

# Alternative Investments: A Peek Inside the Black Box

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# Topics

- Types of alternative investments
- General description and role in portfolios
- Real asset alternative investments
- Financial asset alternative investments
- Current issues

# Alternative to what?

- Traditional Modern Portfolio Theory (MPT) asset classes:
- Risk-free:
  - > Cash and cash equivalents
- Risky
  - > Exchange-listed fixed income (long-only)
  - > Exchange-listed equity (long-only)
- Long only =
  - > Buy and hold (passive)
  - > Buy low, sell high (active)

# Most significant alternative categories

- **“CHIRPS”**
- **C**ommodities
- **H**edge funds
- **I**nfrastructure
- **R**eal estate
- **P**rivate equity
- **S**tructured products

# General alternative characteristics

- *Heterogeneous* group of investment types, but certain key common features
- Investment portfolio functions
  - > Low, no or negative correlations with traditional MPT asset classes
  - > Portfolio *diversification enhancers*
  - > Inclusion consistent with MPT
  - > Help reduce portfolio risk for same return, or increase return for same risk
  - > Increase portfolio efficiency
- Divide into real assets or financial assets
  - > *Real assets*: physical, tangible
  - > Commodities, infrastructure, real estate
  - > *Financial assets*: legal claims on future income streams
  - > Hedge funds, private equity, structured products
- Typically return “alpha” versus “beta” of listed equity universe, or provide an alternative beta from a different investment universe
  - > “Absolute returns”
- Usually high emphasis on asset manager skill, expertise, and specialization

# Part I: *Real asset* alternative investments

- Correctly described as “alternative assets”
  - > Subset of alternative investments
- Part of the real (productive) economy as opposed to financial markets
- Physical location, tangible existence
- Typically “lumpy” assets – bulky in size and high value
  - > Commodities
  - > Infrastructure
  - > Real estate
- “Mirrored” by overlying structures used as investment pooling vehicles
  - > “Mirroring” investment structure designed to replicate or pass through underlying *economic return* of the alternative assets
  - > Commodity funds based on futures contracts
  - > Infrastructure funds
  - > Real estate investment trusts (REITs), listed property vehicles (LPVs), property PIEs (in New Zealand)

# Commodities – general characteristics

- Natural products – “animal, vegetable, or mineral”
  - > “Hard” or extractive commodities
  - > Energy, metals
  - > “Soft” or perishable commodities
  - > “Agrocommodities”
- Inputs into the real economy’s production and consumption
  - > Open market prices driven by short-term physical supply and demand
  - > Only truly global trading market – international auction
  - > Priced in US dollars
- Worldwide need – necessities of life or economic activity
  - > Market dynamics changed by rise of emerging market economies (EME)
  - > More recent factor has been legislation of biofuel requirements
  - > Concerns about longer run shortages – crude oil, climate change effects on agricultural production

# Commodities – investment characteristics

- Very old asset class, but only fairly recently become mainstream portfolio asset
- Realization of MPT suitability due to commodity futures index breakthrough
- Typically negative correlations with MPT bonds and equities, but positive correlations with cash
- Positive correlation with inflation, but importantly with *unexpected* inflation
  - > Inflation hedge
  - > Cause of inflation – eg., oil, gasoline and food prices presently
- Positive correlation with market shocks (“event risks”)
  - > Prices sensitive to any supply disruption threats
  - > Wars, political conflicts, terrorism, strikes, disease outbreaks, adverse weather conditions, etc.
- Strong portfolio diversification value
- Most efficiently traded via commodity futures markets
  - > Physical commodities bulky, often perishable, storage and delivery issues
  - > Futures contract returns akin to open market spot price changes
  - > Futures are oldest modern derivatives – Japan 18<sup>th</sup> century, US 19<sup>th</sup> century

# Commodities – investment options

- Actively-traded commodity funds
  - > Oldest type of commodity funds – “managed futures accounts”
  - > Commodity trading advisers (CTAs), commodity pool operators (CPOs)
  - > Also trade financial futures
  - > Leveraged exposure, selective futures trading, long and short positions
  - > Returns depend on asset manager skill (alpha generation)
- Passive commodity funds
  - > Much more recent development as a fund type
  - > Unlisted collateralized commodity funds (CCFs) and listed exchange-traded funds (ETFs)
  - > First required development of *commodity futures indices*
  - > Unleveraged exposure, commodity futures index tracker, long-only
  - > Key indices: Dow Jones-AIG Commodity Index (DJ-AIGCI), Standard & Poor’s Goldman Sachs Commodity Index (S&P GSCI)
  - > Returns rely on passive index exposure (commodities market beta) plus collateral pool returns of interest plus capital gain

