Asian financial crisis of 1997 when they fell to less than 20 percent of GDP. Mutual funds in Malaysia grew aggressively in the first half of the 1990s, rising from 10 to 24 percent of GDP but plummeted to 9 percent of GDP in 1997.

Among other middle-income countries Brazil has the most developed mutual fund sector with assets corresponding to over 13 percent of GDP. In most other developing

countries mutual fund assets are close to, or lower than, 5 percent of GDP. Like Korea and Malaysia, mutual funds in Mexico fell in 1994 in the aftermath of the Tequila crisis. In several developing countries, including Argentina, Chile, Morocco and Tunisia, mutual funds grew at spectacular rates, although from nonexistent bases.

Structure. There are five main types of mutual fund: equity and bond funds that predominantly invest in equities or bonds; balanced funds that have more balanced portfolios of both equities and bonds; money market mutual funds that specialize in short-term instruments; and finally funds of funds that mainly invest in other mutual funds. Some types of funds are subdivided into several other categories. Thus, equity funds may be classified by sectoral or geographic specialization, by investment objective, by active or passive management, and by class of investor (institutional or retail, with or without front loads, etc.). Bond funds are mainly divided into short-term and long-term funds.

Countries vary considerably in the structure of their mutual fund industries (Table 4). Five countries are characterized by a predominance of equity funds. Using average data for the period 1992-98, the United Kingdom (89 percent) and South Africa (79) show the highest allocation to equity funds, most probably a result of the response of investors to the high levels of inflation of the 1970s and early 1980s. Even though inflation declined to low or moderate levels in the 1990s, a ratchet effect may be at play. Once investors switch into equity funds, they are unlikely to return to bond funds as long as equity returns are higher in real terms and their volatility is not intolerably high. Sweden (74), Hong Kong (66) and Switzerland (63) are the other three countries where equity funds represent more than 60 percent of the total assets of mutual funds.

There are then several countries where equity funds represent between 40 and 60 percent of the total. These include Thailand (59), Denmark (52), Norway (49), Canada (48), the Netherlands (46), the United States (44), and Finland (42). The low relative level of equity funds in the United States does not represent a weakness of US equity funds or markets, but rather a relatively strong presence of other types of funds, including in particular money market mutual funds.

Table 4: Structure of Mutual Funds by Major Category, Average for 1992-98 (percent)

<u>Country</u>	Equity	Balanced	Bond	MMF	Other	Total
<u>Anglo American</u>						
Australia	35	19	7	22	17	100
Canada	48	13	12	14	12	100
Ireland	33	47	16	5		100
New Zealand	34	31	26	4	5	100
South Africa	79	5	8	4	3	100
United Kingdom	89	6	4	1		100
United States	44	7	22	27		100
<u>Scandinavian</u>						
Denmark	52	3	46			100
Finland	42	21	18	18		100
Norway	49	3	19	29		100
Sweden	74	8	18			100
<u>Central European</u>						
Austria	6	21	72	1		100
Belgium	34	28	23	10	6	100
Germany	28	2	58	11		100
Luxembourg	14	13	48	24		100
Netherlands	46	7	37	9	1	100
Switzerland	63		37			100
<u>Southern European</u>						
France	11	13	28	47		100
Greece	12	5	35	47	1	100
Italy	22	11	41	25	2	100
Portugal	6	6	55	30	2	100
Spain	5	10	39	46		100
Turkey	1	5	33	23	38	100
<u>East European</u>						
Czech Republic	2	66	12	20		100
Hungary	9	12	68	11		100
Poland	28	51	12		9	100
<u>Latin American</u>						
Argentina	27	4	36	27	6	100
Brazil	8	7	74	10	1	100
Chile	16		24	60		100
Mexico						
<u>Asian</u>						
Hong Kong	66	4	19	9	1	100
India	12	63	23	2		100
Japan	31	3	41	25		100
Korea						
Malaysia						
Thailand	59	4	37			100
Sri Lanka						
<u>MENA</u>						
Israel	25	25			50	100
Morocco	12	71	17			100
Tunisia		38	62		0	100

Balanced funds, which invest in both equities and debt instruments, may distort the relevance of these ratios. While in most countries (e.g. Morocco, India, the Czech Republic, Tunisia and several continental European countries) balanced funds are heavily invested in bonds, in a number of countries they may be more “balanced” or even “tilted” in favor of equities. This is likely to be the case in Australia, Ireland, and New Zealand, partly explaining why equity funds in these Anglo-American countries represent less than 40 percent of total mutual fund assets.

In the majority of countries in continental Europe, Eastern Europe, Latin America, Asia, and the Middle East and North Africa mutual fund investors show a strong preference for fixed income funds, either long-term bonds or short-term money market instruments. In several developing and transition countries, bond instruments have short maturities and thus there is practically little difference between bond and money market funds. However, in the countries of Southern Europe (France, Greece, Italy, Spain and Portugal) as well as Australia, Japan, Norway and the United States, the strong relative presence of money market mutual funds is notable. This seems to be connected with the imposition of restrictive regulations on the payment of interest on checking accounts and other short-term bank deposits that all these countries have imposed for prolonged periods. Even though such regulations (like the infamous regulation Q in the United States) have been withdrawn over time, once established money market mutual funds have continued to thrive.

The strong presence of fixed income funds (and corresponding weakness of equity funds) in Latin American and Eastern European countries that have reformed their social security and pension systems (e.g. Argentina, Chile, Hungary, and Poland) has important implications for the regulation of asset allocation by the pension funds. Arguments that absent restrictive investment regulations, pension funds would place a higher proportion of their assets in equities are not supported by the experience of mutual funds, which are free from such investment restrictions. In fact, given the strong preference of the investing public for fixed income instruments and the structural weaknesses of local equity markets, it is likely that without any investment rules, pension funds would have invested an even smaller proportion of their assets in corporate equities.

Evolution of Equity Funds. Equity funds are very large in Hong Kong and the United States, where they exceed 30 percent of GDP (Table 5). In the United States, equity funds reflect the strong preference of the investing public for corporate equities, although this may weaken after the price reversals suffered by equity markets in the past couple of years.

The net assets of equity funds range between 10 and 20 percent of GDP in a small number of countries, including Belgium, Canada, Netherlands, Sweden, Switzerland, and the United Kingdom. In most of Continental Europe equity funds were underdeveloped in 1998, although they were growing rapidly in France, Italy and Spain.

Equity funds have a very small presence in most middle-income countries, even in Brazil and Chile where the equity markets are relatively well developed. This may be explained by a combination of factors: lack of confidence in the integrity of local markets; low risk tolerance of investors; and use of overseas mutual funds by wealthier and more sophisticated investors. The low level of equity funds in Australia and New Zealand may also be explained by the ready access that residents of these countries have to overseas mutual funds, operating in offshore centers, such as Hong Kong and Singapore as well as the United States and the United Kingdom.

