ROW Asset Management, LLC

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| General Information | | | | | |
| FIRM | ROW Asset Management, LLC  \*SEC registered\* | | | Firm Founded | July 2010 |
| Strategy Inception | November 2011 |
| ADDRESS | California office:  450 Newport Center Drive, Suite 420  Newport Beach, CA 92660  New York office:  1180 Avenue of the Americas, Suite 848  New York, NY 10036 | | | | |
| Summary | | | | | |
| Investment Strategy | | | ROW’s Diversified program is a quantitative, rules based, systematic macro strategy. The program is diversified across four trading strategies; trend following, carry, relative value/mean reversion, and pattern recognition. ROW generates trading signals using synthetic assets called “clusters”, a mix of 3-4 individual markets within a sector that can be analyzed, bought and sold. ROW trades in 56 markets across all major market sectors; global currency forwards, commodity futures, global interest rate futures and global equity index futures. | | |
| Investment Thesis | | | The strategy appears to be an attractive option for the managed futures UFT with an experienced team in both model development and trade execution. The strategy has a solid though relatively short track record which has thus far demonstrated the ability to generate attractive risk adjusted returns and limit drawdowns during periods when trend following is out of favor. | | |
| Reference Strategy | | | ROW Diversified Fund, LP | | |
| Expected/Target Return | | | 12%-15% | | |
| Expected/Target Vol | | | 12%-15% | | |
| Strengths | | | Team brings a depth of experience in research, trading, technology and operations, the core members of the team worked together for over a decade at their previous firm, business stability with a meaningful and growing asset base, solid infrastructure with proprietary research and trading systems | | |
| Weaknesses | | | Strategy has a relatively short track record, team had limited experience managing non-FX asset classes prior to this strategy | | |
| Good/Bad Environment | | | Good: The strategy is expected to perform well during periods of sustainable trends and expanding market volatility.  Bad: The strategy tends to perform worst during sudden trend reversals. | | |
| Peer Group | | | Managed Futures | | |
| Portfolio Fit | | | An allocation to ROW could provide the HAMF strategy with additional exposure to trend following as approximately 50% of ROW’s risk allocation is dedicated to trend following models. | | |
| Sizing Considerations | | | No sizing issues or capacity constraints are evident at this time. | | |
| Capacity | | | The capacity of the program is $2 billion.  ROW has agreed to $100 million in capacity for HAMF. | | |
| Meeting Log | | | Source: Jefferies Bache, May 2014, Tom Riegert  Intro meeting at MFA Chicago: 6/18/2014, Ryan O’Grady, Jeff Weiser, Tom Riegert  Follow-up call: 6/30/2014, Ryan O’Grady, Jeff Weiser, Tom Riegert  Onsite: 9/29/2014, Ryan O’Grady, Jeff Weiser, Ty Powers, Kristina Labermeier (CA office)  Follow-up call: 10/17/2014, Ryan O’Grady, Tom Riegert  Onsite: 10/21/2014, Jeff Weiser, Kristina Labermeier (NY office)  Onsite: 10/23/2014, Ryan O’Grady, Jeff Weiser, Mike Hennen, Tom Riegert (CA office) | | |
| *IC Concerns* | | | While there is key man and small business risk we believe it is somewhat mitigated by the systematic nature of the strategy and the co-founders’ financial commitments to the firm. Ryan O’Grady and Jeffrey Weiser appear committed to growing the strategy and business over the long-term. | | |
| Business | | | | | |
| Team | | | ROW has seven full time employees in the following areas:  Investment Professionals: 4  Operations: 2  Business Development: 1  Employee turnover since inception includes Amin Shamei (research analyst) and Sladja Carton (IR/marketing).  Ryan O’Grady sits on the Industry Advisory Board for the UCLA Master of Financial Engineering program. This affiliation provides ROW with access to academic talent via interns from the MFE program. A current full time research associate is a graduate of the program. | | |
| Ryan O’Grady, Chief Executive Officer | | | Mr. O’Grady, age 41, co-founded ROW Asset Management in July 2010 and is the firm’s Chief Executive Officer. Prior to co-founding ROW Asset Management, Mr. O’Grady was the Head of Investment Research at FX Concepts from 1999 to 2009 and was a member of the firm’s Management Committee from 2007 to 2009. Mr. O’Grady also served as Manager of New Model Research and as Portfolio Manager at FX Concepts from 1993 to 1999, and as an assistant trader from 1992 to 1993. Mr. O’Grady started his career in quantitative financial research at the age of 17, as an intern at Neuberger Berman. Mr. O’Grady has a B.A. in Economics from The Johns Hopkins University, and an M.S. in Statistics and Operations Research from the Stern School of Business at New York University. He also completed coursework toward a PhD in Economics at the University of California, Irvine. Mr. O’Grady is one of the founding members of the Industry Advisory Board for the UCLA Anderson School of Management - Masters in Financial Engineering Program, and continues to serve on the Board. | | |
| Jeffrey Weiser, President & Portfolio Manager | | | Mr. Weiser, age 44, co-founded ROW Asset Management in July 2010 and is the firm’s President. Prior to co-founding ROW Asset Management, Mr. Weiser worked at FX Concepts as a Portfolio Manager for the Global Currency Program (GCP). Mr. Weiser joined FX Concepts in 1995 as an analyst and took over responsibilities as the Portfolio Manager for GCP in 2001. Mr. Weiser retired from FX Concepts in 2009. Prior to joining FX Concepts, Mr. Weiser worked for Pegasus Econometrics Group from 1993 to 1995. Mr. Weiser graduated from Case Western Reserve University where he holds a degree in Economics and English. | | |
| Debra Oaks, Chief Technology Officer | | | Ms. Oaks, age 57, is the Chief Technology Officer at ROW Asset Management. Prior to joining ROW Asset Management in July 2010, Ms. Oaks was Managing Director, Technology at FX Concepts. In that role she was primarily responsible for developing the code and business logic used to implement research into quantitative trading strategies. In addition, she played a key role in building out the systems used by the back and middle office for trade reconciliation, risk management and client reporting. Ms. Oaks is a graduate of Fordham University. | | |
