CIO View Special

November 29, 2023
Marketing material

10 themes for the year ahead

The good news first: you probably don't need to turn your portfolio upside down right now. The ten topics I would like to present to you here are not the hottest stock-market tips for the start of 2024, but topics that we believe will be relevant for investors in 2024 and beyond. They might help to provoke some immediate investment ideas. But, above all, what we want to do is provide you with some longer-term food for thought.

Take the topic of "female finance," for example. This is not about designing products specifically for female investors. Rather, it is about how a team of different sexes and from different backgrounds is not an optional extra but an obligation in asset management. A diverse team is essential if you want to manage funds responsibly – i.e., achieve an optimum balance between risk and return – and avoid groupthink.

Fundamentally, this is also what the Electrification, Quality, Artificial Intelligence (AI), and Cryptocurrencies articles in our 10 Themes are about. Ultimately, they all deal with the recurring challenges and typical cognitive traps that investors can fall prey to – how successful incumbents in an industry can quickly become laggards; why a company's quality cannot be judged merely on the basis of its numbers; whether artificial intelligence might itself help asset managers choose between digital winners and losers in the stock market. (Spoiler alert: we think humans will continue to make the difference, but AI can greatly improve the basis for decision-making).

The last of the topics mentioned above, cryptocurrencies, is also ultimately about rethinking old ways of thinking. And perhaps to see precisely in those investments, such as Bitcoin, an opportunity to obtain some partial protection against "unknown unknowns" in the portfolio. This would be tantamount to an accolade for an investment that is more easily than any other accused of having no intrinsic value. We advocate a pragmatic and cautious approach to these instruments.

On the other side of the risk spectrum are bonds. After two bad years and one mixed year, we think that 2024 could be the year for bonds. In light of our expectation that we won't see a severe recession that would jeopardize creditworthiness, starting the year with high bond yields and falling inflation could be the ideal environment for bond investments.

From interest rates it is only a small step to the real-estate sector, which has suffered and continues to suffer like few others from the big rise in rates. In fundamentally healthy submarkets, however, this could offer good entry opportunities. For our economy and environment, we believe it can never be too early to enter or expand the circular economy. Only 7% of all materials used in industry are currently recycled.[1]

Finally, let's take a look at perhaps the most exciting region at the moment from our viewpoint: Asia-Pacific. Here, in a range of diverse countries, you can find many positive developments – from high population growth, a wealth of raw materials and expanding middle classes to established industrial nations and global dominance in some sectors. India stands out due to its combination of size, demographics, widespread use of English and progress in its reforms. In our view, the Asian region also has an important role to play in investment portfolios as a counterweight to the stock-market dominance of the U.S.

I hope that with this publication we can arouse interest in some of the topics that we consider very exciting. Now, at the turn of the year, is a good time to reflect on which topics we have over- or underestimated in the past year. Even when using an abundance of human and artificial intelligence, the markets always supply surprises. But that is ultimately what makes dealing with capital markets so appealing. It is important, however, to know the limits of one's knowledge and where risks should be avoided. Our ten themes may help make this a little more tangible.

Björn Jesch
Global Chief
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Female Finance: the benefits of diversity

How and why we still need to do more to get more women into finance, encourage more women to invest and improve education about gender, diversity and finance.

Remember Deborah Tannen's classic bestseller "You Just Don't Understand," from the 1990s? A professor of linguistics, Tannen essentially argued that in Western societies, girls and boys grew up in rather distinct cultures, leading them to use language in different ways with different goals in mind as adults.

Conversation thus became akin to cross-cultural communication, often fraught with genuine confusion.[1] Thirty years on, the same obviously holds when we talk about a concept as fluid as gender across generational divides, including on such vital issues as female finance.

Female money wisdom and male overconfidence

Plenty of good guide books now exist specifically by women and for women on how to gain money wisdom.[2] In recent years, the idea that it can make sound financial sense to entrust money to female fund managers and to asset management firms that have a strong focus on diversity and female empowerment has become conventional wisdom in much of the industry.[3]

To younger readers – especially those with a background in behavioral finance – it may seem strange that this was ever even controversial. To be sure, neither gender has a monopoly on cognitive biases that can be costly.[4] Still, overconfidence appears to be a particularly male streak, not just in modern humans.[5]

This has important implications for investment strategies and fund management. More than 20 years ago, a now classic study looking at a large sample of individual investors found that women outperformed men by about in 1.4% in annual risk-adjusted net returns, largely because men were trading too much, presumably reflecting overconfidence.[6] Subsequent research over time and across multiple countries paints a more nuanced picture. As with many behavioral traits, there is great variation within both sexes, reflecting learning as well as cultural environments.

Change takes time, as people, firms and other institutions seek to replicate past examples of success through pattern-matching.

How to bring about cultural change

For example, perceived incongruity between traditional female gender roles and an occupational role that has traditionally and "ideally" been masculine, such as well-known star investors, tended to lead to less favorable views of women in such roles.[7] How to change culture when it comes to gender is a tricky subject in many areas of life, not just within finance.[8]

"Even in the 2020s, women still have different life experiences and perspectives. For investing, that translates into different needs, investment horizons and habits," argues Katharina Seiler, portfolio manager at DWS. "Including more female investors benefits our business. As importantly, it has beneficial ripple effects for the economy and financial markets overall."

Reducing the potential for groupthink

Numerous studies have shown that diversity can lead to more robust decision-making processes, reducing the potential for groupthink and enhancing risk management, potentially boosting returns and lowering earnings risks.[9] Investors can play a key role in this, by encouraging female empowerment at every level.[10] In turn, we expect such progress to be helpful in overcoming unconscious biases against other groups too, in the financial industry and beyond.

The key is for all members of a group, deciding, for example, on investment strategy, to feel listened to and safe to express a dissenting view respectfully. This helps to successfully resolve, rather than suppress, conflicts. Diversity, properly handled and encouraged, also opens the way to new, creative solutions. In a nutshell, overcoming unconscious biases can further our common understanding of financial markets and make asset managers more successful.[11]

Cryptocurrencies: the portfolio perspective

As a relatively young asset class, cryptocurrencies, in our view, could be a valuable portfolio addition in an uncertain (rather than just a risky) world.

Constructing a good, let alone an objectively optimal portfolio, is never an easy task. Its composition will depend on an investor's circumstances, investment objectives and constraints. In addition, there are the general problems of using past observations to draw forward-looking inferences.[1] All models – whether in finance or in science – have their limitations and tend to break down under certain conditions. This is all the more reason to "try to understand what risks we can, to domesticate as many unknown unknowns as possible," as James Weatherall explained in a highly accessible book explaining the recent origins, uses and abuses of quantitative modelling in modern finance.[2]

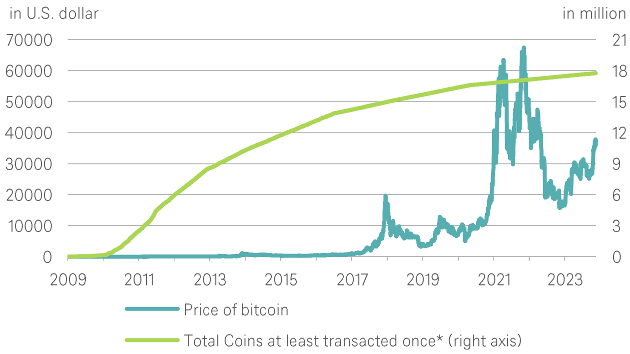
This suggestion is highly relevant as investors seek diversification, and explore alternative, but still relatively nascent, investments, such as cryptocurrencies. Much can be written – and has been, by us and others – about the potential of the underlying blockchain technology.[3] But for an investor's asset allocation, such technical and historical details also need the context of the underlying economic characteristics of cryptocurrencies.

