

INTRODUCING THE OM JAKOTA 60 INDEX



Jakota

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ABOUT OXFORD METRICA

Oxford Metrica is a strategic advisory firm, offering informed counsel to boards.

Our advisory services are anchored on evidence-based research in risk and financial performance.

Our work includes statistical analysis and index construction for banks and insurers, risk and performance analytics for asset managers, due diligence support in mergers and highly customised services for corporate boards.

ABOUT JAKOTA INDEX PORTFOLIOS

Jakota Index Portfolios is a New York based financial media company and index provider specialising in the Jakota (Japan, South Korea, Taiwan) regional markets. It is supported by a diverse international consortium, including leaders like Nobias Media from Portugal and Oxford Metrica from the UK, along with partners such as Digital Domain Global AI Lab and Jakota Taiwan Capital Partners. The company focuses on leveraging the expected rapid growth and outperformance of Jakota markets in the next decade. Jakota Index Portfolios owns and operates jakotaindex.com, which offers proprietary Jakota equity indices and in-house research for the global investment community. It also provides Investor Relations services aimed at public companies from the Jakota region seeking to enhance their capital markets presence.

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FOREWORD

Dr Rory Knight, is the Chairman of Oxford Metrica. Rory is a member of the John Templeton Foundation where he chaired investments. Formerly he was Dean of Templeton College, Oxford University's business college and before that the Vize-Direktor at the Schweizerische Nationalbank (SNB), the Swiss central bank.

On behalf of Oxford Metrica and our partners, Jakota Index Portfolios Inc., I am delighted to announce the launch of Jakota's flagship index for the Jakota region; the OM Jakota 60 Index (OMJ60). Jakota Index Portfolios is a New York based financial media company and index provider specialising in the Jakota (Japan, South Korea, Taiwan) regional markets. The main purpose is to construct a unique regional asset class which currently does not exist in the extant index regime.

The OMJ60 is a smart beta index, derivative on the Jakota Blue Chip 150 Index (JBC150). This report introduces the flagship OMJ60 Index alongside the Jakota Blue Chip 150 Index, both drawn from the same universe of the largest 150 listed firms in the Jakota region. Oxford Metrica and Jakota Index Portfolios are partnering to produce the OMJ60 Index to provide a novel metric of performance across the region in US dollar terms. The JBC150 is a market-capitalisation weighted index including the largest 150 stocks in the region with a market capitalisation above \$10 billion. The OMJ60 is an equally-weighted index including the top twenty stocks in each country in the region, that are part of the JBC150.

The three countries have a deep common history, a similar economic geography sharing a status as highly industrialised economies with an urbanised population and similar geopolitical alignments under the US security umbrella. Changes in global geopolitics position the region to attract a greater share of the world's investment which augurs well for above average returns in these markets over the next decade. The recent investment in Japan by Warren Buffet the legendary investor is an example of this trend.

The report is organised in nine main sections: The introduction sets out the macro context which provides the underlying rationale for the expectation of higher-than-average returns from stocks in the Jakota region, over the next decade. The next three sections report the detailed performance of the flagship OMJ60 index against the JBC150 and two other benchmarks; the S&P 500 and the MSCI ACWI. Following an overview of Jakota's suite of indices, sections on risk and return, and currency considerations are presented. The penultimate section provides a rationale for the OMJ60. The paper concludes with a summary of the characteristics of the OMJ60 alongside the JBC150.

The OMJ60 provides a guide to discerning investors who seek some exposure to the opportunities in the Jakota region. The OMJ60 has out-performed the reported indices over the last twenty-one years by tilting three key factors; the dominance of Japan; the effect of the Japanese yen and the effect of mega-cap concentration. The result is a strong performing index which exhibits an optimal natural hedging against currency risk. We hope this provides useful insights which are helpful in international asset allocation decisions and performance measurement in the region.



Dr Rory Knight
Chairman
Oxford Metrica

INTRODUCTION

This paper introduces the OM Jakota 60 Index and the Jakota Blue Chip 150 Index. The constituent stocks in these indices are drawn from the top 150 stocks traded on the three major stock exchanges in the Jakota region; the Tokyo Stock Exchange (TSE); the Korean Stock Exchanges (KRX & KOSDAQ) and the Taiwan Stock Exchange (TWSE). Our aim is to provide international investors with a benchmark to track composite performance and to reveal insights on one of the most productive regions in the world.

RISK ABOUND AND OPPORTUNITY FLOURISHES

The world is in flux and the shift in the geopolitical tectonic plates is changing the landscape and this carries significant risks for global investors. However, the future is Jakota.

Currently, Taiwan & Korea are classified as emerging markets and are therefore included in this densely populated asset class which we believe is inappropriate and highly dilutive of value. Japan on the other hand is excluded from many Asian indices which is an opportunity missed. We aim to change this by creating a more sharply focussed set of indices based on the three nations that are among the most advanced economies in the world. This will give the region a wider exposure to attract a greater share of the global investor's capital allocations. In short, we wish to release the region from the restrictive effects of the extant regime of indices. While risks abound, opportunity flourishes. As the legendary investor Sir John Templeton, an early investor in the region, always said "trouble is opportunity".

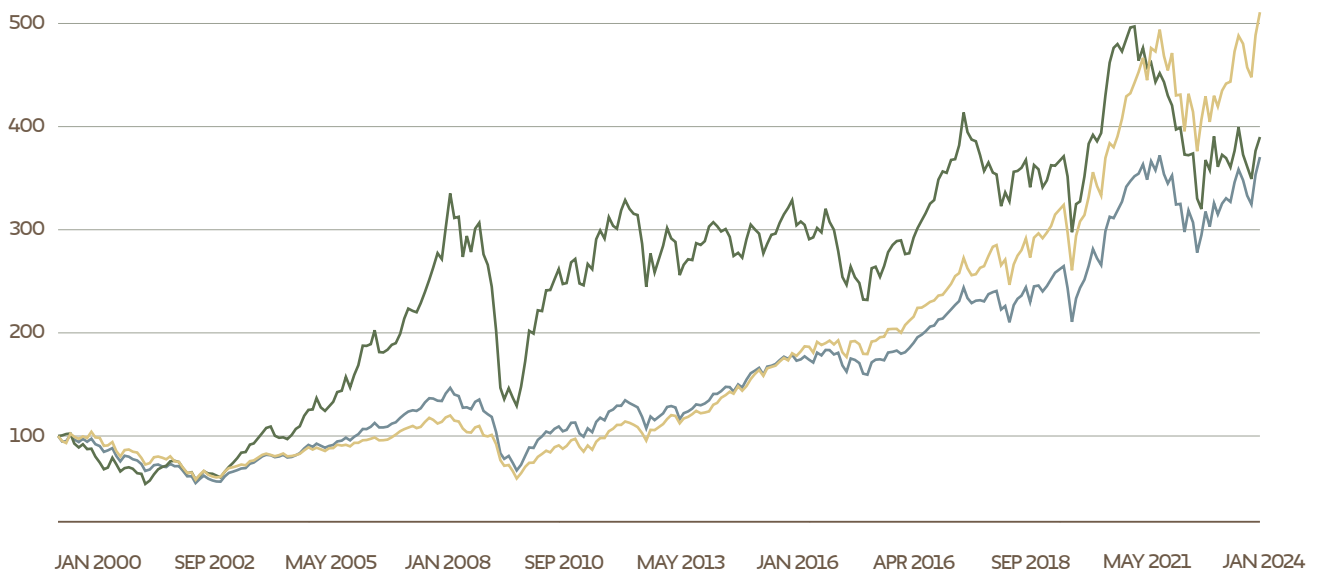
A GAME OF TWO HALVES

In figure 1 we see how the millennium to date stock markets' performance is made up of two halves. In the first decade the Emerging Markets (EM) dominate and in the last twelve years the Developed Markets catch up. Much of the differential in the latter, atypical period, is the unusually high value of the dollar. There are many consequences for the major economies, and these are the seeds for the change we might expect over the next decade.

FIGURE 1 EM equity market performance

January 2000 to January 2024

— MSCI ACWI
— MSCI EM
— S&P 500



In the first decade of this millennium the Emerging Markets delivered a spectacular performance, however in the last twelve years they have fallen behind the developed markets. It took until December 2022 for the developed markets to overtake the emerging markets on a cumulative basis, millennium to date. The S&P 500 delivered an impressive 26.3% return for 2023.

As global investors we need to think about what happens in the next decade. Firstly, the economic conditions that prevailed in the last twelve years are atypical and have been driven largely by the expansionary monetary policies adopted by central banks as a reaction, *inter alia*, to firstly the Great Financial Crisis of 2008 and more recently the Great Covid Lockdown. These policies largely took the form of quantitative easing which has caused central bank balance sheets to increase tenfold. The result was interest rates at zero, that is free money; ballooning asset prices and an all-time high in the value of the US dollar measured in terms of the real effective exchange rate.

A NEW WORLD ORDER

All that is about to change. Although many companies in the Jakota region flourished, the growth of the Chinese economy has not been that beneficial to the area especially to Japan. In Taiwan's case the successes constitute a significant share of the economy less so for Japan and somewhere between the two for Korea. We contend that we are now in a new era for the global economy as the spectre of inflation rises and central banks begin to reverse their policies. Taken together with political dislocations and de-globalisation this situation presents a great opportunity for the Jakota region in general.

It is very clear that allocations to China will be reducing precipitously, and Jakota will be a major beneficiary. The timing is auspicious as all three stock markets and their respective currencies are significantly undervalued (see below).

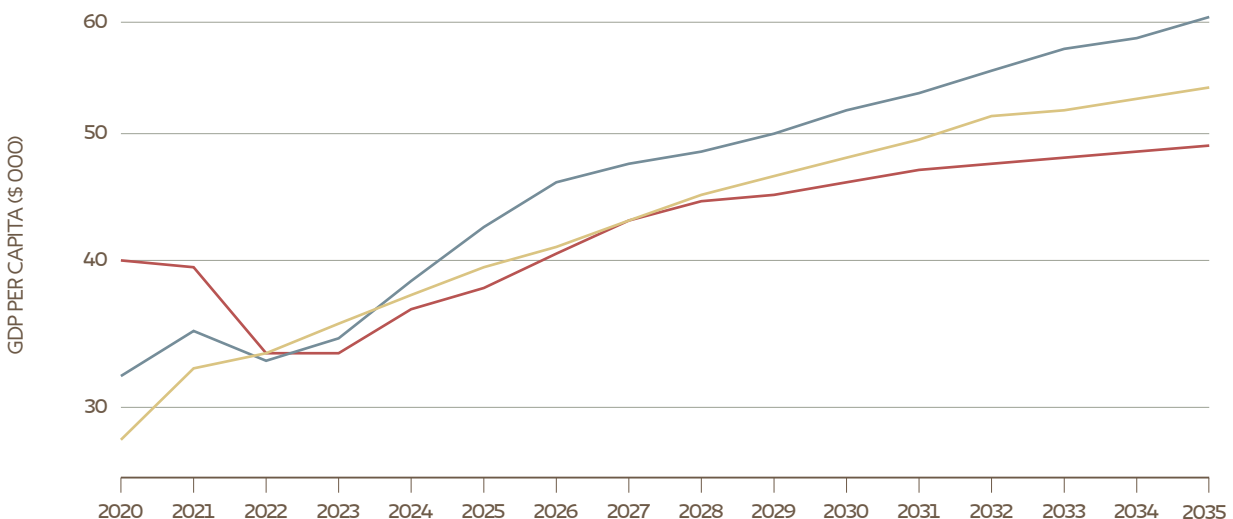
The three countries have quite distinct cultures however there is a shared history and all three operate dynamic market economies under the US security umbrella.

THE FUNDAMENTALS ARE STRONG

The outlook for growth is considered by many respected observers to be excellent. In particular, after the recent covid related reduction, *per capita* income is expected to rise comfortably above \$50k *per annum* in all three countries in the next decade. Figure 2 reports the recent forecasts published by the Japan Centre for Economic Research.