| Saurabh Kumar, Director, Investment Research | | | Mr. Kumar, age 38, joined ROW Asset Management in 2013. Prior to joining ROW Asset Management, Mr. Kumar was Vice President, Investment Research at FX Concepts from 2004 to 2013, a Senior Business Analyst at Indus Valley Partners from 2003 to 2004, and a Program Manager at iNautixTechnologies Ltd from 2001 to 2003. Mr. Kumar received a B.A. in Technology from Lucknow University and an MBA from IIM Bangalore University. | | |
| Seng Ung, Research Associate | | | Mr. Ung, age 28, joined ROW Asset Management in 2010. Prior to joining ROW Asset Management, Mr. Ung was a Research Assistant at UCLA Autonomous Intelligent Networked Systems from 2008 to 2010. Mr. Ung received a B.S. in Electrical Engineering from UCLA, a B.A in Economics from UCLA, and the Master in Financial Engineering from UCLA Anderson. | | |
| Timothy O’Grady, Managing Director,  Head of Marketing/ Client Service | | | Mr. O’Grady, age 69, is a Managing Director at ROW Asset Management and is the firm’s Head of Marketing and Client Service. Prior to joining ROW Asset Management, Mr. O’Grady was Managing Director-Fixed Income at FX Concepts, responsible for development of the global rates fixed income program. From 1999 to 2009, Mr. O’Grady was an executive at Western Asset Management in the Corporate Strategy and Product Development Group. He was responsible for the development and expansion of Western's portable alpha and non-traditional products. From 1989 to 1999, Mr. O’Grady was a Senior Vice President, Partner, and Director of Fixed Income & Currency Research at Evaluation Associates. Mr. O’Grady was an Investment Officer at MONY from 1985 to 1989 and Senior Vice President, Treasurer of Colonial Bank from 1969 to 1985. Mr. O’Grady received a B.A. in Economics from Southern Connecticut State University; a M.A. in Economics from the University of Rhode Island; and an EMBA in Executive Management from the University of New Haven. | | |
| Laurie Pisano, Operations/ Compliance | | | Ms. Pisano, age 44, joined ROW Asset Management in 2013. Prior to joining ROW Asset Management, Ms. Pisano held several roles at FX Concepts including Vice President, Director of Investment Administration from 1999 to 2012, Research Assistant from 1998 to 1999, Manager Consulting Operations from 1994 to 1997, and Assistant Consulting Operations from 1993 to 1994. Ms. Pisano received a B.S. from SUNY Cortland and an MBA from Fordham University. | | |
| Ownership and Compensation | | | Ryan O’Grady 75%  Jeffrey Weiser 25%  No external investors/seed partners/etc.  Performance reviews are done at the end of the calendar year. Compensation consists of base salary, formulaic bonus, and discretionary bonus. Formulaic bonus for research personnel is dependent upon total firm revenue, not individual profit – therefore research personnel’s interests are aligned with the firm. Sales/marketing are compensated in the same way. | | |
| Business Experience | | | Ryan O’Grady and Jeffrey Weiser combined owned approximately 10% of their previous employer FX Concepts, and Mr. O’Grady was a member of the firm’s Management Committee from 2007 to 2009. Mr. O’Grady also served as Head of Investment Research for FX Concepts for 10 years prior to co-founding ROW.  ROW does not have experience managing 1940 act assets. | | |
| Reference Checks | | | **Ranjan Bhaduri**  Mr. Bhaduri is the Chief Research Officer for Sigma Analysis & Management. Bhaduri is currently conducting due diligence on ROW and was onsite in mid-October. He plans to access the ROW Diversified program through a managed account if Sigma moves forward. He said he likes ROW, has a very positive opinion of them, and is continuing his due diligence process following the onsite. He sees ROW as very research focused, doesn’t think they need an army of PhD’s to be successful, and likes that they are connected with a local university (UCLA). His biggest reservation going into the research process was the team’s level of expertise outside of FX, but he was reassured to learn that Ryan O’Grady ran a program at FX Concepts that traded non-FX markets; it was a program funded with partner capital that never grew.  His research did not uncover any showstoppers, but there have been some small issues along the way. The most notable issue being that ROW was not as upfront as possible about trading being run out of New York. ROW provided responses to a Sigma questionnaire that appeared incomplete and 3rd party vendors didn’t match up, however Bhaduri said that this seemed to be just an oversight. Bhaduri thinks having Ryan O’Grady’s father on his staff isn’t ideal as favoritism is possible, but it is less of a concern since his father previously worked with the team at FX Concepts. Bhaduri said he thought highly of the program that the ROW team ran at FX Concepts, but noted that neither O’Grady or Weiser were presented as the guys running the strategy because FX Concepts’ CEO John Taylor had such a big presence.  Regarding ROW’s use of clusters, Bhaduri said he has seen it before but it was a long time ago, and that he was initially concerned about overfitting and the overall soundness of the approach. He said that after his research this is a case where he is willing to admit that he was wrong. While he still doesn’t think that the methodology itself is superior, he likes what ROW is extracting from it.  **Sam Diedrich**  Mr. Diedrich is an Associate Director at Pacific Alternative Asset Management Company (PAAMCO). PAAMCO has been invested with ROW for one year and Diedrich has been following ROW since their inception. ROW runs a managed account for them that is a mix of the Currency program and the Diversified program, with a higher allocation to the Diversified program. He said he was not concerned by their lack of experience outside of FX, and thought that FX only was too narrow of an opportunity set. PAAMCO found no issues with background checks on ROW and Diedrich said their references were “spotless.”  