THE FOREX SHADOW SYSTEM

THEORY:

Every day, FOREX prices go up and down. There is an OPEN, a HIGH, and a LOW every day. It is seldom that the OPEN price is also the HIGH or LOW of the day and price action is only in one direction. In fact, this occurs only 1% or less of the time. Usually, there is a "shadow" or tail from the OPEN to the HIGH or LOW of the day, meaning that there is almost always action on both sides of the OPEN price. This system takes advantage of the small shadow that exists between the OPEN price and the HIGH or LOW of the day, and attempts to capitalize on this by capturing a fixed amount of that movement every day. This is a low-risk, high-probability, mechanical system without regard for trends, indicators, interest calculations, and so on. The only things that matter in this system are daily price action and probabilities.

SELECTION:

We will use 2 pairs - **USDCHF** and **GBPJPY** - because these have a low correlation to each other, yet both have high intraday volatility and relatively low spreads. This gives us a balanced exposure to four major currencies and allows us to maximize our investment.

For each of these pairs, we first determine the average daily AMPLITUDE, which is calculated as half of HIGH-LOW range for the day. This tells us on average how much the price moves up and down each day. We can cross check this by looking at the average values for the OPEN-HIGH, OPEN-LOW, and OPEN-CLOSE ranges. The AMPLITUDE will be roughly equal to the average absolute value of all three of these ranges, which shows that it is a fundamental measure of inherent volatility.

Over the past 8 years, the amplitudes for these pairs are:

USDCHF - 73 pips
GBPJPY - 94 pips

We then divide the AMPLITUDE by 2. This is our daily PROFIT TARGET (PT).

USDCHF ~ 30 pips
GBPJPY ~ 40 pips

We then calculate the probability that the OPEN-HIGH range and the OPEN-LOW range will be at least equal to our daily PT. This turns out to be more than 70% on both sides. (Approximately 45% of the time, both ranges on a single day exceed the PT.) This means that whether we are on the long side or the short side, our chances of capturing the PT are more than 70% each day.

We then look at each pair to see which side - LONG or SHORT - has the higher probability and we choose that side as our trade side for that pair.

USDCHF - LONG (74% probability)
GBPJPY - SHORT (73% probability)

While we may be slightly interest negative in this scenario, we are now on the side with

the highest probability of making pips on any given day.

RULES:

1. Enter at the OPEN (long/short)
2. Set PT at +30/+40 pips
3. Set Stop-And-Reverse (SAR) at -30/-40 pips
4. If SAR hits, set catastrophic StopLoss at -200 pips
5. If SAR hits, exit at CLOSE
6. If neither PT nor SAR hits, exit at CLOSE

EXPECTATION:

The expected return depends on the probability that the PT will be hit before the SAR point is hit on any given day, and if the SAR point is hit, whether or not the day closes higher or lower. It's obvious that on some days, the SAR point will hit before the PT hits. And on some days, the SAR position will be closed with a loss. It's tedious to backtest these scenarios, and I don't have a quick and easy way to do it. However, we can estimate the expected return by considering a minimum and maximum return.

Scenario 1 (Minimum Return) The sum of all days where:
1. both points miss (i.e. small range days, exit at close)
2. if the SAR can be hit, we assume does
3. if the SAR cannot be hit but the PT can, we assume it does

Scenario 2 (Maximum Return) The sum of all days where:
1. both points miss (i.e. small range days, exit at close)
2. if the PT can be hit, we assume it does
3. if the PT cannot be hit, but the SAR can, we assume it does

The expected return for this system should be somewhere between the Min and Max of these two scenarios. Assuming that 50% of the time the SAR point is hit before the PT, the overall expected return based on the past 8 years of data is very positive.

USDCHF (Min) -257/mo. (Max) 592/mo. (Expected) 167 pips/mo.
GBPJPY (Min) -362/mo. (Max) 768/mo. (Expected) 203 pips/mo.

However, in actuality the return might be higher, because the probability is quite likely higher that the PT will hit first. For example, looking at every day in 2007 for EURUSD we will find that its PT hits first 73% of the time. This may or may not be true for these particular pairs, but it gives us an indication that it is possible.

In addition, because we are using a catastrophic stoploss, we will cap our maximum daily loss to 200 pips. In only 3%-7% of the trades over the past 8 years did the SAR side end up with a loss greater than 200 pips, but using this stop raises the overall expected return. The adjusted expected returns are:

USDCHF 179 pips/mo.
GBPJPY 242 pips/mo.

TOTAL EST RETURN ~ 400 pips/mo.

This does not account for the impact of spreads, but the profit targets can easily be raised to compensate for low spreads (e.g. 3-7 pips). This does not significantly alter the results.

MONEY MANAGEMENT:

In this scenario, we use a conservative margin ratio and total leverage amount. We risk no more than 10% of our total equity on any one day (5%Eq per position). This means in the worst case that both positions stop out with a maximum 400 pip loss combined.

Pip values ~ $8

USDCHF	.0001 / 1.2255 * 100000 = $8.16
GBPJPY	.01 / 240.25 * 100000 = 4.16 * 1.9740 = $8.22

Equity: $100,000
Daily maximum risk: 10%Eq ($10,000)
Margin: 50:1

$10,000 loss / 400 pips (2 * 200 stoploss) = $25 per pip
$25 per pip @ $8pips = 3.125 lots
3.125 lots * 2 positions = 6.25 std lots
6.25 std lots * $100,000 = $625,000
$625,000 / $100,000 = 6.25x leverage

3.125 lots USDCHF * $2000 per lot (50:1) = $6,250 invested/used
3.125 lots GBPJPY * GBPUSD rate * $2000 per lot (50:1) = $12,500 invested/used

$18,750 invested (used)
$81,250 cash margin (usable)
$81,250 / $25 per pip = max 3250 pips margin (all positions)

Worst case: $25 * 400 pips = $10,000 = 10%Eq

EXPECTED RETURN ($100,000) = 400 pips * $25 per pip = $10,000/mo.

1MO.ROI (~50%) 1MO.ROE (~10%) ANN.ROE (~200%)