FIGURE 2 Forecast of GDP per capita in the Jakota nations for the next decade

- JAPAN
- KOREA
- TAIWAN



WE ARE ALL EMERGING MARKETS NOW

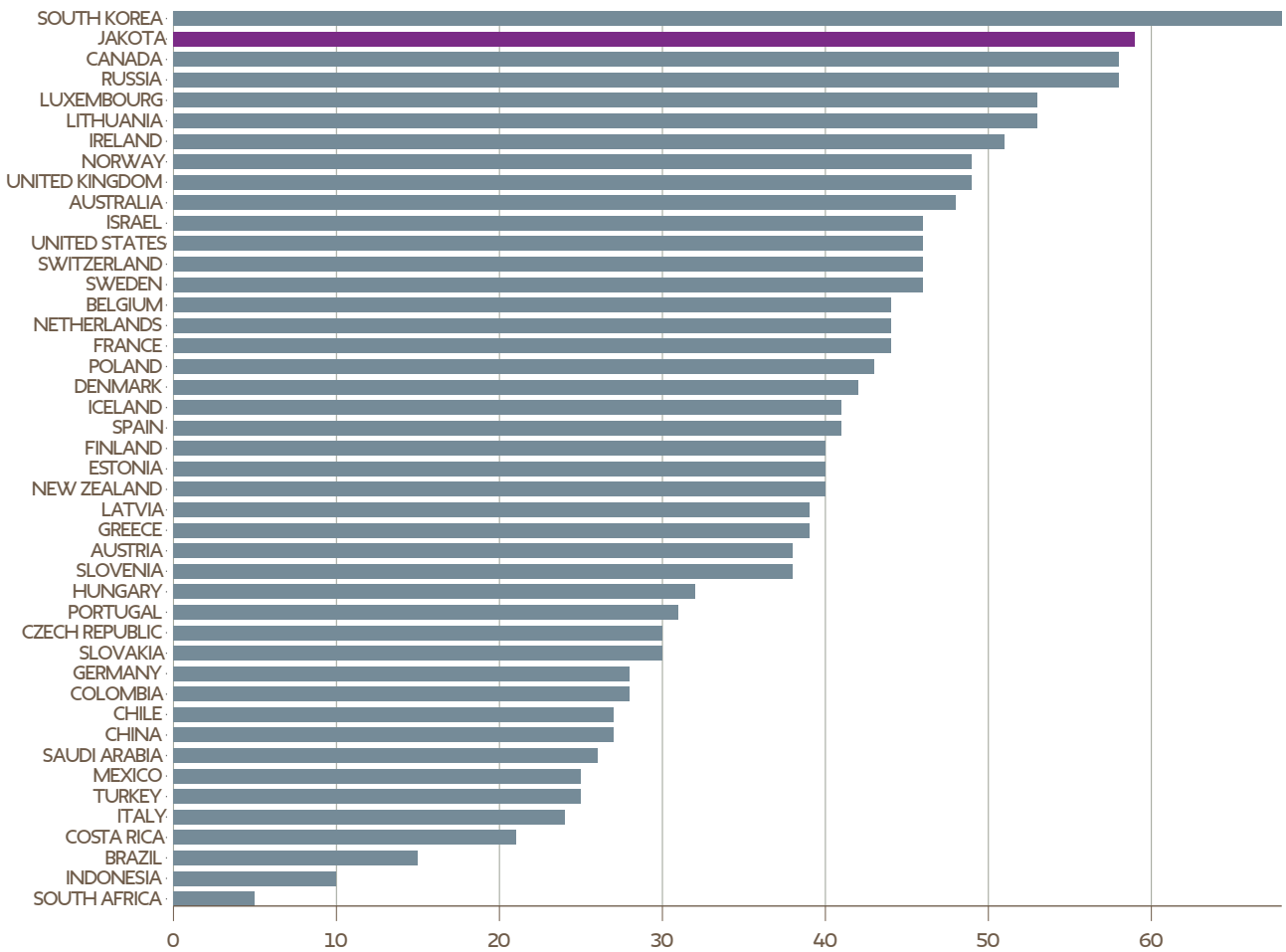
Our recent whitepaper lays out the evidence of the state of the world in a series of dashboards which form the basis of our thinking for asset allocations to capture what we believe will be above average returns in the Jakota region over the next decade.² The atypical decade we have just experienced has seriously weakened the so-called developed market economies. Government expenditure is taking up an increasing proportion of GDP most strikingly in Europe, and this is the average, many countries there are in much worse shape. As a result of the increased spend government deficits have expanded with the US, UK & EU in a much more severe position than the emerging market economies. The deficits in turn are funded with increasing amounts of government debt with the EM in a very strong position. This is one of the top three areas of risk for Japan; the other two are an aging population and exchange rate policy. The state of central bank balance sheets illustrates the cause of some of these issues, namely quantitative easing. Central banks enthralled with Modern Monetary Theory believed that increases in money supply do not cause inflation. This is true to the extent that economies are not operating at full capacity, thus globally it might hold. However, with the uncoupling of economies from de-globalisation the link is very much evident again. The tenfold increase in assets held by central banks hangs over these economies like the sword of Damocles. Finally, the strength of Emerging Market reserves versus Developed Markets shows who is funding whom. Emerging Market reserves to GDP are in rude health and as we shall see below Jakota leads the field.

JAKOTA IS READY

We now turn to the country fundamentals which underly our expectation of above average returns in the next decade. There are several change factors from geopolitics to technology which place the region at the heart of global growth and innovation which in turn will lead to the region attracting an increasing share of the global investor's international capital allocation.

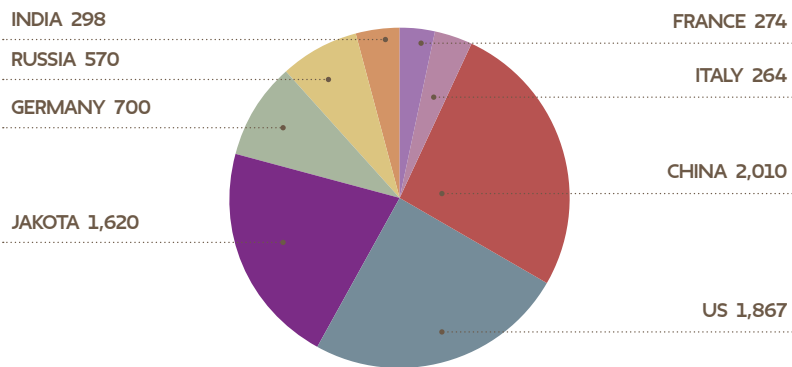
Firstly, the region is bursting with high quality human capital, probably the most important driver of mid- to long-term competitiveness and growth. Figure 3 illustrates how the Jakota region enjoys a 25- to 34-year-old demographic that has nearly 70% as graduates from four-year colleges (or equivalent), in comparison to the UK & US which are below 50% by this metric. This really counts for innovation.

FIGURE 3 The proportion of graduates in the 25 to 34 year-old group across nations (%)



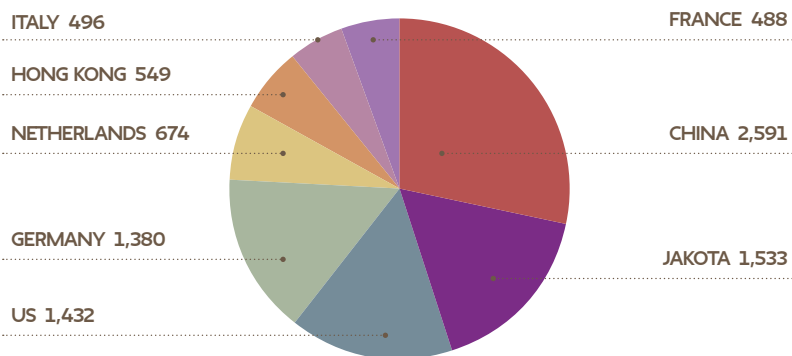
Secondly, figure 4 shows the strength of the region in manufacturing, each one of the countries is in the top ten by manufacturing in absolute terms. Combined they rank a close third behind China and the United States.

FIGURE 4 Top ten nations by manufacturing 2020 (US\$ Billion)



Thirdly, figure 5 demonstrates the power of the region as an exporter, again each one of them ranks in the world top ten exporters in dollar terms. As a group they are second only to China pushing the US into third position.

FIGURE 5 Top ten nations by exports 2020 (US\$ Billion)



Finally, figure 6 shows the financial prowess of the region. All three rank in the world top ten by foreign reserves held, and in combination they rank second only to China. In short, the rest of the world owes this creditor region a great deal of money. This augurs well for above average returns.

FIGURE 6 Top ten nations by foreign reserves 2023 (US\$ Billion)

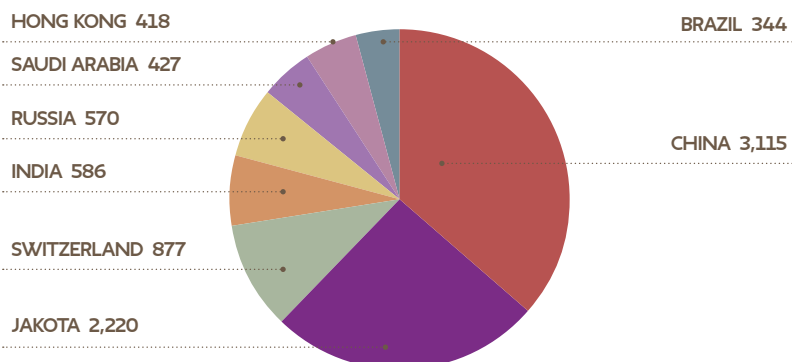


FIGURE 7 World equity market valuations 2023 (US\$ Trillion)

JAKOTA EQUITIES ARE TRADING AT A DISCOUNT

Figure 7 reports the value of the region relative to the world equity markets. The region is currently valued at around \$9 trillion which represents just over 8% of the total value and just below the combined value of the European Union stock markets. The undervaluation is due to both a local equity market discount to world markets and significantly undervalued currencies. This represents further opportunity for the international investor.

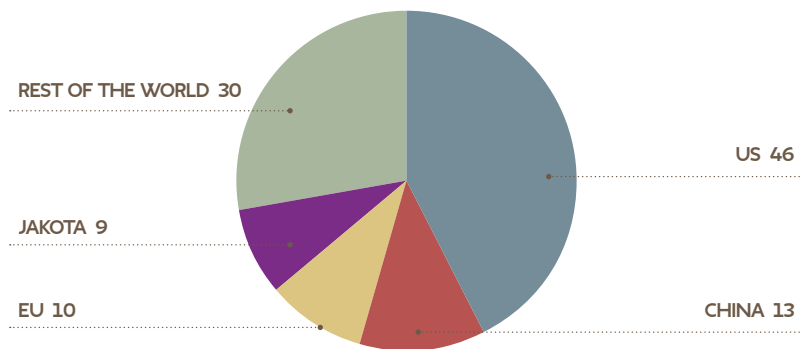
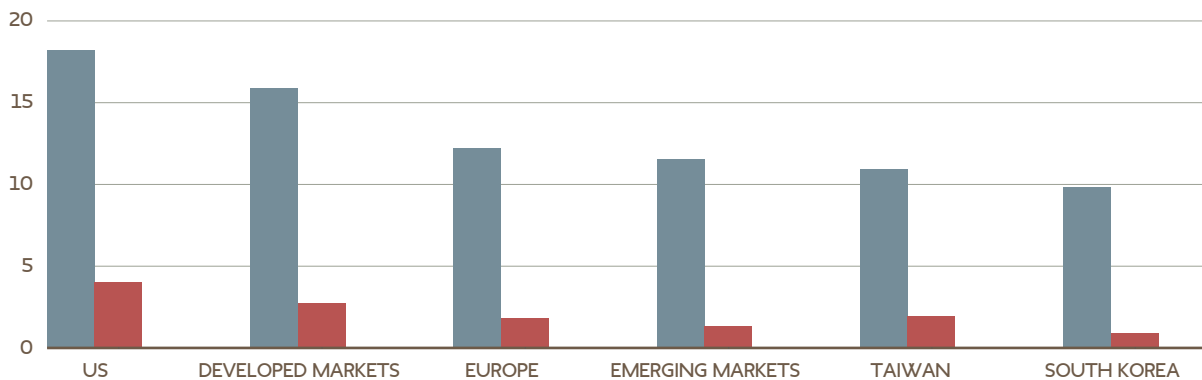


FIGURE 8 International comparisons of price to book and price to earnings

● FORWARD P/E
● P/B

The local equity market discount is illustrated in figure 8 which compares the price to earnings (P/E) and price to book value (P/B) ratios across markets. Notice the famous Korean (Kimchi) discount with P/B at 0.9x compared to the US value of 4x. Similarly, Taiwan and Korea trade on average price to earnings ratios of 10.9x and 9.8x respectively, in comparison to the US on 18.2x.

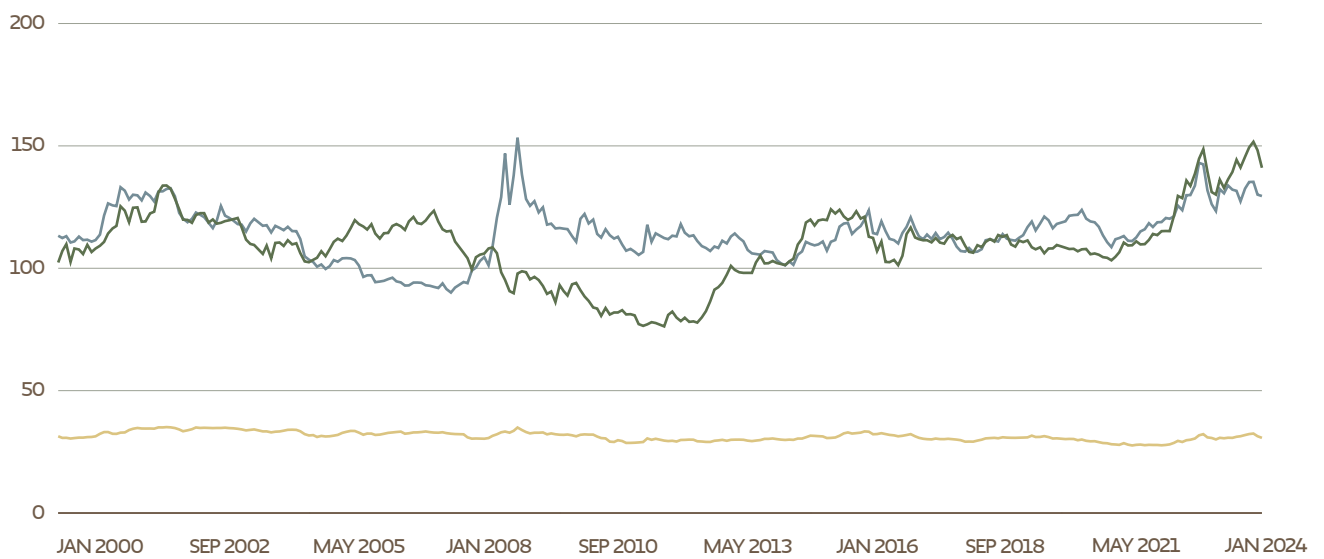


JAKOTA CURRENCIES ARE UNDERVALUED

A weaker currency presents more opportunity than threat. Firstly, a weaker currency benefits many companies in these export driven economies. Secondly, a potential improvement in the currency provides an underlying support to international equity investors, especially as there is a natural hedge between currency and local equity returns in export economies. Furthermore, recent currency trends provide a further incentive for investment by international investors. These issues will be examined in more detail below. Figure 9 shows the evolution of the three currencies over the millennium to date.

