

Base rates are a useful tool for investors when making decisions that involve factors that can disrupt the balancing of risk and reward.

Base effects



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Our everyday lives involve countless decisions made under uncertainty. Incomplete, complex, and often conflicting information can steer our thinking away from crucial underlying factors that are likely to be more beneficial inputs into decision making. One such input are base rates, which can repeatedly be ignored when we perceive new information to be more relevant to our individual situation.

Perhaps the simplest example of a base rate is the flipping of a coin. The likelihood, or base rate, of a flipped coin landing on heads is 50%. With just one event taking place (the coin flip) and two possible outcomes, most people would comfortably get to the correct answer when asked what probability they would assign to the coin landing on heads. Unfortunately, as complexity rises, we quickly start running into difficulties and lose sight

of the underlying base rate. It feels intuitively correct to say the probability of getting 10 heads in a row is lower than a random sequence of heads and tails, but we know that both are equally likely.

To take it further, consider a person who would like to test to see if they have a particular virus, in which the prevalence of the virus across the population is 0.5%. The test itself is not completely accurate, with 95% of people who have the virus testing positive, and 90% of people who do not have the virus testing negative. If the person's test results come back positive, what are the odds they do in fact have the virus? The person may initially be filled with fear, believing that, having tested positive, they have a 95% chance of having the virus. The actual probability, calculated using a form of statistical inference called Bayes' Theorem, is much lower at just over 4.5%*.

As the initial base rate moves out of sight (in the above case, the prevalence of the virus across the population), the less it influences decision making and we quickly turn to the qualitative to aid our decisions. When making investment decisions, a compelling narrative, which could be good or bad and often evokes an emotional reaction in us (e.g. excitement or despair), we tend to disregard statistical data such as base rates. This can compound as we seek out further instances that confirm our newly held beliefs. As investing sits somewhere at the intersection between skill and luck, it makes sense to anchor your decision making with base rates as a starting point, attempting to put the odds in your favour for a good investment outcome.

There is a significant archive of studies across the investment industry which can provide investors with base rate statistics, giving them areas to focus on and others to avoid. Some well-known research areas include the outperformance of stocks in the cheapest percentiles of various valuation metrics, and of funds with both a high active share and low turnover. For equity and fund analysts, this data offers pools of opportunities to begin research, knowing you are fishing in an area that has historically produced good investment returns.

Research also exists to refocus a mind that has been clouded by an exciting investment narrative, such as rose-tinted management forecasts. In an excellent Credit Suisse study¹, the authors found that across 44,000 observations from 1950 to 2014, historic net income growth rates for listed companies had zero to negative correlation with future 1-, 3- and 5-year returns. Consequently, the base rate, which is the median net income growth rate for the universe, is a more reliable starting point for an analyst's forecasts.

Base rates are a useful tool for investors when making decisions that involve factors that can disrupt the balancing of risk and reward, and while we are all susceptible to inadvertently leaving them out of our decision-making, an awareness of them should aid in improving outcomes.

* Solution: Probability of having the virus given the person has tested positive = $P(V/P) = 0.5\% \times 95\% = 0.48\%$
Probability of not having the virus given the person has tested positive = $P(NV/P) = 99.5\% \times 10\% = 9.95\%$
 $P(V/P) = 0.48\% / (0.48\% + 9.95\%) = 4.56\%$

Source: ¹'The Base Rate Book – Earnings Growth' – Mauboussin, Callahan, Majd, December 2015

