浙江工商大學 ZHEJIANG GONGSHANG UNIVERSITY | 金融学院 School of Finance

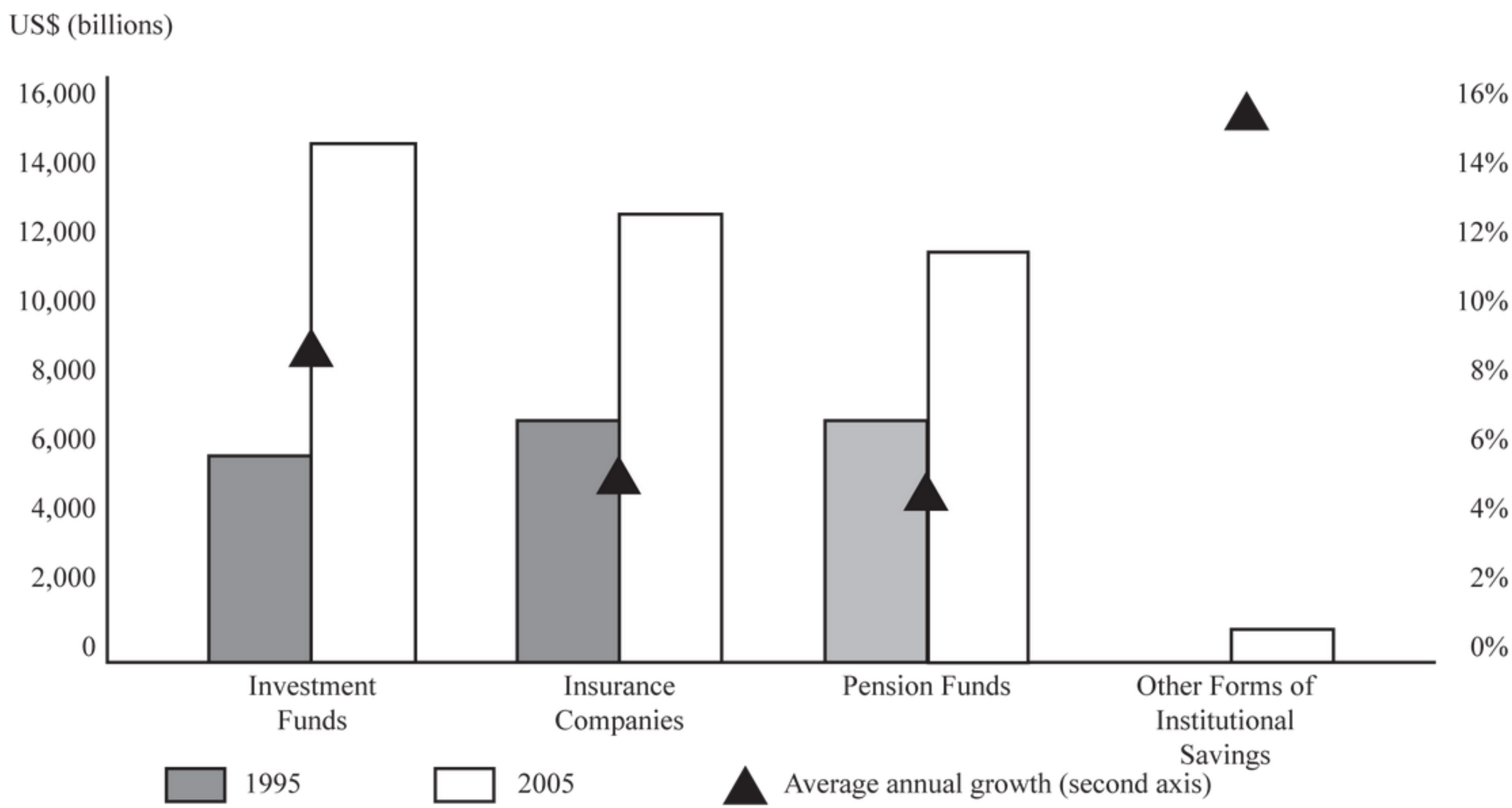
Portfolio Management

Investment Clients

1. Individual investors
2. Institutional investors
3. Defined Benefit Pension Plans
4. Endowments and Foundations
5. Banks
6. Insurance Companies
7. Sovereign Wealth Funds

Institutional investors

Exhibit 10. Institutional Assets (in US$ billions) 1995 to 2005



Source: OECD, "Recent Trends in Institutional Investors Statistics" (2008): www.oecd.org/dataoecd/53/49/42143444.pdf.