# Commodity futures – most heavily traded examples (Dow Jones-AIG)

Supercategory	Subcategory	Commodity
Energy	Crude	Oil, natural gas
	Refined	Unleaded gasoline, heating oil
Metals	Base	Aluminium, copper, nickel, zinc
	Precious	Gold, silver
Agrocommodities	Livestock	Lean hogs, live cattle
	Grains	Corn, soybeans, wheat
	Softs	Coffee, cotton, sugar
	Vegetable oils	Soybean oil

# Infrastructure – investment characteristics

- Much more available recently due to public asset privatizations and rising costs of funding infrastructure
- Real assets that typically enjoy entrenched or dominant market position
  - > Transportation
  - > Utilities
  - > Other public facilities
- Provide essential services – “public good” assets
  - > Often heavily regulated
- Protected by high entry costs, long lead times to construction and profitability, government policy, regulatory constraints, planning and environmental laws, impracticality of competition or substitution
- Long, sustainable investment life-span attractive to very long-term investors
  - > Significant institutional investor interest
- Absolute returns under most market conditions
- Low correlations with traditional MPT asset classes
- “Rogernomics” led to the proliferation of infrastructure investments in New Zealand – a politically sensitive topic ever since

# Infrastructure – investment options

- Investment structures
  - > Unlisted funds
  - > Listed trusts
  - > Listed companies
  - > Long-dated bonds
- Investor combinations
  - > Pure private sector involvement
  - > Mixed sector involvement: public/private partnerships (PPPs), partial state equity
  - > Possibly more opportunities in New Zealand?

# Infrastructure – categories

Supercategory	Subcategory
Transportation	Roads, bridges, highways, railways, ports: air, water
Utilities	Water, gas, electricity, telecommunications
Other	Schools, hospitals, postal facilities, prisons

# Real estate – investment characteristics

- Oldest “alternative” investment?
- Real assets as the name implies - land plus improvements
  - > Industrial
  - > Retail
  - > Office & general
  - > Other specialized types
- Sensitive to business cycle because facilities for economic activities
- Lengthy life-span as investments – institutional appeal
- Often time-consuming and capital intensive to replace or compete with
- Subject to geographical differentiation in returns (regions, countries, states, provinces, localities)
  - > Location, location, location holds true
- Returns from rent and capital growth
  - > Investor is landlord
  - > Property management, tenancies, upgrading improvements, and business cycle drive value
- Property indices and investment returns can suffer from serial correlation
- Low correlations with traditional MPT asset classes

# Real estate – investment options

- Traditional vehicles
  - > Unlisted property trusts and syndications
  - > Listed property vehicles (LPVs)
  - > Real estate investment trusts (REITs – invented in US)
- More recent creations
  - > Property PIEs (invented in New Zealand!)
- Investment structure designs often concerned to create *tax shelters*
  - > Taxation laws used to mitigate tax burden for investors
  - > Objective: pooled property investors get similar tax benefits as passive investors in direct property
  - > Historically started with REITs – “creatures of tax law”
  - > Taxation at investor’s marginal rate (Eg., PIE income at individual’s PIR)
  - > Deductions from gross property income for depreciation, management/repairs/maintenance (Opex), interest costs
  - > Capital repayments (bond + equity structure, stapled securities)
  - > Tax-free capital gains for NZ listed and unlisted PIEs and ASX LPVs

# Real estate - categories

Supercategory	Subcategory
Industrial	Factories, warehouses, distribution centres
Retail	Shopping malls
Office & general	Offices and other non-specialized commercial premises
Other specialized	Hotels, apartments

# Why not invest in real assets through listed companies?

- Listed company shares and real assets can show different pricing patterns through the business cycle
  - > Commodities peak and trough *later* in the business cycle than shares
  - > Property and infrastructure cycles longer and slower than sharemarket cycle
- Sharemarket systemic risk or beta can supervene to create differences between share prices and underlying real asset prices
  - > Correlation convergence from beta supervision
- Company-specific or *idiosyncratic risk* can mask real asset price performance
  - > Financial leverage – debt/equity ratio
  - > Operating leverage – fixed/variable cost ratio
  - > Currency hedging
  - > Corporate activities – mergers, takeovers, lawsuits
- Resource companies may hedge away their commodity exposure by forward selling – separate business risk from commodity price risk
- Possibly less tax-effective than specialized alternative asset investment structures (eg., REITs, property PIEs)