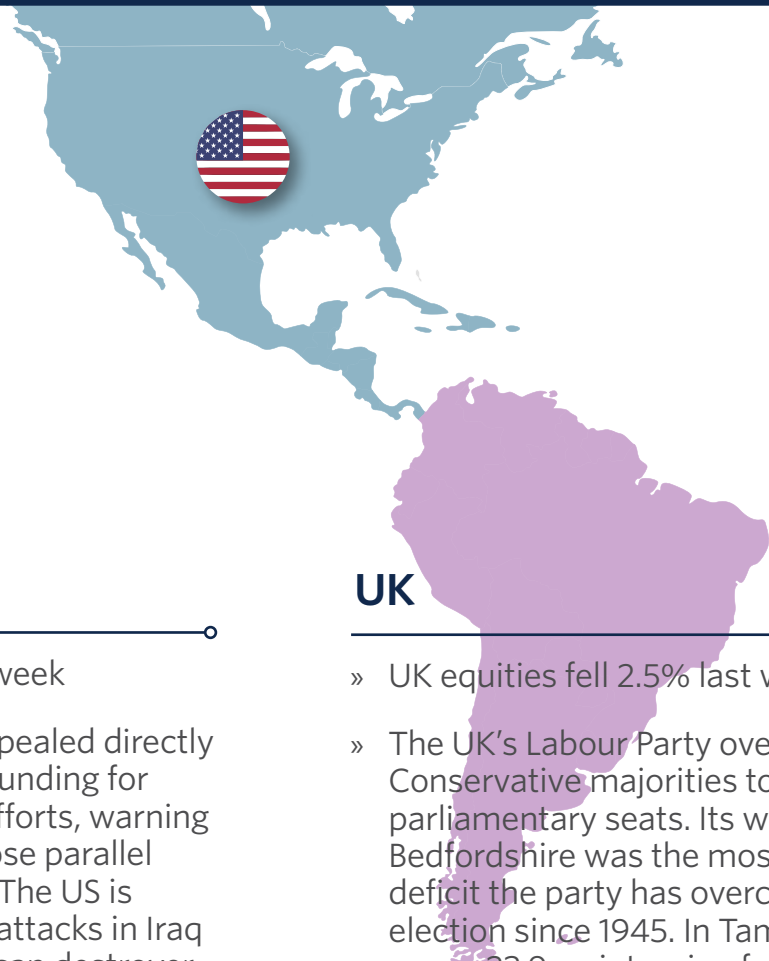


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Market Focus - 23 October 2023

- » Global equities fell 2.5% last week
- » All major indices saw declines driven by escalating tensions in the Middle East
- » Brent crude rose 1.4% to \$92.16 a barrel
- » Gold rose 2.5% to \$1981.40 per ounce

