Ops Notes: Jim Leitner Macro Summer School

Jim Leitner is an extremely successful macro trader who now manages his own money at a family office in New Jersey. He was featured in Chapter 4 of Steven Drobny's *Inside The House of Money*. The following notes are from a lecture he gave in the summer of 2014. For access to the full video, follow this link. This is a private video, so please don't share it with anyone else.

Bet Sizes

Leitner is a big fan of using the Kelly criterion to size his positions. The Kelly criterion calculates the max amount you can bet on your edge without going broke from a bad run.

- Knowing the Kelly bet size is important to prevent yourself from turning a positive EV bet into a negative one through the use of too much leverage.
- Always err on the side of caution. Be conservative instead of aggressive.
  - You can go broke being over-aggressive.
  - You can't go broke being over-conservative.
- The max amount Leitner has ever bet is half the Kelly number. Since we'll never know the true probabilities of a trade, it's rare to bet more than half the Kelly bet.

Kelly Number:

$$f^{*} = \frac{bp - q}{b} = \frac{p(b+1) - 1}{b},$$

where:

- f^* is the fraction of the current bankroll to wager, i.e. how much to bet
- b is the net odds received on the wager ("b to 1"); that is, you could win \$b (on top of getting back your \$1 wagered) for a \$1 bet
- p is the probability of winning
- q is the probability of losing, which is $1 - p$.

Portfolio Construction

Leitner thinks of a portfolio as a collection of (hopefully) positive expected value trades. Taking more than one trade at a time should lower your overall risk through diversification. But you have to make sure each bet is uncorrelated. Otherwise you could end up with a portfolio that's just one large bet.

- The more uncorrelated the better.
  - Leitner uses a bloomberg terminal to estimate correlations between each asset.
- There are three kinds of correlations: (0) (1) (-1)
  - A 0 correlation is ideal. It's a completely independent bet, but it's also tough to find.
- If all your bets are losing or winning together, then you're probably not playing with independent bets. Adjust accordingly.

Leitner likes to have at least 10 bets on his book. He takes half the optimal bet size from the Kelly criterion above and divides it by 10 to get portfolio position sizes.

$$\text{Invest } 1/N \times L_{\text{Optimal}} \text{ with } N_{\text{Min}} = 10$$

Example:

The Kelly bet says to bet 30% of your money. You use half of that for safety, so now it's down to 15%. Divide that 15% by 10 to get total portfolio level risk of 1.5% per trade.

Analytical Techniques

Leitner likes to diversify his process. He looks for two types of trades: systematic and opportunistic.

- Systematic Trades
  - Uses some type of valuation model
    - P/E Ratio for stocks
    - PPP (Purchasing Power Parity) in currencies — if they get out of whack, currencies tend to revert back to normalcy within three years
  - Quant momentum and mean reversion trades
    - The problem with these trades is that you never know for sure over what timeframe the momo or mean reversion will play out. This makes these stats a reference, not an end all be all.

- Opportunistic Trades
  - Listen to the game masters i.e. Central Bankers
    - Study the dot plots because they're basically telling you what their plans are. The Fed is trying to be transparent, not trick you.
    - Read the Central Bank speeches to understand where they want to steer the market

When it comes to finding trades, remember that stories drive investors (this is why our team at MO focuses a lot on narratives). It makes sense to read newspapers to stay on top of the narrative. People buy into stories and in turn cause prices to move. Focus on reading things like the Economist instead of just reading news bites. That way you'll eliminate a lot of the noise and stay focused on key information.

Leiter also runs regression studies in order to discover new and interesting relationships.

- Example: You can run a regression comparing the fed balance sheet to SPX. If R^2 is high, then there's a strong relationship between the fed balance sheet expanding and SPX going up.
- Look at regressions on things you believe in. Use them to test your market assumptions. Don't run regressions on random things and data mine. That exposes you to spurious relationships.

Be a fox, not a hedgehog. This term comes from [Philip Tetlock](). You always want to look at the market from many different perspectives.

"The fox knows many things; the hedgehog one great thing."

- Don't be an ideologue.
- Constantly look at a variety of things in the market to frequently update your views and probabilities.
- Don't rely on just one approach to thinking about the world. Sometimes use politics, sometimes economics.
- Look at all asset classes.

Trade Management

- Leitner doesn't use hard stops. He instead quantifies his downside by determining where price would go in an adverse scenario. This is used as his mental stop and rough risk measurement.
- He likes to use option structures to fully define risk. This avoids the use of estimates and models.

- He evaluates bets as they go for him, constantly weighing whether the bet is still worth it.
  - As something moves in your favor, that's positive feedback, validating your opinion.
  - But the risk/reward profile of the trade also becomes worse as it approaches your target.
  - Example: Consider a 4R trade that's already ran 3R. At that point it only has 1 more R of upside, but 4R of downside. Leitner is constantly examining this changing risk profile and actively taking profits if he thinks a move is fizzling out.

Japan Trade Example

- Analysis
  - Abe announced his three arrows plan — Monetary Policy, Fiscal Policy, and Reform
  - The government basically came out and said they wanted to prop up the equity market (listening to the gamemaster helps!)
  - CAPE — Japanese equities avg was 14. It was 11 at the time of the announcement
  - Demographics — Japan had great demographics for the next 7-8 years. P/E should increase until 2021 based on positive demographic forces.
  - Regressions — BOJ was saying they wanted to increase the balance sheet every month by 5 trillion yen. If you take the beta from the regression (R^2=0.82) a 5 trillion yen a month balance sheet expansion was equal to 300 points on the Nikkei.
- Trade Expression
  - Bought June 2016 Call Spreads
  - Pay 280 JPY
  - Get back 7.14x if Correct
  - Downside is 100%
  - Upside is 614%
- Trade Management
  - He modeled out a "fair value" line based on his regression analysis. When price rose 2 standard deviations above that fair value line, he sold out 80% of the Nikkei option position for a nice gain.

EURCHF Trade Example

- Analysis
  - PPP valuation suggested that EURCHF was 20% too low. Based on PPP mean reversion research, it should rally in a few years.

- Trade Expression
    - Long EUR/CHF spot with expected max loss of 15%.
    - Optimal leverage for the bet according to Kelly was 350% of the portfolio
    - Leitner went conservative on that amount and also divided by 10 for his portfolio. He ended up putting 20% of his portfolio in long EURCHF.

Investment Psychology

- Be humble. It's easy to have an illusion of knowledge.
- We're biased to believe what we hear. We must make an effort to fight what we're constantly told.
- Focus on disconfirming evidence. We automatically look for confirming evidence and need to fight this tendency.

Recommended Reading

- Expert Political Judgement - Philip Tetlock
- Expected Returns - Antti Ilmanen
- Behavioral Investing - James Montier
- The Intelligent Investor - Ben Graham
- Handbook of Exchange Rates - Jessica James

Apart from these books, Leitner says to get into the habit of reading The Economist.