L3: Alternative Asset Management and Performance Evaluation

- Overview of asset management
  - from ch 6 (ST)
- Performance Evaluation of Investment Portfolios
  - from ch24 (BKM)
Asset Management

- Asset Management refers to the professional management of investment funds for individuals, families and institutions.
- Investments include stocks, bonds, convertibles, alternative assets (such as hedge funds, private equity funds and real estate), commodities, indexes of each of these asset classes and money market investments.
- Asset managers specialize in different asset classes and management fees are paid based on the asset class.
- For alternative assets, additional fees are paid based on investment performance as well.
Fees for Alternative Assets

• Management fees can range from 1% to 2% of assets under management (AUM) and additional fees are charged based on the fund manager’s performance.

• Some alternative asset managers receive performance fees of 10% to 20% on the annual increase in value of assets. Example:
  
  • This means that if a high net worth investor entrusted $10 million to an alternative asset manager, and the value of this investment increased to $11.5 million in one year (a 15% increase), the asset manager would be paid as much as 2% x $10 million = $200,000 management fee, plus 20% x $1.5 million = $300,000 performance fee. So total fees paid would be $500,000 = 5% fee on the original $10 million investment.

  • the investor’s net return is 10% after fees.

  • Despite the high fee percentage, this may be a suitable fee arrangement for an investor if the net return is better than net returns from other investment choices.
Investment Banks Have Large Asset Management Businesses

Global Investment Bank Asset Management Divisions

<table>
<thead>
<tr>
<th>Bank</th>
<th>AUM ($bn)¹</th>
</tr>
</thead>
<tbody>
<tr>
<td>Barclays²</td>
<td>1,495</td>
</tr>
<tr>
<td>J.P. Morgan</td>
<td>1,133</td>
</tr>
<tr>
<td>Goldman Sachs</td>
<td>779</td>
</tr>
<tr>
<td>Deutsche Bank</td>
<td>652</td>
</tr>
<tr>
<td>UBS</td>
<td>544</td>
</tr>
<tr>
<td>Morgan Stanley</td>
<td>399</td>
</tr>
<tr>
<td>Credit Suisse</td>
<td>390</td>
</tr>
<tr>
<td>Bank of America³</td>
<td>341</td>
</tr>
<tr>
<td>Citigroup³</td>
<td>--</td>
</tr>
</tbody>
</table>

Note 1: As of year-end 2008.
Note 2: As of August 2009, the shareholders of Barclays approved a plan to sell the bank’s asset management division to BlackRock Inc. for $14.2 billion.
Note 3: Bank of America FY2008 AUM excludes Merrill Lynch (the acquisition closed on January 1, 2009). Merrill Lynch has an approximately 50% ownership in BlackRock, which has $1.4 trillion in AUM.
Note 3: Citigroup sold its asset management business to Legg Mason in 2005.
Source: Respective 2008 10-K filings


L3: Asset Management and performance Eval
Hedge Fund Investments

• Most major investment banks have large hedge funds housed within their Asset Management Division

• These funds are managed principally for the benefit of investing clients (although the bank and employees of the bank may also invest in the fund) and are separate from the proprietary investing activities conducted within the Trading Division (which invests solely for the account of the firm, without any outside client investments)

• J.P. Morgan’s total hedge fund AUM at the end of 2007 stood at $44.7 billion, making the bank the world’s largest hedge fund manager

• In 2008, however, after suffering from investor redemptions and poor performance at their Highbridge fund, J.P. Morgan saw its AUM drop to $32.9 billion, placing it second, after Bridgewater Associates (a non-investment bank affiliated hedge fund manager)
Private Equity Fund Investments

• Most large investment banks participate in private equity as an investor for their own account
• Banks also provide private equity funds for investors to invest in as part of their Asset Management Division
• Direct investments in and funds offered by many investment banks are in the following areas: leveraged buyouts, mezzanine (subordinated debt with attached equity warrants), real estate and infrastructure transactions
Wealth Management

- Wealth Management refers to advisors who provide investment advice to individual, family and institutional investing clients.
- Wealth Management advisors identify investors who have a significant amount of funds to invest and then help these investors make investments in different asset classes based on risk tolerance and diversification preferences.
- *Wealth Management advisors are not directly involved in the management of asset classes (which is the role of Asset Managers).*
- They either assist investors in self-directed investments, or if preferred by clients, make investments on the investor’s behalf.
- They also help clients obtain retail banking services, estate planning advice, legal resources, and taxation advice.
Wealth Management

• Wealth Management advisors typically limit their services to clients that have more than $5 million in investable funds; some banks require more
  • For example, subject to a number of considerations, Goldman Sachs largely limits its Wealth Management efforts to clients that have more than $25 million in investable funds
• Some banks have created a “private client services” business that brings many, but not all Wealth Management services to investors who do not meet the investable fund threshold amount required to be covered by Wealth Management advisors
TOP 40 WEALTH MANAGERS

Here are America’s largest wealth managers, ranked by assets under management in accounts of $5 million or more as of June 30.