Diedrich sees ROW’s ongoing research process as their edge. He thinks that Ryan O’Grady’s competitive edge is important as well, and has heard that while at FX Concepts O’Grady used to hire PhD’s that he admired, figure out what they were working on, and then out do them. Diedrich also noted how impressive ROW’s results have been, and while the trend and carry strategies have some correlation with proxies they also have significant alpha. PAAMCO’s goal for ROW’s strategy is to get some trend following characteristics, like positive skew, without investing in a pure trend following strategy. He noted that this was one of the first systematic macro strategies that he has invested in. PAAMCO now has eight different trading strategies and ROW is at the top of their conviction list. He also noted that even though ROW experienced their worst drawdown shortly after PAAMCO’s investment, that his team gained more confidence in O’Grady post investment. As a former engineer who used to write code himself, Diedrich has a great appreciation for the program that O’Grady has written.  Diedrich sees Jeffrey Weiser as important to the strategy and while he adds some necessary components, they probably aren’t all that unique. Diedrich thinks the strategy needs to be guided by someone with trading experience rather than being purely theoretical. He added that Weiser’s ability to use discretion gives him piece of mind. He also sees O’Grady and Weiser as a good personality fit for one another, as O’Grady is a “quiet engineer type” and Weiser “has an edge and can be kind of in your face.”  **Marco Pelizzoli**  Mr. Pelizzoli is currently the Global Head of FX Trading at Santander GBM and was a colleague of both Ryan O’Grady and Jeffrey Weiser early in their careers while he was at FX Concepts from 1992 to 1999. Pelizzoli joined FX Concepts to reorganize the company’s operations. Pelizzoli recalls that even from O’Grady’s early days with FX Concepts there were always big plans for him, he started in apprenticeship and back office roles initially to learn the business, and later on moved into the front office at FX Concepts’ Rochester, NY trading desk. Pelizzoli thinks O’Grady’s time on the trading desk was important as it gave him hands on experience with managing portfolios based on a model’s signals. Eventually O’Grady became the chief model builder for the firm and Pelizzoli thought he brought a higher level of sophistication and complexity to the systematic process. Of Weiser, Pelizzoli said that he initially started out on the research side and grew into portfolio management, and eventually became the primary risk manager for the firm’s emerging markets activities. Pelizzoli sees Weiser as astute of markets and liquidity providers, and said he gained experience using discretion over execution at FX Concepts. Pelizzoli thinks that O’Grady and Weiser are very compatible and are additive to each others’ capabilities. Regarding the FX Concepts Global Currency Program (GCP), Pelizzoli recalls that O’Grady was the driver of all things on the model side, Weiser was the manager for anything emerging markets related which dominated GCP, and Eric Nelson was the firm’s head trader and oversaw the risk in non-emerging markets. Pelizzoli added that Weiser and Nelson had limited discretion over the model’s trade execution and were required to maintain a high correlation to the signals.  Pelizzoli is also familiar with other members of the ROW team as many of them also came from FX Concepts. He said that it is a strong team, they are certainly not overstaffed, and they were very selective in building the team. He said that Debra Oaks was always very solid, responsible and well respected at FX Concepts. Also, he used to be Laurie Pisano’s boss at FX Concepts and said he is very solid as well.  **Eric Nelson**  Mr. Nelson joined FX Concepts in 1988 when the company was building out its asset management capabilities. He oversaw all trading activity at the firm and held the title of Senior Portfolio Manager. Similar to the flexibility written into ROW’s documents, Nelson was able to use discretion to deviate +/- 20% from the model’s recommended positions, but anything in excess of 20% required executive committee approval. While FX Concepts trades were model driven, Nelson described his job as “saving the model from itself.” Unlike the trading and portfolio management role at ROW, his goal was to make 85-95% of the gains from the models recommended trades and limit the losses to 50% of what the model recommended, which he said required significant risk taking. He retired from the firm in 2009, just a few months before Ryan O’Grady and Jeffrey Weiser left FX Concepts as well.  Nelson said that O’Grady went to Johns Hopkins as an undergraduate at the age of 16 and graduated at 19. FX Concepts CEO John Taylor was the person that hired O’Grady, and found him through his relationship with O’Grady’s father who was in the pension fund industry at the time. Nelson was O’Grady’s boss during his first year and O’Grady’s focus was on understanding the trading process. Nelson noted that O’Grady caught on quickly and towards the end of the first year they gave him a small amount of money to trade on his own. Nelson said he preached a philosophy of “minimizing maximum regret” to O’Grady. Over time, O’Grady became the firm’s head model writer. Nelson noted that O’Grady and John Taylor were a good team, with Taylor providing O’Grady with some concepts to apply to models early on. Nelson also mentioned that O’Grady briefly left FX Concepts to join Standard Charter, but quickly learned that the grass was not greener and returned to FX Concepts.  