FIGURE 9 Jakota nations exchange rates against the US\$ January 2003 to January 2024

— KRW X 10⁻¹
— JPY
— TWD



WHY A NEW INDEX SERIES?

Our contention is that the region is poorly served in terms of the way it is included in indices which works against increased allocations especially from index investors. Furthermore, we observe a paucity of good information in English from the region. Jakota Index Portfolios aims to provide international investors an information rich stream of data and news in English. The Jakota Index series will be the most important development in investable indices since the BRIC acronym was invented by Jim O’Neill at Goldman Sachs in the early nineties. The most important benefit for Jakota companies is the increase in allocations to the region and an increase in their profile. Jakota firms will simply be more accessible to international investors. Thus, opportunities for creating American Depositary Receipts (ADRs) traded on the US OTCQX market will help restore the correct valuations.

TWO FLAGSHIP INDICES

In order to provide international investors greater insights into the region we present the two flagship Jakota indices. The Jakota Blue Chip 150 (JBC150) is a market capitalisation weighted index of the top 150 companies traded in the three major stock markets in the region. We believe that the index will provide insights presently obscured in the current indices on offer. Furthermore, it provides a composite measure of one of the most productive and industrialised regions in the world. The OM Jakota 60 (OMJ60) is an equally weighted index based on the twenty largest market capitalisation stocks in each of the three markets. The former should be considered as a passive all share large-cap index and the latter as a smart beta index tilted away from the mega-cap stocks.

The Jakota Idea.

An historical perspective

Jakota is an acronym formed from the first two letters of the three countries that define it: Japan, Korea and Taiwan. Although, the acronym was used as an adjective to define a triangle formed by the vertices of the three capital cities of Tokyo, Seoul and Taipei, the term has not been used extensively, if at all, outside the Economic Geography literature. Our adoption of the name for a suite of stock market indices is novel. The term Jakota Triangle was adopted some 27 years ago by the eminent academic the late Professor Harm de Blij, in the eighth edition of his book *Realms, Regions and Concepts*, published by John Wiley & Sons (1997).

The significance of the region as a coherent economic entity extends far beyond the geographical proximity of these three economies. The relationship among these countries as an economic sphere emerged in the modern era during the second half of the nineteenth century. The Jakota region existed formally as a single political and economic bloc from 1910, with the Japan-Korea annexation treaty, to 1945, the end of World War II. Taiwan having been previously annexed by Japan in 1895. Furthermore, it should be noted that Japan had secured strong economic dominance of Korea with the Japan-Korea Treaty of 1876 which essentially replaced the extant Chinese suzerainty. In 1895 Taiwan was brought into the dominion and shortly thereafter in 1905 Japan declared Korea a protectorate. Effectively the Jakota economic sphere acted as one entity for eighty-years and as one country for thirty-five years.

In addition to a shared political history the three economies have a great deal in common having been formed by a similar geography, topography and demography. All three are island nations as Korea, although a peninsula,

has its only land border blocked. The islands share the feature of a mountainous topography with limited natural resources and arable land. Human capital being the most important resource in the Jakota nations. They are unique in East Asia for having the highest degree of urbanisation ranging from 80% in Korea to 65% in Japan. They all have what are known as primate cities where more than 25% of the population lives, thus centralising politics, economics, industry and finance. These common factors combined with the industrial blueprint introduced by Japan have allowed the parallel development of three highly technically advanced and industrialised economies which now rank in the top tier of industrial producers and exporters.

It is interesting to note that in the recently published OAG report the most active air routes between any two countries are between Korea and Japan with the top routes flying 11.4 million passengers a year, compared to the 9.9 million that fly between the UK and the US. Illustrating further the extent to which the nations are interconnected.

Although they are no longer bound as one nation, they are a collective under the security of the United States. Geopolitics is ever present in the region which introduces investment uncertainty. The creation of an index which groups these three nations is not remotely arbitrary. In order to develop a coherent and consistent exposure to the region the three may be considered as a single asset class.

THE JAKOTA BLUE CHIP 150 INDEX

INDEX CONSTRUCTION METHODOLOGY

There are approximately 7,400 stocks listed in the three capitals. The Tokyo Stock Exchange (TSE) has around 3,800 which includes over 1,000 added after the recent merger with the Osaka exchange. The Korean exchanges are the KRX and the KOSDAQ with 953 and 1,652 respectively, giving a total of 2,605 in Korea. The Taiwan Stock Exchange (TWSE) has 979 listed firms. The total market capitalisation at December 2023 was around \$9 trillion. These markets exhibit a much higher concentration in the distribution of market capitalisation across companies than most stock markets. The top ten companies in each market represent 48%, 40% and 18% in the TWSE, KRX and TSE respectively. This degree of concentration has implications for the construction of a regional index. The desirable quality of a flagship index is to be a faithful representation of the total universe of stocks. The aim is to have a consistent, stable set of constituents that reflects the behaviour of the market as a whole over time.

After much analysis and many simulations, the top 150 companies in the region were selected on the basis of market capitalisation regardless of their location. The result is a large-cap index with a total value of \$5.7 trillion representing 60% of the aggregate market value of the region. The current range in market capitalisation is from a minimum value just below \$10 billion to a maximum of \$501 billion (TSMC). The starting cut-off was \$10 bn which generated precisely 150 constituent stocks.

The weighting scheme is based on market capitalisation which means that as market prices change the index automatically reflects the new weights thus obviating the need for periodic rebalancing. Membership is reviewed quarterly and stocks will be removed if they are ranked outside the 150 at the end of each quarter and have been in such a position continuously for a full month leading up to that date. If a company is delisted, such as was the case with Toshiba on the 20th December 2023, it is replaced at the end of the same calendar month. The exit market capitalisation weighting is retained for the balance of the month.

Table 1 reports the summary statistics for the index. The index was constructed as of January 2023.

TABLE 1 The Jakota Blue Chip 150 Index
(29 December 2023)

JAKOTA BLUE CHIP 150	MARKET CAP \$BN	MARKET CAP %	NUMBER OF STOCKS	AVERAGE MCAP \$BN	MAX \$BN	MIN \$BN
JAPAN	3,794.07	66.52%	106	35.79	299.74	10.31
KOREA	950.07	16.66%	22	43.19	362.04	10.68
TAIWAN	959.67	16.83%	22	43.62	501.23	11.81
TOTAL	5,703.82	100%	150	38.03	501.23	10.31

The Jakota Blue Chip 150 is obviously a large-cap index and therefore skewed towards Japan, and thus the Yen, which currently represents slightly more than two thirds of the index by market capitalisation. The remaining value is almost equally split between Korea and Taiwan. This reflects not only the proportionate exposure to these markets but also to the exposure to the underlying currencies. The Index is currently exposed to the currencies approximately in the proportion two thirds to the Japanese Yen (JPY) and a sixth each to the Korean Won (KRW) and the New Taiwan Dollar (TWD).

Table 2 lists the top ten constituents which make up almost one third of the value of the index reflecting the underlying concentration in value in each market. Interestingly, ranks 1 and 2 go to Taiwan (TSMC) and Korea (Samsung) with Japan's Toyota in third place. Although Japan takes seven of the top ten places. The full list is provided in Appendix 1 which includes further information on each of the constituents.

TABLE 2 Top ten constituents of the Jakota Blue Chip 150 Index (December 2023)

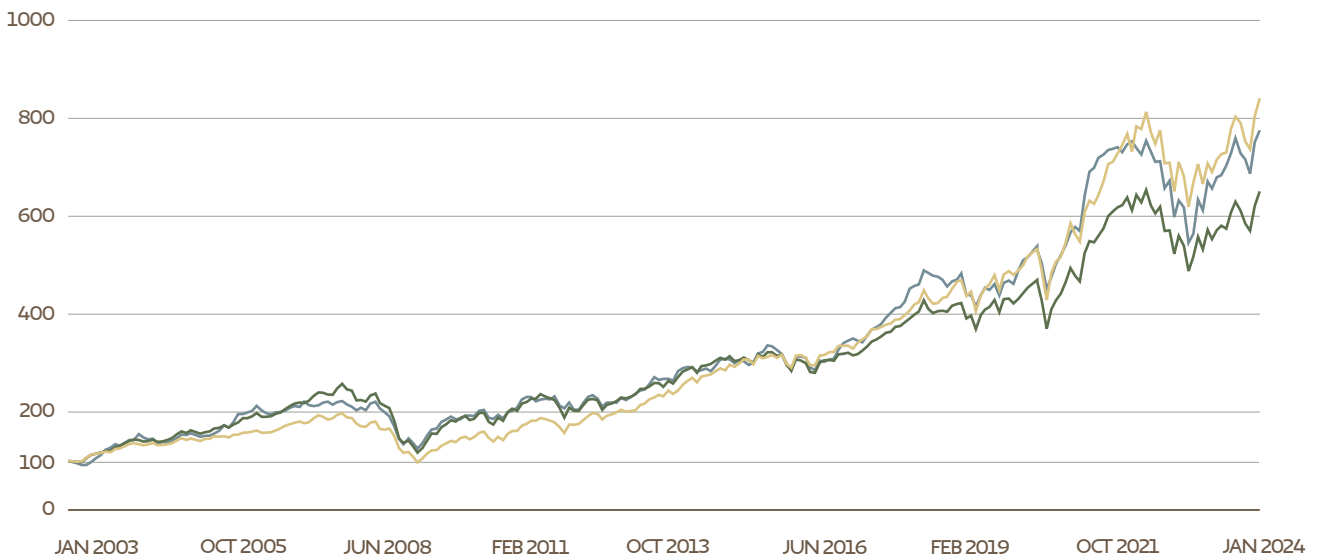
RANK	SYMBOL	COMPANY	COUNTRY	MARKET CAPITALISATION \$BN	WEIGHT
1	2330.TW	TAIWAN SEMICONDUCTOR	TAIWAN	501.23	8.79%
2	005930.KO	SAMSUNG ELECTRONICS	KOREA	362.04	6.35%
3	7203.TSE	TOYOTA	JAPAN	299.74	5.26%
4	6758.TSE	SONY	JAPAN	117.36	2.06%
5	9432.TSE	NTT	JAPAN	110.65	1.94%
6	8306.TSE	MITSUBISHI UFJ FINANCIAL	JAPAN	109.02	1.91%
7	6861.TSE	KEYENCE	JAPAN	106.85	1.87%
8	4063.TSE	SHIN-ETSU CHEMICAL	JAPAN	84.94	1.49%
9	8035.TSE	TOKYO ELECTRON	JAPAN	83.62	1.47%
10	000660.KO	SK HYNIX	KOREA	77.42	1.36%
TOTAL				1,852.88	32.48%

PERFORMANCE ANALYSIS

Figure 10 shows the performance of the Jakota Blue Chip 150 Index from January 2003 to December 2023. This twenty-one-year period presents the twenty-year interval before the index was launched and the first year of performance since launch in 2023. It must be emphasised that this is not an attempt to test how such an index would have performed, rather it is an empirical observation of the performance of the extant index over the last twenty years. The performance is compared to the MSCI ACWI and the S&P 500, all three series are in \$ terms.

FIGURE 10 Jakota Blue Chip 150 Index performance January 2003 to January 2024

JBC 150
MSCI ACWI
S&P 500



The JBC150 clearly outperforms the MSCI ACWI by 91 basis points (bps) per annum which compounded over twenty-one years results in an additional \$125 for every \$100 invested at the start of the period. The terminal values, which represent the value of the initial investment at the end of the period, are \$841; \$775; and \$650 for the S&P 500, the JBC150 and the MSCI ACWI respectively. The JBC150 trailed the S&P 500 by only 43 bps per annum. It should be noted that the index has a long-term beta of less than unity with both the S&P 500 and the MSCI ACWI. The performance data are summarised on table 4. The major events during this period that had a marked negative effect on all markets were the Global Financial Crisis of 2008, the Covid induced lockdown in 2020 and the war in Ukraine in 2022. Since the data in figure 10 are not on a logarithmic scale caution should be exercised when reading the graph. The relatively small changes in 2008 are in fact larger changes in percentage terms than the changes in 2021.

Japan the Rising Sun...

Economic renaissance

*The four most expensive words
in the English language are
"This time it's different"*
— Sir John Templeton

Japanese equities during 2023 delivered their best performance in a decade. Is this the harbinger of Japan's revival from the lost decades of economic stagnation? – we think it is. The TOPIX and Nikkei 225 enjoyed a 25% and 28% increase respectively, in 2023 in Yen terms; the currency effect provided a haircut of close to 9% for US dollar-based investors rendering a dollar-based return of 16% and 19% respectively, for the TOPIX and Nikkei 225. Excluding the exuberant rally of over 50% in Japanese equities in 2013, 2023 is the best year since 1990. The 2013 performance was based on the euphoria surrounding Abenomics, which sadly failed to gain traction and another lost decade was endured with deflation, negative interest rates and sluggish growth.

Notwithstanding Sir John Templeton's admonition regarding a belief that "This time it's different", a number of change vectors augur well for Japan's economic renaissance.