1. BANK OF AMERICA GLOBAL WEALTH & INVESTMENT MGMT

Including: Merrill Lynch Global Wealth Mgmt and U.S. Trust

Rank ’10: 1
U.S. Private-Client Assets: $803.0 bil
Minimum Account: N/A
Median Account: N/A
Private-Client Managers: 20,876
Clients Per Manager: N/A
U.S. Private-Banking Offices: 823
Specialties: Trust services, wealth structuring, credit, concentrated stock, investment and asset management, personal and institutional retirement, philanthropy tax and estate planning and family office services.
Website: www.totalmerill.com and www.ustrust.com
Tel: 800-MERRILL and 800-USTRUST

2. MORGAN STANLEY SMITH BARNEY

Rank ’10: 2
U.S. Private-Client Assets: $643.0 bil
Minimum Account: N/A
Median Account: N/A
Private-Client Managers: 17,638
Clients Per Manager: N/A
U.S. Private-Banking Offices: N/A
Specialties: Equities, fixed income, alternatives, retirement and estate planning, asset allocation, private placements of traditional and alternative investments, risk mgmt, investment banking, private banking and lending.
Website: morganstanleysmithbarney.com
Tel: 212-761-4000

3. JPMORGAN

Rank ’10: 3
U.S. Private-Client Assets: $450.0 bil
Minimum Account: N/A
Median Account: $30 million for the Private Bank; $5 million for Private Wealth Management
Private-Client Managers: 1,600
Clients Per Manager: $5 for the Private Bank; $5 for Private Wealth Management
U.S. Private-Banking Offices: 75
Specialties: Risk-adjusted portfolio construction; thematic trading and alternative investment opportunities; trust and estate planning; banking services and lending/balance sheet/fiduciary.
Website: http://www.jpmorgan.com/privatebanking
Tel: 212-464-2582
E-mail: pat.conlin@jpmorgan.com

4. WELLS FARGO AND COMPANY

Rank ’10: 4
U.S. Private-Client Assets: $377.0 bil
Minimum Account: N/A
Median Account: N/A
Private-Client Managers: 16,418
Clients Per Manager: N/A
U.S. Private-Banking Offices: 77

5. UBS WEALTH MANAGEMENT

Rank ’10: 5
U.S. Private-Client Assets: $315.0 bil
Minimum Account: N/A
Median Account: N/A
Private-Client Managers: 6,862
Clients Per Manager: N/A
U.S. Private-Banking Offices: 340
Specialties: Investment and asset management; private financial planning; multi-currency platform and global private bank; liabilities and banking management; trust, estate and philanthropic planning.
Website: www.ubs.com
Tel: 212-649-7599
E-mail: jason.chandler@ubs.com

6. FIDELITY

Rank ’10: 6
U.S. Private-Client Assets: $173.0 bil
Minimum Account: $1 mil
Median Account: N/A
Private-Client Managers: 1,189
Clients Per Manager: N/A
U.S. Private-Banking Offices: 160
Specialties: Tax-efficient managed accounts; capital-market transactions; international trading, annuities, family-office services, charitable services, trusts.
Website: www.fidelity.com
Tel: 800-Fidelity

7. BNY MELLON WEALTH MGMT

Rank ’10: 8
U.S. Private-Client Assets: $142.1 bil
Minimum Account: $2 mil
Median Account: N/A
Private-Client Managers: 854
Clients Per Manager: 50-75
U.S. Private-Banking Offices: 39
Specialties: Investment management; wealth and estate planning; private banking; family-office services; global custody.
Website: www.bny mellonwealthmanagement.com
Tel: 800-263-9398
E-mail: tracy.c.nickl@bnymellon.com

8. NORTHERN TRUST

Rank ’10: 9
U.S. Private-Client Assets: $128.2 bil
Minimum Account: $2 mil
Median Account: N/A
Private-Client Managers: N/A
Clients Per Manager: N/A
U.S. Private-Banking Offices: 77

Specialties: Financial and estate planning, investment management, trust services, private banking and family-office services.
Website: www.nort herntrust.com
Tel: 817-440-4100
E-mail: ntr_whol@ntr.st

9. CHARLES SCHWAB

Rank ’10: 10
U.S. Private-Client Assets: $713.1 bil
Minimum Account: N/A
Median Account: N/A
Private-Client Managers: 3,065
Clients Per Manager: N/A
U.S. Private-Banking Offices: 27
Specialties: Brokerage, banking, trust, mutual funds and client education.
Website: www.schwab.com
Tel: 888-232-9890

10. CITIGROUP GLOBAL MARKETS

Including Citibank Private Bank and Personal Wealth Management

Rank ’10: 12
U.S. Private-Client Assets: $66.9 bil
Minimum Account: N/A
Median Account: N/A
Private-Client Managers: 423
Clients Per Manager: N/A
U.S. Private-Banking Offices: 160
Specialties: Trust services, wealth planning, investment management; retirement income planning, insurance, and philanthropic planning.
Website: www.corporate私营banking.com
Tel: 800-525-8060

11. DEUTSCHE BANK PRIVATE WEALTH MANAGEMENT

Rank ’10: 11
U.S. Private-Client Assets: $64.0 bil
Minimum Account: N/A
Median Account: N/A
Private-Client Managers: 519
Clients Per Manager: 119
U.S. Private-Banking Offices: 67
Specialties: Wealth management for clients in such sectors as medical, legal, sports and entertainment, and business ownership.
Website: suntrustwealth.com
Tel: 800-473-5000

12. CREDIT SUISSE

Rank ’10: 10
U.S. Private-Client Assets: $63.1 bil
Minimum Account: $0.5 mil
Median Account: $13.8 mil
Private-Client Managers: 451
Clients Per Manager: 47
U.S. Private-Banking Offices: 17
Specialties: Managed accounts, structured products, alternative investments (hedge funds and private equity), municipal-bond management and equities.
Website: www.credit-suisse.com
Tel: 800-647-2516

13. UBS WEALTH MANAGEMENT

Rank ’10: 14
U.S. Private-Client Assets: $57.7 bil
Minimum Account: N/A
Median Account: N/A
Private-Client Managers: 2,190
Clients Per Manager: N/A
U.S. Private-Banking Offices: 200
Specialties: Investment management, investment-advisory services, retirement services, lending, trust and estate planning.
Website: www.ubsbank.com
Tel: 866-232-9890

