

Group 30 Milestone 2: Data Collection

In considering the limitations of diversification in constructing an optimal portfolio, Group 30 has gathered data that may be useful in the completion of challenge 2. The data collected generally satisfies the following properties: widely available, liquid, daily granularity, long history of data (such that many market regimes are covered), nice statistical properties, high volume and high AUM.

A sample of the dataset we have chosen & relevant justifications include:

Dataset	Justification (of why we choose it)
Central bank cash rate	<ul style="list-style-type: none">- Monthly updates- Visible impacts on other metrics (ie, interest rates & inflation)- Can track the correlation between central banks globally
Vanguard Growth index fund	<ul style="list-style-type: none">- Tracking growth stocks from various indexes (ie, SP500, DOW, etc)- A representative proxy of many sub-classes of equity
S&P500	<ul style="list-style-type: none">- Daily granularity & fluctuations- Encompass many market regimes (S&P 500 was created in 1957)- As an index, it possesses "nicer" statistical properties that might be helpful during the modelling process
Dow Jones Commodity Index Gold	<ul style="list-style-type: none">- Gold is seen as a hedge against inflation as well as a physical asset of safety with interesting correlation with equities-
iShare S&P GSCI Commodity Index Trust	<ul style="list-style-type: none">- It acts as an adequate benchmark for various commodity prices- Takes into account the correlation between different sub-classes of commodity- Commodity and equity typically shares low to moderate negative correlation - good hedge in case equity prices fall

Other useful potential datasets:

Commodities

- GSCI - which includes
 - Energy: WTI crude oil, Brent crude oil, RBOB gasoline, Heating oil, Gasoil, Natural gas
 - LME: aluminum, copper, lead, nickel, zinc
 - Gold, Silver
 - Agriculture Chicago wheat, Kansas wheat, corn, soybean, cotton, sugar, coffee, coca
 - Livestock: live cattle, feeder cattle, lean hogs
- S&P 500 Energy Index
- iShare S&P Commodity Index Trust
- S&P 500 Materials Index
- Dow Jones Commodity Index Gold

Property

- S5RLST - real estate
- S&P/ASX 300 - Australian real estate investment trusts (A-REITs) and mortgage REITs

Equities (Sector)

- SPXT - technology
- S5UTIL - utilities
- S5TELS - communication services
- S5MATR - materials
- S5INFT - info tech
- S5INDU - industrials
- S5HLTH - health care
- S5FINL - financials
- S5ENRS energy
- S5CONS - consumer staples
- S5COND - consumer discretionary

Equities (Other)

- SPX
- MXWD and MXWOUIM -all countries
- MXEF - emerging markets
- MID - mid cap
- M1USMVOL - low volatility
- M2USRWGT - risk weighted
- RU20GTRTR - growth
- RU10VATR - value
- RU10VGRTR - growth

- NDDUUK - UK
- NDDUPXJ - Japan
- NDDUJN - Japan
- SPY - tracks S&P 500
- IVV - tracks S&P 500
- VOO - tracks S&P 500
- Vanguard Growth Index Fund
- VTI - total stock market
- VEA - Developed Markets (Foreign Large Cap Equities)
- BND - total bond market
- VTV - value stocks
- IEFA - International Equities
- AGG - Bonds
- VUG - Growth
- VWO - Emerging Markets
- IJR - small cap
- IEMG - emerging markets
- VIG - dividend appreciation

Bonds

- LULCTRUU - long credit
- LUICTRUU - intermediate credit
- LT01TRUU treasury 1-3 yr
- IBXXSHY1 - 0-5y high yield corp bond
- IDCT20RT - 20+yr treasury bond
- LBUSTRUU - bond

Other

- FXE - euro
- UUP - bull USD
- FXF - franc
- FXY - yen
- FXA - aussie
- FXC - canada
- FXB - pound
- UDN - bear USD
- EUO - short euro