When talking about various cryptocurrencies, a key question concerns their supply. For example, Bitcoin's supply is firmly capped at 21 million coins, with its issuance schedule (see chart) transparently regulated by the Bitcoin protocol.

So, despite both Bitcoin and gold being scarce assets, and despite the terminological analogies (such as mining), Bitcoin's and gold's issuance schedules differ. Bitcoin's supply can never be changed due to increasing demand while gold mining is likely to increase with heightened demand. In addition, and similarly to gold, Bitcoin does not generate an income stream. (though keep in mind that other cryptocurrencies, such as Ethereum, have a different setup and value proposition to Bitcoin. Putting aside the assessment of individual cryptocurrencies, the underlying blockchain technology certainly has plenty of potential, most notably in becoming the base infrastructure for potentially tokenized financial markets in the future. Finally, when it comes to assessing their proposition today as a means of payment, we believe there is still too much uncertainty for cryptocurrencies to materially matter, at least in developed countries.[4]

Until they mature further, and as long as prices remain very volatile, the use of cryptocurrencies within a traditional portfolio for risk diversification is likely to be mainly of interest for sophisticated, institutional investors with the requisite resources and skills to crunch the numbers for, initially, relatively small allocations.[5] As an alternative source of diversification for private, retail clients, the potential of cryptocurrencies may lie less in carefully calibrated optimization work and more in having an additional type of relatively affordable optionality against uncertainties that may only become apparent with the benefit of hindsight. In particular, they could be a way to gain indirect exposure to the dynamic tech sector, or to the many already emergent longer-term changes at the heart of capital-market infrastructure. Such uncertainties go beyond traditional economic notions of the types of risks which can be precisely estimated or quantified from past observations. In our view, that could make them valuable in an uncertain (rather than just a risky) world.

Bitcoin: high price volatility while issuance is converging



Sources: CoinMetrics, DWS Investment GmbH as of 11/21/23 // * Upper limit of bitcoin issuance 21 million

Electrification: The Innovator's Dilemma

Current plans for utilizing renewable energy as the most cost-effective solution to reduce greenhouse-gas emissions look set to shake up many established business models.

Almost thirty years ago, the business scholar Clayton Christensen coined the term "The Innovator's Dilemma."[1] His framework helps explain why even companies with a great track record tend to struggle in coping with disruptive innovations that redefine their markets.

Take incumbent utilities. Traditionally, managing electricity demand or digitizing their services has rarely been among their top priorities, nor did it need to be. Yet it is exactly these types of skills and business models that will be as essential as expanding capacity for the renewable transition to succeed. Ideally, electricity production should take place close to where and when it is needed, with demand responding to intermittent renewable production. None of this is going to be easy.[2] But the basic issues involved, including the need for electricity storage and the potential of electric vehicles and other "smart" devices to help smooth intra-day demand at the regional or even local level, has been recognized for decades.

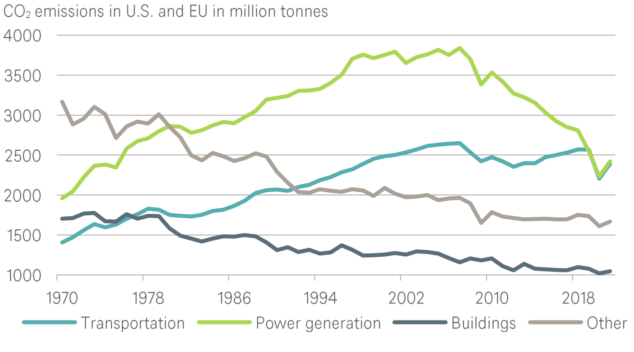
Alas, as with any incumbents, the strength of utilities lies in sustaining technologies. Typically, this means catering to the needs of established, high-margin customers. The focus tends to be on incremental improvements to enhance existing products or services, rather than new niches.. Among utilities, this typically means adding capacity – and, quite often, intentionally or unintentionally hindering innovations that would disrupt their traditional business models.[3] The Innovator's Dilemma can help explain why countries that tried to push forward with their energy transition comparatively early tended to see incumbent utility companies resisting such necessary changes as "smart" metering.

By contrast, disruptive technologies[4] tend to be initially inferior for mainstream uses. Newcomers tend to focus on small, initially quite marginal niche segments neglected by incumbents. An excellent example concerns cars, even if it happens to be from 100 years ago. Well into the 1920s, sophisticated customers much preferred their nearly silent, easy-to-control and reliable electric cars. By comparison, early cars powered by internal combustion engines were seen as inconvenient, dirty and not very reliable.[5] Thanks to the electrification of car assembly lines and related product and process innovations, though, those high-emission gas guzzlers could soon be produced en masse, very cheaply.[6] Ever since, they have been the sustaining technology of legacy carmakers, which organized their organizations and processes around it.[7]

Electrification of car assembly lines eventually helped spell the end, until quite recently, for electric cars. This episode highlights how, as disrupting, enabling technologies improve, they tend to shake up many established business models in unpredictable ways. To take a more recent example, when the iPhone was introduced, it was by no means clear that it would create new competition for taxi companies.

Transportation is the only major sector globally where carbon emissions continue to rise (see chart), even in regions such as Europe that are otherwise advancing well on their journey towards net zero.[8] Governments and investors increasingly see it as an urgent priority. The distinction between sustaining versus disruptive technologies should make them cautious as to their ability to predict and pick potential winners. "Amid all the uncertainty surrounding disruptive technologies, managers can always count on one anchor: *Experts' forecasts will always be wrong.*"[9]

Carbon emissions by sector: Transportation still increasing



Source: Emissions Database for Global Atmospheric Research as of November 2023

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India: Delivering on many promises

India's structural strengths – demography and democracy – are well known. Business-friendly politics, a thriving service sector and geopolitics add to the positive picture.

Decades ago, India's stock market ceased to be a hidden pearl. It has performed three times better than the Asia-Pacific Region[1] since 2003 and has even outperformed the almighty S&P 500 by 20% since May 2020. Can this continue? The structural strengths of the world's most populous democracy are well known – take the young population and the fact that English is widely spoken. Since the 1990s it has also become an increasingly integrated and liberal market economy and has grown steadily by 6-7% over the past 20 years.[2] We expect similar growth rates in 2024, driven by a competitive manufacturing sector and its growing service sector. Tech-related service exports increased by USD 60bn to USD 300bn in 2022. Its IT-services workforce is expected to double to 11mn by 2031.[3] India is also pushing its green transition, spurring investment in new sectors such as green hydrogen, electric vehicles and solar panels.