14. BESSEMER TRUST

Rank ’10: 12
U.S. Private-Client Assets: $55.8 bil
Minimum Account: $10 mil
Median Account: $21.2 mil
Private-Client Managers: 144
Clients Per Manager: 50
U.S. Private-Banking Offices: 14
Specialties: Corporate banking, client, tax, legacy, insurance, and philanthropic planning.
Website: www.bessem er.com
Tel: 866-232-9890
E-mail: wilcox@bessem er.com

15. SUNTRUST BANKS

Rank ’10: 13
U.S. Private-Client Assets: $54.4 bil
Minimum Account: N/A
Median Account: $8.5 mil
Private-Client Managers: 235
Clients Per Manager: 119
U.S. Private-Banking Offices: 67
Specialties: Wealth management for clients in such sectors as medical, legal, sports and entertainment, and business ownership.
Website: suntrustwealth.com
Tel: 800-473-5000

16. PNC WEALTH MANAGEMENT

Rank ’10: 15
U.S. Private-Client Assets: $43.4 bil
Minimum Account: $1 mil
Median Account: N/A
Private-Client Managers: 842
Clients Per Manager: 119
U.S. Private-Banking Offices: 87
Specialties: Investment consulting and management, estate planning, tax strategies, estate and tax planning, private banking.
Website: www.pnc.com
Tel: 888-762-6276
E-mail: wealthmanagement@pnc.com

17. U.S. BANK WEALTH MGMT


Rank ’10: 24
U.S. Private-Client Assets: $35.9 bil
Minimum Account: N/A
Median Account: N/A
Private-Client Managers: 973
Clients Per Manager: N/A
U.S. Private-Banking Offices: 182
Specialties: Investment management, private banking, business and estate services, financial planning, multigenerational wealth planning, family dynamics and governance.
Website: usbankwealth.com
Tel: 866-481-2077

18. BARCLAYS WEALTH

Rank ’10: 20
U.S. Private-Client Assets: $33.2 bil
Minimum Account: N/A
Median Account: N/A
Private-Client Managers: 254
Clients Per Manager: N/A
U.S. Private-Banking Offices: 13
Specialties: Private capital construction, traditional and alternative investments, ultra-high-net-worth wealth advisory, capital markets, corporate banking.
Website: www.barclayswealthamericas.com
Tel: 800-392-5000 or 212-526-2039

19. ROCKEFELLER FINANCIAL

Rank ’10: 17
U.S. Private-Client Assets: $30.6 bil
Minimum Account: $30 mil
Median Account: N/A
Private-Client Managers: 15-20
Clients Per Manager: 15-20
U.S. Private-Banking Offices: 5
Specialties: In-house, proprietary equity and fixed income strategies; customer portfolios and multi-vehicle managers for hedge funds and private equity; technology and professionals for portfolio information management.
Website: www.rockefellerfinancial.com
Tel: 212-549-5300
E-mail: ashashdp@recco.com

20. BMO HARRIS PRIVATE BANK

Rank ’10: 19
U.S. Private-Client Assets: $29.3 bil
Minimum Account: N/A
Median Account: N/A
Private-Client Managers: 214
Clients Per Manager: N/A
Private-Banking Offices: 32
Specialties: Multigenerational wealth trans-
21. RAYMOND JAMES FINANCIAL
Rank ’10: 16
U.S. Private-Client Assets: $76.7 bl
Minimum Account: $1 ml
Median Account: $7.5 ml
Private-Client Managers: 4,197
Client Per Manager: N/A
U.S. Private-Banking Offices: 1,600
Specialties: Financial planning and wealth management, portfolio management, trusts and estates, retirement services and alternative investments.
Website: www.raymondjames.com/wealthmanagement
Tel: 1-800-248-8863 ext. 76345

22. NEUBERGER BERMAN
Rank ’10: 21
U.S. Private-Client Assets: $75.4 bl
Minimum Account: $1 ml
Median Account: $10 ml
Private-Client Managers: 109
Client Per Manager: 345
U.S. Private-Banking Offices: 10
Specialties: Portfolio management focused on after-tax performance, capital preservation, equity, fixed income, alternatives, estate planning and comprehensive trusts and trust Services.
Website: www.nb.com
Tel: 800-234-8840
e-mail: brede@nb.com

23. HSBC PRIVATE BANK
Rank ’10: 16
U.S. Private-Client Assets: $94.5 bl
Minimum Account: $1 ml
Median Account: $2.4 ml
Private-Client Managers: 91
Client Per Manager: 10 ml
U.S. Private-Banking Offices: 25
Specialties: Disciplined and diversified investment management, alternative investments, banking and liquidity management, financing, trust and fiduciary services.
Website: www.hsbcprivatebank.com
Tel: 212-525-5080

24. GLENMERE
Rank ’10: 25
U.S. Private-Client Assets: $18.5 bl
Minimum Account: $1 ml
Median Account: $3 ml
Client Per Manager: 20
Private-Client Managers: 70
U.S. Private-Banking Offices: 6
Specialties: Investment strategy and implementation, investment research, reporting and client information management; financial planning and wealth administration; business succession planning, philanthropy.
Website: www.glenmee.com
Tel: 215-419-6100
e-mail: chip.wilson@glenmee.com

25. GENSPRING
Rank ’10: N/A
U.S. Private-Client Assets: $17.1 bl
Minimum Account: $25 ml
Median Account: $17.1 ml
Private-Client Managers: 11
Client Per Manager: 11
U.S. Private-Banking Offices: 14
Specialties: Comprehensive investment reporting, family governance, risk management, estate and tax review.
Tel: 866-505-1989
e-mail: Steve.Barnes@GenSpring.com