Defined benefit pension plans

Defined benefit pension plans (DB plans), an employer has an obligation to pay a certain annual amount to its employees when they retire. In other words, the future benefit is defined because the DB plan requires the plan sponsor to specify the obligation stated in terms of the retirement income benefits owed to participants. DB plans need to invest the assets that will provide cash flows that match the timing of the future pension payments (i.e., liabilities). Plans are committed to paying pensions to members, and the assets of these plans are there to fund those payments

Endowments and Foundations

University endowments are established to provide continuing financial support to a university and its students.

Exhibit 11. Top Ten US University Endowments by Asset Value

Rank	Institution	State	Endowment Funds 2008 (US$000)
1	Harvard University	MA	$36,556,284
2	Yale University	CT	22,869,700
3	Stanford University	CA	17,200,000
4	Princeton University	NJ	16,349,329
5	University of Texas System	TX	16,111,184
6	Massachusetts Institute of Technology	MA	10,068,800
7	University of Michigan	MI	7,571,904
8	Northwestern University	IL	7,243,948
9	Columbia University	NY	7,146,806
10	Texas A&M University System and foundations	TX	6,659,352

Source: NACUBO, "2008 NACUBO Endowment Study" (January 2009): www.nacubo.org/Research/NACUBO_Endowment_Study.html.

Endowments and Foundations

Charitable foundations invest donations made to them for the purpose of funding grants that are consistent with the charitable foundation's objectives.

Exhibit 12. Top Ten US Foundation Endowments by Asset Value

Rank	Foundation	Assets (US$000)	As of Fiscal Year-End Date
1	Bill & Melinda Gates Foundation	$38,921,022	12/31/07
2	J. Paul Getty Trust	11,187,007	06/30/07
3	Ford Foundation	11,045,128	09/30/08
4	Robert Wood Johnson Foundation	10,722,296	12/31/07
5	William and Flora Hewlett Foundation	9,284,917	12/31/07
6	W.K. Kellogg Foundation	8,402,996	08/31/07
7	Lilly Endowment	7,734,860	12/31/07
8	John D. and Catherine T. MacArthur Foundation	7,052,165	12/31/07
9	David and Lucile Packard Foundation	6,594,540	12/31/07
10	Andrew W. Mellon Foundation	6,539,865	12/31/07

Source: Foundation Center (2009): http://foundationcenter.org.

Banks, Insurance Companies, Investment Companies

- **Banks** typically accept deposits and extend loans. In some cases, banks need to invest their excess reserves, (i.e., when deposits have not been used to make loans).
- **Insurance companies** receive premiums for the policies they write, and they need to invest these premiums in a manner that will allow them to pay claims.
- **Investment companies** that manage mutual funds are also institutional investors. The mutual fund is a collective financial institution in which investors pool their capital to have it invested by a professional manager.

Sovereign Wealth Funds

Exhibit 13. Sovereign Wealth Funds by Asset Value

Fund	Assets as of March 2009 (US$ bns)	Inception Date	Country
Abu Dhabi Investment Authority	$627	1976	Abu Dhabi, UAE
SAMA Foreign Holdings	431	n/a	Saudi Arabia
SAFE Investment Company	347	n/a	People's Republic of China
Norwegian Government Pension Fund-Global	326	1990	Norway
Government of Singapore Investment Corporation	248	1981	Singapore
National Welfare Fund	220	2008	Russia
Kuwait Investment Authority	203	1953	Kuwait
China Investment Corporation	190	2007	People's Republic of China
Hong Kong Monetary Authority Investment Portfolio	173	1998	People's Republic of China
Temasek Holdings	85	1974	Singapore
Total of top 10 SWFs	$2,850		
Total of all SWFs	$3,582		

Source: SWF Institute (www.swfinstitute.org).

Summary

Exhibit 14. Summary of Investment Needs by Client Type

Client	Time Horizon	Risk Tolerance	Income Needs	Liquidity Needs
Individual investors	Varies by individual	Varies by individual	Varies by individual	Varies by individual
Defined benefit pension plans	Typically long term	Typically quite high	High for mature funds; low for growing funds	Typically quite low
Endowments and foundations	Very long term	Typically high	To meet spending commitments	Typically quite low
Banks	Short term	Quite low	To pay interest on deposits and operational expenses	High to meet repayment of deposits
Insurance companies	Short term for property and casualty; long term for life insurance companies	Typically quite low	Typically low	High to meet claims
Investment companies	Varies by fund	Varies by fund	Varies by fund	High to meet redemptions

1. The Planning Step

- Understanding the client's needs
- Preparation of an investment policy statement (IPS)

2. The Execution Step

- Asset allocation
- Security analysis
- Portfolio construction

3. The Feedback Step

- Portfolio monitoring and rebalancing
- Performance measurement and reporting

The planning Step

- The first step in the investment process is to understand the client's needs (objectives and constraints) and develop an investment policy statement (IPS).