Evolution of Bond, Balanced and Money Market Funds. The evolution of these types of mutual funds is often the mirror image of that of equity funds. Bond funds are well developed in a number of Continental European countries, such as Austria, France and Italy where government bond markets are large (Table 6). They are also well established in the United States, which has large government, corporate and mortgage bond markets, and Brazil. Outside these countries, bond funds have a relatively strong presence in Denmark, Greece, Hong Kong, Portugal and Switzerland. They are notably weak in most Anglo-American countries.

Balanced funds control a large share of the mutual fund sector in several countries (Table 4). In the Czech Republic, India, Ireland, Morocco and Poland they have close to or over 50 percent of the total. In Belgium, Israel, New Zealand and Tunisia their share ranges between 25 and 40 percent. However, in relation to national income, balanced funds are relatively large in only a few countries, including Austria, Belgium, Canada,

France, Hong Kong (China), Ireland and Spain. In these countries the total assets of balanced funds correspond to between 5 and 10 percent of GDP (Table 7). Balanced funds invest heavily in bonds in some countries (notably the Czech Republic, Morocco and Tunisia), while in others they adopt more diversified investment strategies.

Money market mutual funds have grown impressively in France, Greece, Spain and the United States (Table 8). The total assets of money market mutual funds represent close to or more than 10 percent of GDP in these countries. There are some countries (e.g. Australia and Japan) where money market mutual funds have a significant share of over 25 percent of the mutual fund sector but their total assets are not large in relation to national income.

The insignificant growth of money market mutual funds in the United Kingdom is notable. UK banks and building societies have been free from restrictions on the payment of interest on sight and retail time deposits. Despite the prevalence of securities markets and the active trading needs of investors and market participants, neither institutional nor retail investors have shown a preference for parking their liquid funds in money market mutual funds. This seems to be in sharp contrast to the prevailing pattern in the United States.

Table 5: Net Assets of Equity Funds, 1992-98 (percent of GDP)

<u>Country</u>	<u>1992</u>	<u>1993</u>	<u>1994</u>	<u>1995</u>	<u>1996</u>	<u>1997</u>	<u>1998</u>	<u>Average</u>
<u>Anglo American</u>								
Australia	1.64	2.73	2.34	2.12	2.49	2.47	2.33	2.30
Canada	3.42	6.84	7.82	9.37	13.23	17.08	18.88	10.95
Ireland	3.52	3.43	5.29	5.01	22.04	9.82		8.18
New Zealand	0.76	1.72	1.94	2.16	1.95	2.20	1.59	1.76
South Africa	3.24	4.09	5.50	5.78	6.09	6.80	5.40	5.27
United Kingdom	8.11	12.79	11.91	12.51	14.35	15.77	17.79	13.32
United States	8.36	11.41	12.45	17.44	22.53	29.19	34.99	19.48
<u>Scandinavian</u>								
Denmark	1.38	1.81	1.94	1.89	2.36	3.53	4.68	2.51
Finland			0.67	0.49	0.63	0.95	1.58	0.86
Norway			1.69	1.73	2.91	5.16	4.37	3.17
Sweden	5.07	10.01	7.67	8.60	10.39	15.73	16.53	10.57
<u>Central European</u>								
Austria	0.28	0.49	0.77	0.73	1.00	1.60	3.13	1.14
Belgium	0.85	1.96	2.23	2.48	3.49	6.45	11.74	4.17
Germany	0.57	1.06	1.36	1.31	1.44	2.68	3.64	1.72
Luxembourg	56.55	83.56	86.09	276.85	378.76	593.93	792.73	324.07
Netherlands	4.15	5.18	5.17	6.99	9.14	11.41	11.97	7.72
Switzerland		8.39	9.08	8.97	10.25	11.52	14.23	10.41
<u>Southern European</u>								
France	2.70	3.77	3.56	3.23	3.76	5.06	7.00	4.15
Greece	0.50	0.49	0.49	0.40	0.26	0.71	1.47	0.61
Italy	0.72	1.37	2.26	1.96	1.77	3.63	6.27	2.57
Portugal	0.30	0.51	0.59	0.41	0.79	2.10	2.61	1.04
Spain	0.04	0.19	0.29	0.27	0.65	3.53	8.14	1.87
Turkey						0.01	0.00	0.01
<u>East European</u>								
Czech Republic						0.04	0.01	0.02
Hungary					0.01	0.34	0.11	0.16
Poland							0.09	0.09
<u>Latin American</u>								
Argentina		0.08	0.05	0.05	0.07	0.15	0.08	0.08
Brazil					0.55	1.46	1.02	1.01
Chile	0.44	0.46	1.10	0.82	0.41	0.52	0.25	0.57
Mexico								
<u>Asian</u>								
Hong Kong	9.27	18.39	15.25	16.31	18.03	22.00	36.26	19.36
India	1.05		0.05	0.13		0.25	0.31	0.36
Japan	4.56	3.96	3.61	2.65	2.18	1.49	1.39	2.83
Korea								
Malaysia								
Thailand		0.26	0.60	0.81	0.67	0.19	0.32	0.47
Sri Lanka								
<u>MENA</u>								
Israel	2.69	7.20	2.41	1.73	0.92	1.07	0.89	2.41
Morocco					0.07	0.52		0.30
Tunisia								

Table 6: Net Assets of Bond Funds, 1992-98 (percent of GDP)