26. LPL FINANCIAL
Rank ’10: N/A
U.S. Private-Client Assets: $17.0 bl
Minimum Account: N/A
Median Account: $7.4 ml
Private-Client Managers: 1,008
Client Per Manager: N/A
U.S. Private-Banking Offices: N/A
Specialties: Investment research, open architecture investment management and asset allocation; estate and business planning; trust services; insurance services.
Website: www.lpl.com
Tel: 800-877-2710

27. CITY NATIONAL BANK
Rank ’10: 27
U.S. Private-Client Assets: $14.9 bl
Minimum Account: $1 ml
Median Account: $10 ml
Private-Client Managers: 104
Client Per Manager: N/A
U.S. Private-Banking Offices: 25
Specialties: Open-architecture advisory, portfolio management, fixed income brokerages.
Website: www.cnb.com
Tel: 800-708-8881
e-mail: richard.gershen@cnb.com

28. ATLANTIC TRUST PRIVATE WEALTH MGMT
Rank ’10: 28
U.S. Private-Client Assets: $14.5 bl
Minimum Account: $5 ml
Median Account: $5.7 ml
Private-Client Managers: 52
Client Per Manager: N/A
U.S. Private-Banking Offices: 11
Specialties: Strategic asset allocation and proprietary investment management; external manager selection; alternative investments; financial, estate, and philanthropic planning; fiduciary/trust services; family-office services.
Website: www.atlantictrust.com
Tel: 866-517-3400

29. FIFTH THIRD PRIVATE BANK
Private-Client Managers: 13
Clients Per Manager: 29
U.S. Private-Client Assets: $11.5 bl
Minimum Account: $1 ml
Median Account: N/A
Private-Client Managers: 109
Clients Per Manager: N/A
U.S. Private-Banking Offices: 20
Specialties: Wealth planning, investment management, private banking, trust services, insurance services.
Website: www.53.com
Tel: 877-234-6177

30. WILMINGTON TRUST
Rank ’10: 31
U.S. Private-Client Assets: $11.5 bl
Minimum Account: $3 ml
Median Account: N/A
Private-Client Managers: 88
Clients Per Manager: 76
U.S. Private-Banking Offices: 43
Specialties: Wealth planning, trustee services, investment management services, family-office services, private banking.
Website: www.wilmingtontrust.com
Tel: 302-651-1936
e-mail: ingraham@wilmingtontrust.com

31. BROWN BROTHERS HARRIMAN PRIVATE WEALTH MGMT
Rank ’10: 26
U.S. Private-Client Assets: $11.1 bl
Minimum Account: $5 ml
Median Account: $10.2 ml
Private-Client Managers: 22
Client Per Manager: N/A
U.S. Private-Banking Offices: 6
Specialties: Investment advisory, investment management, wealth planning, fiduciary services, banking and advisory.
Website: www.bbh.com
Tel: 704-370-0500
e-mail: charles.izadi@bbh.com

32. FIDUCIARY TRUST CO. INTL
Rank ’10: 23
U.S. Private-Client Assets: $10.8 bl
Minimum Account: $5 ml
Median Account: $5 ml
Private-Client Managers: 33
Client Per Manager: 48
U.S. Private-Banking Offices: 6
Specialties: Strategic wealth planning and advisory services; investment management; trust and estate advisement and administration; tax reporting and services; maezer custody and private banking.
Website: www.fiduciarytrust.com
Tel: 678-1111
e-mail: flowler@ftco.com

33. VERITABLE
Rank ’10: 30
U.S. Private-Client Assets: $10.4 bl
Minimum Account: $20 ml
Median Account: $52 ml
Private-Client Managers: 13
Clients Per Manager: 29
U.S. Private-Banking Offices: 1
Specialties: Investment policy statements and ongoing evaluation of objectives and risk tolerance; asset-allocation recommendations and investment strategy implementation; evaluation, selection and monitoring of investment managers and products; fixed-income and cash management; pre-tax and after-tax performance measurement.
Website: www.veritabledirect.com
Tel: 610-540-2036
e-mail: jeffrey@veritabledirect.com

34. WILLIAM BLAIR & CO.
Rank ’10: 33
U.S. Private-Client Assets: $5.8 bl
Minimum Account: $3 ml
Median Account: N/A
Private-Client Managers: 76
Clients Per Manager: N/A
U.S. Private-Banking Offices: 1
Specialties: Money management, real estate, energy and natural resources, manufacturing and transportation, technology and biotechnology.
Website: www.williamblair.com
Tel: 312-234-1600
e-mail: jbreman@williamblair.com or dkpharr@williamblair.com

35. BROWN ADVISORY
Rank ’10: 22
U.S. Private-Client Assets: $9.3 bl
Minimum Account: $5 ml
Median Account: $10.4 ml
Private-Client Managers: 21
Client Per Manager: 23
U.S. Private-Banking Offices: 3
Specialties: Investment counsel; financial planning; trust and estate planning; socially responsible investing.
Website: www.brownadvisory.com
Tel: 410-454-5438
e-mail: Homeemail@BrownGlobal.com

36. ROBERT W. BAIRD
Rank ’10: 38
U.S. Private-Client Assets: $6.6 bl
Minimum Account: N/A
Median Account: $6 ml
Private-Client Managers: 680
Clients Per Manager: 423
U.S. Private-Banking Offices: 6
Specialties: Comprehensive wealth management, including asset allocation strategies; investment research and management; financial and retirement planning; estate and philanthropic planning; business-succession planning.
Website: www.rwbaird.com
Tel: 1-800-RWBAIRD
e-mail: pwnimarcom@rwbaird.com