As FX Concepts reached $5B in AUM Nelson felt they were reaching their capacity, and around this time O’Grady created the Global Currency Program (GCP). GCP looked at all possible currency pairs and analyzed the costs and benefits of carry with the goal of identifying pairs with attractive yield; the strategy also incorporated volatility and liquidity analysis. Nelson said the process led the strategy to be emerging markets focused, an area which he admits he didn’t have an expertise in so Weiser was involved from early on. Nelson said that Weiser developed experience trading emerging markets FX at low AUM levels and that his confidence grew along with AUM of the strategy. Nelson noted that he was still listed as the portfolio manager for GCP, but his role was really as a backstop for Weiser. Nelson said that he and Weiser would regularly discuss the discretionary exceptions Weiser was looking to implement, even though Weiser could go directly to John Taylor for approval. Nelson confirmed that he was portrayed as GCP’s portfolio manager in the strategy’s documents, but that Weiser was really the primary decision maker and that Weiser was better at executing emerging markets trades than he was. Nelson noted that O’Grady and Weiser were good friends almost from the first day they met.  Nelson said he was surprised to learn that Weiser left the firm in 2009 just a few months after he retired, and he said it was disappointing for the firm because Weiser was a good emerging markets trader that knew the markets and was extremely good at executing large trades in illiquid markets. Nelson did speak with O’Grady when he left the firm and said that O’Grady told him he wanted to run his own firm.  Nelson closed by saying that a client of ROW should expect a great personal effort from an honest, hardworking, diligent team, and that O’Grady and Weiser have a lot of integrity. | | |
| Litigation | | | None | | |
| Offices | | | Newport Beach, CA: Investment research, risk management, and marketing are run out of the California office. Ryan O’Grady, Seng Ung, and Tim O’Grady are based in the California office.  New York, NY: Trade execution, risk management, and operations are run out of the New York office. Jeffrey Weiser, Debra Oaks, Laurie Pisano, and Saurabh Kumar are based in the New York office. | | |
| Assets | | | Assets under management as of September 30, 2014:  Firm: $186 million  Diversified Program: $155 million  Currency Program: $31 million  Included in the Diversified program’s AUM is a $40mm bespoke managed account which has a reduced weighting to trend following  Both of ROW’s programs were seeded with partner capital: $10 million for ROW Currency, $3 million for ROW Diversified. | | |
| Investor Base | | | As of September 30, 2014, ROW’s investor base consisted of the following:  46% Family Office, 32% FoF, 16% HNW, 6% Internal  The largest individual investor has $85 million in managed accounts, with $45 million in the Diversified program and $40 million in a bespoke managed account, similar to ROW Diversified but with a reduced weight in trend following. This represents 46% of firm AUM. | | |
| Systems | | | ROW’s research platform, signal generator, and order management were built internally. ROW uses MATLAB as their central programming language. For market data, ROW uses CQG for futures data and Bloomberg for FX and fundamental data. | | |
| Disaster Recovery | | | ROW maintains a mirrored server environment at Xand Corporation in Hawthorne, NY. Xand is Westchester County’s premier data center and provider of business continuity solutions. Xand maintains a 30,000 square foot custom-built, state-of-the-art facility equipped with the latest in redundant power, environmental control and networking technology. The facility’s design provides the ideal environment for assuring the performance and reliability of the most mission-critical business applications. Access to ROW’s server is generally available through remote desktop protocol. In addition, Xand provides temporary office space in the event that remote access is not possible.  ROW maintains a mirrored server at its colocation facility in New York. Files on this server are checked on a weekly basis to make sure that they are up to date.  ROW conducts disaster recovery tests on a quarterly basis. The test conducted during the 2nd quarter revealed an error in the email connectivity. This has been addressed and the site is functioning normally. A successful test was conducted on June 11, 2014. | | |
| *Concerns* | | | None | | |
| Service Providers | | | | | |
| Legal | | | Cole-Frieman Mallon & Hunt LLP  Contact: Bart Mallon  One Sansome Street Suite 1895  San Francisco CA 94104  Phone: (415) 868-5345  Email: bmallon@colefrieman.com  Since Inception of the Diversified Strategy, but not of the firm | | |
| Accounting/Audit | | | KPMG (formerly Rothstein Kass, which was acquired by KPMG)  Contact: Vince Calcagno, CPA  9171 Wilshire Boulevard, Suite 500  Los Angeles, CA 90210  Phone: (310) 887-5250  Email: vcalcagno@kpmg.com  Since Inception | | |
| Brokers | | | UBS (for all currencies)  Contact: Ryan Connolly  677 Washington Blvd  Stamford, CT 06901  Phone: (203) 719-3972  Email: ryan.connolly@ubs.com  Since Inception  Jefferies Bache, LLC (for all futures)  Contact: Carlos Cabrera  520 Madison Avenue  New York, New York 10022  Phone: (212) 778-8790  Email: ccabrera@jefferies.com  Since: February 28th, 2013 | | |
| Administrator | | | FundAdministration, Inc.  Contact: Kittie Kwan  4175 Veterans Memorial Hwy, Suite 204  Ronkonkoma, New York 11779  Phone: (631) 737-4500  Since Inception | | |
| *Concerns* | | | While some service providers have changed since ROW was founded in 2010, we view these changes as a sign of the firm’s growth and do not considered them concerns.  Cole-Frieman Mallon & Hunt has been the only legal counsel used in setting up ROW Diversified Fund, LP, and are now the firm’s primary lawyers. Bart Mallon has experience working with the Global Macro / CTA managers and is based on the West Coast. Baker Botts, LP, was used in the setup of ROW Asset Management, LLC and ROW Currency Fund, LLC. They are still retained as additional counsel.  The broker for the ROW Diversified Fund, LP changed on February 28th, 2013, moving from RJ O'Brien to Jefferies. The strategy was initially funded with $3 million of partner capital, and larger FCMs required at least $5 million to open the account. As strategy AUM grew, ROW determined it was in the best interest of the Fund to move to a more institutional name.  In addition to the above service providers, Hedge Harbor, 3rd Party Marketing Firm, was appointed on June 1st, 2014. | | |