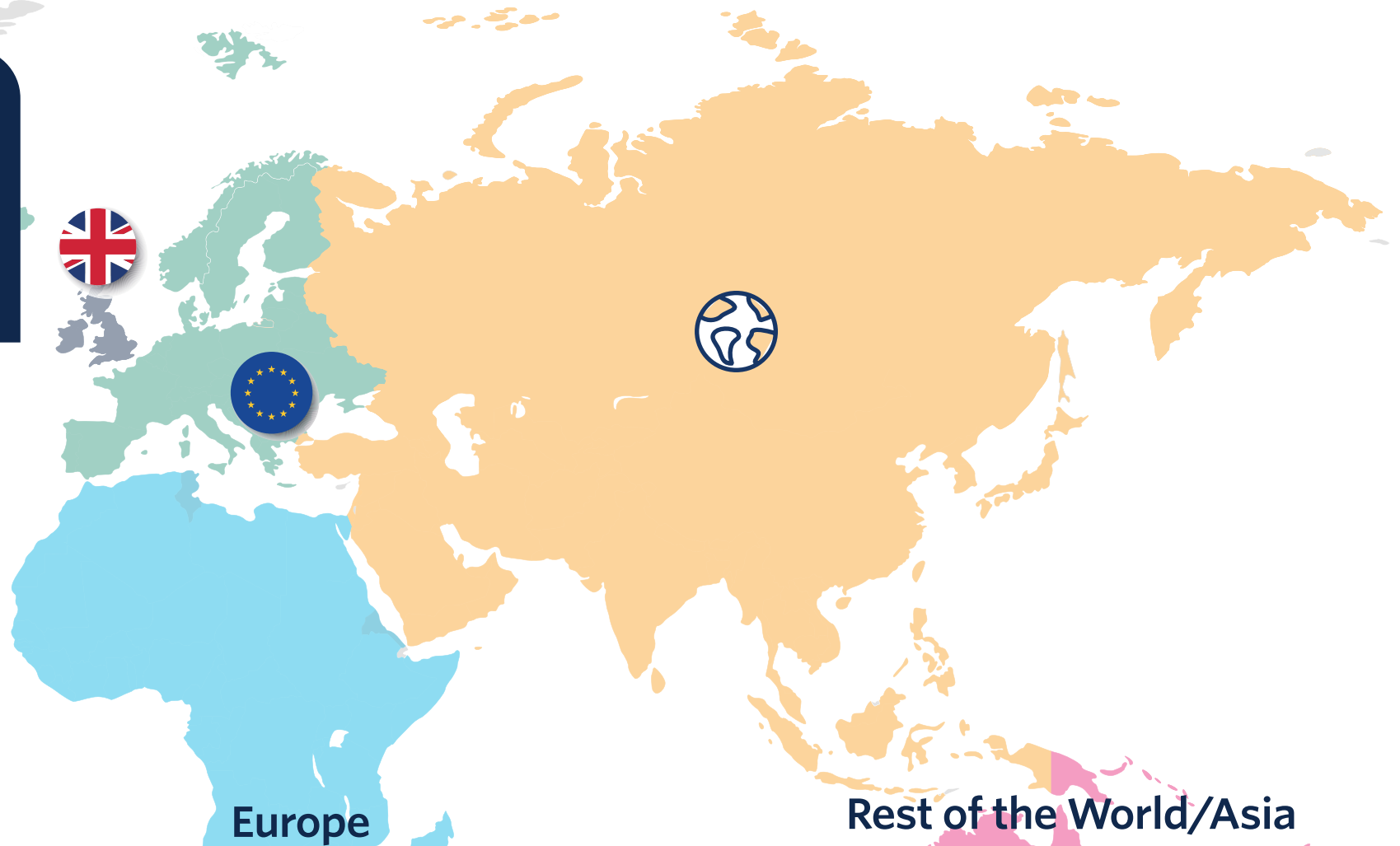


US

- » US equities fell 2.4% last week
- » US President Joe Biden appealed directly to Americans to support funding for Israel and Ukraine's war efforts, warning that Hamas and Russia pose parallel threats to US democracy. The US is seeing stepped-up drone attacks in Iraq and Syria, while an American destroyer in the Red Sea intercepted cruise missiles and drones fired toward Israel by Houthi rebels in Yemen
- » Federal Reserve Chair Jerome Powell signalled a November hike is unlikely, leaving the door open for more rate increases. The Fed Open Market Committee is "proceeding carefully", but "the evidence is not that policy is too tight right now," Powell said.
- » The US 10-year treasury is close to reaching 5%, a level not seen since the end of June 2007

UK

- » UK equities fell 2.5% last week
- » The UK's Labour Party overturned huge Conservative majorities to win two parliamentary seats. Its win in Mid Bedfordshire was the most significant deficit the party has overcome in a by-election since 1945. In Tamworth, Labour won a 23.9-point swing from the Tories. Both add to Keir Starmer's hopes of success at a future general election
- » UK consumer confidence fell 9 points in October to -30, the most significant drop since the start of the pandemic



Europe

- » European equities fell 3.5% last week
- » The FT reported that the ECB's Yannis Stournaras said the Middle East turmoil shifted the balance against any further tightening. "We are in the dark — it is better to keep all of our options open," he said
- » European CPI year-on-year for September was 4.3% (as expected)

Rest of the World/Asia

- » Global emerging market equities fell 2.7%
- » Japanese equities fell 2.3%. The Bank of Japan (BOJ) announced an unscheduled bond-purchase operation after benchmark yields touched a fresh decade high. While the move did not immediately impact JGBs, Japan's sovereign debt is under renewed pressure as traders test the BOJ's tolerance in the lead-up to its 30th-31st October policy meeting
- » Chinese equities fell 4.7% last week. The PBOC injected the most short-term cash into the banking system on record through reverse repurchase contracts, keeping funding costs low to support the economy. Lenders also kept the one and five-year loan prime rates at 3.45% and 4.2%, respectively
- » Chinese GDP year-on-year was 4.9% (vs 4.4% expected)