India compares favorably to China

India's fundamental advantages are best shown in contrast to China: 1) Its workforce is expected to keep growing and peak in 2040, while China's peaked already in 2015. 2) Its big companies have received far less public support and have been exposed to more competition[4], which suggests they have become fitter. 3) The country's catch-up potential is substantial: India's income per capita is USD 2.5k vs China's USD 12.7k. 4) Geopolitics: India is profiting from the growing dispute between China and the West.[5] On the other hand, China clearly leads when it comes to the speed of economic and business decision-making and implementation. Its infrastructure is more advanced and it enjoys dominance in certain sectors. However, India's listed companies have clearly outperformed their Chinese peers over the past.[6]

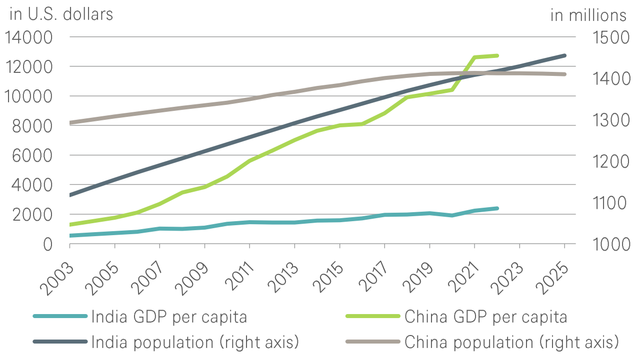
National elections in 2024 could be a critical event

An important catalyst for India's recent success has been Narendra Modi, Prime Minister since 2014. He has sped up the abolition of many formal and informal barriers to internal trade, for example by introducing the national goods-and-services tax.[7] His policy of balancing economic reforms with various social-welfare schemes is also considered a success. The upcoming elections in spring 2024 are therefore important for investors. They are likely to prefer that Modi, who is popular at present domestically, remains in power. That should increase the chances that the digitalization drive, which promises faster and higher productivity growth in various sectors, continues. But there is also a mid-term risk that political checks and balances are weakened if one party, and one leader remain in power for more than a decade.

Not cheap, but there is long-term value

India's appeal comes at a price. The MSCI India Index has gained roughly 8% this year, outperforming Pan-Asia to which it now trades with a valuation premium of 50%[8], compared to an average of 40% over the past ten years.[9] Nonetheless, in our view, India continues to be worth considering. As we have pointed out, it has some fundamental strengths, and we also believe that international interest – and flows – to India will increase. The bond market is opening up further and India is seeking more foreign direct investment. India's "next big thing" story does not look like a short-lived fashion.

India: income catch-up potential and population growth



Sources: Bloomberg Finance L.P., DWS Investment GmbH as of 11/17/23, 2023 to 2025 figures are based on IMF estimates

Circular Economy: Squaring the circle

How moving towards a carbon-neutral and ecologically sustainable circular economy is not only natural but can also be profitable.

Linear resource extraction is a fairly new phenomenon

According to paleoanthropologists, circular production processes have been with us since the dawn of time.[1] Reducing waste and designing affordable goods and services built to last is natural but can also be profitable. Indeed, what has been unusual in human history has been linear resource extraction geared towards producing, consuming and throwing away goods in the 20th century, partly because price mechanisms failed to fully incorporate social and environmental costs. Once something becomes scarce, its price goes up, encouraging innovation.[2] Carbon emissions and climate change are cases in point. Alas for now, global circularity is dismal, with only 7% of all material inputs into the world economy in 2023 consisting of secondary materials being cycled back after the end of their useful life.[3]

Incentives are changing

The good news, especially in Europe, is that policymakers increasingly recognize the wisdom of using market mechanisms to decouple economic growth from resource consumption.[4] The European Investment Bank (EIB), for example has lent out €3.4bn to support circular economy projects over the last five years (see chart). Used cleverly, the circular economy can be a smart way to cut costs and tackle a whole host of other disruptive challenges, including demographic shifts.[5] For example, circular supply chains can introduce fully renewable, recyclable or biodegradable materials that can be used in consecutive lifecycles, increasing certainty in the face of supply-chain disruptions. New forms of digital technology offer opportunities to rent, share, swap or lend idle goods. This changes producer incentives, by putting durability and performance, rather than volume, at the forefront.[6]

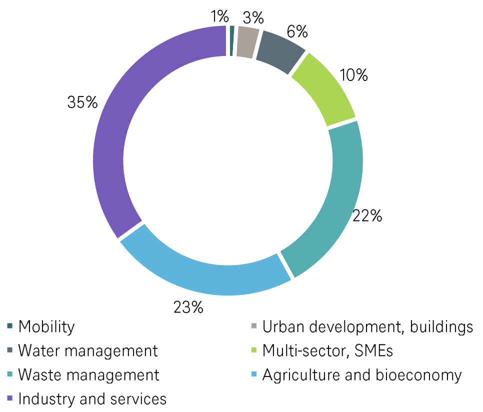
Regulation encourages longer lasting products

The rise of biodiversity regulation also helps eliminate harmful practices, encourages more sustainable activities, and promotes nature-positive policies. The European Green New Deal[7] has ushered in promising opportunities across sectors like fast fashion, mobility and construction. Circular regulations are compelling companies to design products that are more durable, easily repairable and longer lasting. For example, companies sometimes try to keep lifetimes of their products down, as lightbulb manufacturers infamously did since the 1920s.[8] Or take clothing companies; these have historically tended to use mixed textiles, which are hard to recycle. To become circular, textile manufacturing needs to re-engineer production processes to employ fibers that are easier to reuse.[9]

A sustainable supply chain can contribute to profits

"Firms that embrace sustainability in their supply chains could also be able to attract eco-conscious consumers, resulting in increased brand loyalty and market share. This can not only improve the firms' sustainability but can also contribute to their bottom line," argues Paul Buchwitz, Head of ESG Thematic Equities at DWS. Not so long, one problem with this was that regulations differed across different countries and trading blocks. Circular economies rarely crossed borders. But as global environmental concerns continue to grow, one would expect national or regional norms to converge, often, presumably, in line with European regulatory templates.[10]

EIB Circular Economy lending by sector (2018-2022)



Source: European Investment Bank as of 05/2023

This information is subject to change at any time, based upon economic, market and other considerations and should not be construed as a recommendation. Past performance is not indicative of future returns. Forecasts are not a reliable indicator of future performance. Forecasts are based on assumptions, estimates, opinions and hypothetical models that may prove to be incorrect. Alternative investments may be speculative and involve significant risks including illiquidity, heightened potential for loss and lack of transparency. Alternatives are not suitable for all clients. Source: DWS Investment GmbH.

Bonds – strong year ahead

After a historically long dry spell, 2024 could become a good year for bonds. A resurgence of inflation remains a risk, but the high carry provides some security cushion – especially for corporate bonds.

Is investing really that easy? Just two years ago most government bonds in Europe and the U.S. were yielding small or even negative returns. Today, government bonds are yielding almost 5% in the U.S., almost 3% in Germany and almost 1% in Japan. Investing in (government) bonds from other countries or companies even offers an interest premium to that.[1] It is therefore no wonder that so many people are saying that bonds are back.