Japan is the third largest economy in the world by GDP, it has one of the most highly educated populations and it is technologically advanced. In 1989 there were 32 Japanese companies in the world's top 50 companies ranked by market capitalisation; today there is only one, Toyota. That number is likely to increase over the coming decade. The three lost decades from 1990 were characterised by deflation and slowing growth rates. The world had changed geopolitically, the Soviet Union was dissolved and China emerged as an economic powerhouse. The combination of a significant increase in competition from globalisation and inherent structural inflexibilities in the Japanese economy, particularly with respect

to corporate governance, were among the factors that contributed to the long period of stagnation. It is precisely the current geopolitical change and the internal changes that will allow Japan to re-emerge. The process of de-globalisation is causing international investors to redirect funds from China to Japan.

The current buoyancy in equities is largely due to positive inflation expectations; deflation was the enemy of Japanese growth. Wages and prices are showing signs of increasing in unison and Ueda Kazuo, the recently appointed Governor of the Bank of Japan is managing interest rates to achieve a 2% inflation target. Although interest rates are still slightly negative at -0.05%, financial institutions have benefitted greatly from sustainable profit margins as the interest rates edge up. The profitability of financial institutions is critical for the renaissance.

These factors together with a weakening currency attracted international investors such as Warren Buffet to invest in the Japanese market in 2023. Berkshire Hathaway, Mr Buffet's firm, has acquired stakes in five of the key Japanese trading houses known as *soga susha*. These are ITOCHU, Marubeni, Mitsubishi, Mitsui and Sumitomo.

The government has expressed a commitment to improve corporate performance and accountability. Corporate governance reforms are starting to have a positive effect. In response to the government initiatives the JPX, which has oversight of the Tokyo Stock Exchange, is requiring companies with a price to book ratio below one to explain how they intend to change or face delisting. Historically Japanese corporations have paid little

attention to external shareholders, this is changing with new requirements for the appointment of outside directors and the use of e-voting technology to improve shareholder participation. The recent delisting of Toshiba may be an indicator of the change.

Further positive fundamentals are that Japanese corporations have liquidity and low levels of debt. The recent increase in share buybacks by firms such as Mitsubishi UFJ, which disgorged \$2.6 billion in November to shareholders, is a positive signal for shareholder value. It reflects the increased profitability of the financial institutions in Japan and their willingness to look after shareholders. These are essential precursors for growth.

The Yen is currently inexpensive in dollar terms by historical standards and this provides Japanese exporters a competitive advantage and international investors good value in equities.

This time we think it may be different.

THE OM JAKOTA 60 INDEX

INDEX CONSTRUCTION METHODOLOGY: THE WEIGHTING GAME

The OM Jakota 60 Index (OMJ60) applies an entirely different index construction methodology to that employed with the Jakota Blue Chip 150 (JBC150) Index described above. Whereas the JBC150 index is a large-cap market capitalisation weighted index based on the top 150 largest stocks in the region, (namely those with a market capitalisation above \$10bn) the OMJ60 is based on the same set of stocks applying an equally-based weighting scheme. The process to select the candidates for the index involves two steps. Firstly, select an equal number of stocks from each country from the 150 ranked by market capitalisation; this resulted in there being twenty stocks from each country being selected. The limiting factor is the number of stocks from Korea and Taiwan in the 150. Secondly, each of the 60 stocks is allocated an initial equal weight of 1.67%. Since this is not a market capitalisation weighting scheme, the portfolio is required to be re-balanced at an appropriate frequency. The optimal frequency was estimated empirically which traded off the cost of re-balancing at high frequency with the tracking error cost associated with low frequency re-balancing. The optimal frequency is determined to be annual. Thus, the index will be re-balanced on the last day of each calendar year. Membership is reviewed annually, and stocks will be removed if they are ranked outside the top twenty in their market on the 31st December and have been in such a position continuously for a full month leading up to that date. If a company is delisted it is replaced at the end of the same calendar month. The exit market capitalisation weighting is retained for the balance of the month. This approach is designed to create a smart beta index which tilts the market-based index in terms of three different factors. Firstly, it tilts away from Japan; secondly, it tilts away from the Yen and thirdly, it tilts away from the mega-sized stocks. Table 3 reports the summary statistics for the index. The index was constructed as of January 2023.

TABLE 3 The OM Jakota 60 Index
(29 December 2023)

OM JAKOTA 60	MARKET CAP \$BN	MARKET CAP %	NUMBER OF STOCKS	AVERAGE MCAP \$BN	WEIGHT	MAX \$BN	MIN \$BN
JAPAN	1,761.12	48.60%	20	88.06	33.33%	299.74	53.47
KOREA	926.59	25.57%	20	46.33	33.33%	362.04	13.31
TAIWAN	935.99	25.83%	20	46.80	33.33%	501.23	12.8
TOTAL	3,623.70	100%	60	60.39	100.00%	501.23	12.8

The OM Jakota 60 is a derivative of the JBC150 index which is the reference market-based index in this context. It represents 60% of the reference index and is therefore representative in many respects. It currently represents a market capitalisation of \$3.6 trillion.

The OMJ60 is designed intentionally to take advantage of the factors identified above. The index is obviously a large-cap index however as a smart beta index it tilts away from Japan which constitutes around 33%, which is down from the 67% in the reference index. The remaining value is equally split between Korea and Taiwan, which enjoy an increase from 16% to 33.3% each, in comparison to the JBC150. The other tilt is away from the Yen and thus the index has a 33.3% exposure to the Yen in comparison to the 67% exposure in the reference market index, and an increased exposure to the Korean Won and the New Taiwan Dollar from approximately 16% to 33.3% for both. The tilt away from mega-stocks is reflected in the percent allocated to the top ten largest stocks. In the case of the JBC150 around 33% is allocated to the top ten, in contrast to only 16.7% allocation to this group in the OMJ60 Index. The corresponding weights for the lowest-value ten stocks in the JBC150 and the OMJ60 are 2% and 16.7% respectively. The allocation away from mega-stocks has an important impact on performance. This derives from the fact that mega-stocks are particularly dominant in all three markets. Investors in the region should be aware of the squeezing out effect that

the mega-stocks may have on the other large-cap stocks in a market capitalisation-weighted index. The effect of the three factors on performance is significant as reported in the next section. However, the OMJ60 is not considered to be an active index as there is no stock selection.

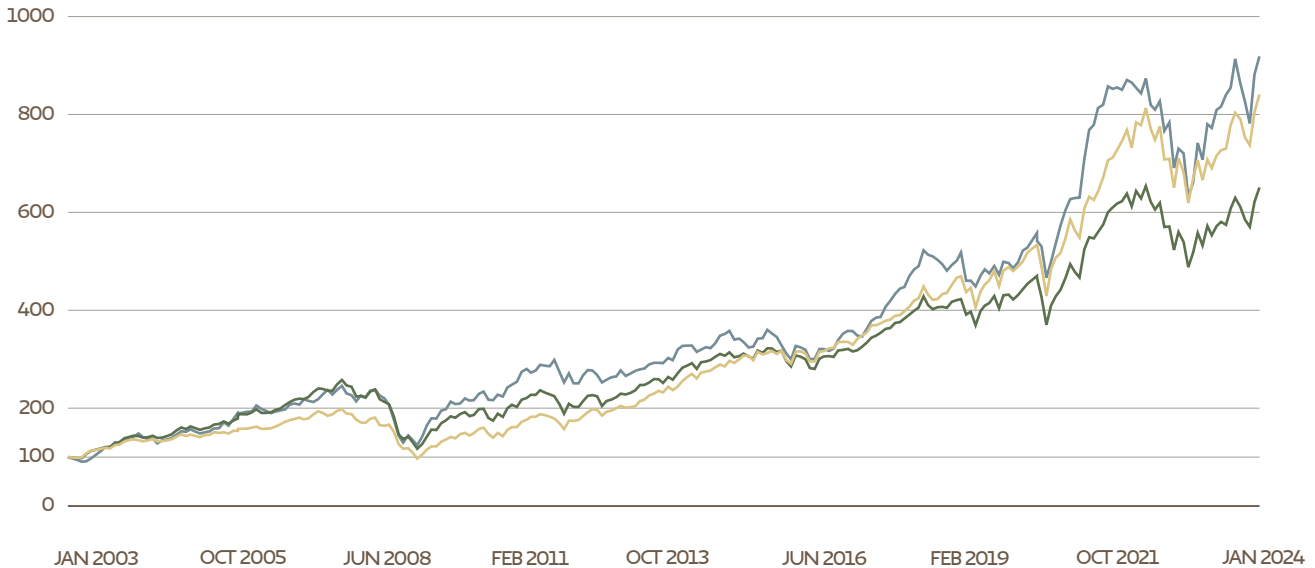
PERFORMANCE ANALYSIS

Figure 11 shows the performance of the OM Jakota 60 Index from January 2003 to December 2023. This twenty-one-year period presents the twenty-year interval before the indices were launched and the first year of performance since launch in 2023. It must be emphasised that this is not an attempt to test how such an index would have performed, rather it is an empirical observation of the performance of the extant index over the last twenty years.

The performance is compared to the MSCI ACWI and the S&P 500, all three series are in \$ terms.

FIGURE 11. OM Jakota 60 Index performance
January 2003 to January 2024

- OMJ 60
- MSCI ACWI
- S&P 500



The result in figure 11 is remarkable. The OMJ60 outperforms the two benchmarks comprehensively and for most of the period reported. The annualised performance is 11.14% respectively per annum, generating a massive \$919 in terminal value for every \$100 invested. The index outpaced the S&P 500 and the MSCI ACWI by 47 bps and 181 bps respectively per annum. Notice that the index has a long-term beta of less than unity with both the S&P 500 and the MSCI ACWI.

The OMJ60 has a long-term beta of 1.05 against the JBC150 which reflects both the high correlation between the two and the increased volatility in this index due to the factor tilts. This is consistent with a smart beta methodology. The OMJ60 outperformed the JBC150 by a full 90 bps per annum. The summary data are reported in table 4 in the next section.

SUMMARY OF COMPARATIVE PERFORMANCE

INDICES	PERFORMANCE PERIODS (ALL RETURNS ANNUALISED IN US DOLLARS)	
	JANUARY 2023 TO DECEMBER 2023	JANUARY 2003 TO DECEMBER 2023
1. OMJ60		
RETURN	29.9%	11.14%
STANDARD DEVIATION	20.3%	17.0%
SHARPE RATIO (RF=3%)	1.15	0.48
EXCESS RETURN TO JBC150 (BETA)	320 BPS	90 BPS (1.05)
EXCESS RETURN TO S&P 500 (BETA)	360 BPS	47 BPS (0.89)
EXCESS RETURN TO MSCI ACWI (BETA) ²	760 BPS	181 BPS (0.93)
2. JBC150		
RETURN	26.7%	10.24%
STANDARD DEVIATION	15.8%	15.3%
SHARPE RATIO (RF=3%)	1.5	0.47
EXCESS RETURN TO S&P 500 (BETA)	40 BPS	-43 BPS (0.80)
EXCESS RETURN TO MSCI ACWI (BETA)	440 BPS	91 BPS (0.82)
3. S&P 500		
RETURN	26.3%	10.67%
STANDARD DEVIATION	15.7%	15.5%
SHARPE RATIO (RF=3%)	1.48	0.49
4. MSCI ACWI		
RETURN	22.3%	9.33%
STANDARD DEVIATION	14.7%	14.7%
SHARPE RATIO (RF=3%)	1.31	0.43

TABLE 4 Summary performance data for the JBC150 and OMJ60 indices

JAKOTA INDEX PORTFOLIOS SUITE OF INDICES

CHART 1

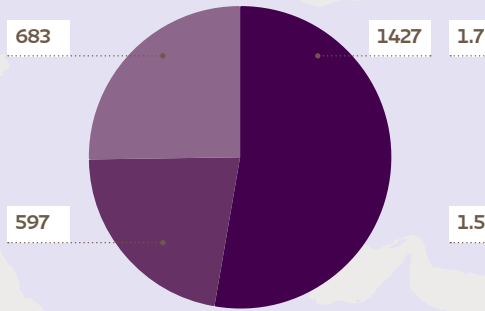
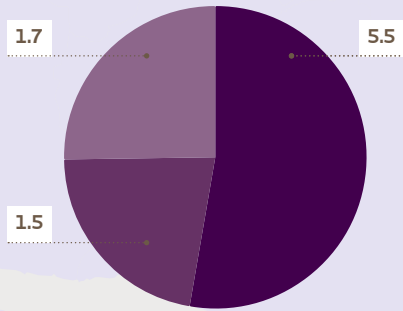


CHART 2



We are delighted to announce the launch of the Jakota suite of indices covering 2,700 stocks with a value of \$8 trillion, across the Jakota region including large, mid, small, and micro-caps.

The indices are organised as a hierarchy from wide regional indices through sector indices and additional thematic indices. Thus, providing useful benchmarks and both active and passive investment vehicles.

By aggregating trading data, news and fundamental financial and business information, we have built an efficient process for identifying compelling investment narratives within the Jakota region.

Our focus is on key sectors driving Jakota's global competitiveness, ranging from semiconductors and consumer goods to video games, unique cultural assets and many other forms of IP-centric businesses.

Jakota Index Portfolios streams various content and data generated by its research team through our proprietary media properties - see more at www.jakotaindex.com.

Jakota Index Portfolios has developed and introduced a series of proprietary stock indices to track performance and streamline investment in the Jakota region (Japan, South Korea and Taiwan).

Positioned as global trailblazers in IP-centric sectors - from entertainment to cutting-edge tech - the Jakota companies provide a thriving environment for investors with a growth mindset.

There are hidden gems among the Jakota mid and small-cap listed equities - untapped leaders in their fields - yet remain under-the-radar in Western markets.

The Jakota Index Series covers a wide range of large- to small-cap regional stocks, as well as narrowly crafted IP-centric industry-specific companies that are at the core of the Jakota economies.