<u>Country</u>	<u>1992</u>	<u>1993</u>	<u>1994</u>	<u>1995</u>	<u>1996</u>	<u>1997</u>	<u>1998</u>	<u>Average</u>
<u>Anglo American</u>								
Australia	0.44	0.81	0.41	0.34	0.32	0.38	0.56	0.47
Canada	1.39	2.35	2.21	2.27	2.37	2.68	3.69	2.42
Ireland	0.86	0.90	1.59	1.03				6.04
New Zealand	0.53	0.86	0.83	2.90	3.11	2.51	1.78	1.79
South Africa	0.53	0.84	0.70	0.21	0.21	0.35	0.51	0.48
United Kingdom	0.22	0.38	0.35	0.49	0.75	1.13	1.64	0.71
United States	7.93	9.36	7.52	8.08	8.42	8.93	9.76	8.57
<u>Scandinavian</u>								
Denmark	0.84	1.24	1.54	1.57	2.52	4.12	5.62	2.49
Finland			0.11	0.23	0.32	0.55	1.05	0.45
Norway			1.09	0.99	1.01	1.21	1.22	1.11
Sweden	2.20	3.79	1.60	1.96	1.99	2.06	2.34	2.28
<u>Central European</u>								
Austria	6.30	7.78	9.24	10.41	12.42	14.93	17.42	11.21
Belgium	0.88	1.75	1.94	2.35	2.53	2.94	3.26	2.24
Germany	2.94	2.98	3.06	3.04	3.19	3.41	3.36	3.14
Luxembourg	629.81	930.56	820.02	981.42	1064.62	1180.91	1294.37	985.96
Netherlands	4.55	7.05	6.58	5.70	5.13	5.59	4.83	5.63
Switzerland		6.36	6.02	5.66	6.26	5.45	6.17	5.99
<u>Southern European</u>								
France	7.85	11.59	10.68	9.72	10.12	11.82	10.14	10.27
Greece	0.24	1.52	3.16	3.74	4.72	6.00	5.06	3.49
Italy	1.31	2.49	3.12	2.85	4.18	7.77	17.41	5.59
Portugal	5.62	8.01	10.03	6.58	8.24	5.45	7.99	7.42
Spain	3.89	5.87	6.76	6.40	9.51	13.83	15.06	8.76
Turkey						0.15	0.17	0.16
<u>East European</u>								
Czech Republic					0.06	0.07	0.18	0.10
Hungary					1.23	1.00	1.62	1.28
Poland						0.01	0.07	0.04
<u>Latin American</u>								
Argentina		0.01	0.07	0.15	0.21	0.63	0.28	0.23
Brazil					9.07	10.24	10.70	10.00
Chile	0.47	0.78	1.22	1.02	0.95	1.15	0.57	0.88
Mexico								
<u>Asian</u>								
Hong Kong	4.52	5.54	4.51	4.77	4.57	5.91	6.51	5.19
India	1.78					0.73	0.75	1.09
Japan	3.63	4.21	3.59	4.06	4.07	3.48	3.23	3.75
Korea								
Malaysia								
Thailand			0.02	0.31	1.63	0.18	1.12	0.65
Sri Lanka								
<u>MENA</u>								
Israel								
Morocco					0.10	1.75		0.92
Tunisia		0.48	0.92	1.18	1.67	2.82	2.78	1.64

Table 7: Net Assets of Balanced Funds, 1992-98 (percent of GDP)

<u>Country</u>	1992	1993	1994	1995	1996	1997	1998	Average
<u>Anglo American</u>								
Australia	0.49	0.95	1.35	1.33	1.74	1.87	1.74	1.35
Canada	0.85	1.74	2.30	2.51	3.53	5.09	6.03	3.15
Ireland	6.54	6.12	7.39	7.14	23.74	10.57		10.25
New Zealand		0.41	0.53	4.09	4.23	4.13	4.07	2.91
South Africa				0.38	0.65	1.13	0.81	0.74
United Kingdom	0.29	0.65	0.76	0.84	1.05	1.39	1.75	0.96
United States	1.26	2.17	2.26	2.82	3.30	3.91	4.29	2.86
<u>Scandinavian</u>								
Denmark	0.11	0.12	0.11	0.10	0.18	0.11	0.11	0.12
Finland			0.34	0.18	0.24	0.64	1.02	0.48
Norway			0.08	0.08	0.29	0.43	0.30	0.23
Sweden			0.94	1.09	1.55	2.54	3.16	1.86
<u>Central European</u>								
Austria	1.48	1.71	1.91	2.91	3.85	5.50	7.85	3.60
Belgium	0.33	2.39	2.78	2.87	3.18	3.93	5.58	3.01
Germany	0.06	0.10	0.11	0.11	0.14	0.20	0.29	0.14
Luxembourg	322.52	441.94	431.28	72.46	101.19	164.91	219.63	250.56
Netherlands	0.81	0.91	0.98	0.83	0.97	1.74	1.78	1.15
Switzerland								
<u>Southern European</u>								
France	1.70	2.47	4.33	4.26	4.91	6.84	9.37	4.84
Greece		0.19	0.32	0.20	0.19	1.85	2.39	0.86
Italy	0.56	0.99	1.16	0.83	0.69	1.11	2.67	1.14
Portugal		0.03	0.03	0.11	0.06	3.80	2.13	1.03
Spain	0.59	2.06	1.20	0.97	1.37	3.73	7.47	2.49
Turkey						0.03	0.01	0.02
<u>East European</u>								
Czech Republic					0.71	0.48	0.39	0.53
Hungary					0.07	0.12	0.64	0.28
Poland							0.17	0.17
<u>Latin American</u>								
Argentina					0.04	0.20	0.10	0.11
Brazil							0.94	0.94
Chile								
Mexico								
<u>Asian</u>								
Hong Kong		0.54	0.55	0.63	0.78	1.44	5.29	1.54
India		2.15	3.62	2.80		1.38	0.93	2.18
Japan		0.13	0.12	0.15	0.22	0.33	0.80	0.29
Korea								
Malaysia								
Thailand		0.03	0.01	0.02	0.05	0.02	0.03	0.03
Sri Lanka								
<u>MENA</u>								
Israel								
Morocco				0.01	0.67	1.06		0.58
Tunisia		0.18	1.94	2.48	1.07	0.45	0.41	1.09

Table 8: Net Assets of Money Market Funds, 1992-98 (percent of GDP)

<u>Country</u>	1992	1993	1994	1995	1996	1997	1998	Average
<u>Anglo American</u>								
Australia	1.15	1.05	1.29	1.39	1.93	2.14	2.17	1.59
Canada	2.00	2.20	2.04	2.41	3.88	3.76	4.01	2.90
Ireland	0.63	0.51	0.23	0.31	5.09	2.26		1.50
New Zealand	0.02	0.08	0.15	0.31	0.65	0.65	0.74	0.37
South Africa						1.02	1.47	1.25
United Kingdom	0.06	0.08	0.07	0.05	0.08	0.09	0.11	0.08
United States	8.75	8.62	8.80	10.36	11.77	13.06	15.88	11.03
<u>Scandinavian</u>								
Denmark								
Finland			0.00	0.05	0.82	0.85	0.68	0.48
Norway			1.31	1.83	1.83	1.85	1.77	1.72
Sweden								
<u>Central European</u>								
Austria							1.64	1.64
Belgium	0.59	0.88	0.89	1.06	0.99	0.66	0.57	0.81
Germany			0.98	1.11	0.93	0.79	1.17	1.00
Luxembourg	437.14	502.84	474.53	504.57	515.86	477.32	442.58	479.26
Netherlands	0.65	1.37	1.47	1.53	1.71	1.95	1.54	1.46
Switzerland								
<u>Southern European</u>								
France	21.72	20.93	18.91	16.86	15.58	12.32	12.06	16.91
Greece	0.30	1.56	1.68	4.58	7.56	13.24	17.78	6.67
Italy	0.79	1.96	1.29	1.57	3.87	5.09	6.45	3.00
Portugal	2.48	2.50	3.85	5.34	4.68	5.24	6.23	4.33
Spain	4.97	6.92	9.32	10.28	11.89	12.68	10.07	9.45
Turkey						0.07	0.16	0.12
<u>East European</u>								
Czech Republic					0.04	0.11	0.39	0.18
Hungary					0.33		0.33	0.33
Poland								
<u>Latin American</u>								
Argentina					0.29	0.64	1.49	0.81
Brazil					2.74	0.70	0.75	1.40
Chile			1.78	2.03	2.69	3.82	2.61	2.59
Mexico								
<u>Asian</u>								
Hong Kong	1.81	2.01	1.83	1.99	2.89	3.89	3.29	2.53
India			0.14	0.06			0.01	0.07
Japan	1.22	2.32	1.96	2.29	2.67	2.11	2.72	2.18
Korea								
Malaysia								
Thailand								
Sri Lanka								
<u>MENA</u>								
Israel								
Morocco								
Tunisia								