Of course, investing isn't that simple. After all, bonds were already looking attractive again at the beginning of 2023, after they had experienced one of the worst crashes in post-war history.[2] Good entry point? No, some government bonds are likely to suffer their third negative year in a row. This is because the U.S. Federal Reserve (Fed) announced a "higher for longer" regime for key interest rates after inflation, growth and the labor market all proved more robust than expected. And even though the major central banks did not raise their key interest rates at the end of the year, they left open the possibility of further rate hikes in 2024. As disappointing as all this was for early investors in bonds, it has laid the foundation, in our view, for a good investment year for bonds in 2024.

Good year for bonds

We are anything but euphoric about the global economic outlook for the next two years – but a downbeat world is, in general, good for bonds. We believe the current economic downturn will be mild – and the subsequent upturn meagre. We see inflation falling below 3% by the end of 2024, getting closer to the Fed's and European Central Bank's (ECB's) comfort zone. This not very upbeat tune is music to the ear of bonds. It means the central banks are unlikely to turn to further bond-punishing interest-rate hikes. Instead, from mid-2024, interest-rate cuts and thus bond-price gains could be on the cards. At the same time there is little reason to expect that corporate bonds will come under pressure from a serious recession, because, as we have said, a big downturn is unlikely in our view.[3]

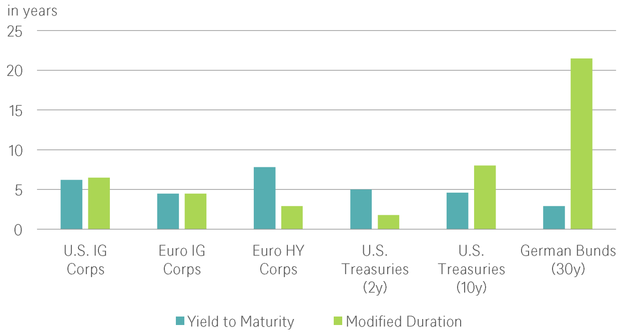
What duration to choose?

The choice of the optimal duration depends heavily on interest-rate expectations. All else equal, longer durations are best suited to a declining interest-rate environment, whereas shorter durations are best suited if fresh interest-rate hikes are expected. In an environment in which central banks are moving from data point to data point and U.S. yields remain volatile due to concerns about the government's high refinancing requirements, we prefer to avoid excessive risk and favor maturities of two to seven years.[4]

Regions and issuers

In addition to medium-term government bonds, we also like corporate bonds, particularly the investment-grade (IG) segment, due to its favorable risk/return profile. In the high-yield (HY) segment, we prefer Europe to the United States. A large number of elections in Emerging Markets add increased individual country risk to geopolitical risk that is already heightened. Therefore, we remain highly selective in this area. But we see an end to the strong momentum in dollar appreciation and U.S. yield increases as a positive.

Next to the yield, duration needs to be considered, too



Sources: Bloomberg Finance L.P., DWS Investment GmbH as of 11/13/23

Quality: A guide for stock pickers

In theory, quality investing makes a lot of sense in an uncertain world. In practice, it takes a great deal of skill and effort.

"I have the simplest tastes," Oscar Wilde declared. "I am always satisfied with the best."[1] Many successful investors, such as the legendary Philip Fisher, tend to take a similar approach to picking quality stocks. At a time of geopolitical, economic and technological uncertainties, the idea of compounding return by investing into a proven winner is appealing.[2]

Of course, that leaves the problem of how to recognize "the best." In identifying high-quality stocks, the traditional distinction has been in terms of metrics encompassing offensive and defensive characteristics. Offensive traits include durable growth, innovation leadership and management quality. Defensive strengths relate to a solid balance-sheet, financial flexibility and shareholder-oriented capital allocation. Especially over the last 30 years, new techniques have emerged to refine traditional measures of quality and value creation more precisely. These are constantly refined further, as : our understanding of equities is still in the making.[3]

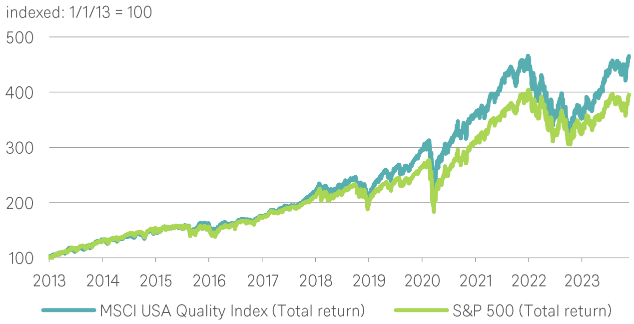
Partly, that is because causality, when it comes to returns, can be quite tricky. A strong stock-market performance can be self-reinforcing by helping attract high-quality staff, leading to a "flywheel" of driving more innovation and better execution, thus generating stronger financial results and driving the share price higher. When buying a leading technology company in the late 1990s, it might already have seemed smart to look for a would-be Internet leader skillful at adopting the tools of technology and being capital lite. Extra points might have been awarded for sticky customer relationships, recurring revenues, high predictability in cash flows and the ability for self-funding. Still, an investor might well have endured periods of significant stock-price volatility with the leading e-commerce platform – and be in for many years of lean returns.

On the other hand, a company which delivered great returns for ages may all of the sudden struggle. "Nothing fails like success," as the business scholar Richard Pascale has argued.[4] Even the best-managed companies with a stellar track record, can become subject to what Clayton Christensen famously called "The Innovator's Dilemma.[5]" "In an age of disruption and fast-paced structural change, resiliency and adaptability are key quality criteria aside from hard financial metrics," argues Sebastian Werner, Head of Growth Equities, Americas at DWS.

Adaptability includes undertaking investments even in uncertain times. Having the support of long-term-thinking and patient investors who understand the need to prepare for the next wave and see the potential of new opportunities early on helps. Resilience means risk-preparedness, operationally and financially as well as via diversification. Just as a good defense enables a good and effective offense, resilience is a precondition for adaptability, as it creates financial flexibility. In combination with continuous improvement, this can create a virtuous cycle, enabling market leaders to profitably grow further, independent of the macroeconomic circumstances.

Identifying such potential long-term value creators involves qualitative assessments of management, organizational flexibility and effective corporate culture. This takes a great deal of skill and effort. Conversely, the potential rewards from correctly identifying long-term winners have rarely seemed larger with so many unknowns lying ahead.

Over the last ten years, quality has outperformed the broader market



Source: Bloomberg Finance L.P., DWS Investment GmbH as of 11/21/23

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Asia Pacific: regional diversification

With its diverse strengths, Asia remains a global growth driver in our view. It is worth taking a look at the entire region, not least as a potential counterweight to the dominance of U.S. equities.

Home bias is a well-known investment habit: People prefer to invest in their familiar home region. And, for international investors, the United States is a draw for another reason: It is the largest, most liquid and most ubiquitous capital market, and has been outperforming its international competitors for years, thanks mainly to the big tech stocks. If you deem their valuations too high and want to diversify your portfolio, you could take a look at Asia. We are talking of Asia broadly here, from India to Australia, including Japan. This broad approach is obviously not about focusing on individual, short-term trends. It is about strategic diversification as a counterweight to the U.S. and Europe. And short-term factors make it all the more desirable to think about Asia.

