

Investment Principles AFIN250

Real and Financial Assets

Nature of Investment

Reduce current consumption for greater future consumption.

Financial Assets:

Claims on **Real Assets** or Real Asset Income. Real Assets are the productive capacity of property, plants, equipment, human capital, etc.

Financial Assets = Financial Liabilities:

Financial Assets and Liabilities must balance.

- Financial Assets (Owner of the claim)
- Financial Liability (Issues of the Claim)

Thus when all balance sheets are aggregated, only real assets remain.

$$\text{Domestic Net Worth} = \text{Sum of Real Assets}$$

Asset Classes:

- **Common Stock:**
Ownership stake in entity, residual cash flow
- **Fixed Income Securities:**
Money market instruments, Bonds, Preferred Stock
- **Derivative Securities:**
Contract, value derived from underlying market condition. Can be a future or options contract for a CBA, derivatives of commodities, derivatives of fixed income, etc

A primary asset is the claim on the real assets (Eg BHP Shares). The payoff of Derivative asset depends on the price of the primary stock, no claim on the real assets (eg Options contract)

The Investment Process:

Asset Allocation

Primary determinant of a portfolio's return. It is the percentage of the fund in asset classes (eg: 50% in bonds, 30% equity, 20% bills).

Top down investment strategy starts with asset allocation. Allows investors to control the overall risk-return profile of their investment. Often has a greater bearing on portfolio.

Security Selection

Bottom up investment strategy starts with security selection. It is a value approach, making investment decisions in regards to a valued individual stock.

Choice of particular securities within each asset class. **Security Analysis** is the study of the value of securities.

Markets are Competitive

Risk-Return Trade-Off

- Assets with higher expected returns have higher risk

	Average Annual Return	Minimum (1931)	Maximum (1933)
Stocks	About 12%	-46%	55%

- Stock portfolio loses money 1 of 4 years on average
- Bonds
 - Have lower average rates of return (under 6%)
 - Have not lost more than 13% of their value in any one year

How do we measure risk? How does diversification affect risk?

Standard deviation- weighing losses and gains equally, covariance, etc

Are markets competitive?

In efficient markets, securities should

- Be neither underpriced nor overpriced on average
- Reflect all information available to investors

An individual's belief in market efficiency directly correlate to the choice of Investment-Management Style

	Active Management	Passive Management
Markets are...	Inefficient	Efficient
Security Selection:	Actively Seeking Undervalued Stocks	No Attempt to Find Undervalued Securities
Asset Allocation	Market Timing	No Attempt to Time Market

Market Timing: Markets are not being efficient and is based on future economic cycles (recession in next year → reduce exposure in market).

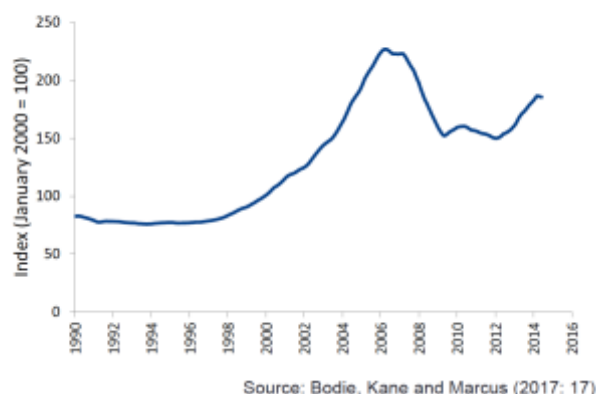
Thus passive management instead assumes market prices are efficient.

The Financial Crisis of 2008

Changes in Housing Finance:

- Low interest rates and a stable economy created housing market boom, driving investors to find higher-yield investments
- 1970s: Fannie Mae and Freddie Mac (gov sponsored enterprises) bundle mortgage loans into tradable pools (securitisation).
- Subprime Loans: Loans above 80% of home value, no underwriting criteria, higher default risk (higher leveraged loans and less borrower serviceability).