III. Determinants of Mutual Fund Growth

The growth of the mutual fund sector, like any other sector of economic activity, is the result of the interaction of demand and supply. In general, the same factors that influence the demand for mutual funds also shape their supply. For instance, the level of income and wealth is, or should be, a major determinant of the demand for mutual fund investments, but income and wealth also affect the supply of such services through their effect on market infrastructure and presence of skilled professionals. Similarly, securities market development is an important factor in stimulating the demand side but also helps promote the supply of mutual fund services. The availability or shortage of suitable financial instruments is a constraining factor for the growth of mutual funds in many countries. Sometimes, a particular factor acquires overriding importance. For instance, absence of enabling legislation has prevented or delayed the establishment of mutual funds in many countries and continues to do so today in some countries (e.g., Jordan). Regulatory restrictions can also play an important part, either in impeding or in stimulating the growth of mutual funds. Tax rules also tend to have a large impact.

In this section we examine a number of factors that may explain the growth of mutual funds in different countries. To help identify potential differences in the processes of mutual fund growth in developed and developing countries we divided our sample of 38 countries⁷ in high and middle-income countries (those above or below an average per capita income of \$15,000).

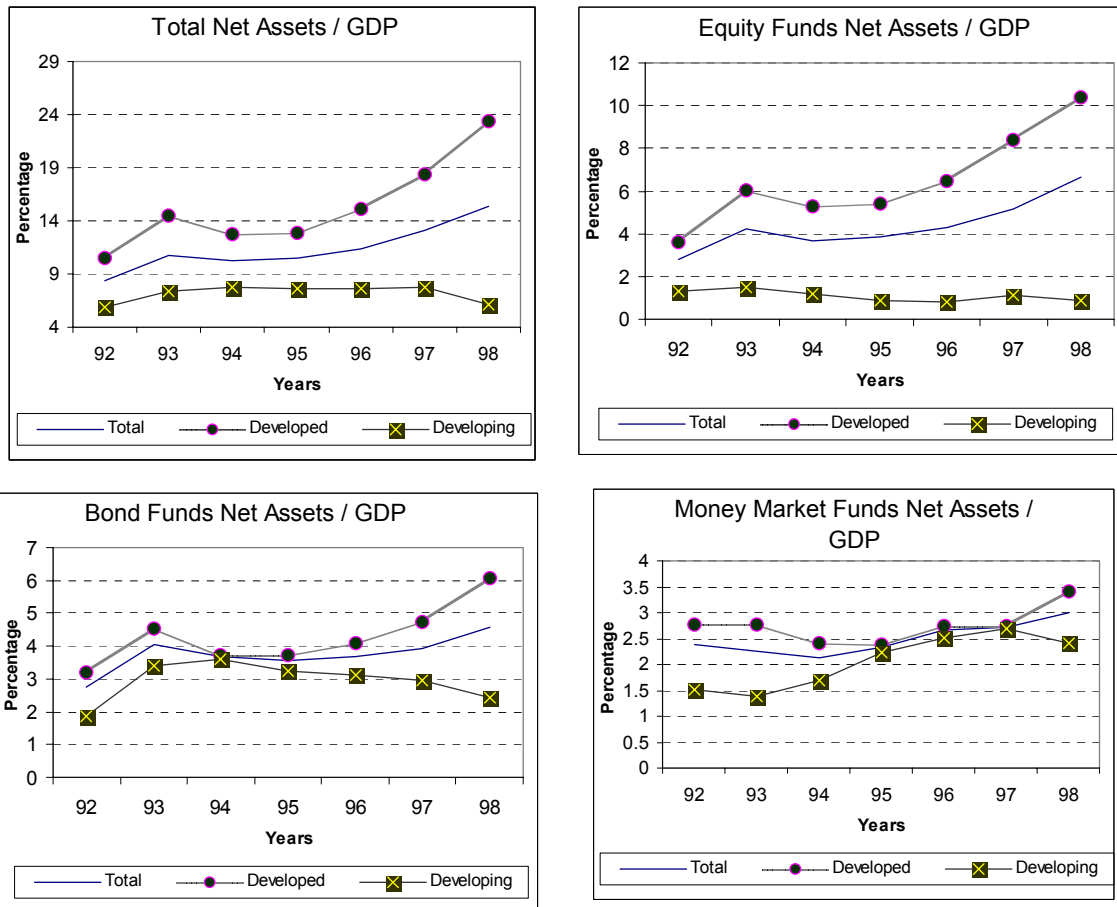
Chart 1 summarizes the growth of the net assets of mutual funds in high and middle-income countries. The chart shows respectively the total net assets of all, equity, bond and money market funds as a percentage of national income (GDP).⁸ For all countries in the sample, mutual fund assets doubled from 8 percent in 1992 to 16 percent of GDP in 1998. For equity funds, the growth was from 3 to 7 percent of GDP over the same period. However, there were significant differences between high and middle-

⁷ Ireland and Luxembourg were excluded from the quantitative analysis.

⁸ An alternative approach would be to use mutual fund assets as a percentage of total financial assets. However, except for a few countries such as Luxembourg and Ireland where nonresident investors have a strong presence, such an approach would not provide a better indication of the level of development of the mutual fund industry.

income countries. In high-income countries, mutual fund assets expanded from 10 to 24 percent of GDP between 1992 and 1998, while in middle-income countries they grew from 4 to 8 percent in the first half of the 1990s but then fell back to 4 percent by 1998. All types of mutual funds grew between 1992 and 1998 in high-income countries, but in middle-income ones equity and bond funds exhibited little net growth.

Chart 1- Mutual Funds Net Assets in high and middle-income countries (% of GDP)



The last result is explained by the declines experienced by some East Asian countries (Korea and Malaysia) as well as Israel and Mexico. In contrast, most Latin American countries as well as Arab and Eastern European countries achieved high growth rates, but starting from low or nonexistent bases. Most high-income countries registered high growth rates.

To ascertain the significance of different factors in explaining the growth of mutual funds we estimated an empirical model that regressed the size of the mutual fund sector, given by the level of net assets in relation to national income, on a number of independent variables. Following established practice we included among the explanatory variables indicators of the level of economic development, securities market development and efficiency, financial stability, and regulatory effectiveness as well as relevant return variables. We did not include tax rules because they are difficult to document. Data on most of these variables were collected from the World Bank's Database for Economic Indicators except for stock market returns, which were collected from the Datastream and Bloomberg databases.

