The RICI Index - Tapping the Dynamics of Worldwide Commodity Consumption

Commodities are included in institutional and private portfolios for a number of reasons; as a source of returns, to provide diversification from equities and bonds, and for inflation protection. Commodities tend to have a low correlation with financial assets, as real assets respond differently to changes in economic fundamentals. They provide direct exposure to changing domestic and industrial consumption patterns.

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The Rogers International Commodity Index (RICI Index) is a broad based, USD denominated, total return composite index that was designed in the late 1990s by Jim Rogers, the renowned investor, financial commentator and author. Rogers designed this basket to reflect commodity consumption throughout the global economy, including both developed and developing countries, across a broad range of energy, metal and agricultural products.

Understanding the RICI Broad Commodity Index

Jim Rogers, who co-founded the Quantum Fund in the 1970s and coined the phrase ‘commodity super-cycle’, launched the RICI Index in 1998 as he was dissatisfied with the choice of commodities indices when looking to invest his personal capital. He observed that commodity indices at the time primarily provided exposure to contracts traded on US exchanges so did not fully reflect global commodity consumption.

As an international index the RICI Index was designed to incorporate commodities commonly used not only in developed economies but developing economies as well; commodity related industries generally represent a larger proportion of less mature economies that tend to be centred around activities such as agriculture, mining, infrastructure construction and manufacturing.

Rogers observed that billions of people eat rice every day, although rice wasn’t included in mainstream indices, nor were other widely used commodities such as rubber and lumber.

The RICI Index is designed as an international benchmark providing comprehensive coverage of the global commodity universe. It is made up of a basket of futures contracts on 38 exchange-traded physical commodities, that are quoted in four different currencies

and listed on ten exchanges in four countries.[1]

The index's weights to individual commodities aims to balance worldwide consumption with individual commodity contract liquidity. Equity indices are commonly weighted by market capitalisation. Such a concept does not exist for commodities, so the RICI Index measures commodity consumption by tracking international import and export patterns and domestic consumption in the world's main commodity-based economies. Another critical design factor is trading volume and liquidity of commodity contracts.

Commodity futures markets bring together a diverse range of producers, consumers, speculators and investors seeking exposure for a variety of purposes. This broad range of market participants tends to provide greater liquidity and efficiency than the physical market. That is why the RICI invests in futures contracts rather than physical commodities. Additionally, investing in futures avoids the cost and complexity of taking physical delivery of commodities required in the spot market.