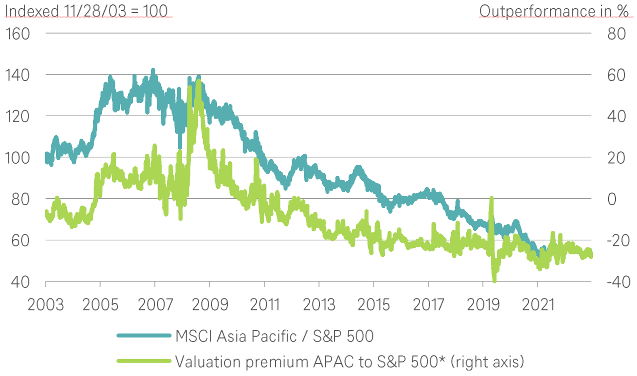
Diversified globalization makes Asia more self-sufficient

Regardless of whether you call it diversified globalization or friendshoring[1], global goods flows have been changing for some years now. Regionalization is on the rise. For example, trade between China and the U.S. is declining, while it is increasing within the Asian region. The Regional Comprehensive Economic Partnership (RCEP) trade agreement between Asia-Pacific nations which, even without India's participation, involves 2.2 billion people and 30% of global trade, could contribute to this growth in trade within the Asia-Pacific region in the future. Rising domestic consumption there is also a growth driver. After years of sharply rising incomes, Asia's emerging countries have developed a broad middle class with strong consumer spending power.

Growth is this region's strength, whether through ongoing industrialization, as for example in China and Vietnam, and/or through population growth, as in India and the Association of Southeast Asian Nations (ASEAN) states. Indeed, the appeal of the region lies in the various strengths that it combines: whether it's Australia's wealth of natural resources and western-style service sector; Japan's established and often world-leading industry; India's[2] demographics and up-and-coming companies in the tech and service sector; or China's continued growth, with leading positions in important sectors such as renewable energies. China is currently experiencing a period of weakness due to the real-estate crisis and ongoing disputes with the U.S., among other things. But the fact that many Western companies want to reduce their dependence on China often benefits China's emerging neighbors. In general, investors who do not feel comfortable in China's capital market due to regulations and uncertainty may be able to participate in its size and growth via neighboring countries, particularly Japan and South Korea.

In the near term, the region has much to be said for it. The headwinds from rising U.S. interest rates and U.S. dollar appreciation are abating, and after a difficult year China should slowly regain its footing. Meanwhile, Japan is currently shining more than in years. Wages and inflation are at last rising again and companies are accelerating their restructuring. Finally, what speaks not only for Japan but for the entire region is that international investors are still significantly underweight and the valuation discount to the S&P 500 is close to its historic high.[3]

Asia's shares have long underperformed the U.S.



Sources: Bloomberg Finance L.P., DWS Investment GmbH as of 11/13/23
* Based on next twelve months P/E ratio

Real estate – time to enter?

Higher yields have proven to be a formidable headwind for both residential and commercial properties, but fundamentals have generally been stalwart.

Nervousness has been most visible in the dramatic price swings of listed real-estate investment trusts (REITs). REITs have lately staged a recovery and have historically led private markets by about one year. However, they are an imperfect indicator.[1] Fundamentals, meanwhile, have generally been stalwart, with tight vacancies and rising rents (see our forecasts in the chart below) in many major markets and segments. E-commerce, coupled with efforts to bolster supply chains, is driving demand for warehouses. Widespread and chronic housing shortages persist while supply disruptions and rising wages have boosted construction costs. Together with tighter financing constraints this has already started to curb construction.

Rental growth by region and sector

Source: RREEF Management L.L.C. as of August 2023

Of course, there is plenty of variation across and within regions and segments. The office sector has been shaken by work-from-home arrangements, especially in the U.S., but opportunities lurk in other regions. In Western Europe, for example, many cities (e.g., Paris and Berlin) suffer a dearth of prime, ESG[2]-friendly office space. In Asian office markets, a cultural affinity for office-based interaction has limited the damage from remote working, particularly in South Korea and Japan.[3]

As real-estate prices now largely reflect higher interest rates, there may be scope for upside if and when yields fall. "Fortune may favor the brave investor who can look through the dip, capitalize on attractive valuations and ride the next cycle," argues Kevin White, Co-Head for Global Real Estate Research.

Timing, though, is tricky. As real-estate cycles turn, this can change how thick or thin markets are at different times, in ways that are similar to buying a good, a sandwich, say, in different places. In the economic jargon, mid-town Manhattan is a thick market for grabbing a lunchtime sandwich, giving a New York deli plenty of the cost advantages due to, say, workers being busy at all times, compared to, say, a similar eatery in small-town Iowa.[4]

Going from boom to bust is a bit like suddenly finding yourself in small-town Iowa in search of your favorite lunchtime sandwich. During a downturn, real-estate markets suddenly become thin. Typically, transactions get pulled, specialized suppliers – of financing, in particular – get jittery and no one can quite know precisely when potential buyers will shift from being cautious to fearing they may already have missed the best entry points for the best assets.

The ideas behind thin markets versus thick markets is that it is often more efficient for economic activity to be concentrated in either time or in space. An economic upswing and a city are essentially similar phenomena; their longevity depends on how long the agglomeration effects underpinning them are likely to last. This can be quite helpful in figuring out where such assets can be found. Take data centers. In many parts of the U.S., provisioning the required power from local electric utilities – rather than scarcity of developable land – has become the main limiting factor.[5] Eventually, power production and electricity grids will adjust. By that point, however, innovative clusters may already have emerged, giving rise to additional agglomeration effects.[6]

November 29, 2023
Marketing material

Investing in the age of Artificial Intelligence

How (not) to identify the long-term beneficiaries of artificial intelligence (AI) and other types of disruptive technologies.

"Prompting" is swiftly becoming a key skill. Before very long, knowing how to engage with artificial intelligence (AI) and providing it with context and nuance will be essential for any student or white-collar worker. Generative AI promises big boosts in productivity. Its varied uses are already becoming clear in areas such as programming or summarizing existing human knowledge of potential relevance for a specific client question in, say, business consulting.[1] Large language models (LLM) can also offer a much more natural user interface with specialized applications suited to the task in question. The trick is to assess their replies with specific goals in mind.

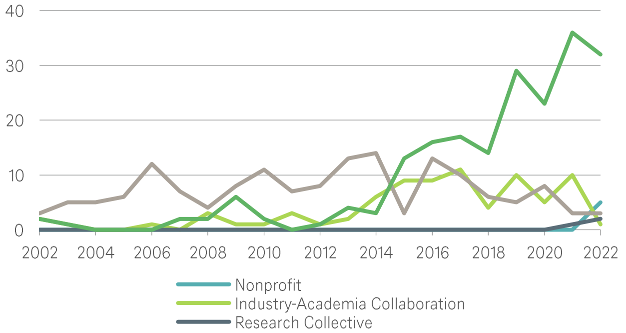
Take the question of how (not) to identify the long-term beneficiaries of AI in the stock market. This is a good example of what AI can do, but also where there are likely to be limitations – at least for the foreseeable future. "It only knows what it has seen and seen enough times to make sense of," as an excellent primer for newcomers on the topic has it.[2] As we previously described, recent advances in AI can – if used properly – be extremely useful for augmenting, rather than replacing human expertise. Pattern recognition tends to be of limited use, if encountering rare or unusual problems.[3] Perhaps more importantly, it will take time for AI users, both individuals and companies, to reorganize how they work around the new possibilities AI is opening up.[4] For example, a good prompt asking for stock-market beneficiaries might helpfully include a reference to Clayton Christensen's thinking on different types of innovations[5] (see our article "Electrification: The Innovator's Dilemma"[6]) or ideas of picking high-quality stocks generally (see our article "Quality: A guide for stock pickers"[7]). Do not simply expect it to automatically "understand" the relevant context, though.