GDP per capita is used as an indicator of economic development. Many studies have shown that financial intermediaries tend to be larger, more active and more efficient in high-income countries (Demirguc-Kunt and Levine 1999).

Capital market development is represented by the total value of listed domestic equities and issued bonds in relation to national income. Alternative model specifications use separately quantitative indicators of equity and bond market development. However, as pointed out by Levine and Zervos (1998) large markets do not necessarily function efficiently. Taxes and other regulations may distort the incentive to list on the exchange, resulting in little trading activity and low levels of liquidity.

Market efficiency is measured by two indicators: the equity market turnover ratio (which measures the value of traded shares divided by market capitalization) and the value of traded shares in relation to national income. The first indicator suffers from the use of market capitalization as the denominator. It may show as highly efficient markets with a low level of market capitalization and low absolute trading values but a high turnover ratio. The value of traded shares is a better indicator of market liquidity, although it is also not free from weaknesses. It tends to be higher when equity prices are rising and lower when prices are falling, even though market liquidity and efficiency may not change. A more relevant measure of market efficiency and liquidity would be provided by data on trading costs and price impact, but such data are not readily

available. Use of data on market capitalization and trading aim to capture the extent of investor confidence in market integrity, liquidity and efficiency.

Return variables are likely to have a large effect on the growth of different types of funds. Equity mutual funds and the demand for equity investments more generally are likely to be negatively affected by high real interest rates on bonds and bank deposits. If investors can earn high real returns on less volatile instruments, they would be less likely to invest in equities and equity mutual funds. However, if real returns on equity funds are much higher than real interest rates and if the volatility of equity returns is not particularly high, then equity funds would benefit.

The demand for bond and money market mutual funds is likely to be affected by the rate differential between such funds and bank deposits. When banks are forced to widen their spreads because of large losses on their lending portfolios or because of the high operating costs of their large branch networks, mutual funds that are free from such burdens are able to offer attractive returns on deposit-like instruments. However, because of the lack of detailed and reliable data on interest rate differentials, we retain the level of real interest rates, real equity returns and the volatility of equity returns among the independent variables used in the empirical analysis.⁹

Additional variables, which highlight the overall level of country development, have been used. These include an indicator of the development of the banking sector (given by the ratio of commercial bank assets to the combined total assets of commercial banks and the central bank), the openness to international trade and foreign investment¹⁰ (given by the share of exports and imports in relation to national income), the importance of high-tech industries¹¹ (measured by the share of high-tech exports to total exports), and

⁹ Interest rates on bank deposits were used where available; otherwise rates on treasury bills were used. Real interest rates were constructed through a Taylor series approximation. Equity returns were based on the Morgan Stanley Composite Index (MSCI) for developing countries and the Morgan Stanley Global Index (MSGI) for developed countries. For countries not included in either index we used a composite stock market index of the main stock exchange.

¹⁰ Openness to international trade and foreign direct investment are often used as indicators of integration with foreign markets with a strong positive impact on economic growth (Dollar 1992, Levine and Renelt 1992, Vamvakidis 1998).

¹¹ During the 1990s, the period covered by our sample, high-tech companies have been able to list on both local and global equity markets and have raised large amounts of capital, giving a boost to stock market development and publicizing the advantages of equity markets and equity mutual funds. We expect a

legal¹² and governance¹³ variables. Other variables include dummies for financial crises (Caprio and Klingebiel 1999), likely to have a negative effect on mutual fund growth and indicators of financial system development and structure (Beck et al 2000), especially distinguishing between market-based and bank-based financial systems. Of particular relevance are restrictions on the payment of interest on checking accounts and other short-term bank deposits, which would tend to stimulate directly the development of money market mutual funds and indirectly other types of mutual funds.

Cross-country panel estimations were used to help determine whether economic and financial variables play significant roles in the development of the mutual fund industry. Several alternative model specifications were tried in order to test the robustness of different variables. All regressions were estimated using random and fixed effects models. The fixed effects model included country dummies in addition to other independent variables discussed in previous sections. The model helped to control for omitted variables assuming they remained constant over the estimation period. In addition, fixed effect modeling might control for differences in mutual fund industry definitions used across countries. We used first lags of all variables to correct for the possibility of reverse causality.

The regression results are summarized in the tables in the Annex. For the regressions covering all mutual funds in all countries we find a strong correlation with capital market development (both value of traded equities and bond market development are highly significant), while the accountability index and restrictions on the remuneration of retail deposits also have a positive impact. Although they have the right sign, the level of real interest rates and equity market returns are insignificant. The volatility of equity market returns and financial system crises have a negative and significant impact as expected. In contrast, per capita income and openness to trade have

positive correlation between this variable and the growth of mutual funds, especially in high-income countries.

¹² Common law countries tend to have more transparent and more reliable accounting systems and to provide stronger protection of the rights of outside investors (Dermiguc-Kunt and Levine 1999, Beck et al 2001). They are associated with better-developed capital markets. Legal origin is expected to have a positive effect on the growth of mutual funds.

¹³ Two governance indicators from Kaufman et al (1999) are used: Voice and Accountability; and Regulatory Burden. They measure the consistency and accountability of government policy, including the

the wrong sign. Mutual funds are more advanced in market-based systems but, probably because of the large presence of bond funds in many countries, they are more developed in civil law countries.

There are some interesting differences in the results between high- and middle-income countries. In the former, openness to trade becomes positive and significant, but systemic crises become less relevant, reflecting the relative absence of such crises in high income countries. In the latter, per capita income and banking system development become significant with right sign, but openness to trade has the wrong sign and systemic crises are weakly significant.

Looking at equity funds, the main difference in results is the significance of common law origin. This is true for the regressions covering all the countries in the sample as well as the sample of high-income countries. Restrictions on retail deposits are insignificant, implying that any impact they may have on equity mutual funds would at most be indirect.

The empirical results suggest civil law countries and countries with restrictions on the remuneration of retail deposits have more developed bond mutual funds. Restrictions on retail deposits have a strong explanatory power in the case of money market mutual funds, especially in high-income countries. They have probably acted as a catalyst for bond and money market mutual fund development in several countries.

existence of independent media to monitor the performance of regulatory agencies, and the impact of regulatory policies.

IV. Broader Policy Issues

Most of the vast literature on mutual funds focuses on microeconomic issues, such as the investment performance of mutual funds and their ability to beat or equal the market, the level of expenses and fees and the role of distribution networks, the existence of economies of scale and scope and their impact on competition and contestability. Less attention has been paid to two questions of broader macroeconomic relevance: do mutual funds promote greater financial stability; and do they contribute to a more efficient allocation and utilization of economic resources? Also little attention has been paid to the question of whether independent, autonomous mutual funds can operate efficiently in developing countries with small financial systems.