CHART 1 Jakota Index Universe
by number of companies



CHART 2 Jakota Index Universe
by market cap (US\$ Trillion)



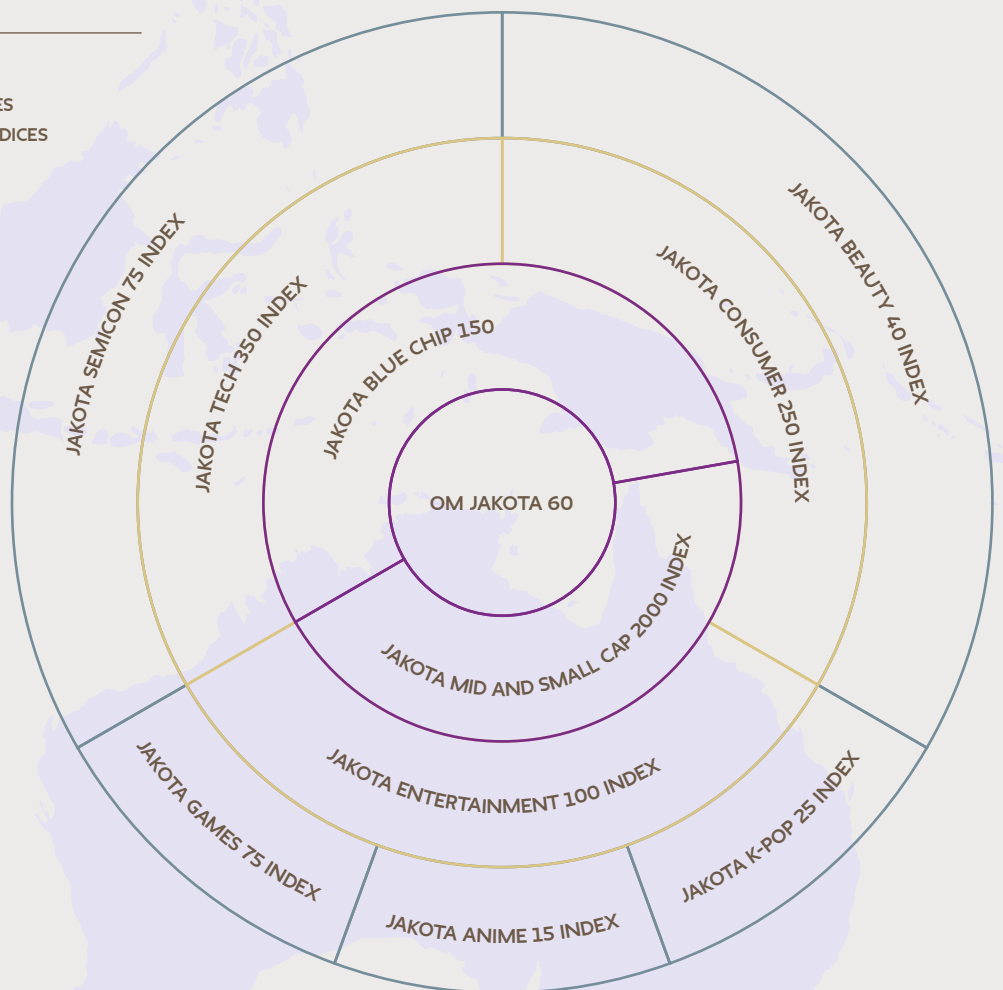
KOREA

JAPAN

TAIWAN

The Suite of Indices

- FEATURED SUB-INDICES
- INDUSTRY SPECIFIC INDICES
- REGION WIDE INDICES



INAUGURAL YEAR PERFORMANCE

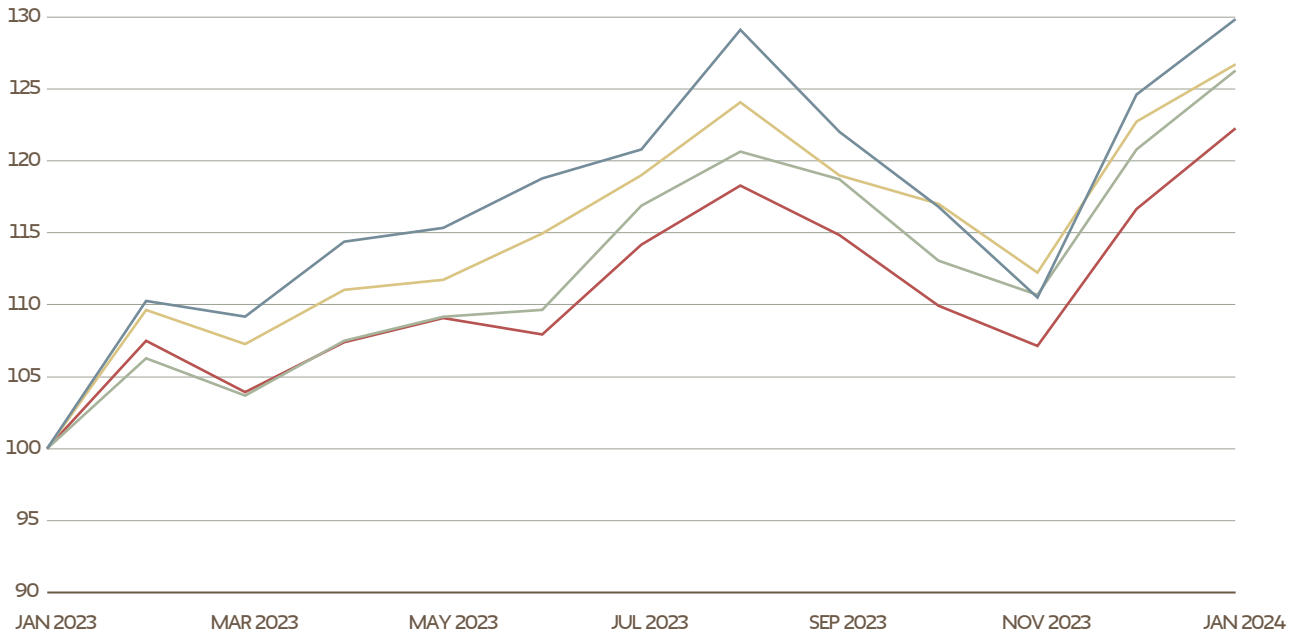


FIGURE 12 OMJ60 and JBC150 Index performance
January 2023 to January 2024

- OMJ 60
- JBC 150
- S&P 500
- MSCI ACWI

Figure 12 shows the performance of the two indices from launch in January 2023 through to the end of December 2023, representing the first year for each index. The performance is compared to the usual two benchmark indices, the S&P 500 and the MSCI ACWI. As in the case of figures 10 and 11 the results are reported on an index basis with a common start of 100 at the beginning of the period. The flagship Jakota indices have enjoyed a strong performance in their first year with both outperforming the S&P 500 and the MSCI ACWI. The OMJ60 outperformed its sibling by 320 bps and the S&P 500 and the MSCI ACWI by 360 bps and 760 bps respectively. The outperformance of the JBC150 by the OMJ60 in both periods reflects the power of the tilting to the three factors. The performance of the flagship Jakota indices is all the more impressive when one considers the fact that the Jakota currencies lost ground against the US dollar. The numeraire currency for the two Jakota indices is a basket of the JPY, the KRW and the TWD, which is determined by the different weightings in each. The JBC150 currency basket lost 6.2% versus the 2.93% lost in the OMJ60 currency basket during 2023. This is largely due to the greater weighting in the JPY which weakened considerably more than the KRW and the TWD. Despite this negative currency effect the Jakota indices outperformed the S&P 500 and the MSCI ACWI. The effect of currencies on performance is now examined in more detail in the next section.

CURRENCY CONSIDERATIONS

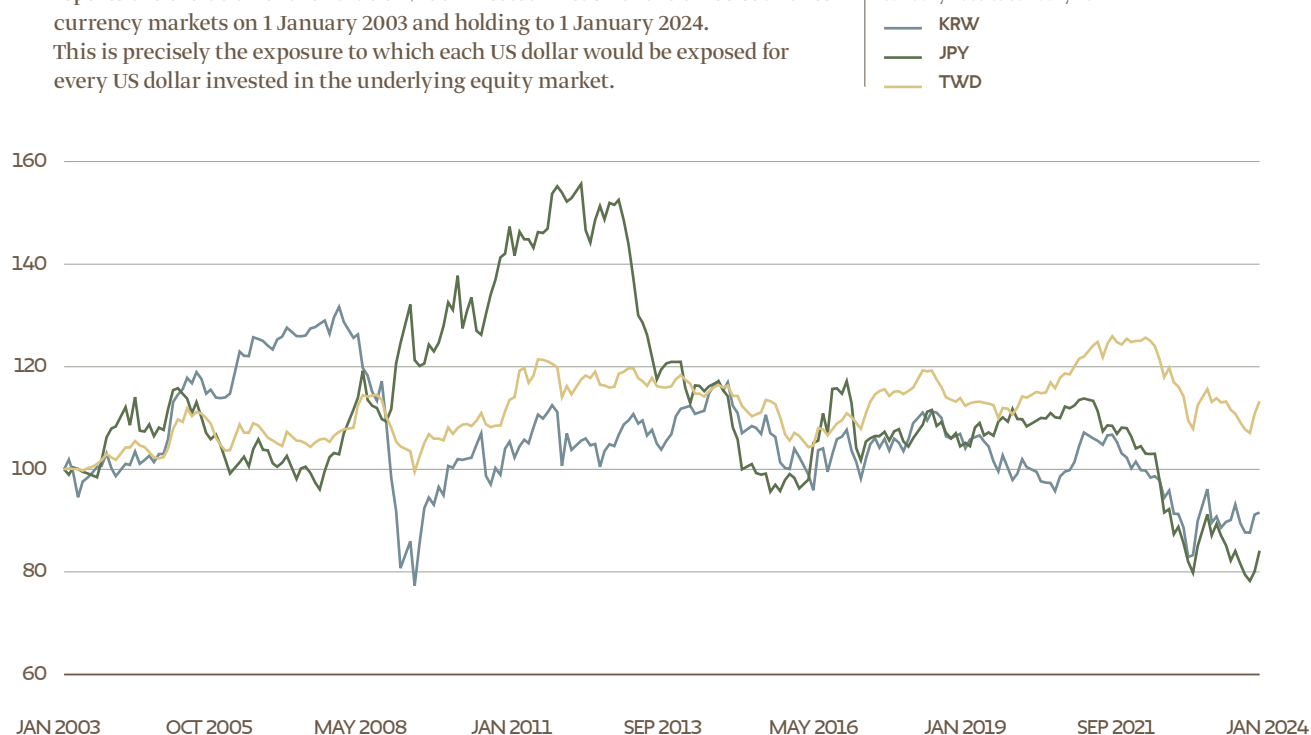
Inevitably investing in Jakota equities carries an explicit and concomitant currency exposure. Figure 9 shows the evolution of the three Jakota currencies millennium to date. The New Taiwan Dollar (TWD) although a free-floating currency has traded in a fairly narrow range between with the Bank of Taiwan intervening when necessary. In figure 9 caution should be exercised when comparing the TWD due to the different scale, what appear to be small changes are as a percentage much larger. The exchange rate has in fact traded consistently around an average of TWD31 to the US dollar within a TWD3.6 band. The maximum reached was TWD35 and the minimum TWD28. It has not traded below TWD30 for the last sixteen months. The TWD has a much lower volatility than the other three as shown in table 5, exhibiting a standard deviation of TWD1.8 and a coefficient of variation of 0.05 compared to values of 0.09 and 0.14 for the Korean Won and the Japanese Yen respectively.

TABLE 5 Summary statistics for the variation in the Won, the Yen and the NTD 2000 to 2024 (Currency unit per US dollar)

STATISTIC	KOREAN WON (KRW)	JAPANESE YEN (JPY)	NEW TAIWAN DOLLAR (TWD)
MAXIMUM	1,533.5	151.69	35.11
MINIMUM	900.7	76.25	27.60
AVERAGE	1,143.0	109.2	31.40
STANDARD DEVIATION	108.0	14.90	1.80
COEFFICIENT OF VARIATION	.09	0.14	0.05

In order to illustrate the impact of currencies on equity investments, figure 13 reports the evolution of the value of \$100 invested in each of the three countries' currency markets on 1 January 2003 and holding to 1 January 2024. This is precisely the exposure to which each US dollar would be exposed for every US dollar invested in the underlying equity market.