| Investment Process | | | | | |
| Investment Philosophy | | ROW’s Diversified program is constructed to balance the positive skew attributes of trend following with the negative skew attributes of Carry and Relative Value/Mean Reversion strategies to produce a near-normal return distribution, which ROW believes is optimal for geometric growth per unit of risk. The program is diversified across four trading strategies; trend following, carry, relative value/mean reversion, and pattern recognition. The program’s pattern recognition models have an equal mix of trend following and mean reversion characteristics. The strategy seeks to generate attractive risk adjusted returns with low correlation to other asset classes. | | | |
| Investment Process | | ROW’s Diversified program is a quantitative, rules based, systematic macro strategy. The program generates trading signals using synthetic assets called “clusters”, a mix of long and short positions in 3-4 individual markets within a sector that can be analyzed, bought and sold. ROW trades in 56 markets across all major market sectors; global currency forwards, commodity futures, global interest rate futures and global equity index futures.  ROW’s process begins with the creation of multivariate synthetic assets called “clusters.” Using proprietary algorithms, ROW uses combinations of 56 markets to create 3,000 to 4,000 clusters for the program to analyze and generate signals from.  For example, a traditional CTA that trades in the 2, 5 and 10-year maturities of the U.S. yield curve would generate similar signals from each asset given the high correlation among these markets, while ROW’s cluster approach uses combinations of these assets to generate unique signals. Through various mixes of the 2, 5 and 10-year maturities of the U.S. yield curve ROW is able to trade the height of the curve (long, long, long), the steepness of the curve (short, long, long), and the curvature of the curve (short, long, short). While the historical trading pattern of the 10-year U.S. Treasury Note in isolation may not provide a strong signal for the program to trade, the historical pattern of a synthetic asset (i.e. short 2-year U.S. Treasury Note, long 5-year U.S. Treasury Note, and long 10-year Treasury Note) may provide a strong signal that could go unrecognized by other CTAs.  The program uses the clusters to generate signals in four trading strategies; trend following, carry, relative value/mean reversion, and pattern recognition. In order to create a return profile with a near-normal distribution and little to no skew, the trend following strategies receive approximately 50% of the risk allocation and the carry and relative value/mean reversion strategies each receive approximately 25% of the risk allocation. The pattern recognition model is represented within these weights, with 5% within trend following and 5% within mean reversion.  ROW further differentiates its strategies through the use of “feature variables,” (a machine learning term) to inform the models of expected profitability and overweight or underweight positions. ROW applies unique feature variables into each of their strategies. In addition to the use of clusters, the use of feature variables is a factor that differentiates ROW from traditional CTAs.  Models  **Trend following strategy:** 45% risk allocation  ROW believes that persistent behavior in the markets can be exploited by quantitative trend-following models which chase price action. The program will aim to capture trends in different time frames, from short-term to long-term, and the program will assess factors unique to those time frames. Short-term models are biased toward action and intended to react quickly to the beginning and end of a short-term trend. In long-term models timing is less critical and the strategy will attempt to eliminate noise at the expense of missing the beginning of a new long-term trend.  ROW uses a total of 10 trend following models, which generate signals using moving averages or breakout indicators. Each of these models will seek to exploit trends over short, medium or long-term time frames. On average, ROW’s trend following strategy will “flip” (meaning shift from long to short or short to long) 12 times per year, with short-term models flipping signals every 2 weeks and long-term models flipping signals every two months.  ROW enhances the signals generated from the moving average or breakout indicators using feature variables. Examples of feature variables specific to the trend following strategy include: 1) Low frequency assets, meaning smooth price action, are seen as more likely to succeed for trend following and will receive an above average weight, 2) An analysis of the implied volatility curve (the “skew”) of a market’s options market, when implied volatility of calls is greater than implied volatility of puts it is seen as favorable for long trend following position, but as a trend matures implied volatility of puts increases which reduces the signal strength, 3) An analysis of the trading cost of an asset, comparing the actual bid-ask spread to the expected bid-ask spread. For trend following, when trading cost is seen as high, short-term sensitivity is reduced and holding period is extended to avoid offsetting profits with trading costs.  Markets traded by the trend following strategy include commodities, currencies, and interest rates. Equity indices are not currently traded within the trend following strategy, but research is in process to include equity indices in future updates.  **Carry / Roll Yield:** 25% risk allocation  ROW’s carry and roll yield strategy seeks to capture the yield differentials between foreign currencies (the “carry”) and the convergence of future rates and spot rates on physical commodities (the “roll yield”). For currencies, the strategy will take long positions in countries with higher interest rates and short positions in countries with lower yielding interest rates. As currency forwards are exposed to volatility in the spot market as well as volatility in interest rate differentials, the strategy will typically limit the duration of its trades to less than twelve months in attempt to limit its interest rate risk. This is a case where ROW is applying a macro approach and is using fundamental data (interest rates) in addition to price data to generate trading signals. For commodities, the strategy will go long markets in “backwardation” and go short markets in “contango.” Backwardation means the future price is lower than current spot, and contango means the future price is higher than current spot.  ROW uses a single carry model which incorporates eight different estimates of volatility to generate trade signals. Five of the volatility estimates are frequency waves over various time frames and the remaining three are GARCH (Generalized Autoregressive Conditional Heteroskedasticity) estimates. GARCH estimates place more weight on recent information (Autoregressive and Conditional) and do not assume that variance is consistent overtime (Heteroskedasticity).  A feature variable specific to the carry strategy is a preference towards assets with low and declining volatility measures. The average holding period for a carry trade is 3 to 6 months, but can extend to longer than 1 year.  **Relative Value / Mean Reversion:** 20% risk allocation  ROW uses several relative value and mean reversion strategies which have an inverse reaction to price action. These strategies are specifically designed to interact with the program’s trend and carry strategies to generate the desired near-normal distribution of the overall program. These strategies often act inversely to the trend following and carry strategies, which can reduce risk if reversals in a trend or carry occurs.  ROW’s Fair Value strategy is based on the theory of relative purchasing power parity, where inflation rate differentials between countries drive foreign exchange rates. This model calculates an equilibrium price for currencies using the inflation rate differentials and goes short when above the equilibrium price and goes long when below. Fair value trades are typically maintained for 3 to 6 months. The fair value strategy using one model and trades in currencies only. This is a case where ROW is applying a macro approach and is using fundamental data (inflation rates) in addition to price data to generate trading signals.  ROW’s Mean Reversion strategy attempts to profit from short-term volatility, acting inversely to the trend following strategy. The models will take short-term positions, 2 to 5 days, against recent price action. The mean reversion strategy uses two models and trades in currencies only.  ROW’s Short Volatility strategy uses options on futures to attempt to profit from short-term volatility, acting inversely to the trend following strategy. The model will sell short-dated options that will be profitable if the price of a market stays within a certain range over a period of 1 week to 1 month. Trades are structured as short straddles, writing both calls and puts with the same strike price and expiration.  Options on futures are valued as “100 delta” positions at all times by the risk model. The short volatility strategy has one model and trades in commodities and interest rates. This is the only model in the program that trades options on futures.  ROW’s Sentiment strategy uses data from the Commitments of Traders report (a weekly CFTC report which provides the open interest in futures markets) to evaluate whether a market is overbought or oversold relative to the market’s historical characteristics and if the historical bias is changing over time. The sentiment strategy has one model and trades only in commodities. This is a case where ROW is applying a macro approach and is using fundamental data (open interest data) in addition to price data to generate trading signals.  **Pattern Recognition:** 10% risk allocation  ROW’s pattern recognition strategy seeks to fill the void between the program’s trend following and mean reversion strategies, and looks take advantage of trend and consolidation patterns over a 1-2 week holding period. The 10% risk allocation can alternatively be thought of as 5% trend and 5% mean reversion. The pattern recognition strategy uses one model and trades in all markets.  While the trend following strategy is looking for low frequency assets, the pattern recognition strategy is looking for high frequency assets with frequent price reversals. Pattern recognition uses feature variables in a different way than the other strategies. Unlike within the trend following strategy where the model dictates the direction of the trade and the feature variable determine the size of the position, feature variables can influence the direction of trades within the pattern recognition model.  Trade Allocation  Each of ROW’s strategies generates forecast signals using clusters of assets. Trade size will be adjusted by the forecast signal strength, which ranges from -100 to +100, and estimated volatility of each cluster. The clusters themselves will be built with estimates of correlation between the component assets.  The strategy does not use stop loss limits, profit targets or time based rules to exit trades. Trades are exited using the same process as they were entered. Models’ signal strength will range from -100 to +100, with positive levels indicating a long position and negative levels indicating a short position. Trades are entered and exited as the signal strength cross zero.  The strategy will maintain positions in almost every market at all times, because of the number of distinct strategies employed and the cluster approach.  ROW also uses “feature variables” to size positions. Feature variables, a machine learning term, are subset of relevant factors used to inform the models of expected profitability and adjust position weightings accordingly.  Trade Execution  ROW runs its models once per day, at a time when all the markets traded by the program are liquid. Trade reports are generated at 7:30 am ET for currency forwards and 10:30 am ET for futures. The portfolio manager (Jeffrey Weiser) has the flexibility to trade the system’s signals throughout the day, and will seek to add value through intraday trade timing. While the portfolio manager has such flexibility, trades are typically executed within an hour of receiving the reports.  