37. FIRST REPUBLIC
Rank ’10: N/A
U.S. Private-Client Assets: $6.0 bl
Minimum Account: N/A
Median Account: $1.2 ml
Private-Client Managers: 55
Clients Per Manager: 65
U.S. Private-Banking Offices: 9
Specialties: Equity and fixed-income management; asset allocation and manager selection; financial planning; full-service brokerage; trust and custody services.
Website: www.firstrepublic.com/private_wealth_management/index.html
Tel: 310-407-1385
e-mail: rguest@firstrepublic.com

38. LEGG MASSEN MASON COUNSEL
Rank ’10: N/A
U.S. Private-Client Assets: $5.6 bl
Minimum Account: $2 ml
Median Account: $10.3 ml
Private-Client Managers: 17
Clients Per Manager: 50
U.S. Private-Banking Offices: 5
Specialties: Investment counsel; financial planning; trust and estate planning; socially responsive investing.
Website: www.llmglobal.com
Tel: 410-454-5438
e-mail: Homeemail@llmglobal.com

39. JANNEY MONTGOMERY SCOTT
Rank ’10: N/A
U.S. Private-Client Assets: $5.5 bl
Minimum Account: N/A
Median Account: $5.4 ml
Private-Client Managers: 731
Clients Per Manager: 175
U.S. Private-Banking Offices: 9
Specialties: Wealth management; investment management; financial and estate planning; retirement-income planning; capital markets.
Website: www.janney.com
Tel: 215-685-4458
e-mail: requests@janney.com

40. BOSTON PRIVATE WEALTH MGMT
Rank ’10: 35
U.S. Private-Client Assets: $3.3 bl
Minimum Account: $1 ml
Median Account: N/A
Private-Client Managers: 46
Clients Per Manager: 112
U.S. Private-Banking Offices: 23
Specialties: Private banking; mortgages and cash management; financial planning; asset allocation; portfolio management.
Website: www.bostontprivate.com
Source: Janney’s survey
Retail Brokerage

- Individual investors that have an even lower amount of investable funds are covered by “retail” advisors and brokers who help them invest cash in both the Asset Management products offered by the bank and products offered from external sources.

- All of the largest investment banks, with the exception of Goldman Sachs, have a retail team.

- Citigroup’s Smith Barney division established a joint venture with Morgan Stanley during early 2009 (majority owned by Morgan Stanley, with the right by Morgan Stanley to acquire 100% ownership in the future over a five-year period).

- The new Morgan Stanley Smith Barney joint venture is now the largest retail brokerage.
## U.S. Brokerage Ranking

### U.S. Brokerage Force Ranking, as of March 2009

<table>
<thead>
<tr>
<th>Firm</th>
<th>Number of Brokers</th>
<th>Revenue ($ in millions)</th>
<th>Revenue per Broker</th>
<th>Client Assets ($ in billions)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Morgan Stanley Smith Barney¹</td>
<td>20,807</td>
<td>$15,718</td>
<td>$755,000</td>
<td>$1,721</td>
</tr>
<tr>
<td>Wells Fargo/Wachovia¹,²</td>
<td>15,879</td>
<td>$8,700</td>
<td>$548,000</td>
<td>$910</td>
</tr>
<tr>
<td>Bank of America/Merrill Lynch¹</td>
<td>15,822</td>
<td>$14,076</td>
<td>$890,000</td>
<td>$1,293</td>
</tr>
<tr>
<td>UBS (U.S. division)</td>
<td>8,760</td>
<td>$5,103</td>
<td>$583,000</td>
<td>$619</td>
</tr>
</tbody>
</table>

Note 1: As of March 31, 2009 Morgan Stanley controlled the largest brokerage force based on their majority control of Morgan Stanley Smith Barney (a joint venture between Morgan Stanley and Citigroup), Wells Fargo controlled the second largest brokerage team following their acquisition of Wachovia, and Bank of America controlled the third largest brokerage team following their acquisition of Merrill Lynch.

Note 2: Quarterly revenue data on Wells Fargo’s brokerage business not available: revenue shown is for full year 2008.

Source: Respective 2008 10-K and Q1-2009 10-Q filings; author's estimates
Potential Conflicts of Interest

- Since wealth management advisors at investment banks have a duty to help clients achieve the best possible returns in the context of their risk tolerance.
- In some cases, investing clients may be directed to investment products not provided by the investment bank.
  - For example, if an investment bank’s Asset Management fund offerings do not include a type of investment that a client wants to invest in, or the performance of an internal fund (from a risk/return perspective) is less than a competing fund at another firm, the wealth management advisor may choose to direct part of a client’s investment portfolio to an Asset Management product provided by a competitor.
- However, at many banks, incentive systems are designed to keep all client investments within the bank rather than see funds go to a competing firm, which creates a potential conflict of interest.
- This became a significant issue at Citigroup and at Merrill Lynch.
Avoiding Conflict of Interest

- During 2005 and 2006, both Merrill Lynch and Citigroup decided to give up control over their asset management business because, among other reasons, they wanted to avoid a potential conflict of interest between the wealth management advisory function and the asset management function.

- In 2005, Citigroup entered into an arrangement with Legg Mason, Inc whereby the brokerage portion of Legg Mason was bought by Citigroup, while the asset management business of Citigroup was bought by Legg Mason.

- In 2006, two months after the Citigroup-Legg Mason deal closed, Merrill Lynch entered into an arrangement with BlackRock whereby Merrill Lynch’s asset management business merged with BlackRock, creating a new independent company with nearly $1 trillion in assets under management.

- Merrill Lynch’s ownership of the combined asset management company was 49.8%, and it came with a 45% voting interest in a firm that had a majority of independent directors.