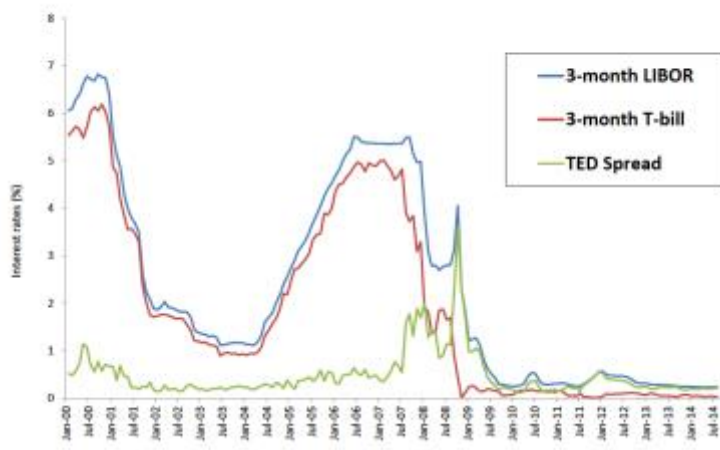
Case-Shiller Index of U.S. Housing Prices



Systemic Risk:

- Risk of breakdown in financial system- spillover effects from one market into others
- Banks highly leveraged; assets less liquid
 - Amplified risk to the economy due to their solvency issues and no buffer level
- Formal exchange trading replaced by over-the-counter markets (no margin for insolvency protection).

Short-Term LIBOR and Treasury-Bill Rates and the TED Spread



TED Spread: Spread between 2 interest rates

LIBOR: London Interbank Offered Rate. It is a benchmark rate that some of the world's leading banks charge each other for short-term loans.

Historically, both interest rates track each other closely. The difference between the 2 rates is liquidity risk and credit risk in the banking sector (risk investing in another bank of them defaulting on their liabilities).

Spread blew out substantially during the GFC, hitting a historically high 4 basis points.

Cumulative Returns:

Cumulative returns on a \$1 investment in the S&P 500 Index. Equities are of higher risk and the greater risks acts as compensation.



The Money Market Instruments

- Treasury Bills
- Certificates of Deposit
- Commercial Paper
- Banker's Acceptance
- Eurodollars
- Repos and Reverses
- Broker's Funds
- Liberal Funds
- LIBOR (London Interbank Offer Rates)

Short term financial investments with maturities of less than 1 year. Very liquid instruments

Treasury Bills
Issuer: Federal Government
Denomination: Commonly \$10,000; \$1,000
Maturity: 4, 13, 26 or 52 Weeks
Liquidity: High
Default Risk: None
Interest Type: Discount
Taxation: Owed: Federal; Exempt: State, Local

Certificates of Deposit
Issuer: Depository Institutions
Denomination: Any, \$100,000 or more marketable
Maturity: Varies, Typically 14-day Minimum
Liquidity: High for CDs <3 months, if marketable
Default Risk: First \$250,000 FDIC insured
Interest Type: Add on
Taxation: Owed: Federal, State, Local

Commercial Paper
Issuer: Large creditworthy corps.; financial institutions
Denomination: Minimum \$100,000
Maturity: Maximum 270 days, usually 1-2 months
Liquidity: CP < 3 months liquid if marketable
Default Risk: Unsecured, rated, mostly high quality
Interest Type: Discount
Taxation: Owed: Federal, State, Local

Banker's Acceptances:

- Purchaser authorises a bank to pay a seller for goods at a later date (time draft)
- When purchaser's bank 'accepts' draft, it becomes contingent liability of the bank (and marketable)

Eurodollars:

- Dollar denominated time deposits held outside US
- Pay higher interest rate than US deposits

Federal Funds:

- Trading in reserves held at the Federal Reserve
- Key interest rate for economy

LIBOR:

- Rate at which large banks in London and elsewhere lend to each other
- Base rate for many loans and derivatives

Repurchase Agreements (RPs):

- Short term sales of securities with promise to repurchase at higher price
- RP is a collateralised loan
- Many RPs are overnight. Term RPs may have a 1 month maturity

Reverse RPs:

- Lending money; obtaining security title as collateral
- 'Haircuts' may be required depending on collateral (selling \$1.2m worth of equity to buy \$1m of the security the next day)

Brokers' Calls:

- Call money rate applies for investors buying stock on margin
- Loan may be 'called in' by broker

The Bond Market

Capital Market

Fixed Income Instruments with a maturity of more than 1 year.

