analytics
CONSULTING

Decoder Series
ARTICLES

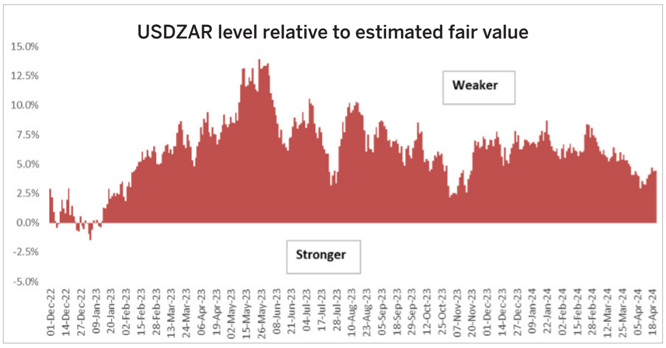
#3 OF 6

THE ANALYTICS CURRENCY DECODER

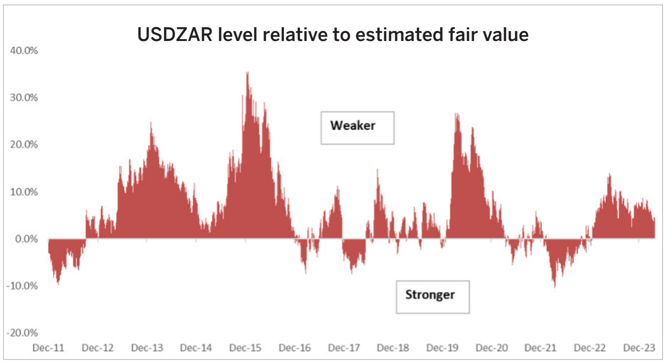
FAIR VALUE AND EFFECTIVE FAIR VALUE

The Analytics Currency Decoder has been used extensively over the past few years during initial stress testing and then as a decision-making tool to provide very useful signals for determining whether to buy, sell or wait on trading a currency pair. Research work on the Decoder has continued in an effort to explore the capabilities of the Decoder and to test the versatility of its algorithms so as to provide further useful investment and trading information on US dollar-driven exchange rates. In addition to providing an estimate of the prevailing fair value for an exchange rate, we now introduce the concept of effective fair value.

The need for an additional FX trading signal arises when an exchange rate remains weak (or strong) for an extended period of time leading to some frustration while waiting for fair value to materialise. A recent example is shown in the chart below where the residual for the USDZAR exchange rate has remained consistently weak since early 2023. While mean reversion is a proven characteristic of the residual, this mean reversion can at times, take a long time to complete a full cycle. Since the middle of January 2023, the USDZAR has not yet returned to fair value.



The next chart shows the long term USDZAR residual and it is clear that there are long periods of time when the return of the exchange rate to fair value appears elusive.



While the main characteristic of the chart above is the mean reversion of the residual relative to fair value, it can also be seen that over this extended period of time, the residual is positive meaning that the USDZAR exchange rate spends most of its time at levels that are weak relative to fair value. Statistics show that of the 3214 daily observations of the residual in the chart, only 26% of these observations are cases of strong relative levels. Weak observations represent 74% of the total. On average over this period of time, the daily residual was a positive 5.6%, quantifying clearly the long term weak bias in the USDZAR exchange rate.

On the basis of these statistics, we decided to develop a "trigger zone" that gives an exchange rate range from the estimated fair value to the "effective" fair value where the latter is currently pegged at 5.6% above the former. Once the exchange rate enters the trigger zone, this generates a signal to consider an FX trade – either wait for fair value and risk not getting there or arguing that the long-term average residual has been reached and on a balance of probabilities basis, pull the trigger. The chart below is the same as the first chart on the previous page, but with the upper level of the trigger zone shown. While it is clear that since the middle of January 2023 the exchange rate has not returned to the fair value estimate, there are a number of occasions where the exchange rate has been inside the trigger zone only to retreat again to weaker levels.