As regards questions of microeconomic efficiency, the prevailing view is that in countries where securities markets are well established, mutual funds underperform the market, especially when fees are taken into account. The standard advice for investors is to invest in low expense index funds (Malkiel 1995, Bogle 1994 and 1999).

The relationship between mutual fund expenses and performance is reasonably well established. Funds that heavily underperform have very high expense ratios, while funds that are successful do not increase revenues by raising their fees but benefit from the increased size of their funds (Elton et al 1996, Carhart 1997), suggesting feedback trading and winner-riding strategies by investors (Patel et al 1994). Actively managed equity funds charge higher fees than index tracking funds or bond and money market funds, reflecting the higher costs of employing investment management staff to achieve diversification and strategy (James et al 1999).

Fund governance plays a role in fee-setting policies since funds tend to charge lower fees when they have smaller boards and a larger proportion of independent directors (Tufano and Sevick 1997). Larger and more mature funds as well as no-load funds have lower expense ratios (Malhotra and McLeod 1997), while there is positive interaction between high performance and marketing effort and thus between performance and fees (Sirri and Tufano 1997.)

Fund fees are related to asset allocation strategies. Aggressive growth funds tend to charge higher entry and exit fees to discourage redemptions because they hold more of the smaller, less liquid stocks (Chordia 1996). Mutual funds and especially fund complexes benefit from scale and scope economies, emanating from activities that have large overheads, such as record keeping, communication and marketing, although adverse price impact and managerial diseconomies of scale place a limit on the efficient size of funds (Baumol et al 1990, Sirri and Tufano 1993, Collins and Mack 1997, James et al 1999).

However, despite the basic academic advice offered to investors to prefer low expense index funds, actively managed funds continue to be popular (Gruber 1996). In fact, index tracking funds represent less than 10 percent of total mutual fund assets. The popularity of actively managed funds is linked to the marketing and distribution efforts of large complexes and to the lack of sophistication of large groups of investors.

These studies have substantially different implications for mutual funds in developing countries (or, more generally, in countries with less well developed securities markets). Mutual funds in such countries are unlikely to enjoy the same economies of scale and risk diversification as mutual funds in large countries. Moreover, less liquid markets provide opportunities to mutual fund managers to outperform the market index, limiting the scope for index tracking funds.

Operating costs and expense ratios are much higher in developing countries. In Chile, in the 1990s they amounted to 6 percent for equity funds and 2 percent for bond funds plus entry and exit fees (Maturana and Walker 1999). Similar fee levels apply in most Latin American countries, although they tend to be significantly lower in other developing and transition countries.

Recent trends in European Union countries suggest that mutual funds in developing countries would have better prospects if they became more closely integrated with international markets and effectively formed part of large global complexes that operate on a “hub and spokes” pattern. A study of the presence of mutual funds in developing countries would then shift from its primary concern with the supply side and growth of domestic institutions to focus instead on the presence and role of international

mutual fund complexes in the local market and the efficiency and cost of offering mutual fund services to local investors.

The question of the implications of mutual funds for financial stability arises in two guises. The first is whether mutual funds are susceptible to a run by shareholders similar to the depositor runs suffered by banks. The second is whether a mutual fund crisis can spread to other financial institutions and develop into a generalized financial crisis. Because mutual funds operate on a more transparent basis than banks and insurance companies and are not required to redeem their shares or units at par value, they are less likely to experience shareholder runs. Since investors bear the investment risk and suffer losses from falling prices, they are less likely to start selling in an indiscriminate way, sending prices in a descending spiral. Such panicky reaction may develop when investors lose all confidence in market integrity but even then indiscriminate selling would not help. What is likely to happen if market prices were to collapse is that investors might shy away from making new investments in mutual funds for a prolonged period. Since market collapses usually happen in the aftermath of unsustainable bubbles and widespread incidents of fraud and mismanagement, the risk of investor abstention cannot be dismissed.

Some studies purport to show that individual investors react to incoming news and other factors in a manner similar to that of professional investors (Engen and Lehnert 2000). These studies appear to confuse the typical inertia of individual investors, that is often linked to inadequate or delayed access to critical information and a slow reaction pattern, with measured response on the basis of a sophisticated assessment of future prospects (which is what professional investors are supposed to be doing). Given the well documented lack of sophistication of individual investors, the claims of these studies are not very flattering for the professional investors. Nevertheless, the inertia of mutual fund investors and their assumption of the investment risk suggest that mutual funds would be less prone to contagion and systemic crises than banks.

The implications of mutual funds for macroeconomic efficiency are even more difficult to assess. The recent high technology bubble does not provide a promising precedent. Mutual funds (and other institutional investors) can act as a countervailing

force to the dominant position held by oligopolistic banks in the financial systems of most countries around the world, compelling them to be more efficient, competitive, innovative and responsive to the needs of their customers. A large presence of mutual funds may contribute to greater reliance on market scrutiny of projects and firms by financial analysts, rating agencies, accounting and auditing firms.

However, these potential benefits are less likely to materialize if the asset managers of the funds mobilized by institutional investors belong to financial conglomerates owned by banking groups. They are also less likely to materialize if securities markets suffer from the pervasive conflicts of interest, widespread market manipulation, extensive fraud, accounting and auditing scandals, infectious greed and irrational exuberance that have afflicted the US markets for most of the 1990s. As most commentators have argued in the aftermath of corporate scandals that have bedeviled the US and other international markets, there has been a wholesale failure by all types of agents. Directors, bankers, analysts, accountants, auditors, actuaries, custodians, compliance officers, journalists and, above all, the regulators and politicians (who enacted many of the laws that have enabled the organized corporate fraud) have all failed to protect the interests of principals, who are the individual investors in companies, banks, insurance companies, pension funds and mutual funds.

Thus, the question of whether mutual funds may contribute to a more efficient allocation and utilization of economic resources remains open. The answer will depend on whether an effective system of corporate governance can be established that will adequately protect the interests of small investors. One related, and equally unanswered question, is whether passive fund management and reliance on index tracking funds, which are favored by academic observers, are compatible with effective corporate governance and market efficiency.

A final issue concerns the desirability of transferring the investment risk to households. This issue is more pronounced in the case of retirement assets since retiring workers have a lower tolerance for risk than younger people, but it applies more generally to the household sector as a whole. Financial institutions should have the required specialist knowledge to offer individual investors products that are protected

from the vicissitudes of market returns and the vagaries of inflation while allowing some participation in the higher returns promised by equities. The offer of “protected” investments that are based on a judicious use of derivative markets is rising in many countries. However, a fundamental question remains to be addressed. This relates to the regulation and supervision that should be applied to institutions offering protected investments in order to ensure that they will be able to honor their undertakings. Finding a workable answer to this question will be a major challenge for financial institutions and regulators in the years to come.