FIGURE 13 Jakota nations' currency performance January 2003 to January 2024

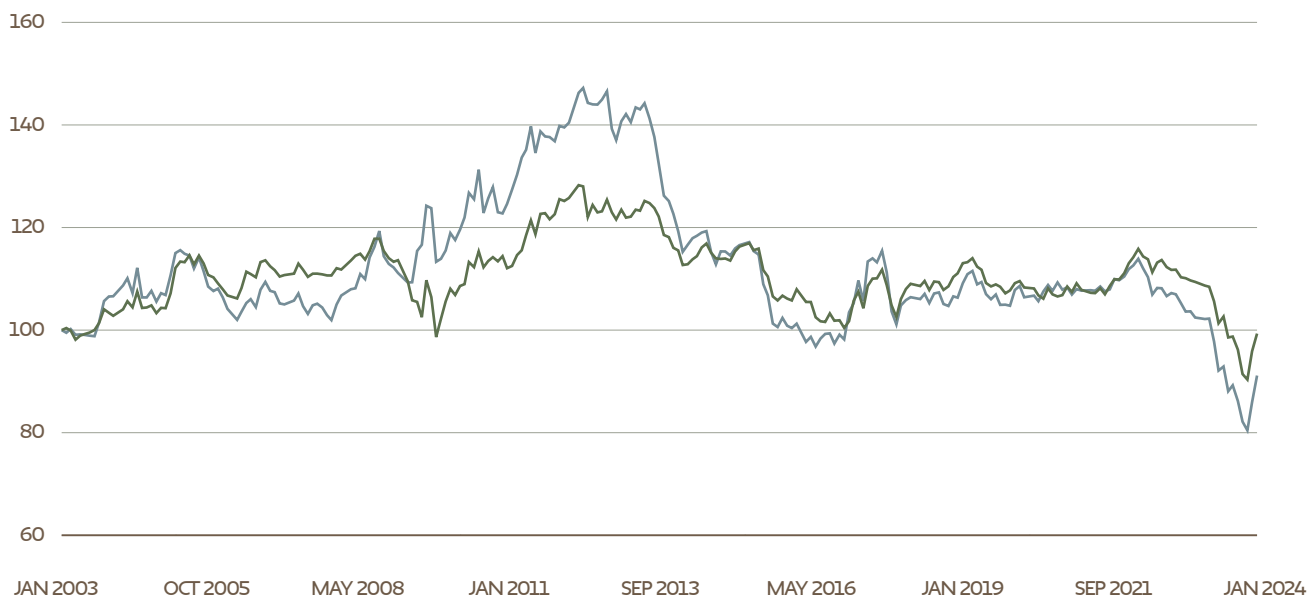


The \$100 reaches a terminal value in January 2024 of \$91.58 for the KRW; \$84.13 for the JPY; and \$113.27 for the TWD. KRW and the JPY caused dollar-based investors to lose around 8% and 16% of their investment over this ‘twenty-one-year interval. The TWD delivered a 13% return over the period. It is emphasised that this is the pure currency effect over this period, regardless of, and in addition to, the relevant equity returns. It is the equivalent of holding the corresponding US dollar amount in cash in each currency. Not only does the currency have a direct impact on the full investment, it also introduces considerable volatility. TWD has considerably less volatility than the other two Jakota currencies, as reported in table 5.

In the case of the two flagship Jakota indices the currency effect may be isolated by constructing a currency basket for each based on the country weightings. In the case of the JBC150 the weightings are 16.67% for the KRW and the TWD and 66.67% for the JPY. In the case of the OMJ60 the three currencies are weighted equally. Figure 14 reproduces the results for the two currency baskets on the same basis as in figure 13 for the three currencies.

FIGURE 14 Currency basket performance January 2003 to January 2024

— JBC 150
— OMJ 60



The Jakota currency baskets provide a strikingly different risk exposure than the individual currencies. Firstly, note that in the case of the JBC150, the currency loses just under 15% of the investment over the interval and exhibits a similar volatility to the Yen. This is a direct consequence of the market capitalisation weightings in the equities which cause a significant exposure to the Yen. In fact, as reported in table 6 there is no currency risk diversification at all in the JBC150, there is merely an averaging of the risks rather than a reduction. In contrast, the OMJ60 loses only 3.59% over the twenty-one years and with a volatility at half that of the JBC150. In the case of OMJ60 about a third of the volatility is removed. This effect comes about because the weightings are closer to an optimal weighting scheme which exploits the lack of correlation across the markets. In short, the implicit currency weightings are much closer to the minimum variance efficient combination available in a three-asset portfolio with the same covariance structure.

This is a first step in decomposing the currency effects within the indices. We have shown the impact of diversification among currencies.

CURRENCY	KRW	JPY	TWD	JBC150	OMJ60
TERMINAL VALUE	\$91.58	\$84.13	\$113.27	\$85.48	\$96.41
STANDARD DEVIATION	\$10.1	\$16.8	\$6.2	\$14.0	\$7.3
WEIGHTED VOLATILITY	\$10.1	\$16.8	\$6.2	\$13.9	\$11.0
CURRENCY RISK DIVERSIFIED	0	0	0	0	33.6%
GAINS & LOSSES	-8.42%	-15.87%	+13.27%	-14.52%	-3.59%

Another dimension of the currency effect on the two Jakota indices is the relationship between each index and its currency basket. Here we report another level of diversification of the currency risk inherent in the indices. We measure the covariance between the index returns and the currency basket returns for each of the indices. The covariance measure is the beta estimated by regressing the index returns in US dollars against the currency returns in US dollars. In the case of the JBC150 the beta is zero, and in the case of the OMJ60 it is 0.10. This indicates that on a net basis the currency baskets contribute almost nothing to the volatility of the equity returns. The beta may be interpreted as a proxy for the minimum variance hedge ratio and represents the proportion of the portfolio that would need to be hedged to approximate the minimum amount of variance. This does not mean that the returns are not impacted by changes in currency levels. There is a role for hedging currency risk when transactions across currencies are anticipated.

In summary, currency movements have negatively affected both the Jakota indices returns in the current year. However, the indices are wrapped in a currency basket which diversifies some of the underlying currency volatility. In the case of JBC150 the risk is merely averaged, and in the case of the OMJ60 the currency basket exhibits less risk than the average risk of the currency. Furthermore, there appears to be little correlation between the currency baskets and their relevant equity index.

TABLE 6 Implied currency exposures investing \$100 on 1 January 2003 and holding to 1 January 2024

RISK AND RETURN

THE LONG-TERM PICTURE

Figure 15 reports the annualised risk and return characteristics for the the OMJ60 and JBC150 indices for the last twenty-one years, that is for the period January 2003 to December 2023. In addition to these, two benchmarks (S&P 500; MSCI ACWI) and three country indices (MSCI Japan; MSCI Korea; MSCI Taiwan) are plotted for comparison.

FIGURE 15 Risk and return on OMJ60 and JBC150 indices January 2003 to January 2024



Table 4 provides the relevant data for this section. The underlying country indices are completely dominated by both the Jakota indices and the benchmarks as all three generate lower returns with higher volatility. This illustrates how the new Jakota indices add considerable value in comparison to the country indices available to the international investor.

The OMJ60 enjoys the highest return outperforming the S&P 500 and the MSCI ACWI by 47 and 181 bps per annum. However, this superior return has been accompanied by a higher volatility than both benchmarks. There are two mitigating factors. Firstly, notice that the Sharpe ratio is almost identical to that of the S&P 500 and greater than that of the MSCI ACWI.³ Secondly, the OMJ60 has a long-term beta ($\beta^{\text{S\&P 500}}$) against the S&P 500 of 0.89, which means its Treynor ratio is greater than the S&P 500 being 9.14 against 7.67.⁴ The same applies using the MSCI ACWI as the benchmark.

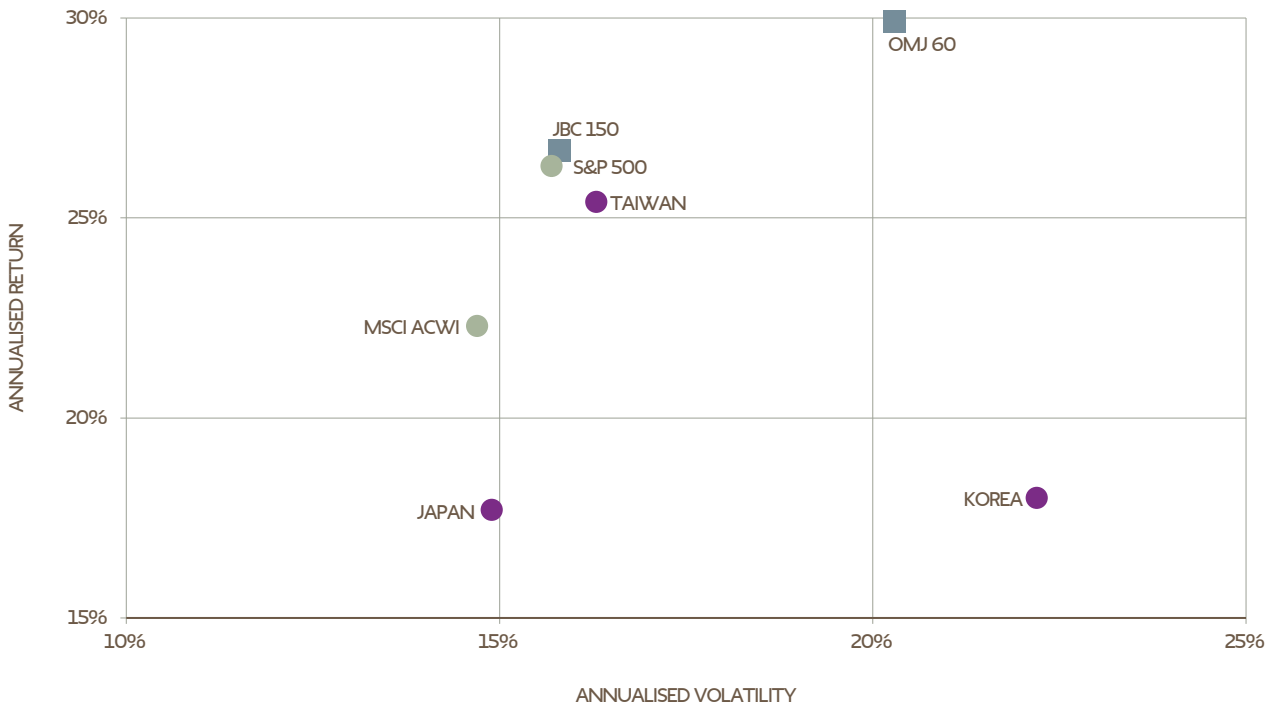
Similarly, the JBC150 has a similar Sharpe ratio to the S&P 500 and a higher score than the MSCI ACWI, although it has a slightly lower return than the former benchmark.

In comparing the two Jakota indices the OMJ60 delivers an extra return of 90 bps over and above the JBC150, although with a higher volatility. However, they have very similar Sharpe ratios (0.48 & 0.47). The OMJ60 has a long-term beta (β^{JBC150}) of 1.05 against the JBC150 reflecting the intentional design of a smart beta index.

THE INAUGURAL YEAR PERFORMANCE

The performance since the launch in January is reported in figure 16, with the same constituents as in the previous section.

FIGURE 16 Risk and return on OMJ60 and JBC150 indices January 2023 to January 2024



All the reported indices and benchmarks had a much improved performance in 2023 in comparison to the full twenty-one year performance reported in the previous section. Although the three country indices are not completely dominated as they were for the longer period, the return to risk ratios were inferior to the Jakota indices and benchmarks.

The two Jakota indices outperform all the others in terms of return with the OMJ60 outperforming the S&P 500 by 360 bps and the MSCI ACWI by 760 bps. Again a higher level of volatility attended this return. Although it outperformed in terms of the Treynor metric, it is slightly behind on the Sharpe measure.

The JBC150 outperformed the benchmarks both in terms of return, Sharpe and Treynor measures. Again, the relationship between the two indices held with the OMJ60 showing a superior performance of 320 bps alongside a greater volatility. The JBC150 reports the highest Sharpe ratio.

THE PURPOSE OF THE OMJ60 INDEX

We have developed this dual approach to the flagship OMJ60 index primarily because of the idiosyncrasies of the region. Firstly, Japan is a significantly larger economy than the other two which introduces a dominance both in terms of equity market exposure and currency market exposure. Secondly, the effect of mega-stocks in the region is unusually large. The Jakarta Blue Chip 150 as a market capitalisation weighted index is designed to reflect accurately and consistently the overall market and as such it is a useful informational and investable benchmark for those international investors seeking an entirely passive exposure to the region. In contrast the OM Jakarta 60 index provides a more balanced exposure that allows investors to benefit from certain factor effects prominent in the region. The OMJ60 is a smart beta index which does not seek to make predictions about particular stocks but provides potential opportunities to outperform the reference index. The characteristics of the OMJ60 alongside the JBC150 are presented in the panel opposite.