- By giving up control of its asset management business, Merrill Lynch was able to mitigate potential conflict of interest concerns.
Research

- Research is provided by all large investment banking firms to selected institutional and individual investing clients on a global basis. This research usually covers equity, fixed income, currency and commodities.
- Research is typically (but not always) housed within the Trading Division of an investment bank and is comprised of two different groups.
- Research that is provided to investing clients of the firm is called “sell-side” research.
- Research that is provided to proprietary traders who trade for the account of the bank and to the bank’s asset managers, who manage money for investing clients, is called “buy-side” research.
- This is the same type of research that hedge funds produce for their internal traders, or that large mutual funds such as Fidelity produce for their internal fund managers.
Sell-Side Research

- Sell-side research has always been an analytically intense area within investment banks where research analysts produce detailed financial models that forecast earnings and the future value of assets.
- For example, equity research is produced by analysts who build models that forecast a company’s future revenue and earnings based on several factors, including company guidance, economic conditions, historical trends and new company, product or industry information.
- Analysts use multiples based on enterprise value, revenue, EBITDA, earnings, book value, and cash flow in order to help assess a company’s future share price.
- Analysts also employ other valuation models such as peer comparisons, discounted cash flow analysis, or replacement value analysis and then use this information to formulate an investment opinion, which is then communicated to investors or investment advisors.
Research Conflicts of Interest

- Investment Banking Divisions have historically put pressure on research analysts to modify negative views on a company when bankers were soliciting a financing or M&A transaction from a company.
- Negative equity or fixed income research can upset company management, making it problematic for bankers to obtain mandates.
- As a result, some bankers have asked research departments to prioritize their research activities based on the Investment Banking Division’s underwriting or M&A effort, rather than on the firm’s investing clients’ priorities for objective research.
- This created a conflict of interest that had far-reaching repercussions.
Regulation FD

- Regulation FD (Fair Disclosure) was implemented by the SEC during 2000.
- This regulation prohibits a company’s executives from selectively disclosing material information that could impact a company’s share price.
- This means that prior to discussing any potential “stock moving” information with research analysts, the company must disclose this information through an SEC filing.
- Prior to Regulation FD, some large institutional investors received stock moving information before other investors received it based on private discussions that a company had with a research analyst, which was passed on selectively to favored large investors.
- The benefit of this regulation is that it levels the playing field, enabling all investors to receive the same information at the same time.
- However, critics claim that because companies must now be more careful in what they say to analysts and investors, and when they say it, less information is distributed in a less timely way, reducing the quality and depth of information.
Performance Measurements

- Performance of asset managers is evaluated based on performance measures.
- Two common ways to measure average portfolio return:
  1. Time-weighted returns
  2. Dollar-weighted returns
- Returns must be adjusted for risk.
Dollar- and Time-Weighted Returns

Time-weighted returns

- The geometric average is a time-weighted average.
- Each period’s return has equal weight.

\[
(1 + r_G)^n = (1 + r_1)(1 + r_2)\ldots(1 + r_n)
\]
Dollar- and Time-Weighted Returns

**Dollar-weighted returns**
- Internal rate of return considering the cash flow from or to investment
- Returns are weighted by the amount invested in each period:

$$PV = \frac{C_1}{(1 + r)^1} + \frac{C_2}{(1 + r)^2} + \ldots + \frac{C_n}{(1 + r)^n}$$
### Example of Multiperiod Returns

<table>
<thead>
<tr>
<th>Time</th>
<th>Outlay</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>$50 to purchase first share</td>
</tr>
<tr>
<td>1</td>
<td>$53 to purchase second share a year later</td>
</tr>
</tbody>
</table>

**Proceeds**

<table>
<thead>
<tr>
<th>Time</th>
<th>Proceeds</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>$2 dividend from initially purchased share</td>
</tr>
<tr>
<td>2</td>
<td>$4 dividend from the 2 shares held in the second year, plus $108 received from selling both shares at $54 each</td>
</tr>
</tbody>
</table>
Adjusting Returns for Risk

- The simplest and most popular way to adjust returns for risk is to compare the portfolio’s return with the returns on a comparison universe.
- The comparison universe is a benchmark composed of a group of funds or portfolios with similar risk characteristics, such as growth stock funds or high-yield bond funds.
Consider the following data for a particular sample period:

<table>
<thead>
<tr>
<th></th>
<th>Portfolio P</th>
<th>Market M</th>
</tr>
</thead>
<tbody>
<tr>
<td>Average return</td>
<td>35%</td>
<td>28%</td>
</tr>
<tr>
<td>Beta</td>
<td>1.20</td>
<td>1.00</td>
</tr>
<tr>
<td>Standard deviation</td>
<td>42%</td>
<td>30%</td>
</tr>
<tr>
<td>Nonsystematic risk</td>
<td>18%</td>
<td>0</td>
</tr>
</tbody>
</table>

Calculate the following performance measures for portfolio $P$ and the market: Sharpe, Jensen (alpha), Treynor, appraisal ratio. The T-bill rate during the period was 6%. By which measures did portfolio $P$ outperform the market?
Risk Adjusted Performance: Sharpe

1) Sharpe Index

\[
\frac{(r_p - r_f)}{\sigma_p}
\]

- \(\bar{r}_p\) = Average return on the portfolio
- \(\bar{r}_f\) = Average risk free rate
- \(\sigma_p\) = Standard deviation of portfolio return
Risk Adjusted Performance: Treynor

2) Treynor Measure

\[
\frac{(r_p - r_f)}{\beta_p}
\]

- \( r_p \) = Average return on the portfolio
- \( r_f \) = Average risk free rate
- \( \beta_p \) = Weighted average beta for portfolio
Risk Adjusted Performance: Jensen

3) Jensen’s Measure

\[ \alpha_p = r_p - \left[ r_f + \beta_p (r_m - r_f) \right] \]

- \( \alpha_p \): Alpha for the portfolio
- \( r_p \): Average return on the portfolio
- \( \beta_p \): Weighted average Beta
- \( r_f \): Average risk free rate
- \( r_m \): Average return on market index portfolio
Information Ratio

Information Ratio = \frac{\alpha_p}{\sigma(e_p)}

The information ratio divides the alpha of the portfolio by the nonsystematic risk.