Government Issues: US Treasury Bonds and Notes

- Bonds vs notes
- Denomination
- Interest Type
- Risk? Taxation?

Treasury Inflation Protected Securities (TIPS)

- Principal adjusted for changes in the CPI
- Marked with a trailing 'i' in quote sheets

Private Issue

Corporate Bonds:

Investment grade vs speculative grade (AAA). Often attracts a wider investment base.

Mortgage-Backed Securities:

- Backed by pool of mortgages with “pass-through” of monthly payments; covers defaults
- Collateral
 - Traditionally all mortgages conform, since 2006 Alt-A and subprime mortgages are included in pools
- Private banks purchased and sold pools of subprime mortgages
- Issuers assumed housing prices would continue to rise

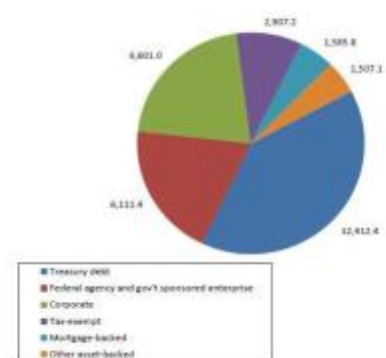
Mortgage-Backed Securities Outstanding



Growth in Private Issuers for subprime mortgages compared to Federal Agencies backing prime Investments. This has moderated since the GFC.

Equity Securities

The U.S. Fixed-Income Market



Values in \$ billion

Capital Market-Equity:

- **Common stock**
 - Residual claim
 - Limited liability (losing only value of investment)
- **Preferred stock**
 - Fixed dividends → limited gains, nonvoting
 - Priority over common
 - Tax treatment → preferred/common dividends not tax deductible to issuing firm; corporate tax exclusions on 70% of dividends earned.

Stock and Bond Market Indexes

Uses:

- Track average returns (stock indexes)
- Compare performance of managers
- Base of derivatives

Factors in Constructing/Using Index:

- Representative? Funds may invest in international stocks so ASX 200 won't be representative (Morgan Stanley indexes offer greater coverage)
- Broad/narrow? Appropriateness of index chosen (top 20 companies → follow ASX20)

Constructing of Indexes:

- How are stocks weighted?
 - Price weighted (DJIA)
 - Market value weighted (S&P 500, NASDAQ)
 - Equally weighted (Value Line Index)
- How much money to be put in each stock in the index?

Derivative Markets

Derivative Asset/Contingent Claim:

Security with payoff that depends on the price of other securities

Listed Call Option:

Right to buy an asset at a specified price on or before a specified expiration date

Listed Put Option:

Right to sell an asset at a specified exercise price on or before a specified expiration date

Futures Contracts:

- Purchaser (long) buys specified quantity at contract expiration for set price
- Contract seller (short) delivers underlying commodity at contract expiration for agreed-upon price
- Futures: Future commitment to buy/sell at preset price
- Options: Holder has future right to buy/sell

Investment Vehicles

How Firms Issue Securities

Primary and Secondary

Primary	Secondary
New Issue Created/Sold	Current owner sells to another party
Issuer Receives Proceeds from Sale	Issuer Does Not Receive Proceeds from Sale

Secondary market exists to promote liquidity in security issuances. Benefits market participants to have access to this liquidity.

Primary market of stock involves IPOs, whereas the ASX acts as a secondary market. Primary market of bonds genuinely operates as OTC markets.

Private and Public

	Privately Held	Publicly Traded
Definition	Ownership held by a small group of investors	Securities sold to the general public; investors to trade shares
Shareholders	Up to 499 shareholders	Unlimited number
Financial Statements	Fewer obligations to release financial statements to public	Obligated to release financial statements to the public
Primary Offering	Sold Directly to a Small group of Investors	Sold to the Public (often with an Underwriter)

IPO

Publicly Traded Companies:

- **Initial Public Offering:** First sale of stock by a formerly private company (floating)
- **Underwriters:** Purchase securities from issuing company and resell them
- **Prospectus:** Description of firm and security being issued. Cash flow forecasts for expected performance of firm, risks of the business, risks of the industry, etc