Market Summary - 23 October 2023

Cumulative returns					
Asset Class / Region	Currency	Week ending 20 October	Month to date	YTD 2023	12 months
Developed Markets Equities					
United States	USD	-2.4%	-1.4%	11.0%	16.6%
United Kingdom	GBP	-2.5%	-2.4%	2.7%	10.8%
Continental Europe	EUR	-3.5%	-3.7%	5.1%	12.3%
Japan	JPY	-2.3%	-2.9%	22.0%	22.1%
Asia Pacific (ex Japan)	USD	-2.8%	-2.7%	-3.2%	11.1%
Australia	AUD	-2.1%	-2.1%	1.5%	6.8%
Global	USD	-2.5%	-2.1%	8.7%	16.8%
Emerging Markets Equities					
Emerging Europe	USD	0.0%	-0.6%	14.3%	47.0%
Emerging Asia	USD	-3.0%	-2.5%	-1.5%	12.9%
Emerging Latin America	USD	-2.3%	-5.2%	7.0%	4.2%
BRICs	USD	-3.2%	-3.6%	-4.7%	7.1%
China	USD	-4.7%	-5.2%	-12.2%	7.8%
MENA countries	USD	-0.7%	-4.4%	-3.8%	-12.4%
South Africa	USD	-2.9%	-1.2%	-11.0%	3.0%
India	USD	-1.0%	-0.5%	8.3%	11.8%
Global emerging markets	USD	-2.7%	-2.8%	-1.0%	9.9%
Bonds					
US Treasuries	USD	-1.4%	-1.4%	-2.7%	0.1%
US Treasuries (inflation protected)	USD	-0.8%	-0.7%	-1.6%	0.5%
US Corporate (investment grade)	USD	-1.9%	-2.2%	-1.7%	4.3%
US High Yield	USD	-1.2%	-1.9%	4.0%	7.3%
UK Gilts	GBP	-2.1%	-1.8%	-5.9%	-4.7%
UK Corporate (investment grade)	GBP	-1.5%	-1.5%	-0.2%	5.0%
Euro Government Bonds	EUR	-0.8%	-0.3%	-0.3%	-0.9%
Euro Corporate (investment grade)	EUR	-0.6%	-0.4%	1.9%	4.5%
Euro High Yield	EUR	-0.9%	-1.2%	4.9%	10.2%
Japanese Government	JPY	-0.8%	-0.9%	-1.4%	-2.5%
Australian Government	AUD	-1.5%	-1.1%	-0.7%	0.3%
Global Government Bonds	USD	-1.0%	-1.2%	-4.6%	1.1%
Global Bonds	USD	-1.1%	-1.5%	-3.1%	3.1%
Global Convertible Bonds	USD	-1.0%	-2.2%	-0.5%	5.8%
Emerging Market Bonds	USD	-1.5%	-2.4%	-2.6%	8.7%

Cumulative returns					
Asset Class / Region	Currency	Week ending 20 October	Month to date	YTD 2023	12 months
Property					
US Property Securities	USD	-3.8%	-4.0%	-6.8%	-0.3%
Australian Property Securities	AUD	-2.4%	-1.8%	-3.8%	2.3%
Asia Property Securities	USD	-2.6%	-3.8%	-13.3%	-3.1%
Global Property Securities	USD	-3.4%	-4.5%	-7.9%	0.9%
Currencies					
Euro	USD	0.8%	0.1%	-1.1%	8.0%
UK Pound Sterling	USD	0.1%	-0.4%	0.5%	8.0%
Japanese Yen	USD	-0.2%	-0.3%	-12.6%	0.0%
Australian Dollar	USD	0.4%	-1.9%	-7.3%	0.1%
South African Rand	USD	0.1%	-0.5%	-10.3%	-3.7%
Swiss Franc	USD	1.0%	2.5%	3.3%	12.3%
Chinese Yuan*	USD	-0.1%	-0.2%	-5.7%	-1.4%
Commodities & Alternatives					
Commodities	USD	0.6%	0.3%	1.6%	4.3%
Agricultural Commodities	USD	0.5%	1.7%	2.5%	4.2%
Oil	USD	1.4%	-3.3%	7.3%	-0.2%
Gold	USD	2.5%	7.2%	8.6%	21.1%

Source: Bloomberg Finance L.P. Past performance is not indicative of future returns.

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