Nonsystematic risk could, in theory, be eliminated by diversification.
$M^2$ Measure

- Developed by Modigliani and Modigliani
- Create an adjusted portfolio (P*) that has the same standard deviation as the market index.
- Because the market index and $P^*$ have the same standard deviation, their returns are comparable:

$$M^2 = r_{P^*} - r_M$$
$M^2$ Measure: Example

**Managed Portfolio:** return = 35%  standard deviation = 42%

**Market Portfolio:** return = 28%  standard deviation = 30%

T-bill return = 6%

**P* Portfolio:**

$\frac{30}{42} = .714$ in P and $(1-.714)$ or .286 in T-bills

Then ?
Which Measure is Appropriate?

It depends on investment assumptions

1) If the portfolio represents the entire risky investment, then use the Sharpe measure.

2) If the portfolio is one of many combined into a larger investment fund, use the Jensen $\alpha$ or the Treynor measure. The Treynor measure is appealing because it weighs excess returns against systematic risk.
### Table 24.1 Portfolio Performance

<table>
<thead>
<tr>
<th></th>
<th>Portfolio P</th>
<th>Portfolio Q</th>
<th>Market</th>
</tr>
</thead>
<tbody>
<tr>
<td>Beta</td>
<td>.90</td>
<td>1.60</td>
<td>1.0</td>
</tr>
<tr>
<td>Excess return (\bar{r} - \bar{r}_f)</td>
<td>11%</td>
<td>19%</td>
<td>10%</td>
</tr>
<tr>
<td>Alpha*</td>
<td>2%</td>
<td>3%</td>
<td>0</td>
</tr>
</tbody>
</table>

*Alpha = Excess return – (Beta × Market excess return)*

\[
= (\bar{r} - \bar{r}_f) - \beta(\bar{r}_M - \bar{r}_f) = \bar{r} - [\bar{r}_f + \beta(\bar{r}_M - \bar{r}_f)]
\]

Is Q better than P?
## Performance Statistics

**Table 24.3**

<table>
<thead>
<tr>
<th>Performance statistics</th>
<th>Portfolio P</th>
<th>Portfolio Q</th>
<th>Portfolio M</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sharpe’s measure</td>
<td>0.45</td>
<td>0.51</td>
<td>0.19</td>
</tr>
<tr>
<td>$M^2$</td>
<td>2.19</td>
<td>2.69</td>
<td>0.00</td>
</tr>
<tr>
<td><strong>SCL regression statistics</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Alpha</td>
<td>1.63</td>
<td>5.28</td>
<td>0.00</td>
</tr>
<tr>
<td>Beta</td>
<td>0.69</td>
<td>1.40</td>
<td>1.00</td>
</tr>
<tr>
<td>Treynor</td>
<td>4.00</td>
<td>5.40</td>
<td>1.63</td>
</tr>
<tr>
<td>$\tau^2$</td>
<td>2.37</td>
<td>3.77</td>
<td>0.00</td>
</tr>
<tr>
<td>$\sigma(e)$</td>
<td>1.95</td>
<td>8.98</td>
<td>0.00</td>
</tr>
<tr>
<td>Information ratio</td>
<td>0.84</td>
<td>0.59</td>
<td>0.00</td>
</tr>
<tr>
<td>$R$-SQR</td>
<td>0.91</td>
<td>0.64</td>
<td>1.00</td>
</tr>
</tbody>
</table>
Hedge funds are alpha driven

When the hedge fund is optimally combined with the baseline portfolio, the improvement in the Sharpe measure will be determined by its information ratio:

\[ S_P^2 = S_M^2 + \left[ \frac{\alpha_H}{\alpha(e_H)} \right]^2 \]
Performance Measurement with Changing Portfolio Composition

- We need a very long observation period to measure performance with any precision, even if the return distribution is stable with a constant mean and variance.

- What if the mean and variance are not constant? We need to keep track of portfolio changes.
Market Timing

- In its pure form, market timing involves shifting funds between a market-index portfolio and a safe asset.
- Treynor and Mazuy:
  \[ r_P - r_f = a + b(r_M - r_f) + c(r_M - r_f)^2 + e_P \]
- Henriksson and Merton:
  \[ r_P - r_f = a + b(r_M - r_f) + c(r_M - r_f)D + e_P \]
No Market Timing; Beta Increases with Expected Market Excess Return; Market Timing with Only Two Values of Beta.

**Panel A:** No market timing, beta is constant.

**Panel B:** Market timing, beta increases with expected market excess return.

**Panel C:** Market timing with only two values of beta.

**Figure 24.5** Characteristic lines. **Panel A:** No market timing, beta is constant. **Panel B:** Market timing, beta increases with expected market excess return. **Panel C:** Market timing with only two values of beta.
Value of market timing

• Define perfect market timing as the ability to tell (with certainty) at the beginning of each year whether the S&P portfolio will outperform the strategy of rolling over 1-month T-bills throughout of the year.