SUMMARY OF INDEX CONSTRUCTION

	JAKOTA BLUE CHIP 150	OM JAKOTA 60
DOMAIN	JAKOTA REGION TSE, KRX & TWSE	JAKOTA REGION TSE, KRX & TWSE
THEESIS	LARGEST PRIME LISTED STOCKS WITH MARKET CAPITALISATION ABOVE \$10 BN	TOP TWENTY STOCKS IN EACH COUNTRY
NUMBER OF STOCKS (#DRS) ⁵	150 (119)	60 (37)
NUMBER OF STOCKS - JAPAN (#DRS)	106 (99)	20 (19)
NUMBER OF STOCKS - KOREA (#DRS)	22 (9)	20 (8)
NUMBER OF STOCKS - TAIWAN (#DRS)	22 (11)	20 (10)
M.CAP OF UNIVERSE	\$5,703.82BN	\$3,623.7BN
WEIGHT OF TOP 10 BY M.CAP	33.2%	16.7%
WEIGHT OF TOP 10 BY M.CAP	2%	16.7%
MAXIMUM M.CAP	\$501.23BN	\$501.23BN
MINIMUM M.CAP	\$10.31BN	\$12.8BN
CONSTRUCTION METHOD	MARKET CAPITALISATION WEIGHTED	EQUALLY WEIGHTED
INVESTMENT STYLE	PASSIVE	THREE FACTOR TILT
INCEPTION DATE	1ST JANUARY 2023	1ST JANUARY 2023
INITIAL INDEX VALUE	100	100
REBALANCING	AUTOMATIC	ANNUAL 31ST DECEMBER
ADJUSTMENT FREQUENCY	QUARTERLY	ANNUAL
CALCULATION FREQUENCY	DAILY CALIBRATION AND DISSEMINATION	DAILY CALIBRATION AND DISSEMINATION
DIVIDENDS	REINVESTED	REINVESTED
NUMERAIRE CURRENCY	US DOLLAR	US DOLLAR
CURRENCY EXPOSURES	JPY 66%; KRW 17%; TWD 17%	JPY 34%; KRW 33%; TWD 33%
PERFORMANCE		
RETURN 2023	26.7%	29.9%
STANDARD DEVIATION (σ)	15.8%	20.3%
BETA TO S&P 500 ($\beta^{S\&P\ 500}$)	0.80	0.89
BETA TO MSCI ACWI ($\beta^{MSCI\ ACWI}$)	0.82	0.93
BETA TO JBC150 (β^{JBC150})	1	1.05
SHARPE RATIO	1.5	1.15
TREYNOR RATIO ($\beta^{S\&P\ 500}$)	29.6	29.5
MINIMUM VARIANCE HEDGE RATIO ⁶	0	0.1

APPENDIX 1

JAKOTA BLUE CHIP 150 INDEX

LIST OF CONSTITUENTS

RANK	NAME	COUNTRY	WEIGHT	M.CAP \$BN	INDUSTRY	SYMBOL
1	TAIWAN SEMICONDUCTOR	T	8.79%	501.23	SEMICONDUCTORS	2330.TW
2	SAMSUNG ELECTRONICS	K	6.35%	362.04	CONSUMER ELECTRONICS	005930.KO
3	TOYOTA	J	5.26%	299.74	AUTO MANUFACTURERS	7203.TSE
4	SONY	J	2.06%	117.36	CONSUMER ELECTRONICS	6758.TSE
5	NTT	J	1.94%	110.65	TELECOM SERVICES	9432.TSE
6	MITSUBISHI UFJ FINANCIAL	J	1.91%	109.02	BANKS - DIVERSIFIED	8306.TSE
7	KEYENCE	J	1.87%	106.85	INSTRUMENTS	6861.TSE
8	SHIN-ETSU CHEMICAL	J	1.49%	84.94	CHEMICALS	4063.TSE
9	TOKYO ELECTRON	J	1.47%	83.62	SEMICONDUCTOR EQUIP.	8035.TSE
10	SK HYNIX	K	1.36%	77.42	SEMICONDUCTORS	000660.KO
11	LG ENERGY SOLUTION	K	1.35%	77.28	INDUSTRIAL MACHINERY	373220.KO
12	FAST RETAILING	J	1.33%	76.10	APPAREL RETAIL	9983.TSE
13	KDDI	J	1.28%	73.26	TELECOM SERVICES	9433.TSE
14	RECRUIT	J	1.26%	71.72	RECRUITMENT	6098.TSE
15	HITACHI	J	1.19%	67.67	CONGLOMERATES	6501.TSE
16	MITSUBISHI	J	1.17%	66.58	CONGLOMERATES	8058.TSE
17	SOFTBANK GROUP	J	1.15%	65.61	TELECOM SERVICES	9984.TSE
18	SUMITOMO MITSUI FINANCIAL	J	1.14%	65.24	BANKS - DIVERSIFIED	8316.TSE
19	ITOCHU CORP	J	1.14%	64.82	CONGLOMERATES	8001.TSE
20	CHUGAI PHARMACEUTICAL	J	1.12%	63.61	PHARMACEUTICALS	4519.TSE
21	ORIENTAL LAND	J	1.07%	61.00	LEISURE	4661.TSE
22	NINTENDO	J	1.07%	60.76	ELECTRONIC GAMING	7974.TSE
23	SOFTBANK	J	1.04%	59.10	TELECOM SERVICES	9434.TSE
24	MITSUMI BUSSAN	J	1.02%	58.04	CONGLOMERATES	8031.TSE
25	HONDA	J	0.99%	56.50	AUTO MANUFACTURERS	7267.TSE
26	DAIICHI SANKYO	J	0.94%	53.47	PHARMACEUTICALS	4568.TSE
27	MEDIATEK	T	0.92%	52.66	SEMICONDUCTORS	2454.TW
28	JAPAN TOBACCO	J	0.91%	51.70	TOBACCO	2914.TSE
29	TOKIO MARINE	J	0.88%	50.12	INSURANCE - P&C	8766.TSE
30	DAIKIN	J	0.84%	47.78	EQUIPMENT	6367.TSE
31	FOXCONN	T	0.83%	47.21	ELECTRONIC COMPS	2317.TW
32	TAKEDA PHARMACEUTICAL	J	0.80%	45.49	PHARMACEUTICALS	4502.TSE
33	DENSO	J	0.79%	45.19	AUTO PARTS	6902.TSE
34	HOYA	J	0.78%	44.26	MEDICAL INSTRUMENTS	7741.TSE
35	MIZUHO FINANCIAL GROUP	J	0.76%	43.45	BANKS - REGIONAL	8411.TSE
36	SAMSUNG BIOLOGICS	K	0.73%	41.79	BIOTECHNOLOGY	207940.KO
37	MURATA MANUFACTURING	J	0.70%	40.10	ELECTRONIC COMPS	6981.TSE
38	JAPAN POST BANK	J	0.65%	36.84	BANKS - REGIONAL	7182.TSE
39	SMC CORP	J	0.63%	36.20	INDUSTRIAL MACHINERY	6273.TSE
40	SEVEN & I HOLDINGS	J	0.62%	35.17	GROCERY STORES	3382.TSE
41	HYUNDAI MOTOR	K	0.58%	33.26	AUTO MANUFACTURERS	005380.KO
42	POSCO	K	0.57%	32.64	STEEL	005490.KO
43	RENESAS ELECTRONICS	J	0.56%	31.91	SEMICONDUCTORS	6723.TSE

RANK	NAME	COUNTRY	WEIGHT	M.CAP \$BN	INDUSTRY	SYMBOL
44	FUJITSU	J	0.55%	31.23	INFORMATION TECH.	6702.TSE
45	KIA	K	0.54%	31.06	AUTO MANUFACTURERS	000270.KO
46	JAPAN POST HOLDINGS	J	0.54%	30.92	BANKS - REGIONAL	6178.TSE
47	mitsubishi electric	J	0.53%	30.44	ELECTRICAL EQUIPMENT	6503.TSE
48	CHUNGHWA TELECOM	T	0.53%	30.34	TELECOM SERVICES	2412.TW
49	FANUC	J	0.52%	29.50	INDUSTRIAL MACHINERY	6954.TSE
50	BRIDGESTONE	J	0.50%	28.34	AUTO PARTS	5108.TSE
51	QUANTA COMPUTER	T	0.49%	28.21	COMPUTER HARDWARE	2382.TW
52	LG CHEM	K	0.48%	27.21	CHEMICALS	051910.KO
53	DISCO	J	0.47%	26.87	SEMICONDUCTOR EQUIP.	6146.TSE
54	MARUBENI	J	0.47%	26.84	CONGLOMERATES	8002.TSE
55	SUMITOMO	J	0.47%	26.84	CONGLOMERATES	8053.TSE
56	Z HOLDINGS	J	0.47%	26.69	INTERNET RETAIL	4689.TSE
57	TOYOTA INDUSTRIES	J	0.47%	26.58	CONSTRUCTION MACH.	6201.TSE
58	DELTA ELECTRONICS	T	0.47%	26.54	ELECTRONIC COMPS	2308.TW
59	FUBON FINANCIAL	T	0.46%	26.18	INSURANCE - LIFE	2881.TW
60	NAVER	K	0.46%	26.06	INTERNET CONTENT	035420.KO
61	COUPANG	K	0.46%	25.97	INTERNET RETAIL	CPNG
62	CANON	J	0.45%	25.65	COMPUTER HARDWARE	7751.TSE
63	KOMATSU	J	0.45%	25.46	CONSTRUCTION MACH.	6301.TSE
64	ADVANTEST	J	0.44%	25.11	SEMICONDUCTOR EQUIP.	6857.TSE
65	SAMSUNG SDI	K	0.44%	25.07	ELECTRONIC COMPS	006400.KO
66	FORMOSA PETROCHEMICAL	T	0.44%	25.06	OIL & GAS	6505.TW
67	CENTRAL JAPAN RAILWAY	J	0.44%	25.01	RAILROADS	9022.TSE
68	FUJIFILM	J	0.44%	24.92	CONGLOMERATES	4901.TSE
69	TERUMO	J	0.43%	24.41	MEDICAL INSTRUMENTS	4543.TSE
70	NIDEC	J	0.42%	24.08	INDUSTRIAL MACHINERY	6594.TSE
71	LASERTEC	J	0.42%	23.77	SEMICONDUCTOR EQUIP.	6920.TSE
72	ORIX	J	0.41%	23.26	CREDIT SERVICES	8591.TSE
73	PANASONIC	J	0.41%	23.12	CONSUMER ELECTRONICS	6752.TSE
74	MITSUI FUDOSAN	J	0.40%	22.97	REAL ESTATE	8801.TSE
75	CELLTRION	K	0.40%	22.79	BIOTECHNOLOGY	068270.KO
76	CATHAY FINANCIAL HOLDING	T	0.38%	21.87	INSURANCE - LIFE	2882.TW
77	EAST JAPAN RAILWAY	J	0.38%	21.79	RAILROADS	9020.TSE
78	NIPPON STEEL	J	0.38%	21.77	STEEL	5401.TSE
79	ECOPRO BM	K	0.38%	21.76	CHEMICALS	247540.KQ
80	ASTELLAS PHARMA	J	0.38%	21.64	PHARMACEUTICALS	4503.TSE
81	POSCO FUTURE M	K	0.38%	21.48	BUILDING MATERIALS	003670.KO
82	UNITED MICROELECTRONICS	T	0.38%	21.44	SEMICONDUCTORS	2303.TW
83	UNICHARM	J	0.37%	21.38	PERSONAL PRODUCTS	8113.TSE
84	MS&AD INSURANCE	J	0.37%	21.08	INSURANCE - P&C	8725.TSE
85	SUZUKI MOTOR	J	0.37%	21.01	AUTO MANUFACTURERS	7269.TSE
86	DAI-ICHI LIFE HOLDINGS	J	0.37%	21.01	INSURANCE - LIFE	8750.TSE

RANK	NAME	COUNTRY	WEIGHT	M.CAP \$BN	INDUSTRY	SYMBOL
87	OTSUKA HOLDINGS	J	0.37%	20.92	PHARMACEUTICALS	4578.TSE
88	TOYOTA TSUSHO	J	0.37%	20.86	CONGLOMERATES	8015.TSE
89	KYOCERA	J	0.36%	20.56	CONGLOMERATES	6971.TSE
90	AJINOMOTO	J	0.35%	20.13	PACKAGED FOODS	2802.TSE
91	DAIWA HOUSE	J	0.35%	19.98	REAL ESTATE - DEVEL.	1925.TSE
92	NTT DATA	J	0.35%	19.88	INFORMATION TECH.	9613.TSE
93	MITSUBISHI HEAVY INDUSTRIES	J	0.35%	19.72	INDUSTRIAL MACHINERY	7011.TSE
94	AEON	J	0.34%	19.49	DEPARTMENT STORES	8267.TSE
95	NIPPON PAINT	J	0.34%	19.17	SPECIALTY CHEMICALS	4612.TSE
96	KAO	J	0.34%	19.12	PERSONAL PRODUCTS	4452.TSE
97	ASE GROUP	T	0.33%	18.92	SEMICONDUCTORS	3711.TW
98	ASAHI GROUP	J	0.33%	18.89	BREWERS	2502.TSE
99	INPEX	J	0.33%	18.73	OIL & GAS	1605.TSE
100	KAKAO	K	0.33%	18.67	INTERNET CONTENT	035720.KO
101	SAMSUNG C&T	K	0.33%	18.57	ENGINEERING	028260.KO
102	TDK	J	0.32%	18.52	ELECTRONIC COMPS	6762.TSE
103	OLYMPUS	J	0.32%	18.32	MEDICAL INSTRUMENTS	7733.TSE
104	MITSUBISHI ESTATE	J	0.32%	18.25	REAL ESTATE	8802.TSE
105	CTBC FINANCIAL HOLDING	T	0.32%	18.10	BANKS - REGIONAL	2891.TW
106	MEGA FINANCIAL HOLDING	T	0.31%	17.95	BANKS - REGIONAL	2886.TW
107	KUBOTA	J	0.31%	17.93	CONSTRUCTION MACH.	6326.TSE
108	NOMURA RESEARCH INSTITUTE	J	0.30%	17.27	INFORMATION TECH.	4307.TSE
109	HYUNDAI MOBIS	K	0.30%	17.26	AUTO PARTS	012330.KO
110	NAN YA PLASTICS	T	0.30%	17.19	SPECIALTY CHEMICALS	1303.TW
111	OBIC	J	0.30%	17.16	SOFTWARE - APPS	4684.TSE
112	SOMPO HOLDINGS	J	0.30%	17.01	INSURANCE - P&C	8630.TSE
113	KB FINANCIAL GROUP	K	0.30%	16.86	BANKS - REGIONAL	105560.KO
114	SECOM	J	0.29%	16.80	SECURITY SERVICES	9735.TSE
115	NISSAN MOTOR	J	0.29%	16.59	AUTO MANUFACTURERS	7201.TSE
116	FORMOSA PLASTICS	T	0.29%	16.43	SPECIALTY CHEMICALS	1301.TW
117	SHINHAN FINANCIAL GROUP	K	0.28%	16.08	BANKS - REGIONAL	055550.KO
118	NIPPON YUSEN	J	0.28%	15.82	MARINE SHIPPING	9101.TSE
119	NEC CORP	J	0.28%	15.77	INFORMATION TECH.	6701.TSE
120	NEXON	J	0.27%	15.57	ELECTRONIC GAMING	3659.TSE
121	NITORI HOLDINGS	J	0.27%	15.32	APPLIANCES	9843.TSE
122	PAN PACIFIC	J	0.27%	15.14	RETAIL	7532.TSE
123	EISAI	J	0.26%	14.83	PHARMACEUTICALS	4523.TSE
124	SHIONOGI	J	0.26%	14.82	PHARMACEUTICALS	4507.TSE
125	SEKISUI HOUSE	J	0.26%	14.72	RESIDENTIAL CONSTR.	1928.TSE
126	NOMURA HOLDINGS	J	0.25%	14.31	CAPITAL MARKETS	8604.TSE
127	UNI-PRESIDENT ENTERPRISES	T	0.25%	14.23	PACKAGED FOODS	1216.TW
128	SUMITOMO REALTY	J	0.25%	14.16	REAL ESTATE	8830.TSE
129	SUBARU	J	0.25%	14.11	AUTO MANUFACTURERS	7270.TSE
130	SHIMANO	J	0.25%	14.00	LEISURE	7309.TSE
131	SUMITOMO MITSUI TRUST HOLD.	J	0.24%	13.94	BANKS - REGIONAL	8309.TSE