> The IPS may state a `benchmark`—such as a particular rate of return or the performance of a particular market index—that can be used in the feedback stage to assess the performance of the investments and whether objectives have been met.

- The IPS should be reviewed and updated regularly.

The Execution Step

- Asset allocation
- Security analysis
- Portfolio construction

Asset allocation

Asset allocation of the portfolio include the distribution between equities, fixed-income securities, and cash; sub-asset classes, such as corporate and government bonds; real estate, commodities, hedge funds and private equity.

Top down—A **top-down analysis** begins with consideration of macroeconomic conditions. Based on the current and forecasted economic environment, analysts evaluate markets and industries with the purpose of investing in those that are expected to perform well. Finally, specific companies within these industries are considered for investment.

Bottom up—Rather than emphasizing economic cycles or industry analysis, a **bottom-up analysis** focuses on company-specific circumstances, such as management quality and business prospects. It is less concerned with broad economic trends than is the case for top-down analysis, but instead focuses on company specifics.

Security analysis

- The top-down view can be combined with the bottom-up insights of security analysts who are responsible for identifying attractive investments in particular market sectors.
- This knowledge allows the analysts to assign a valuation to the security and identify preferred investments.

Portfolio Construction

- Taking account of the target asset allocation, security analysis, and the client’s requirements as set out in the IPS.
- Decisions need to be taken on asset class weightings, sector weightings within an asset class, and the selection and weighting of individual securities or assets.
- The asset allocation decision is commonly viewed as having the greatest impact.

Portfolio Construction

Exhibit 15. Endowment Portfolio Weights, June 2008

Asset Class	Yale University Endowment	University of Virginia Endowment
Public equity	25.3%	53.6%
Fixed income	4.0	15.0
Private equity	20.2	19.6
Real assets (e.g., real estate)	29.3	10.1
Absolute return (e.g., hedge funds)	25.1	8.1
Cash	–3.9	–6.5
Portfolio value	US$22.9bn	US$5.1bn

Note: The negative cash position indicates that at the point the figures were taken, the funds had net borrowing rather than net cash.

Sources: "2008 Yale Endowment Annual Report" (p. 2): www.yale.edu/investments/Yale_Endowment_08.pdf; "University of Virginia Investment Management Company Annual Report 2008" (p. 16): http://uvm-web.eservices.virginia.edu/public/reports/FinancialStatements_2008.pdf.

Exhibit 16. Insurance Company Portfolios, December 2008[13]

Asset Classes	MassMutual Portfolio	MetLife Portfolio
Bonds	56.4%	58.7%
Preferred and common shares	2.2	1.0
Mortgages	15.1	15.9
Real estate	1.3	2.4
Policy loans	10.6	3.0
Partnerships	6.4	1.9
Other assets	4.5	5.3
Cash	3.5	11.8

Note: MetLife is the Metropolitan Life Insurance Company.

Sources: "MassMutual Financial Group 2008 Annual Report" (p. 26): www.massmutual.com/mmfg/docs/annual_report/index.html, "MetLife 2008 Annual Report" (p. 83): http://investor.metlife.com/phoenix.zhtml?c=121171&p=irol-reportsannual.

Portfolio Construction

- Sell-side firm — A broker or dealer that sells securities to and provides independent investment research and recommendations to investment management companies.
- Buy-side firm — Investment management companies and other investors that use the services of brokers or dealers (i.e., the clients of the sell-side firms).