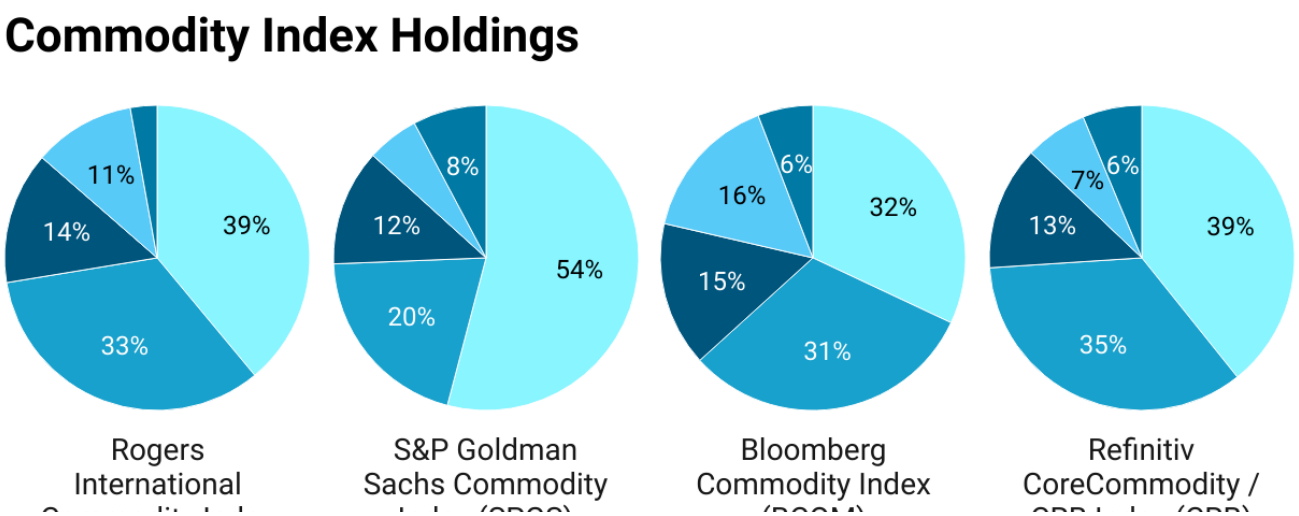
Other Commonly used Commodity Indices

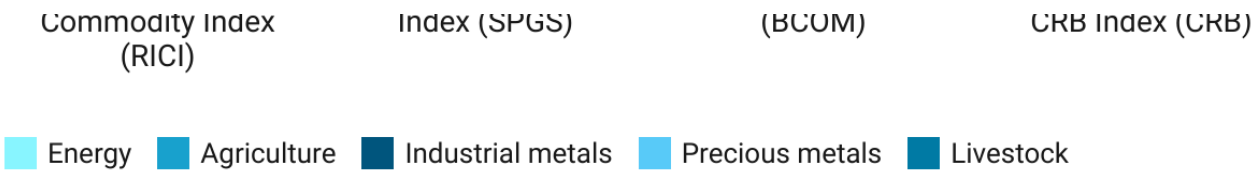
The Bloomberg Commodity Index (BCOM), which was launched in 1998, is made up of 21 different commodity futures contracts.[2] Commodities are weighted to reflect their economic significance and active futures market liquidity. Individual commodity weights are capped at 15%, and commodity sectors capped at 33% in order to promote diversification. The index is reviewed and rebalanced annually, with monthly futures rolls.

Launched in 1991 the S&P Goldman Sachs Commodity Index (S&P GSCI) was the first major commodity index. The index consists of 24 commodity contracts weighted to reflect the average quantity of global production, designed to reflect the relative significance of each of the included commodities in the world economy.[3]

The Refinitiv / CoreCommodity CRB Index (CRB), launched in 1994, represents 19 commodities.[4] Constituents are weighted to take account of their global economic significance, such as production and consumption trends, correlations between commodity sectors, as well as futures volumes and liquidity. The weighting to petroleum products is capped at 33%, while metal, agricultural and livestock commodities are sorted by liquidity into three equally weighted groups to which are attributed three size categories.

The design of these indices, including constituent weights and rebalancing frequency, contribute to important differences in exposures to individual commodities and sectors. For example, S&P GSCI tends to be heavily exposed to the energy sector, due to high weights of Brent and WTI crude oil, while BCOM has higher weights of industrial and precious metals, while CRB has lower weights of precious metals.





Supply and Demand Dynamics, Economic Cycles and Secular Trends

Developing economies are an important source of demand for commodities. The size, dynamism and diversity of these resource-intensive economies is an important characteristic for developed economies which tend to be more service orientated. Much of the world's population live in developing countries such as China, India and Indonesia, now accounting for the majority of the world's higher consuming middle class; the Brookings Institute identifies the world's 3.6 billion middle class as predominantly Asian, responsible for more than half of the growth in household spending over the last decade.[5]

Historically petroleum products have been vital to the global economy. Alternative technologies designed to reduce carbon emissions and mitigate global warming are rapidly becoming an important source of energy. They are expected to become the primary global energy source by the middle of the century. These new technologies intensively use industrial metals such as platinum, palladium, copper and nickel. Offshore wind turbines use significant quantities of copper (according to Wood MacKenzie currently using 450,000 tonnes per annum, expected to increase to 600,000 tonnes per annum by 2028).[6] A traditional internal combustion engine (ICE) powered vehicle uses 18 - 49 lbs of copper, however an electric vehicle (EV) contains around 132 lbs.[7] A high proportion of the estimated 900 million EVs in use by 2040 will contain high energy intensity batteries each using 30 – 110 kg of nickel.[8] Solar panels use silver in the paste that coats light sensitive wafers, now accounting for around 10% of global silver consumption.[9] Platinum and palladium are essential components in ICE catalytic converters, requiring 2-10 grams per vehicle; however hydrogen fuel cell powered vehicles are considerably more intensive users at between 30 and 60 grams of platinum.[10]