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Variable	All Mutual Funds														
	All Countries					High-Income Countries					Middle-Income Countries				
Intercept	4.81 ***	4.01 ***	5.41 ***	3.21 ***	-1.81 *	4.11 ***	3.91 ***	5.01 ***	2.31 **	-6.11 ***	2.21 **	1.31	2.51 **	1.91 *	-3.91 ***
PC_GDP	2.01 **	1.31	0.61	-1.81 *	0.21	-0.91	-2.01 *	-2.21 **	-2.61 **	-1.81 *	6.11 ***	7.11 ***	7.01 ***	2.61 **	6.51 ***
REALINT	-3.41 ***	-1.81 *	-2.51 **	-3.01 ***	-0.91	-1.51	-0.91	-0.91	-1.11	1.71 *	-4.01 ***	-2.61 **	-3.41 ***	-4.61 ***	-3.01 ***
STD_RET	-4.11 ***	-4.11 ***	-4.51 ***	-2.01 **	-2.61 **	-3.41 ***	-2.81 ***	-3.61 ***	-1.51	0.61	-1.91 *	-2.01 **	-2.21 **	-0.61	-0.51
AVRETURN	1.51	1.81 *	1.61	0.61	1.31	1.21	0.91	1.71 *	1.21	0.61	0.61	1.31	0.91	-1.11	0.51
VALTRGDP		5.71 ***	6.81 ***	6.11 ***	3.61 ***		4.11 ***	3.51 ***	4.01 ***	0.51		5.41 ***	6.01 ***	3.91 ***	3.61 ***
TRADE			-3.71 ***	-2.31 **	-1.51			-3.21 ***	-0.11	5.01 ***			-2.91 ***	-3.81 ***	-6.51 ***
RETAIL_D				3.71 ***	4.61 ***				4.71 ***	8.61 ***				-1.21	0.71
SYSTCRIS				-2.11 **	-2.61 **				-1.81 *	2.01 *				-0.51	-2.01 *
BDCAPGDP				4.21 ***	3.31 ***				3.01 ***	-0.21				3.71 ***	6.01 ***
MKT_BASE					2.11 **					2.21 **					8.71 ***
COMMON					-2.61 ***					-1.41					-2.21 **
KAU_ACC					4.51 ***					9.41 ***					4.71 ***
Y1993	0.41	-0.21	-0.41	-0.21	0.01	0.11	0.01	-0.31	-0.31	1.11	0.61	-0.31	-0.61	-0.11	0.51
Y1994	0.21	-0.41	-0.51	-0.21	0.31	0.31	-0.21	-0.11	-0.21	1.41	0.21	-0.31	-0.61	-0.21	0.81
Y1995	-0.11	-0.51	-0.41	0.31	0.31	-0.21	-0.41	-0.51	-0.31	2.31 **	0.71	0.61	0.81	1.31	1.91 *
Y1996	0.01	-0.61	-0.51	0.11	0.11	-0.21	-0.51	-0.61	-0.11	3.11 ***	0.61	0.31	0.51	0.71	1.21
Y1997	1.71 *	0.81	1.01	1.31	1.81 *	1.51	0.61	1.01	0.71	3.61 ***	1.21	0.91	1.21	1.21	2.51 **
Y1998	3.01 ***	2.11 **	2.51 **	2.91 ***	3.51 ***	3.31 ***	2.31 **	2.81 ***	2.11 **	4.01 ***	0.81	0.51	1.01	1.41	2.61 **
R2	0.213	0.316	0.356	0.467	0.534	0.148	0.259	0.317	0.480	0.737	0.357	0.513	0.549	0.637	0.886
Obs	206	205	204	172	169	107	106	105	97	94	88	87	86	59	56

Variable	Equity Mutual Funds														
	All Countries					High-Income Countries					Middle-Income Countries				
Intercept	2.81 ***	2.41 **	2.41 **	2.41 **	-1.11	3.01 ***	3.11 ***	3.11 ***	3.11 ***	-3.91 ***	2.01 **	1.61	2.01 *	1.31	-0.41
PC_GDP	2.61 **	-0.61	-0.61	-4.51 ***	-1.21	0.31	-2.31 **	-2.31 **	-4.61 ***	-0.31	-0.41	-0.71	-0.81	-1.51	0.51
REALINT	-2.01 **	-0.41	-0.51	-1.21	0.01	-1.41	-0.51	-0.41	-1.31	0.11	-1.11	-0.31	-0.71	0.51	0.21
STD_RET	-3.41 ***	-3.61 ***	-3.61 ***	-2.91 ***	-2.31 **	-3.31 ***	-2.71 ***	-2.81 ***	-2.91 ***	0.61	-0.81	-1.01	-1.01	-1.21	-1.81 *
AVRETURN	1.51	1.21	1.21	1.01	2.21 **	1.71 *	1.31	1.41	0.61	1.61	0.11	0.21	0.01	1.11	1.91 *
VALTRGDP		12.21 ***	12.01 ***	13.91 ***	8.01 ***		10.31 ***	9.81 ***	11.81 ***	4.61 ***		3.41 ***	3.51 ***	5.11 ***	2.51 **
TRADE			-0.61	-1.61	-0.31			-0.81	-1.01	3.21 ***			-1.21	-0.21	-1.51
RETAIL_D				-2.01 **	-1.41				-1.11	0.51				-2.11 **	-2.21 **
SYSTCRIS				1.31	1.51				1.91 *	3.61 ***				-1.41	-0.81
BDCAPGDP				6.31 ***	5.41 ***				5.21 ***	3.21 ***				1.71	2.31 **
MKT_BASE					0.71					2.01 **					2.61 **
COMMON					3.41 ***					3.11 ***					1.41
KAU_ACC					1.91 *					4.71 ***					1.01
Y1993	0.11	-0.51	-0.51	-0.71	-0.61	-0.11	-0.21	-0.31	-0.51	-0.31	0.31	-0.21	-0.11	-1.41	-1.41
Y1994	0.11	-1.11	-1.11	-1.41	-1.01	0.21	-0.71	-0.71	-1.11	-0.51	-0.21	-0.51	-0.51	-1.31	-1.21
Y1995	-0.31	-1.31	-1.31	-1.21	-1.21	-0.31	-0.91	-1.01	-0.71	0.11	-0.51	-0.71	-0.71	-1.61	-1.81 *
Y1996	-0.21	-1.61	-1.51	-1.71	-1.31	-0.31	-1.21	-1.21	-1.21	0.51	-0.51	-0.91	-0.71	-2.61 **	-2.51 **
Y1997	1.71	-0.51	-0.41	-1.11	-0.51	1.51	-0.31	-0.21	-0.31	0.71	0.01	-0.51	-0.31	-1.41	-0.71
Y1998	2.91 ***	1.21	1.31	1.11	1.21	2.81 ***	1.11	1.21	1.61	1.21	0.01	-0.11	0.21	-0.11	0.21
R2	0.228	0.582	0.580	0.684	0.720	0.154	0.574	0.572	0.666	0.750	-0.123	0.048	0.057	0.479	0.598
Obs	174	173	172	144	141	106	105	104	96	93	57	56	55	32	29