The portfolio manager may also deviate from the model’s recommended position size by up to 20% in either direction. Such deviations occur approximately 5% of the time and are typically the result of the portfolio manager delaying implementation of the model’s desired trade. As the models adjust the positions in the coming days the exception can be eliminated without the portfolio manager taking any action if the model moves to the position. Should the model move against the position, the portfolio manager would trade to eliminate the deviation. Such exceptions are typically done with the intention to reduce risk within the portfolio. The CIO will regularly perform a review of the “check it” report which compares actual positions in relation to the desired positions by the model. The Investment Committee (Jeffrey Weiser and Ryan O’Grady) can reduce risk further in exceptional situations. All such deviations to the system are monitored, and their performance impact recorded and reviewed.  The ROW program will average 1,000 round-turns traded per $1 million per year. ROW will execute 50-75 trades in each market per year; trades are typically small adjustment trades to the existing positions. Trading frequency tends to increase during unprofitable periods. Average annual commissions are approximately 60 bps.  ROW seeks to keep slippage below 10 bps for most markets, and average slippage since inception is approximately 5 bps. The team has experience managing the market impact of larger systematic strategies, and market impact it is not a concern at ROW’s current AUM.  Research  All elements of the ROW’s investment process are considered to be in development at all times. Part of the research process is to augment existing systems as well as develop new systems. Approximately equal time is focused on developing new trading systems and further refining the existing trading systems.  The next update to the program will broadly trade equities and metals as techniques used to forecast signals in these markets have been created or improved, particularly within the trend following strategy. No additional equity markets will be added to the program, the markets currently traded by the pattern recognition strategy will be added to the trend following strategy. Metals are not currently traded so Gold, Silver and Copper are expected to be added to applied to strategies that currently trade commodities. This update is expected to be implemented by year end 2014. The new version with equity and metals included is estimated to have a 0.96 correlated with previous version. | | | |
| Risk Management | | ROW’s risk management process begins with an analysis of the desired output of the portfolio construction process. First, the team will set concentration limits based off of their qualitative view of liquidity in each market. Should a concentration limit be breached, the program will systematically redistribute risk as evenly as possible in order to maintain a balanced portfolio. Second, the program sets risk limits on the individual clusters to avoid excessive exposure when several models become aligned. The risk limits are systematically built into the portfolio construction process. Third, risk at the trading strategy level is systematically limited using VAR based limits. Last, the program will have a limit on total leverage and will be constrained by margin requirements. The portfolio construction process is intended to limit annualized volatility below 20%.  After considering the desired output of the portfolio construction process, the “Loss Mitigation Model” systematically isolates losing positions and reduces them. The Loss Mitigation Model decomposes the portfolio into individual markets (not clusters), and tracks performance over the previous 2 to 4 weeks. If there is a particular market is generating losses beyond a threshold rate, the Loss Mitigation Model reduces exposure to that market. The Loss Mitigation Model will make no adjustments approximately 85% of the time.  Next is an evaluation of risk at the portfolio level through volatility estimates from a proprietary Monte Carlo analysis as well as short, medium and long-term GARCH volatility estimates. ROW’s GARCH estimates will use weighted past observations to create a forecast of future portfolio volatility. The weights will be balanced differently in the different time frames, as they will be tailored to be optimal in different volatility regimes. Rather than try to guess the current regime, ROW will calculate risk using all of its volatility models and focus on the highest volatility, worst-case scenario.  The final stage of risk management is human oversight over the portfolio level volatility estimates. If ROW’s Investment Committee judges that the empirical risk estimates are not accurately representing the true risk in the market, they have the ability to reduce positions. The Investment Committee will selectively reduce risk during market events/crises exogenous to the model’s field of view. ROW estimates such intervention will occur 4-6 times per year. Discretion is only used after the systematic program creates the portfolio. ROW’s use of discretion is a reflection on their opinion of the quality of the data going into the models rather than taking an opinion in a market, and is implemented when the team feels there is greater risk within the program from not intervening. Discretion is usually associated with reducing risk and/or losing positions. If estimated annualized volatility at the portfolio level exceeds 20%, the Investment Committee will discuss intervening. If the Investment Committee decides to intervene, the team will decompose portfolio risk to identify and reduce outlier markets rather than reducing the entire portfolio proportionally, which would not be cost efficient. Once the outlier markets are identified and reduced, the portfolio level volatility analysis is re-run to ensure that the changes had the intended effect.  ROW maintains Exception Reports for cases where human discretion is used either by the portfolio manager to adjustments trade sizes in excess of 20% of the position size recommended by the models, or by the Investment Committee to reduce portfolio level risk when estimated annualized volatility at the portfolio level exceeds 20%. | | | |
