

## The tale of an emerging market and Moneyball meets the World Cup

### The tale of an emerging market

The eyes of the world will soon turn to the FIFA World Cup, when host nation Brazil kicks off against Croatia.

The lead up to the World Cup has been marred by protests in Brazil. The proximate reason for the simmering resentment surrounds government funding for transport infrastructure and football stadiums, many of which will likely be under-utilised following the World Cup. But the broader concerns stem from a prolonged post financial crisis hangover, a common pattern among emerging markets, particularly commodity exporters.

Since the peak in global commodity prices in 2011, nominal GDP in Brazil has expanded at an annualised rate of 8%, a far cry from the 13% growth posted in the credit boom years. At the same time, the drop in commodity prices has seen Brazil's terms of trade – the ratio of export to import prices – fall by 15% from its 2011 peak.

The 25% decline in the value of the real relative to the US dollar in the past three years has helped to boost global competitiveness of Brazil's exporters and ameliorate the impact of the drop in commodity prices. But like many other emerging markets, the currency depreciation has forced the central bank to tighten monetary policy significantly in the past eighteen months to quell incipient inflation pressures.

Brazil's stock market, dominated by commodity exporters, remains 20% below the pre-GFC peak, broadly in line with other emerging markets. In contrast, developed markets in aggregate are trading broadly in line with their pre-GFC peak, assisted by historically high profit shares and very accommodative monetary policies.

Both the Brazilian stock market and emerging markets continue to trade at substantial discounts to developed markets. But cheap valuations in isolation rarely trigger outperformance. Like Brazil, emerging markets continue to face two key headwinds stemming from the financial crisis: a strong appetite for safe assets and the prospect of still sluggish export growth due to the slow recovery in nominal GDP among developed economies.

First, as long as the appetite for risk remains low, risky assets such as small cap and emerging market securities will be out of favour. In a world with limited supply of credible safe haven assets, investors will continue to gravitate towards US treasuries, triple A rated sovereign bonds, highly rated corporate bonds and high yielding, defensive stocks. This despite the fact that many of these assets remain expensive across most metrics.

Second, dormant animal spirits and still large output gaps continue to weigh on the recoveries in most developed economies. Companies have little appetite for new hiring, capital investment or taking on more debt, while households and governments continue to undertake balance sheet repair. Higher discount rates have significantly reduced the household sector's permanent income, while the Reinhart/Rogoff thesis that high public indebtedness is a drag on economic growth has scared governments

into belt tightening. The prospect of a still slow recovery in developed economies represents a persistent headwind for emerging economies, many of which have historically relied on net exports to drive growth.

### **Moneyball meets the World Cup**

As with many other fields, including funds management, the analysis of professional sports has been revolutionised by information and communication technologies and the capacity to collect and store large amounts of data at very low cost. Big data is the most recent development, which enables clubs for instance to track distances covered by players through the course of a game and assess the likelihood of muscle fatigue.

The application of statistics to sport was popularised by best-selling author, Michael Lewis in Moneyball. Published over a decade ago, the book recounts the story of the Oakland Athletics, a baseball team whose success was built on bringing the science of statistics to bear on the art of identifying and recruiting the league's most under-valued players. Oakland had identified an inefficiency in the transfer market and exploited this informational advantage, with much success.

While the tremendous growth of processing power has led to an explosion in the amount of data that can be tracked in sport and other fields, as portfolio managers will attest to, the data deluge presents a problem in assessing what information actually matters for the purpose of generating better forecasts. The best fund managers and broking analysts are increasingly adept at disentangling the signal from the noise.

What do the numbers reveal about how the World Cup might unfold? I have developed a statistical model for predicting the winner based on four factors: the ranks of each of the outfield players, countries, managers and goalkeepers.

According to the model, Spain is the top ranked team followed by Germany, Brazil, Uruguay, Italy and Argentina. Spain attains the highest score because its national team has the best track record over the past three years, boasts the highest rated goalkeeper and manager, and has the second highest number of players in its squad among the world's best 250, behind Brazil.

Group D is aptly described as the Group of Death, with the model predicting that Uruguay and Italy will progress to the knock out phase of the competition only narrowly ahead of England.

The Socceroos receive the lowest score among the 32 participating nations. Due to the sweep of generational change that Ange Postecoglou has implemented, the Socceroos squad boasts only three players among the world's top 250 while its recent track record has been far from stellar.

The model predicts that the following sixteen teams will progress: Brazil, Croatia, Spain, Netherlands, Colombia, Ivory Coast, Uruguay, Italy, France, Switzerland, Argentina, Bosnia, Germany, Portugal, Belgium and Russia. Based on the model, the four teams best placed to produce upsets and progress are Mexico, Greece, England and the USA.

Statistical models suffer from their own pitfalls and cannot capture the randomness of chance. A host of factors could easily confound quantitatively driven predictions, notably injuries to influential play makers and poor refereeing decisions.

But such decisions might not be entirely random. In his book *Scorecasting*, Tobias Moskowitz, a financial economist at the University of Chicago, shows that a team's home ground advantage stems largely from biased calls made even by neutral referees who are unduly influenced by home fans. On this score, and given how passionate Brazilians are about their futebol, the smart money may well be on the host nation to win the World Cup.

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