The Feedback Step

- Portfolio Monitoring and Rebalancing
- Performance Evaluation and Reporting

Pooled Investments

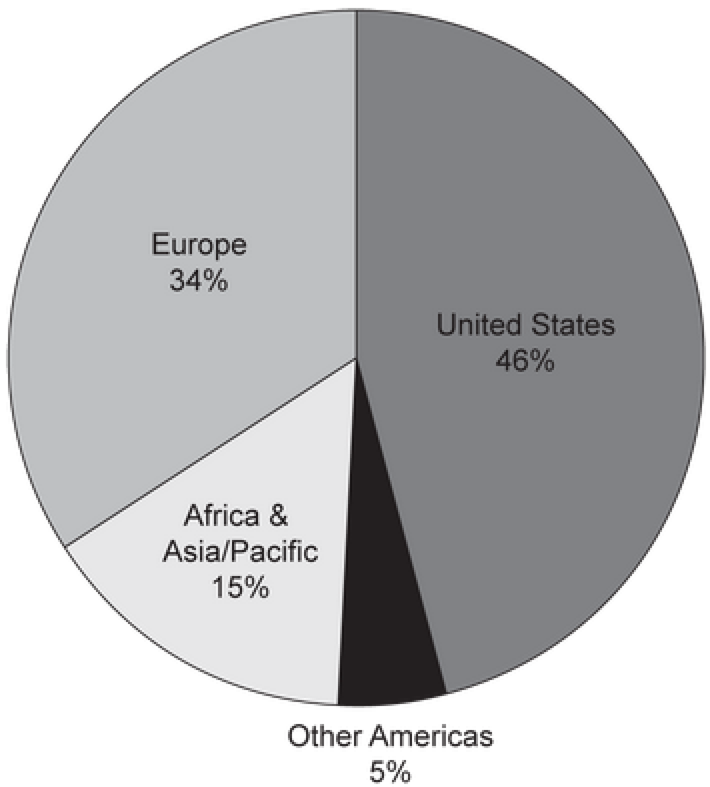
Mutual Funds

Other investment products

Mutual Funds

1. Money market funds
2. Bond mutual funds
3. Hybrid/Balanced funds

Mutual Funds



Mutual Funds

Investor	Amount Invested (US$)	Percent of Total	Number of Shares
Individuals			
A	$1.0 million	10%	10,000
B	1.0	10	10,000
C	0.5	5	5,000
D	2.0	20	20,000
E	0.5	5	5,000
Institutions			
X	2.0	20	20,000
Y	3.0	30	30,000
Totals	**$10.0 million**	**100%**	**100,000**

Mutual Funds

The fund can be set up as an open-end fund or a closed-end fund. If it is an **open-end fund**, it will accept new investment money and issue additional shares at a value equal to the net asset value of the fund at the time of investment. For example, assume that at a later date the net asset value of the fund increases to US$12.0 million and the new net asset value per share is US$120. A new investor, F, wishes to invest US$0.96 million in the fund. If the total value of the assets in the fund is now US$12 million or US$120 per share, in order to accommodate the new investment the fund would create 8,000 (US$0.96 million/US$120) new shares. After this investment, the net asset value of the fund would be US$12.96 million and there would be a total of 108,000 shares.

Funds can also be withdrawn at the net asset value per share. Suppose on the same day Investor E wishes to withdraw all her shares in the mutual fund. To accommodate this withdrawal, the fund will have to liquidate US$0.6 million in assets to retire 5,000 shares at a net asset value of US$120 per share (US$0.6 million/US$120). The combination of the inflow and outflow on the same day would be as follows:

Type	Investment (US$)	Shares
Inflow (Investor F buys)	$960,000	8,000
Outflow (Investor E sells)	–$600,000	–5,000
Net	$360,000	3,000

The net of the inflows and outflows on that day would be US$360,000 of new funds to be invested and 3,000 new shares created. However, the number of shares held and the value of the shares of all remaining investors, except Investor E, would remain the same.

Open-end vs Closed-end

- Advantages: Easy to grow in size
- Disadvantages: pressure to manage the cash inflows and outflows.

Closed-end fund in which no new investment money is accepted into the fund. New investors invest by buying existing shares, and investors in the fund liquidate by selling their shares to other investors. Hence, the number of outstanding shares does not change.

Types of Mutual Funds

1. Money Market Funds
2. Bond Mutual Funds
3. Stock Mutual Funds
4. Hybrid/Balanced Funds

Bond Mutual Funds

Exhibit 21. Bond Mutual Funds

Type of Bond Mutual Fund	Securities Held
Global	Domestic and non-domestic government, corporate, and securitized debt
Government	Government bonds and other government-affiliated bonds
Corporate	Corporate debt
High yield	Below investment-grade corporate debt
Inflation protected	Inflation-protected government debt
National tax-free bonds	National tax-free bonds (e.g., US municipal bonds)

Other investment products

1. Exchange traded funds
2. Separately managed accounts
3. Hedge funds
4. Buyout and Venture Capital Funds

Exchange traded funds

Exchange traded funds (ETFs) combine features of closed-end and open-end mutual funds.

ETFs trade like closed-end mutual funds; however, like open-end funds, ETFs’ prices track net asset value due to an innovative redemption procedure.

ETFs are created by fund sponsors who determine which securities will be included in the basket of securities.