## Part II: *Financial asset* alternative investments

- Correctly described as “alternative investments”
  - > Not subset of *alternative assets*
  - > Invest or trade in financial assets (eg., debt, equity, currencies) instead of real assets
  - > Some overlap, though (eg., hedge funds trading commodities)
- Assets part of financial markets instead of the real economy
- Underlying financial assets exchange-listed, unlisted, or over-the-counter (OTC)
- “Post-modern”, ie., advent post WW II
- Typically “granular” assets – essentially legal claims represented by defined units of ownership (bills, bonds, shares, currency units, and variations thereof)
  - > Hedge funds
  - > Private equity
  - > Structured products

# Hedge funds – investment characteristics

- Post WW II development (First hedge fund 1949)
- Since evolved into an extremely heterogeneous investment category
- Diverse strategies for active trading across markets and asset types
  - > High dependency on manager skill
  - > Wide range of market and trading specializations
  - > Alpha is the investment objective
  - > Absolute returns sought = positive returns regardless of market conditions
- “Black box” trading methods
  - > Belief that markets are inefficient
  - > Search for price sensitive information unknown or misunderstood by others
  - > Secrecy typical to avoid inefficiencies being crowded out
  - > Short-selling a common component – “sell high, buy low”
- Comparatively shorter life on average than traditional MPT funds
- Returns depend on asset manager skill (alpha generation)
- Reliable indices available now – Dow Jones, Hedge Fund Research (HFRX), Standard & Poor’s
- Low, no or negative correlations with traditional MPT asset classes

# Hedge funds – investment options

- “Designer funds” that are built to achieve certain risk/return profiles
  - > High risk/high return
  - > Low risk/low return
- Often highly leveraged to increase risk/return profile
- Structural variations available
  - > Single manager/single strategy
  - > “Fund of hedge funds” (FoHF)
    - Single manager/multi-strategy
    - Multi-manager/multi-strategy
- Typically less regulated in investment activities than traditional MPT funds and so investor access restricted in many jurisdictions – associated with wealthy or sophisticated investors
- Regulators in many jurisdictions overemphasize the riskiness of hedge funds
  - > New Zealand historically relaxed about investment in hedge funds

# Hedge fund strategies - categories

Supercategory	Subcategory
Directional equity	Equity long/short Short-biased
Beta control	Market neutral Market timing
Arbitrage	Convertible bond Merger Event-driven Fixed income Relative value
Other	Global macro

# Private equity – investment characteristics

- Post WW II development in US equity markets
- Contrasted with public equity listed on stockmarket
- Common features
  - > High level of investment manager expertise and hands-on involvement
  - > Deal-driven, opportunistic
  - > Dependent on financing availability – debt or equity
  - > Long investment horizon, but with *exit strategy* planned from outset
    - Initial public offering (IPO)
    - Merger or acquisition
    - Trade sale
    - Recapitalization by cash distribution from operating earnings or by debt funding
  - > High return but also high risk of investment failure
  - > Success contingent on entry cost and exit timing
  - > Strongly cyclical due to dependency on matching deals with financing
- Low correlations with traditional MPT assets
  - > No or limited beta exposure

# Private equity – investment strategies

- Venture capital
  - > Pre-IPO (including start-ups)
  - > Equity capital financed
  - > IPO/listing, trade sale exit strategies
- Leveraged buyouts (LBOs)
  - > Privatising public companies
  - > Delisting and restructuring
  - > Debt financed
  - > IPO/listing, relisting, trade sale exit strategies
- Growth capital
  - > Company remains listed and existing management stays in control
  - > Equity stake finances expansions, new markets, acquisitions, restructurings
  - > Equity financed
  - > Stockmarket or private sale exit strategies

# Private equity – investment strategies

- Distressed or special situations
  - > Buying debt or equity in distressed or one-time opportunity companies
  - > “Vulture investors”
  - > Debt or equity capital financed
  - > Stockmarket, private sale exit strategies
- Mezzanine capital
  - > High-return subordinated debt or preferred equity
  - > Most junior part of company’s capital structure still senior to common equity
  - > Debt or equity capital financed
  - > Debt discharge, equity conversion exit strategies
- Secondary investments
  - > Buying existing private equity stakes sold down by third parties such as institutional investors
  - > Equity capital funded
  - > IPO/listing, trade sale exit strategies

# Private equity – investment options

- Investment options include:
  - > Limited partnerships
  - > Private equity funds (often based on secondary investment)
  - > Vulture funds
  - > Hedge funds (only recently and also controversially)
  - > Listed “corporate raiders” that specialize in company turnarounds, restructurings and break-ups
  - > Listed or unlisted venture capital, biotech and hi-tech investment companies

# Private equity - categories

Supercategory	Subcategory
Pre-listing equity	Start-up Venture capital
Listed equity	Growth capital Distressed or special situation
Delisted equity	LBOs
Other	Mezzanine capital Secondary investment