In terms of identifying long-term beneficiaries of AI, two bits of context any experienced human investor knows are that (a) forecasts are extremely tricky for disruptive technologies[8] and (b) AI has been a hot topic in recent months, driving up relative valuations. Markets are adaptive. Companies have incentives to tell their investors what those investors want to hear. Knowing this, one might, for example, use AI to look for companies which have been investigating – and bragging – about their transformative AI potential for years, rather than focusing on recent converts or comments during the latest earnings calls. It also helps to keep an eye on developments beyond the U.S., especially in Asia.[9]

Recent progress has been years in the making. Consider how far AI has come, for example, in playing chess. In 2017, it was announced that Deep Mind's AlphaZero could trounce "the strongest superhuman chess engine," entirely by teaching itself, "without learning established human wisdom on chess strategy."[10] Of course, self-taught AI programs would work nowhere near as well if the rules kept changing. Still, in many areas, AI is already accelerating scientific discovery and innovation. This includes an increasing share of applied research by industry, rather than academia (see chart), promising readily applicable breakthroughs. "We believe that AI beneficiaries have powerful levers to drive future revenue and profit growth. In our analysis we put particular emphasis on the moat – that is, the durable competitive advantage – around a company's AI product as well as its related growth potential," explains Tobias Rommel, Senior Portfolio Manager at DWS.

Industry rather than academia takes the lead.

Number of significant machine learning systems



Source: "The AI Index 2023 Annual Report," AI Index Steering Committee, Institute for Human-Centered AI, Stanford University, Stanford, CA, April 2023

Footnotes Introduction

[1] The Circularity Gap Report 2023

Footnotes Female Finance

[1] Tannen, D. (1992, repr. ed.) "You Just Don't Understand: Women and Men in Conversation"; Virago
[2] See, in particular, Kalee, B. (2023) "Make Money Your Thing: Ditch the Shame and Design your Dream Life"; re:books
[3] The Economist (Mar 8th 2018), Investment by women, and in them, is growing (economist.com)
[4] See, for example, Kahneman, D. (2011) Thinking, fast and slow. Farrar, Straus and Giroux and Taleb, N. (2004, 2nd ed.), "Fooled by Randomness: The Hidden Role of Chance in Life and in the Markets"; Texere Publishing
[5] There are sound biological reasons to assume that differential mating strategies have broader implications for how human thinking and cultures have evolved, now broadly accepted within the cognitive sciences. For an early outline, see Barkow, J. H., Cosmides, L., & Tooby, J. (Eds.). (1992). "The adapted mind: Evolutionary psychology and the generation of culture", esp. parts III and IV; Oxford University Press. For examples of overconfidence and its evolutionary underpinnings as well as reasons to see human culture on such issues as quite fluid, see, in particular, Peterson, D. & Wrangham, R., (1997) "Demonic Males: Apes and the Origins of Human Violence"; Mariner Books
[6] Brad M. Barber, B. & Odean, T. (2001) "Boys will be Boys: Gender, Overconfidence, and Common Stock Investment"; in The Quarterly Journal of Economics, Vol.116:1, pp. 261–292; available at: BOYS WILL BE BOYS: GENDER, OVERCONFIDENCE, AND COMMON STOCK INVESTMENT (berkeley.edu)
[7] Eagly, A. H., and Karau, S. J. (2002) "Role congruity theory of prejudice toward female leaders", Psychological Review, 109(3), pp. 573–598.
[8] See, for example, Chang, E. (2019, repr. ed.) "Brotopia: Breaking Up the Boys' Club of Silicon Valley"; Penguin Publishing Group; Venture Capitalists Are Using the Wrong Tools to Improve Gender Diversity - Behavioral Scientist and Venture Capital and Entrepreneurship | Harvard Kennedy School
[9] See, for example, Janis, I.L. (1982) "Groupthink: Psychological Studies of Policy Decisions and Fiascoes. Boston: Houghton Mifflin." A good introduction to the complex, dynamic nature of group problem solving in a broad range of situations is offered by Surowiecki, J. (2004) "The Wisdom of Crowds: Why the Many Are Smarter Than the Few and How Collective Wisdom Shapes Business, Economies, Societies and Nations", Little Brown. For a critical assessment of such insights and their practical application, see, for example, Tetlock, P. and Gardner, D. (2015), "Superforecasting: The Art and Science of Predictions", Crown Publishers, pp. 193-211.
[10] See, for example, sp500_board_diversity_snapshot_2022.pdf (spencerstuart.com) and, for the most recent data, 2023_new_director_-diversity_snapshot.pdf (spencerstuart.com).
[11] For a further overview of "Groupthink" and "Groupfeel" research, as well as some intriguing suggestions in developing these ideas to better understand financial markets, see Tuckett, D. (2011) Minding the Markets: An Emotional Finance View of Financial Instability", esp. pp. 66-70

Footnotes Cryptocurrencies

[1] Goodman, N. (1954) "Fact, Fiction, & Forecast", Harvard University Press.
[2] Weatherall, J. (2013), "The Physics of Finance: Predicting the Unpredictable: Can Science Beat the Market?", Short Books, p. 216
[3] Digital designs | Part 1 (dws.com), June 15, 2021.
[4] Digital designs | Part 2 (dws.com) July 6, 2021.
[5] See, for example: The Global Market Portfolio (dws.com), September 27, 2023.

Footnotes Electrification

[1] Christensen, C. (2003 ed.) "The Innovator's Dilemma: When New Technologies Cause Great Firms to Fail," Harper Business Essentials; the dilemma arises in terms of identifying how and why "planning better, working harder, becoming more customer-driven, and taking a longer-term perspective" can, in the face of disruptive technological changes sometimes lead to failure of previously successful firms. (p. xxii)
[2] Getting the most out of tomorrow's grid requires digitisation and demand response (economist.com), The electric grid is about to be transformed (economist.com) and, to get an idea of how long many of the innovations now finally being implemented have been known and talked about, The dawn of micropower (economist.com)
[3] On Germany in particular, see: Article | bne - Bundesverband Neue Energiewirtschaft e.V. (bne-online.de) and Smart Meters, Sluggish Policy? Germany Rejects Fast Smart Meter Rollout | Greentech Media
[4] As we explain in this article, disruptive technologies are, to quote Christensen, ibid., and keeping in mind that this was written in the 1990s p. (xviii) "bring to market a very different value proposition than had been available previously. (...) In the near future, 'Internet appliances' may become disruptive technologies to suppliers of personal computer hardware and software."
[5] According to car industry folk memory, those sophisticated fans of electric cars very much included Henry Ford's wife. See, for example, As electric motors improve, more things are being electrified (economist.com)
[6] The shift in production technology towards interchangeable parts with subdivided labor and fluid movement of materials was only possible thanks to electrification. See: Gas-Steam Engine, 1916, Used to Generate Electricity at Highland Park Plant - The Henry Ford
[7] Another, long lasting effect was how increasingly gigantic corporations enterprises came to be organized, with GM serving as an early role model. See, for example, McChrystal S., Collins, T., Silverman, D. and Fussell, C. (2015), Team of Teams: New Rules of Engagement for a Complex World, Penguin, pp. 188-198
[8] For more details, also see: https://www.dws.com/en-gb/insights/global-research-institute/transforming-transportation/
[9] Christensen, C. ibid, p. 178 (italics in the original)