| Trade Example | | Trend Following Trade Example - Clusters vs. Pairs  Asset Universe: USD/EUR, USD/PLN, USD/JPY  This following example shows how a given model within a given asset universe can perform better if it is presented with multivariate synthetic assets ("clusters"), as opposed to simple pairs.  Trend Rule: 5 vs. 30-day moving average (MA) crossover is an example of a trend following model. In the below examples, the red line is the 5-day MA, and the green line is the 30-day MA. The rule is to go long when the 5-day MA rises above the 30-day MA, and go short when the 5-day MA falls below the 30-day MA. Feature variables would alter the size of the signal dynamically over time, but for the purpose of this trade example feature variable have been removed and the signals are simply +100 (long) or -100 (short).  Cluster #1: 100% long USD, 40% short Euro, and 60% short Polish Zloty, no exposure to Yen    Cluster#2: 90% long Yen, 10% long Euro, 20% short Polish Zloty, and 80% short USD    Cluster #3: 70% long Polish Zloty, 30% long Yen, 100% short Euro, no exposure to USD    Combined results for the three clusters relative to the same 5 vs. 30 Day MA crossover rule applied to the simple pairs, USD/Euro, USD/ Polish Zloty, and USD/Yen. | | | |
| *Concerns* | | ROW’s ability to use discretion in the risk management process should continually be monitored to ensure that it is consistent with the expectation of reducing risk within the portfolio. | | | |
| Portfolio | | | | | |
| Securities | | Exchange Traded Futures: 65%   * Exchange traded futures are level 1 assets.   OTC forwards: 30%   * Currency forwards are level 2 assets.   Exchange Traded Options: 5%   * Short-dated plain vanilla puts and calls. | | | |
| Position Sizing | | Position size is a function of the program’s systematic process. The program’s models generate signals that will range between -100 and +100; short positions increase in size as the signal moves towards -100 and long positions increase in size as the signal moves towards +100. | | | |
| Sectors | | Equity Indices, Interest Rates, Commodities, Currencies | | | |
| Markets | | Ags/Softs\*   * Cocoa, Corn, Cotton, Coffee, Live Cattle, Soybean, Soybean Oil, Soybean Meal, Sugar, Wheat   Energy\*   * Crude Oil, Natural Gas, Gasoline, Gas Oil   Rates\*   * US 5Yr. Note, US 10Yr. Note, Euro Bund, Euro Bobl, Long Gilt, Aus 3Yr Bond, Aus 10Yr Bond   Equity   * S&P 500 (mini), FTSE 100, Nikkei 225, NASDQ (mini), STOXX 50, ASX 200   Currencies - Inter-Related Markets – Clusters - (90% of Currency Risk)   * Euro, Switzerland, Great Britain, Japan, Canada, Australia, New Zealand, Norway, Sweden, Czech Republic, Poland, Hungary, Russia, Brazil, Mexico, Turkey, South Africa, India, Philippines, Korea, Taiwan, Singapore, Indonesia\*\*, Chile\*\*   Currencies - Autonomous Markets - Pairs: Trend & Carry Only (10% of Currency Risk – these markets are analyzed as traditional pairs and are not included in any clusters)   * Peru, Columbia, Argentina, Thailand, Romania   \*May also use options on futures  \*\*Not included in the Fair Value strategy | | | |
| Exposures | | The program’s average margin to equity is 22% and 13%, respectively, given the UBS and Jefferies calculations of FX margin usage. UBS uses a Net Open Position margin calculation, while Jefferies uses a VAR-based approach. Futures margin calculation is industry standard. | | | |
| Liquidity | | Daily liquidity. Most of the markets have 24 hour trading, or almost 24 hour trading. Liquidity is constantly monitored by the portfolio manager. ROW constantly monitors liquidity as part of the human oversight and interaction that goes on in the portfolio. Jeffrey Weiser is the primary, with Ryan O’Grady and Debra Oaks assisting in the human oversight process. | | | |
| Days to Liquidate Entire Portfolio | | One day | | | |
| Pricing | | All contracts are exchange listed with readily available market prices. Forwards are valued daily using UBS 6pm Americas rate. On a monthly basis, ROW’s valuation committee will compare the UBS rates to other mark to market rates in the industry, including Newedge and Northern Trust. | | | |
| Concerns | | Slippage should continue to be monitored as AUM grows. | | | |
| Partnership Terms: | | | | | |
| Minimum Investment | | $1 million | | | |
| Redemptions | | Monthly, 10 days notice is required. | | | |
| Subscriptions | | Monthly, 10 days notice preferred. | | | |
| Fees | | Management Fee: 2%, Incentive Fee: 20% | | | |
| High Water Mark | | Yes | | | |
| Lock Up | | None | | | |
| Concerns | | None | | | |
| PERFORMANCE ANALYTICS | | | | | |
| The ROW Diversified Fund, LP launched in November 2011. The fund has generated an annualized return of 9.8% since November 2011 through September 2014 compared to an annualized return of 19.4% for the S&P 500, -2.7% for the HFRX Macro- Systematic Diversified CTA Index. Standard deviation of ROW’s returns has been at 7.2% since inception versus 9.2% for the S&P 500, 5.1% for the HFRX Macro- Systematic Diversified CTA Index. The fund has generated attractive risk adjusted returns since inception with correlation of -0.001 and beta of -0.001 to the S&P 500 and correlation of 0.41 and beta of 0.59 to the HFRX Macro- Systematic Diversified CTA Index. The strategy has generated annualized alpha of 10.0% over the S&P 500 and 11.7% versus the HFRX Macro- Systematic Diversified CTA Index.      A review of the ROW Diversified program’s daily gross returns shows a larger max drawdown relative to what is seen using monthly returns. From 8/23/2012 through 1/15/2013, the program reached a drawdown of -10.17%. This drawdown is within the expectations for a strategy with an annualized volatility target in the 12-15% range.    The review of the daily gross returns also shows that volatility has remained within or below the expected range of 12-15% over time. | | | | | |