# Structured products – investment characteristics

- Fairly new sorts of investments
- Complex structures
  - > “Financial engineering” combines various underlying assets to create a new asset with different characteristics
  - > “Financial alchemy” describes transformational investment structures used
  - > “Black box” securities that are often illiquid
  - > Usually credit ratings important component
- Two broad categories
  - > Structured credit
    - Varieties of asset-backed securities (ABS)
    - Collateralized debt obligations (CDOs), collateralized loan obligations (CLOs) collateralized mortgage obligations (CMOs), structured investment vehicles (SIVs), conduits
  - > Capital protected
    - CDO framework
    - Constant proportion portfolio insurance (CPPI) framework
    - Black-Scholes option pricing (“option”) framework
- No, low or negative correlations with traditional MPT assets

# Structured credit – investment characteristics

- Fixed income investments invented by US banks in late 1980s
- Hierarchy of subordinated bond tranches
  - > Differentiated by credit ratings, interest rates, and successive exposure to default absorption
    - Super senior
    - Investment grade
    - Sub-investment grade (“mezzanine”)
    - Equity tranche
- Returns as interest and principal payments ultimately derived from an external source or “collateral”
  - > “Cash” CDOs from underlying pool of corporate bonds
  - > “Synthetic” CDOs from underlying pool of credit default swaps (CDS) and Treasury notes (T-notes)
  - > Collateral may be fixed or actively managed
- Lower tranches (equity, mezzanine) effectively insure higher tranches against losses from defaults in the collateral
  - > “Waterfall” payments cascade income down credit rating hierarchy
- Popular in the “search for yield” period before the credit crunch set in

# Capital protected – investment characteristics

- “Designer” fixed-term products with inbuilt loss limitation feature
- Investment payoff asymmetrical:
  - > Upside return from capital growth
  - > Downside return limited to permit initial capital repayment (or pre-set fraction thereof)
- Three basic components required:
  - > Risk-free asset to provide capital protection
  - > Risky asset to provide capital growth
  - > Leverage to secure at least 100% exposure to risky asset from investment inception
- “Frameworks” use different asset combinations, investment structures and management techniques to provide the three components
- Return is combination of risk-free asset and leveraged risky asset returns
- Most popular during risk-averse periods such as equity bear markets

# Capital protected – frameworks

- Various categorized in asset allocation by “framework” used
- Option framework:
  - > Risk-free zero coupon bond (ZCB) + risky long-dated option
  - > ZCB provides “static hedge” for capital protection
- CDO framework:
  - > Risk-free ZCB + risky equity tranche of CDO
  - > ZCB provides “static hedge” for capital protection
- CPPI framework
  - > Risk-free cash and fixed income portfolio + principal guarantee insurance from counterparty + risky asset of some sort
  - > Cash and fixed interest portfolio provides “dynamic hedge” for capital protection
  - > Dynamic hedging means active allocation and deallocation between risk-free and risky assets unless “defeasance” occurs

# Structured products - investment options

- Investment options include:
  - > Structured credit funds
  - > Listed CDO bond tranches
  - > Capital protected funds

# Structured products - categories

Supercategory	Subcategory
Structured credit	ABS CDO CLO CMO SIV Conduit Cash Synthetic CDO-squared
Capital protected	CDO framework CPPI framework Option framework

# Alternative investments – current issues

- Credit crunch has thrown up problems and issues of contention
- Problems and alternative investments affected:
  - > Deleveraging and credit rationing: private equity, real estate, structured credit, some hedge fund strategies
  - > Credit market dislocation: structured credit, some hedge fund strategies, affected by widened credit spreads and illiquidity of structured credit assets
- Contentious issues
  - > Influence of leverage in downfall of structured credit and some hedge funds
  - > Role of structured credit in credit crunch (sub-prime mortgages, bank-sponsored SIVs and conduits, asset-backed commercial paper (ABCP) market collapse)
  - > Role of credit rating agencies (CRAs) and supervisors like the US Federal Reserve, IOSCO and the SEC in letting the structured credit crisis explode
  - > Marking-to-model versus marking-to-market to value assets
  - > Commodities blamed for inflation, market manipulation claims, and calls for price controls

# Alternative investments – summary

- Alternative investments are heterogeneous
- Effective as portfolio diversifiers
- No, low or negative correlations with traditional MPT assets (cash, fixed income, equities)
- Divide into real assets and financial assets
- Each category comes in various types and sub-types
- Manager skill usually important
- The role of structured credit products in the credit crunch has become contentious

# Questions

- “In this business, you are either distinct or extinct”
- “**CHIRPS**”
  - **Commodities**
  - **Hedge funds**
  - **Infrastructure**
  - **Real estate**
  - **Private equity**
  - **Structured products**

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