# Asset Class Mapping for Asian Market Quant Project

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## 1 Asset Class Mapping

This document outlines the asset class categorization for our cross-asset Asian markets project. We have categorized the tickers into five main asset classes for systematic analysis and risk budgeting.

Table 1: Asset Class Mapping for Asian Markets

| Ticker Range | Asset Class | Currency | Comment |
|---|---|---|---|
| MXAP . . . FMETF | Emerging-Asia equity indices | Mostly USD | Regional beta + macro sensitivity |
| GOLDS . . . S | Commodities (Gold spot, Brent front-month, generic Softs, Philippines gold ETF) | USD | Adds inflation hedge, carry via roll |
| SPX . . . NKY | Developed-market equity benchmarks | USD / JPY | Good stress-test proxies |
| USDPHP . . . USDJPY | FX | USD notional | Carry + momentum rich |
| USGG5YR . . . GTUSDPH5Y | Sovereign | USD | Duration + EM credit risk |

## 2 Risk Budgeting Framework

Based on our asset class mapping, we propose the following risk budget allocation for portfolio construction. This allocation will be used in the hierarchical risk parity (HRP) overlay.

Table 2: Risk Budget Allocation

| Asset Class | Allocation (%) |
|---|---|
| Equities | 60.0% |
| Rates | 20.0% |
| Fx | 10.0% |
| Commodities | 10.0% |

## 3 Asset Class Descriptions

### 3.1 Emerging-Asia Equity

This category includes the major Asian equity indices (MXAP, MXAS) and country-specific indices (PCOMP for Philippines, JCI for Indonesia, etc.). These provide exposure to regional beta with varying degrees of macro sensitivity.

## 3.2 Commodities

Our commodity exposure includes gold spot (GOLDS), Brent crude front-month (CO1), generic Softs (S 1), and a Philippines gold ETF (FMETF). This basket provides inflation hedging properties and potential carry from rolling futures contracts.

## 3.3 Developed-Market Equity

We include S&P 500 (SPX) and Nikkei 225 (NKY) as developed market benchmarks that serve as useful proxies for stress testing our portfolio and measuring correlation regimes.

## 3.4 FX Crosses

We track several USD crosses including USDPHP, USDMYR, USDIDR, USDSGD, and USDJPY. These provide exposure to carry and momentum factors that tend to work well in Asia.

## 3.5 Sovereign Yields

Our rates exposure includes 5-year sovereign yields: US Treasury (USGG5YR), Philippine government bonds (GTPHP5yr), and USD-denominated Philippine sovereign debt (GTUSDPH5Y). These provide duration exposure and EM credit risk.

# 4 Next Steps

With this asset class mapping complete, we will proceed to:

1. Implement data cleaning and currency normalization

2. Perform exploratory analysis to identify correlations and regime changes

3. Design signal prototypes for each asset class

4. Apply hierarchical risk parity within our risk budget framework