Footnotes India

*** DWS does not intend to promote a particular outcome to the India election due to take place in the month of April and May 2024. ***
[1] Source: Bloomberg Finance L.P., 11/15/23. (MSCI India vs MSCI Asia Pacific, currency adjusted from 1/1/02 until 11/15/23 and MSCI India vs S&P 500, currency adjusted from 5/1/20 until 11/15/23.)
[2] Source: Bloomberg Finance L.P., as of 11/15/23.
[3] Source: Nasscom.in
[4] India equity: An unsung long-term performance story, October 2022.
[5] Not least seen geopolitically as it is part of the QUAD group, a strategic security dialogue between the U.S., Japan, India and Australia.
[6] Source: Bloomberg Finance L.P. as of 11/15/23: Earnings-per-share (EPS) growth 2017-2023 MSCI India: 70%. MSCI China: -14%.
[7] The Economist: Narendra Modi is widening India's fierce regional divides, September 13, 2023.
[8] Source: Bloomberg Finance L.P. as of 11/15/23, based on next the twelve months Price/Earnings ratios

[9] Source: Bloomberg Finance L.P., as of 11/15/23.

Footnotes Circular Economy

[1] Our ancestors, going back at least to Neandertals, probably designed their stone tool production techniques so that when a tool broke down in predictable ways, the resulting new parts could readily be used for making other tools. See, for example, Mithen, S. (1996) The Prehistory of the Mind: The Cognitive Origins of Art, Religion and Science; Thames & Hudson
[2] For plenty of fascinating examples, see Simon, J. (1996). The Ultimate Resource 2; Princeton University Press
[3] The Circularity Gap Report 2023
[4] World Bank Document - Squaring the Circle : Policies From Europe's Circular Economy Transition
[5] Manyika, J. and Woetzel, J. (2016), No Ordinary Disruption: The Four Global Forces Breaking All the Trends. PublicAffairs
[6] See numerous case studies in Lacy, P. and Rutqvist, J. (2015), Waste to Wealth: The Circular Economy Advantage. Palgrave Macmillan
[7] Programme of the European Parliament, aiming at making Europe climate-neutral by 2050 while increasing competitiveness of European industry
[8] The Economist | Introducing a more circular economy will meet with resistance (economist.com), September 27, 2018.
[9] The Economist | Battery-makers are powering a circular economy (economist.com), October 27, 2022.
[10] DWS Investment GmbH | A Framework for European Transformation, December 2022.

Footnotes Bonds

[1] Which normally come at an additional risk.
[2] U.S. treasuries suffered 2 negative years in a row for the first time since 1960.
[3] Which doesn't mean that we don't believe in increasing default rates for less well capitalized, lower margin companies.
[4] The following examples show how maturities (more precisely: duration) and the current yield affect the risk of loss: 30-year German government bonds would suffer a price loss of almost 20% if interest rates were to rise by 1%. With a current yield of 3%, a total loss of over 15%. European high-yield bonds, on the other hand, have an average remaining term of only three years and currently yield almost eight per cent. An increase in interest rates of 1% would only reduce the yield from 8% to 5% in this case.

Footnotes Quality

[1] Day, B. (2000) "Oscar Wilde: A Life in Quotes Hardcover", p. 88
[2] Fisher, P. (2003 ed.) "Common Stocks and Uncommon Profits and Other Writings", John Wiley & Sons, p. 113
[3] Notably, this can be done by adjusting reported accounting figures in various ways to get clearer measures of capital invested and returns generated. See Curto, F. (2020), Valuing and Investing in Equities: CROCI: Cash Return on Capital Investment, Academic Press, esp. p. 21 and p. 183
[4] Pascale, R. T. (199), "Managing On the Edge: How Successful Companies Use Conflict to Stay Ahead", Penguin, p. 11
[5] Clayton, M. Christensen (2011), "The Innovator's Dilemma: The Revolutionary Book That Will Change the Way You Do Business", esp. part 1.

Footnotes Asia Pacific

[1] Friendshoring refers to a corporate strategy in which production is relocated to diplomatically friendly or allied foreign locations
[2] See also our separate report on India: 10 Themes | India: Delivering on many promises
[3] Source: Bloomberg Finance L.P. as of November 2023

Footnotes Real Estate

[1] Like stock markets more broadly, real estate valuations tend to be volatile. Both listed and unlisted real estate have typically - sometimes dramatically - overshot underlying valuations. See, for example, Akerlof, G. and Shiller, R. (2009) "Animal Spirits: How human psychology drives the economy, and why it matters for global capitalism", Princeton University Press, esp. pp. 131-156.
[2] In consideration of environmental, social and governance criteria
[3] For more details on South Korea, see A Korean sneak preview (dws.com)
[4] Hall, R. (1989) Temporal Agglomeration NBER working paper 3143, available online: w3143.pdf (nber.org)
[5] Equities retreat as earnings disappoint (dws.com)
[6] As we previously described, patterns along these lines are already emerging in Northern Europe. See Innovative clusters – northern lights, transforming Europe (dws.com)

Footnotes Artificial Intelligence

[1] Financial Times (ft.com) "Here's what we know about generative AI's impact on white-collar work"
[2] Shane, J. (2019), "You Look Like a Thing and I Love You: How Artificial Intelligence Works and Why It's Making the World a Weirder Place Hardcover", p. 235
[3] Agrawal, A., Gans, J. and Goldfarb, A. (2022, rev. ed.) "Prediction Machines, Updated and Expanded: The Simple Economics of Artificial Intelligence" Harvard Business Review Press,
[4] https://www.dws.com/en-gb/insights/cio-view/cio-view-quarterly/q2-2023/20230626-cio-view-focus/
[5] Christensen, C. (2003 ed.) "The Innovator's Dilemma: When New Technologies Cause Great Firms to Fail," Harper Business Essentials; the dilemma arises in terms of identifying how and why "planning better, working harder, becoming more customer-driven, and taking a longer-term perspective" can, in the face of disruptive technological changes sometimes lead to failure of previously successful firms. (p. xxii)
[6] CIO Special – 10 themes | Electrification: The Innovator's Dilemma
[7] CIO Special – 10 themes | Quality: A guide for stock pickers
[8] Disruptive technologies, to quote Christensen, ibid., and keeping in mind that this was written in the 1990s p. (xviii) "bring to market a very different value proposition than had been available previously. (...) In the near future, 'Internet appliances' may become disruptive technologies to suppliers of personal computer hardware and software."
[9] Equities - China and artificial intelligence: "probably more dynamic than the USA". | DWS
[10] Sadler, M., Regan, N., Hassabis D. and Kasparov, G. (2019), Game Changer: AlphaZero's Groundbreaking Chess Strategies and the Promise of AI, New in Chess, p. 33