Exchange traded funds (continue…)

To obtain the basket, the fund sponsors contact an institutional investor who deposits the securities with the fund sponsor. In return, the institutional investor receives creation units that typically represent between 50,000 and 100,000 ETF shares.

These shares can then be sold to the public by the institutional investor. The institutional investor can redeem the securities held in the ETF by returning the number of shares in the original creation unit.

Separately managed accounts

> An SMA is an investment portfolio managed exclusively for the benefit of an individual or institution. The account is managed by an individual investment professional to meet the specific needs of the client in relation to investment objectives, risk tolerance, and tax situation.

Other investment products

Hedge funds

A key difference between hedge funds and mutual funds is that the vast majority of hedge funds are exempt from many of the reporting requirements for the typical public investment company.

> In the United States, investment companies do not have to register with the US Securities and Exchange Commission (SEC) if they have 100 or fewer investors or if the investor base is greater than 100 but less than 500 “qualified purchasers”.
> In order to qualify for the exemption, hedge funds cannot be offered for sale to the general public; they can only be sold via private placement. The net effect of these regulations is that the hedge fund investor base is generally very different from that of the typical mutual fund.

Hedge funds (continue...)

- A `qualified purchaser` is an individual with over US$5 million in investment assets.
- An `accredited individual` investor must have a minimum net worth of US$1 million or a minimum individual income of US$200,000 in each of the two most recent years with the expectation of having the same income in the current year. An accredited institution must have a minimum of US$5 million in invested assets.

Hedge funds (continue…)

Convertible Arbitrage — Buying such securities as convertible bonds that can be converted into shares at a fixed price and simultaneously selling the stock short.

Dedicated Short Bias—Taking more short positions than long positions.

Emerging Markets—Investing in companies in emerging markets by purchasing corporate or sovereign securities.

Equity Market Neutral—Attempting to eliminate the overall market movement by going short overvalued securities and going long a nearly equal value of undervalued securities.

Hedge funds (continue...)

Event Driven—Attempting to take advantage of specific company events. Event-driven strategies take advantage of transaction announcements and other one-time events.

Fixed-Income Arbitrage—Attempting to profit from arbitrage opportunities in interest rate securities. When using a fixed-income arbitrage strategy, the investor assumes opposing positions in the market to take advantage of small price discrepancies while limiting interest rate risk.

Hedge funds (continue...)

Global Macro—Trying to capture shifts between global economies, usually using derivatives on currencies or interest rates.

Long/Short—Buying long equities that are expected to increase in value and selling short equities that are expected to decrease in value. Unlike the equity market neutral strategy, this strategy attempts to profit from market movements, not just from identifying overvalued and undervalued equities.

> not all-inclusive; there are many other strategies.

Hedge funds (continue...)

Hedge funds are not readily available to all investors. They require a minimum investment that is typically US$250,000 for new funds and US$1 million or more for well-established funds.

In addition, they usually have restricted liquidity that could be in the form of allowing only quarterly withdrawals or having a fixed-term commitment of up to five years.

Management fees are not only a fixed percentage of the funds under management; managers also collect fees based on performance. A typical arrangement would include a 1 percent to 2 percent fee on assets under management and 20 percent of the outperformance as compared to a stated benchmark.

Buyout and Venture Capital Funds

1. They are not passive investors, they play a very active role in the management of the company.
2. the equity they hold is private rather than traded on public markets.
3. In addition, neither intends to hold the equity for the long term; from the beginning, both plan for an exit strategy that will allow them to liquidate their positions.
4. A minimum investment is required, there is limited liquidity during some fixed time period, and management fees are based not only on funds under management but also on the performance of the fund.

Buyout Funds

It buys all the shares of a public company and, by holding all the shares, the company becomes private. In its current form, private equity firms raise money specifically for the purpose of buying public companies, converting them to private companies, and simultaneously restructuring the company.

The purchase is usually financed through a significant increase in the amount of debt issued by the company. The high level of debt is also accompanied by a restructuring of the operations of the company.

Most private equity funds do not intend to hold the company for the long run because their goal is to exit the investment in three to five years either through an initial public offering (IPO) or a sale to another company.

Venture Capital Funds

Venture capital differs from a buyout fund in that a venture capital firm does not buy established companies but rather provides financing for companies in their start-up phase.

Venture capital funds play a very active role in the management of the companies in which they invest; beyond just providing money, they provide close oversight and advice.

Similar to buyout funds, venture capital funds typically have a finite investment horizon and, depending on the type of business, make the investment with the intent to exit in three to five years.

These funds make a large number of small investments with the expectation that only a small number will pay off.