Variable	Bond Mutual Funds														
	All Countries					High-Income Countries					Middle-Income Countries				
Intercept	3.81 ***	3.71 ***	4.01 ***	1.81 *	-1.41	2.31 **	2.41 **	2.91 ***	1.01	-4.91 ***	1.31	0.61	0.91	-0.31	-1.81 *
PC_GDP	1.11	0.91	0.91	0.21	0.51	0.61	0.81	0.71	1.31	-0.81	4.91 ***	5.31 ***	5.21 ***	1.31	2.81 ***
REALINT	-3.11 ***	-2.91 ***	-3.11 ***	-3.21 ***	-1.21	-1.41	-1.41	-1.41	-1.51	0.91	-3.51 ***	-2.31 **	-2.41 **	-2.71 **	-0.91
STD_RET	-2.31 **	-2.21 **	-2.41 **	-0.61	-2.31 **	-1.51	-1.61	-2.01 *	-0.31	-0.31	-0.91	-1.21	-1.11	0.71	0.01
AVRETURN	1.41	1.31	1.41	0.81	0.61	0.71	0.81	1.11	1.01	-0.61	0.81	0.91	0.81	-0.31	0.71
VALTRGDP		0.51	0.31	0.61	0.91		-0.81	-1.11	-1.41	-2.91 ***		4.21 ***	4.21 ***	4.81 ***	2.61 **
TRADE			-1.51	0.51	-0.21			-1.71 *	0.11	3.41 ***			-0.71	-0.51	-1.81 *
RETAIL_D				3.51 ***	3.71 ***				2.81 ***	6.31 ***				0.71	1.21
SYSTCRIS				-1.91 *	-2.21 **				-2.11 **	1.51				0.51	-0.11
BDCAPGDP				1.21	0.31				0.61	-3.51 ***				2.11 **	1.41
MKT_BASE					0.31					2.91 ***					3.11 ***
COMMON					-5.61 ***					-5.91 ***					-3.11 ***
KAU_ACC					5.01 ***					9.31 ***					2.31 **
Y1993	0.31	0.31	0.31	0.61	0.81	0.31	0.31	0.11	0.21	2.01 *	0.51	-0.21	-0.21	0.71	0.41
Y1994	0.21	0.11	0.21	0.41	0.51	0.01	0.11	0.11	0.21	2.01 *	0.61	0.01	-0.11	0.41	0.61
Y1995	-0.11	-0.21	-0.11	0.21	0.01	-0.31	-0.31	-0.31	-0.41	2.61 **	0.81	0.41	0.51	0.91	0.11
Y1996	-0.31	-0.41	-0.31	-0.11	-0.51	-0.41	-0.31	-0.41	-0.21	3.11 ***	0.51	0.01	0.11	0.41	-0.21
Y1997	0.51	0.41	0.61	0.41	0.41	0.41	0.61	0.81	0.51	3.91 ***	0.91	0.31	0.31	-0.31	-0.21
Y1998	1.41	1.31	1.51	0.91	1.61	1.51	1.71 *	1.91 *	1.11	4.31 ***	0.31	0.11	0.21	-0.61	-0.71
R2	0.127	0.123	0.130	0.181	0.409	0.021	0.017	0.035	0.106	0.617	0.366	0.508	0.504	0.674	0.810
Obs	169	168	167	146	143	101	100	99	96	93	57	56	55	34	31

Variable	Money Market Mutual Funds														
	All Countries					High-Income Countries					Middle-Income Countries				
Intercept	1.61	1.61	3.41 ***	-0.91	-2.81 ***	2.11 **	2.01 **	4.01 ***	0.41	-2.81 ***	-1.51	-1.81 *	-1.11	-3.41 ***	-2.71 **
PC_GDP	0.21	0.01	-0.11	0.21	1.01	-0.71	-0.91	-1.21	-0.51	-1.61	7.01 ***	7.31 ***	7.11 ***	3.81 ***	3.91 ***
REALINT	0.41	0.51	-0.21	0.01	1.51	-0.31	-0.21	-0.11	-0.21	1.51	-0.11	0.41	0.01	-0.81	-0.71
STD_RET	-1.51	-1.41	-1.81 *	1.21	0.81	-1.51	-1.41	-2.61 **	0.41	0.31	-0.61	-0.81	-0.61	2.71 **	2.31 **
AVRETURN	1.81 *	1.71 *	2.11 **	1.71 *	1.91 *	0.51	0.41	1.71	1.81 *	0.91	2.11 **	2.01 *	1.81 *	-0.41	-0.41
VALTRGDP		0.71	0.21	0.71	1.01		0.71	-0.31	-0.61	-0.41		2.41 **	2.61 **	3.41 ***	1.91 *
TRADE			-4.61 ***	-0.11	0.31			-4.91 ***	-0.51	1.61			-1.21	-1.11	-2.41 **
RETAIL_D				8.41 ***	8.11 ***				7.91 ***	9.81 ***				1.81 *	0.11
SYSTCRIS				-2.61 **	-2.51 **				-3.81 ***	-1.61				0.11	-0.11
BDCAPGDP				2.31 **	1.91 *				1.81 *	-0.11				1.71 *	2.61 **
MKT_BASE					-1.31					0.11					1.51
COMMON					-0.71					-2.71 ***					-1.01
KAU_ACC					3.41 ***					5.01 ***					1.91 *
Y1993	-0.71	-0.71	-0.91	-0.71	-0.61	-0.31	-0.31	-0.81	-0.91	-0.21	-0.21	-0.51	-0.51	0.81	0.81
Y1994	-0.31	-0.41	-0.51	-0.41	-0.31	-0.31	-0.41	-0.31	-0.31	0.31	0.71	0.41	0.31	1.11	1.01
Y1995	-0.51	-0.51	-0.51	-0.21	-0.41	-0.51	-0.51	-0.71	-0.81	0.51	1.51	1.31	1.31	2.41 **	2.11 **
Y1996	-0.41	-0.41	-0.21	0.31	0.01	-0.51	-0.61	-0.81	-0.51	0.91	1.31	1.01	1.21	2.61 **	1.91 *
Y1997	0.31	0.11	0.51	0.21	0.01	-0.11	-0.31	0.11	-0.51	0.71	2.41 **	1.91 *	2.01 *	2.11 **	1.91 *
Y1998	0.71	0.51	1.01	-0.11	-0.21	0.61	0.41	1.11	-0.41	0.61	1.61	1.61	1.71	1.61	1.11
R2	-0.012	-0.015	0.096	0.432	0.482	-0.060	-0.065	0.132	0.491	0.645	0.487	0.529	0.533	0.780	0.798
Obs	164	163	162	141	138	101	100	99	96	93	52	51	50	29	26