RANK	NAME	COUNTRY	WEIGHT	M.CAP \$BN	INDUSTRY	SYMBOL
132	TOSHIBA ⁷	J	0.24%	13.75	CONSUMER ELECTRONICS	6502.TSE
133	CHINA STEEL	T	0.24%	13.57	STEEL	2002.TW
134	ECOPRO	K	0.23%	13.31	CHEMICALS	086520.KQ
135	BANDAI NAMCO	J	0.23%	13.23	LEISURE	7832.TSE
136	E.SUN BANK	T	0.23%	13.17	BANKS - REGIONAL	2884.TW
137	HOTAI MOTOR	T	0.23%	12.87	AUTO DEALERSHIPS	2207.TW
138	LG ELECTRONICS	K	0.22%	12.81	CONSUMER ELECTRONICS	066570.KO
139	TAIWAN COOPERATIVE FINANCIAL	T	0.22%	12.80	BANKS - REGIONAL	5880.TW
140	KEPCO	J	0.22%	12.46	UTILITIES - RENEWABLE	9503.TSE
141	RESONA HOLDINGS	J	0.21%	12.08	BANKS - REGIONAL	8308.TSE
142	ENEOS HOLDINGS	J	0.21%	12.05	OIL & GAS	5020.TSE
143	SHISEIDO	J	0.21%	12.05	PERSONAL PRODUCTS	4911.TSE
144	KIRIN HOLDINGS	J	0.21%	11.89	BREWERS	2503.TSE
145	FORMOSA CHEMICALS & FIBRE	T	0.21%	11.88	CHEMICALS	1326.TW
146	FIRST FINANCIAL HOLDING	T	0.21%	11.81	BANKS - REGIONAL	2892.TW
147	NIPPON SANZO	J	0.20%	11.60	CHEMICALS	4091.TSE
148	M3 ⁷	J	0.20%	11.23	HEALTH INFORMATION	2413.TSE
149	SAMSUNG LIFE INSURANCE ⁷	K	0.19%	10.68	INSURANCE - LIFE	032830.KO
150	AISIN SEIKI ⁷	J	0.18%	10.31	AUTO PARTS	7259.TSE
TOTAL			100%	5,703.82		

APPENDIX 2

OM JAKOTA 60 INDEX

LIST OF CONSTITUENTS

NO.	NAME	COUNTRY	WEIGHT	M.CAP \$BN	INDUSTRY	SYMBOL
1	ASE GROUP	T	1.67%	18.92	SEMICONDUCTORS	3711.TW
2	CATHAY FINANCIAL HOLDING	T	1.67%	21.87	INSURANCE - LIFE	2882.TW
3	CELLTRION	K	1.67%	22.79	BIOTECHNOLOGY	068270.KO
4	CHINA STEEL	T	1.67%	13.57	STEEL	2002.TW
5	CHUGAI PHARMACEUTICAL	J	1.67%	63.61	PHARMACEUTICALS	4519.TSE
6	CHUNGHWA TELECOM	T	1.67%	30.34	TELECOM SERVICES	2412.TW
7	COUPANG	K	1.67%	25.97	INTERNET RETAIL	CPNG
8	CTBC FINANCIAL HOLDING	T	1.67%	18.10	BANKS - REGIONAL	2891.TW
9	DAIICHI SANKYO*	J	1.67%	53.47	PHARMACEUTICALS	4568.TSE
10	DELTA ELECTRONICS	T	1.67%	26.54	ELECTRONIC COMPS	2308.TW
11	E.SUN BANK	T	1.67%	13.17	BANKS - REGIONAL	2884.TW
12	ECOPRO*	K	1.67%	13.31	CHEMICALS	086520.KQ
13	ECOPRO BM	K	1.67%	21.76	CHEMICALS	247540.KQ
14	FAST RETAILING	J	1.67%	76.10	APPAREL RETAIL	9983.TSE
15	FORMOSA PETROCHEMICAL	T	1.67%	25.06	OIL & GAS	6505.TW
16	FORMOSA PLASTICS	T	1.67%	16.43	SPECIALTY CHEMICALS	1301.TW
17	FOXCONN	T	1.67%	47.21	ELECTRONIC COMPS	2317.TW
18	FUBON FINANCIAL	T	1.67%	26.18	INSURANCE - LIFE	2881.TW
19	HITACHI	J	1.67%	67.67	CONGLOMERATES	6501.TSE
20	HOTAI MOTOR*	T	1.67%	12.87	AUTO DEALERSHIPS	2207.TW
21	HYUNDAI MOBIS	K	1.67%	17.26	AUTO PARTS	012330.KO
22	HYUNDAI MOTOR	K	1.67%	33.26	AUTO MANUFACTURERS	005380.KO
23	ITOCHU CORP	J	1.67%	64.82	CONGLOMERATES	8001.TSE
24	KAKAO	K	1.67%	18.67	INTERNET CONTENT	035720.KO
25	KB FINANCIAL GROUP	K	1.67%	16.86	BANKS - REGIONAL	105560.KO
26	KDDI	J	1.67%	73.26	TELECOM SERVICES	9433.TSE
27	KEYENCE	J	1.67%	106.85	INSTRUMENTS	6861.TSE
28	KIA	K	1.67%	31.06	AUTO MANUFACTURERS	000270.KO
29	LG CHEM	K	1.67%	27.21	CHEMICALS	051910.KO
30	LG ENERGY SOLUTION	K	1.67%	77.28	INDUSTRIAL MACHINERY	373220.KO
31	MEDIATEK	T	1.67%	52.66	SEMICONDUCTORS	2454.TW
32	MEGA FINANCIAL HOLDING	T	1.67%	17.95	BANKS - REGIONAL	2886.TW
33	MITSUBISHI	J	1.67%	66.58	CONGLOMERATES	8058.TSE
34	MITSUBISHI UFJ FINANCIAL	J	1.67%	109.02	BANKS - DIVERSIFIED	8306.TSE
35	NAN YA PLASTICS	T	1.67%	17.19	SPECIALTY CHEMICALS	1303.TW
36	NAVER	K	1.67%	26.06	INTERNET CONTENT	035420.KO
37	NINTENDO	J	1.67%	60.76	ELECTRONIC GAMING	7974.TSE
38	NTT	J	1.67%	110.65	TELECOM SERVICES	9432.TSE
39	ORIENTAL LAND	J	1.67%	61.00	LEISURE	4661.TSE
40	POSCO	K	1.67%	32.64	STEEL	005490.KO
41	POSCO FUTURE M	K	1.67%	21.48	BUILDING MATERIALS	003670.KO
42	QUANTA COMPUTER	T	1.67%	28.21	COMPUTER HARDWARE	2382.TW
43	RECRUIT	J	1.67%	71.72	RECRUITMENT	6098.TSE
44	SAMSUNG BIOLOGICS	K	1.67%	41.79	BIOTECHNOLOGY	207940.KO
45	SAMSUNG C&T	K	1.67%	18.57	ENGINEERING	028260.KO

NO.	NAME	COUNTRY	WEIGHT	M.CAP \$BN	INDUSTRY	SYMBOL
46	SAMSUNG ELECTRONICS	K	1.67%	362.04	CONSUMER ELECTRONICS	005930.KO
47	SAMSUNG SDI	K	1.67%	25.07	ELECTRONIC COMPS	006400.KO
48	SHIN-ETSU CHEMICAL	J	1.67%	84.94	CHEMICALS	4063.TSE
49	SHINHAN FINANCIAL GROUP	K	1.67%	16.08	BANKS - REGIONAL	055550.KO
50	SK HYNIX	K	1.67%	77.42	SEMICONDUCTORS	000660.KO
51	SOFTBANK	J	1.67%	59.10	TELECOM SERVICES	9434.TSE
52	SOFTBANK GROUP	J	1.67%	65.61	TELECOM SERVICES	9984.TSE
53	SONY	J	1.67%	117.36	CONSUMER ELECTRONICS	6758.TSE
54	SUMITOMO MITSUI FINANCIAL	J	1.67%	65.24	BANKS - DIVERSIFIED	8316.TSE
55	TAIWAN COOPERATIVE FINANCIAL	T	1.67%	12.80	BANKS - REGIONAL	5880.TW
56	TAIWAN SEMICONDUCTOR	T	1.67%	501.23	SEMICONDUCTORS	2330.TW
57	TOKYO ELECTRON	J	1.67%	83.62	SEMICONDUCTOR EQUIP	8035.TSE
58	TOYOTA	J	1.67%	299.74	AUTO MANUFACTURERS	7203.TSE
59	UNI-PRESIDENT ENTERPRISES	T	1.67%	14.23	PACKAGED FOODS	1216.TW
60	UNITED MICROELECTRONICS	T	1.67%	21.44	SEMICONDUCTORS	2303.TW
TOTAL			100%	3,623.7		

FOOTNOTES

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1. The Inevitable Resurgence of Emerging Markets, Oxford Metrica, 2023.
 2. Beta is the estimate of the long-term covariance between the index and the relevant benchmark.
 3. The Sharpe ratio: $\frac{(R_i - R_f)}{\sigma}$. Where $R_f=3\%$; σ = volatility measured as standard deviation.
 4. The Treynor ratio: $\frac{(R_i - R_f)}{\beta}$. Where $R_f=3\%$; β = an index measure of covariance with the benchmark.
 5. #DRs indicates those stocks that are available to international investors in the form of a depositary receipt.
 6. The minimum variance hedge ratio indicates that proportion of the investment that would need to be hedged against the currency. To minimise the effect of currency volatility. In this case we regressed the OMJBC Index returns, in dollar terms, against the relevant currency basket returns to estimate the beta. The minimum variance hedge ratio is equal to $-\beta$. Thus, in the case of JBC150 with a $\beta = 0$ no hedging at all is required. In the case of OMJ60 with $\beta=0.1$ only 10% of the value of the portfolio would need to be hedged. The hedge ratio is $-\beta$ as one is selling the currency basket. Furthermore, it is noted that this method is an approximation which ignores basis risk.
 7. As of the beginning of January 2024 the companies Toshiba (now delisted); M3; Aisin Seiki; and Samsung Life Insurance were removed from the Jakota Blue Chip 150 Index and were replaced with ASUSTeK Computer; Kikkoman; Largan Precision; and Sysmex.
 8. As of the beginning of January 2024 the companies Daiichi Sankyo; Ecopro; and Hotai Motor were removed from the OM Jakota 60 Index and were replaced with LG Electronics; First Financial Holding; and Mitsui Bussan.

FIGURE SOURCES

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- FIGURE 1: Bloomberg (MSCI Data)
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- FIGURE 2: Japan Centre for Economic Research
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- FIGURE 3: Organisation for Economic Cooperation and Development (OECD)
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- FIGURE 4: Global manufacturing scorecard, Brookings Institution
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- FIGURE 5: World Trade Statistical review 2021, World Trade Organisation (WTO)
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- FIGURE 6: International Monetary Fund (IMF)
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- FIGURE 7: Oxford Metrica
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- FIGURE 8: Jakota Index Portfolios
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- FIGURE 9: Bloomberg
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- FIGURE 10: Bloomberg (MSCI Data) & Oxford Metrica
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- FIGURE 11: Bloomberg (MSCI Data) & Oxford Metrica
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- FIGURE 12: Bloomberg (MSCI Data) & Oxford Metrica
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- FIGURE 13: Bloomberg & Oxford Metrica
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- FIGURE 14: Bloomberg & Oxford Metrica
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- FIGURE 15: Bloomberg & Oxford Metrica
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- FIGURE 16: Bloomberg & Oxford Metrica

OXFORD METRICA CLIENTS

BANKING

BNY Mellon
Credit Suisse
Deutsche Bank
Invesco
Schroders
Templeton & Phillips
UBS

ENERGY & MINING

BP
De Beers
Exxon Mobil
Gold Fields
Royal Dutch Shell

FOOD

DongA One
General Mills
Nestlé

FOUNDATIONS

John Templeton Foundation
TWCF

HEALTH CARE

Baxter
Bristol-Myers Squibb
Johnson & Johnson
Merck Serono
Natura Cosmetics
Novartis
Novo Nordisk
Solvay

INDUSTRIAL

ABB
Aker Solutions
BAA
BAE Systems
General Electric
INI
Jardine Matheson
Kone

INSURANCE

AIG
Aviva
EM Global
If
ING Group
Munich Re
OIL
RSA
SCOR
Swiss Life
Swiss Re
Zurich Insurance Group

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Ashurst
Blue Rubicon
Deloitte
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P&O Ferries

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