• Three strategies: i) investing in T-bills, 2) investing in S&P, 3) being a perfect market timer

• Begin on 1/2/1926, end by 12/31/2005
Style Analysis

- Introduced by William Sharpe
- Regress fund returns on indexes representing a range of asset classes.
- The regression coefficient on each index measures the fund’s implicit allocation to that “style.”
- $R^2$ –square measures return variability due to style or asset allocation.
- The remainder is due either to security selection or to market timing.
Table 24.5 Style Analysis for Fidelity’s Magellan Fund

<table>
<thead>
<tr>
<th>Style Portfolio</th>
<th>Regression Coefficient</th>
</tr>
</thead>
<tbody>
<tr>
<td>T-Bill</td>
<td>0</td>
</tr>
<tr>
<td>Small Cap</td>
<td>0</td>
</tr>
<tr>
<td>Medium Cap</td>
<td>35</td>
</tr>
<tr>
<td>Large Cap</td>
<td>61</td>
</tr>
<tr>
<td>High P/E (growth)</td>
<td>5</td>
</tr>
<tr>
<td>Medium P/E</td>
<td>0</td>
</tr>
<tr>
<td>Low P/E (value)</td>
<td>0</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>100</strong></td>
</tr>
<tr>
<td><strong>R-square</strong></td>
<td><strong>97.5</strong></td>
</tr>
</tbody>
</table>

Source: Authors' calculations. Return data for Magellan obtained from [finance.yahoo.com/funds](http://finance.yahoo.com/funds) and return data for style portfolios obtained from the Web page of Professor Kenneth French: [mba.tuck.dartmouth.edu/pages/faculty/ken.french/data_library.html](http://mba.tuck.dartmouth.edu/pages/faculty/ken.french/data_library.html).
Performance Attribution

The attribution method explains the difference in returns between a managed portfolio, $P$, and a selected benchmark portfolio, $B$, called the **bogey**. Suppose that the universe of assets for $P$ and $B$ includes $n$ asset classes such as equities, bonds, and bills. For each asset class, a benchmark index portfolio is determined. For example, the S&P 500 may be chosen as benchmark for equities. The bogey portfolio is set to have fixed weights in each asset class, and its rate of return is given by

$$r_B = \sum_{i=1}^{n} w_{Bi} r_{Bi}$$

the return of the managed portfolio will be

$$r_P = \sum_{i=1}^{n} w_{Pi} r_{Pi}$$
Performance and Contributions

The difference between the two rates of return, therefore, is

\[ r_P - r_B = \sum_{i=1}^{n} w_{Pi} r_{Pi} - \sum_{i=1}^{n} w_{Bi} r_{Bi} = \sum_{i=1}^{n} \left( w_{Pi} r_{Pi} - w_{Bi} r_{Bi} \right) \]

Contribution from asset allocation

- Contribution from security selection

= Total contribution from asset class \( i \)

\[ \frac{(w_{Pi} - w_{Bi}) r_{Bi}}{w_{Pi} r_{Pi} - w_{Bi} r_{Bi}} \]
### Example

<table>
<thead>
<tr>
<th>Component</th>
<th>Benchmark Weight</th>
<th>Return of Index during Month (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Equity (S&amp;P 500)</td>
<td>.60</td>
<td>5.81</td>
</tr>
<tr>
<td>Bonds (Lehman Brothers Index)</td>
<td>.30</td>
<td>1.45</td>
</tr>
<tr>
<td>Cash (money market)</td>
<td>.10</td>
<td>0.48</td>
</tr>
<tr>
<td><strong>Bogey = (0.60 \times 5.81) + (0.30 \times 1.45) + (0.10 \times 0.48) = 3.97%</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Return of managed portfolio</td>
<td></td>
<td>5.34%</td>
</tr>
<tr>
<td>- Return of bogey portfolio</td>
<td></td>
<td>3.97</td>
</tr>
<tr>
<td><strong>Excess return of managed portfolio</strong></td>
<td></td>
<td>1.37%</td>
</tr>
</tbody>
</table>
Example (cont’d)

Table 24.6 Performance Attribution

A. Contribution of Asset Allocation to Performance

<table>
<thead>
<tr>
<th>Market</th>
<th>(1) Actual Weight in Market</th>
<th>(2) Benchmark Weight in Market</th>
<th>(3) Excess Weight</th>
<th>(4) Market Return (%)</th>
<th>(5) = (3) × (4) Contribution to Performance (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Equity</td>
<td>.70</td>
<td>.60</td>
<td>.10</td>
<td>5.81</td>
<td>.5810</td>
</tr>
<tr>
<td>Fixed-income</td>
<td>.07</td>
<td>.30</td>
<td>-.23</td>
<td>1.45</td>
<td>-.3335</td>
</tr>
<tr>
<td>Cash</td>
<td>.23</td>
<td>.10</td>
<td>.13</td>
<td>.48</td>
<td>.0624</td>
</tr>
</tbody>
</table>

Contribution of asset allocation: .3099

B. Contribution of Selection to Total Performance

<table>
<thead>
<tr>
<th>Market</th>
<th>(1) Portfolio Performance (%)</th>
<th>(2) Index Performance (%)</th>
<th>(3) Excess Performance (%)</th>
<th>(4) Portfolio Weight</th>
<th>(5) = (3) × (4) Contribution (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Equity</td>
<td>7.28</td>
<td>5.81</td>
<td>1.47</td>
<td>.70</td>
<td>1.03</td>
</tr>
<tr>
<td>Fixed-income</td>
<td>1.89</td>
<td>1.45</td>
<td>0.44</td>
<td>.07</td>
<td>0.03</td>
</tr>
</tbody>
</table>

Contribution of selection within markets: 1.06
Summary

• This analysis provides a breakdown of investment performance:
  • Contribution of asset allocation
  • Contribution of stock selection

• See homework problem #7