For a decade, prices of agricultural products have been adversely affected by structural factors. The resulting 30% increase in supply has caused significant falls in prices of commodities such as corn, soyabeans and wheat.[11] In response to falling prices, the world's overwhelming elderly farmers (the average age of farmers in the UK is 59, Japan 67 and Kenya 60) are retiring at a rapid rate. In the US more than 100,000 farms closed down between 2011 and 2018.[12] More immediately, the COVID pandemic has displaced labour and prevented movement of migrant workforces critical to harvesting many crops, putting pressure on supply. COVID-related distortions in supply and demand have also caused the price of lumber to increase by more than 250% since January 2020.[13]

China, as the world's most populous nation and largest manufacturer (with output exceeding US, Japan and Germany combined), is a major source of commodity demand. Major agricultural commodity imports are soyabeans, oilseeds, cotton and wool. Fossil fuels constitute 13% and metal ores 9% of imports respectively.[14] China continues massive infrastructure development, recently announcing significant extensions to its high-speed rail and airport network. Not to be outdone, in the US the Biden administration's US$2.2 trillion COVID recovery plan includes extensive commitments to rebuild the country's aging

infrastructure as well as laying the foundations for a low carbon economy.
A broad commodity index with enduring relevance must capture a diverse range of products which are affected by different supply and demand factors. Equally, the index needs to be broad enough to capture evolving demand occurring with rapid technology and economic change.

Liquidity is Key to Investability

Commodities tend to be more volatile than other asset classes, making liquidity particularly important. Liquidity of specific futures can be assessed through the amount of open interest (the combined number of open long and short positions) and daily trading volumes. Liquidity ensures market participants are able to buy and sell easily, lowering the cost of transacting as the tightest bid / offer spreads minimise execution costs. Deep markets with a high degree of certainty in demand are less volatile than illiquid markets. Ample liquidity attracts speculators who provide additional liquidity to investors.
The most liquid commodity futures contracts are in oil; Brent crude is the most heavily traded commodity on the International Commodity Exchange (ICE) in terms of value, while West Texas Intermediate (WTI) is traded in highest volumes on the New York Mercantile Exchange (NYMEX). Industrial metals are most heavily traded in Asian markets, steel on the Shanghai Futures Exchange and iron ore on the Singapore Exchange (SGX), while copper is most frequently traded on London Metal Exchange (LME) and COMEX, part of the Chicago Mercantile Exchange (CME). The highest traded volumes of gold and silver are on LME. Among the soft commodities coffee, soyabean and cocoa are the most frequently traded.[15]
The RICI Index uses volume and liquidity data from international exchanges to determine the investability of potentially included commodities. If a commodity contract trades on more than one exchange, generally the most liquid contract taking account of both volume and open interest is selected. For example, silver is traded on three exchanges - COMEX, ICE Futures and Tokyo Commodity Exchange - the largest average volume and open interest is consistently on COMEX which is used to represent silver in the index. Aside from liquidity, the RICI Index seeks to include the contract representing the highest quality grade of each commodity.

Accessing the RICI Index

Investors can access the broad, global commodities exposure provided by the RICI Index through the Market Access Rogers International Commodity Index UCITS Exchange Traded Fund. Launched in 2006, it trades in GBP on the London Stock Exchange, USD on the Swiss Stock Exchange and EUR on the Deutsche Borse.[16]

Footnotes

1. RICI Handbook http://www.beelandinterests.com/RICI%20Handbook.html
2. Bloomberg Commodity Indices https://www.bloomberg.com/professional/product/indices/bloomberg-commodity-index-family/?utm_medium=Adwords&utm_campaign=Indices&utm_source=pdsrch&mpam=26469&bbgGP-03-20-M26469&gclid=CjwKCAjw7diEBhB-EiwAskVi15X0C8tA3-XPMZynstHgoFoa18M736607gEHg3hXt-3-KqqHC-AOnBoCSuQQAvD_BwE
3. S&P GSCI https://www.spglobal.com/spdji/en/indices/commodities/sp-gsci/#overview
4. Refinitiv Commodity Indices https://www.refinitiv.com/en/financial-data/indices/commodity-indices

5. Brookings Institute https://www.brookings.edu/blog/future-development/2018/09/27/a-global-tipping-point-half-the-world-is-now-middle-class-or-wealthier/
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