Glossary

Artificial intelligence is the theory and development of computer systems able to perform tasks normally requiring human intelligence
The Association of Southeast Asian Nations (ASEAN) is a political and economic organization of 10 countries located in Southeast Asia.
Behavioral finance is a sub-field of economic science, which studies the effects of psychological, social, cognitive and emotional factors on financial decisions, as well as the consequences for financial markets.
Bitcoin is the first and largest crypto asset, enabling decentralized peer-to-peer transactions.
A blockchain is a chain of blocks of data that are immutably chained together via cryptography and stored on a distributed and decentralized database.
Carbon neutrality means achieving a balance between emitting carbon and absorbing carbon from the atmosphere in natural carbon sinks such as soils, forests and oceans, or through carbon capture technology.
The carry (of an asset) is the cost or benefit from holding the asset.
A circular economy aims to close energy and material cycles by reintroducing previously unused emissions and waste back into production processes. Measures to achieve a circular economy include: sustainable construction, refurbishing and recycling.
A crypto asset is the digital representation of a value or contractual right that is created, transferred, and stored using distributed ledger technology (blockchain) and authenticated through cryptography.
Diversification refers to the dispersal of investments across asset types, geographies and so on with the aim of reducing risk or boosting risk-adjusted returns.
Duration is a measure expressed in years that adds and weights the time periods in which a bond returns cash to its holder. It is used to calculate a bond's sensitivity towards interest-rate changes.
Earnings per share (EPS) is calculated as a company's net income minus dividends of preferred stock, all divided by the total number of shares outstanding.
Emerging markets (EM) are economies not yet fully developed in terms of, amongst others, market efficiency and liquidity.
Investors increasingly take environmental, social and governance (ESG) criteria into account when analyzing companies in order to identify nonfinancial risks and opportunities.
Ethereum is a decentralized blockchain platform. Anyone can deploy immutable and therefore permanent applications onto it. Thereby, all kinds of advanced business logic can be run automatically, allowing for easy creation of new currencies, tokens and smart contracts. The Ethereum network is configured to find blocks every 15 seconds rather than every ten minutes (Bitcoin), enabling faster confirmations.
The European Central Bank (ECB) is the central bank for the Eurozone.
The European Investment Bank is a multilateral financial institution owned by the EU member states. It provides both equity and debt financing for projects that meet EU policy objectives in areas such as climate change, the environment and infrastructure.
In a group that is subject to groupthink, individuals are discouraged from voicing a different opinion than the majority of the group which may harm creativity and finding the optimal solution to a given problem.
High-yield bonds are issued by below-investment-grade-rated issuers and usually offer a relatively high yield.
Inflation is the rate at which the general level of prices for goods and services is rising and, subsequently, purchasing power is falling.
Investment grade (IG) refers to a credit rating from a rating agency that indicates that a bond has a relatively low risk of default.
Key interest rates stated by central banks to determine the most important rates of borrowing.
By scanning and learning from massive amounts of data, a large language model (LLM) can understand language and generate new content.
"Mining" is the process that many cryptocurrencies use to generate new coins and verify new transactions. It typically involves vast, decentralized networks of computers around the world that verify and secure blockchains.
Modified duration is a formula that expresses the measurable change in the value of a security in response to a change in interest rates. Modified duration follows the concept that interest rates and bond prices move in opposite directions.
The MSCI AC Asia Pacific Index captures large-and mid-cap companies across 5 Developed Markets countries (Australia, Hong Kong, Japan, New Zealand and Singapore) and 8 Emerging Markets countries (China, India, Indonesia, South-Korea, Malaysia, the Philippines, Taiwan and Thailand) in the Asia Pacific region. With 1,545 constituents, the index covers approximately 85% of the free float-adjusted market capitalization in each country.
The MSCI China Index captures large- and mid-cap representation across China H shares, B shares, Red chips, P chips and foreign listings.
The MSCI India Index is designed to measure the performance of the large-and mid-cap segments of the Indian market. With 122 constituents, the index covers approximately 85% of the Indian equity universe.
The MSCI USA Quality Index aims to capture the performance of quality growth stocks by identifying stocks with high quality scores based on three main fundamental variables: high return on equity (ROE), stable year-over-year earnings growth and low financial leverage.
The price-to-earnings (P/E) ratio compares a company's current share price to its earnings per share.
Quad is a diplomatic group comprising Australia, India, Japan and the United States.
A Real Estate Investment Trust (REIT) is a company that owns and, in most cases, operates income-producing real estate. REITs sell like a stock on the major exchanges and invest in real estate directly, either through properties or mortgages
A recession is, technically, when an economy contracts for two successive quarters but is often used in a looser way to indicate declining output.
The Regional Comprehensive Economic Partnership (RCEP) is a free trade agreement between the Asia-Pacific countries of Australia, Brunei, Cambodia, China, Indonesia, Japan, South Korea, Laos, Malaysia, Myanmar, New Zealand, the Philippines, Singapore, Thailand and Vietnam. The agreement was signed in November 2020 and constitutes the largest trade alliance in history.
Risk-adjusted implies that the risk involved is taken into consideration. For example, risk-adjusted return is how much return your investment has made relative to the amount of risk the investment has taken.
The S&P 500 is an index that includes 500 leading U.S. companies capturing approximately 80% coverage of available U.S. market capitalization.
The total return is a performance measure of an investment. It measures the earned income of an investment over a specific time period.
Treasuries are fixed-interest U.S. government debt securities with different maturities: Treasury bills (1 year maximum), Treasury notes (2 to 10 years), Treasury bonds (20 to 30 years) and Treasury Inflation Protected Securities (TIPS) (5, 10 and 30 years).
The U.S. dollar (USD) is the official currency of the United States and its overseas territories.
The U.S. Federal Reserve, often referred to as "the Fed," is the central bank of the United States.
A valuation premium is the excess a buyer is willing to pay for one asset relative to other assets.
Volatility is the degree of variation of a trading-price series over time. It can be used as a measure of an asset's risk.
The term yield to maturity (YTM) refers to the total return anticipated on a bond if the bond is held until it matures.

Important information – EMEA, APAC & LATAM

Introduction as of 11/24/23; 098820_1 (11/2023)
Female Finance as of 11/3/23; 098528_1 (11/2023)
Cryptocurrencies as of 11/23/23; 098754_1 (11/2023)
Electrification as of 11/23/23; 098750_1 (11/2023)
India as of 11/15/23; 098707_1 (11/2023)
Circular Economy as of 11/21/23; 098746_1 (11/2023)
Bonds as of 11/17/23; 098705_1 (11/2023)
Quality as of 11/21/23; 098748_1 (11/2023)
Asia Pacific as of 11/17/23; 098667_1 (11/2023)
Real Estate as of 11/13/23; 098665_1 (11/2023)
Artificial Intelligence as of 11/23/23; 098752_1 (11/2023)

Important information – North America

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