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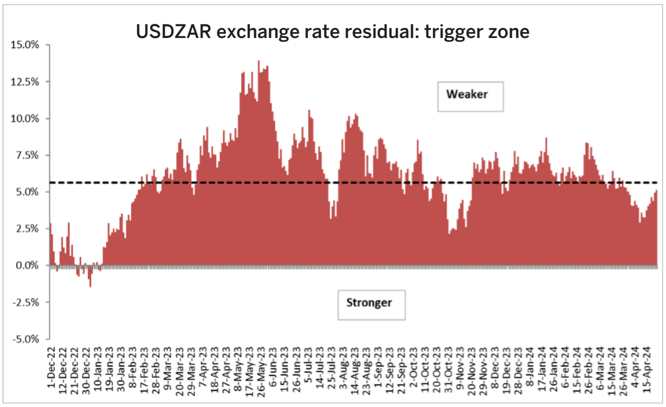
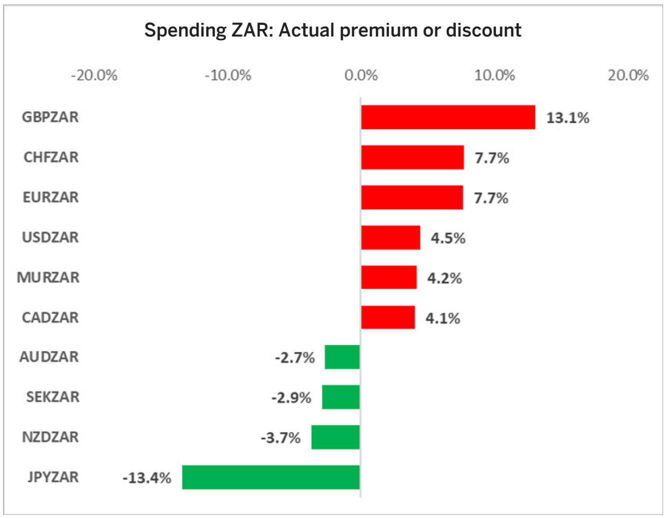
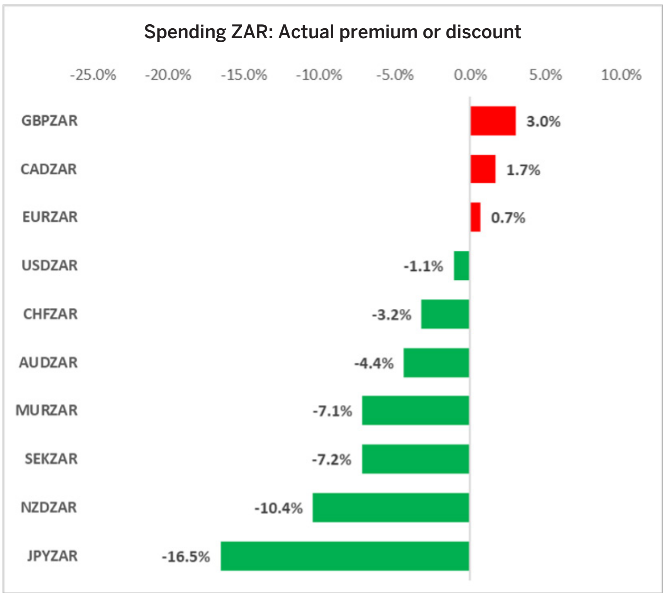


FX trading guidelines have been developed and are updated regularly for both actual and effective fair value against a number of currency crosses for the ZAR as shown in the next two charts (as at 22 April 2024).





The addition of an effective fair value to the FX guidelines enables us to define a trigger zone that provides decision makers with more flexibility when considering whether to buy, sell or wait on trading a currency pair. There is no longer a need to wait for a specific point in time when fair value is reached before making a decision.

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