Financial Markets

- Overall purpose is to facilitate low cost investment.
- Brings together buyers and sellers at low cost (lowers search costs)
- Provides adequate liquidity
 - Minimise time to trade
 - Promotes price continuity (price discovery → easy to find and assess the value of a company)
- Set and update prices of financial assets
- Reduce information costs associated with investing

Market Types

- **Direct Search Markets:**
Buyers and sellers locate on another on their own (gumtree)
- **Brokered Markets:**
Third-party assistance in locating buyer or seller (mortgage or insurance broker to act search and transaction functions in the sale)
- **Dealer Markets:**
Third party acts as immediate buyer/seller (car dealer owning fleet of cars, maintaining stock to promote liquidity to customers)
- **Auction Markets:**
Brokers and dealers trade in one location. Trading is more or less continuous (Property auctions, fruit and veg markets)

Order Types

Market Order:

Execute immediately at best price. There is however, price uncertainty as the price may change in the fraction of the time the market order is being processed.

-**Bid Price:** Price at which dealer will buy security

-**Ask Price:** Price at which dealer will sell security

Often the orders will process at different ask prices (100 shares at \$25, next 50 at \$25.50). A weighted average is provided upon settlement, for the average price paid for the security.

Price-Contingent Order:

Buy/sell at specified price or better.

-**Limit buy/sell order:** Specifies price at which investor will buy/sell.

Eg: Placing an order for 100 shares at \$25.

-**Stop Order:** Not to be executed until price point hit.

Eg: Stockbroker placing a floor limit to sell at \$20 if share drops (contains loss)

New Trading Strategies

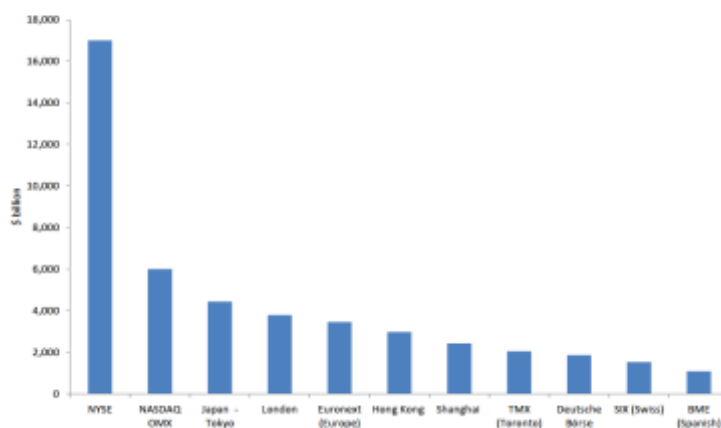
Algorithmic Trading

- Use of computer programs to make rapid trading decisions
- High frequency trading: Uses computer programs to make very rapid trading decisions in order to compete for very small profits.

Dark Pools

- Electronic Communication Network (ECN) where participants can buy/sell large blocks of securities anonymously
- No transparency with no order book. Lower disclosure and requirements to minimise market costs involved with placing large orders and other investors catching wind about the transaction, fluctuating the share price negatively.
- Blocks: Transactions of at least \$10,000 shares

Market Capitalisation of Major World Stock Exchanges, 2014



Trading Costs

Commission:

Fee paid to broker for making transaction

Spread:

Cost of trading with dealer. Implicit transaction cost

- Bid: Price at which dealer will buy from you
- Ask: Price at which dealer will sell to you

$$\text{Spread} = \text{Price}_{Ask} - \text{Price}_{Bid}$$

A market impact cost may occur when an investor's order is executed at multiple ask prices. The higher weighted average represents a further implicit cost

Combination:

On some trades, both are paid

Buying on Margin

Margin:

Describes securities purchased with money borrowed in part from broker. Using leverage to take a higher aggregate exposure to underlying asset.

Net worth of investor's account.

Initial Margin Requirement (IMR):

Minimum set by Federal Reserve under Regulation T, currently 50% for stocks/ There is a minimum % of initial investor equity.

$1 - \text{IMR} = \text{Maximum \% amount investor can borrow.}$

Equity:

Position value – borrowing + additional cash (dividend)