

**PanAgora Asset Management**  
**Investment Manager Review**  
**January 12, 2012**

**EXECUTIVE SUMMARY**

- On January 12, 2012 Martin Bélanger met with the following PanAgora professionals from 9:00 a.m. to 12:00 p.m. at their Boston office:
  - Jane Zhao, Director, Equity
  - Clare Sun, Analyst, Equity
  - Louis X. Iglesias, Chief Compliance Officer
  - Kevin Dowie, Director, Client Service
  - Joel Greenberg Feinberg, Director, Equity
- Ranked “Review” by Russell
- PanAgora manages 2.5% of the Diversified Equity Fund with a U.S. small cap equity mandate. The firm has US\$22 billion of assets under management and 28 investment professionals.
- There haven’t been any major organizational or structural changes at PanAgora since our last review.
- There has been one significant personnel change: Ronald Hua, the Chief Investment Officer left the firm in August 2011; he was replaced as CIO by George Mussali. Overall the team looks small, but they’re slowly adding to it.
- Performance for our strategy has turned around. They have generated positive value added for two consecutive years. They have outperformed the Russell 2000 Index by 310 bps in 2011. Since inception, they have underperformed by 341 bps.
- Their investment process has not materially changed since the last review, although they continuously conduct research to find new alpha generating factors, to improve portfolio construction and trading. The research agenda seems light compared to peers.
- They have adequate risk controls in place and they have implemented a new risk model that should result in less leakage to the market.
- Their model doesn’t include environmental, social or governance factors, although they do flag companies that have exposure to clean energy; depending on the environment, they might integrate it into their model. The firm is a signatory of the United Nations Principles for Responsible Investing.
- There’s no issue with capacity on our strategy at this point; the strategy only has two clients and US\$65 million in assets under management, down from US\$600 million in 2009 and US\$1.5 billion in mid-2007. The low asset level is a concern as they have little incentive to add resources to the portfolio.
- PanAgora is not facing any significant compliance issues. Their fund is in compliance with the investment manager mandate; no deficiencies were reported following their last regulatory review, they have an adequate code of ethics and there are no conflicts of interest to disclose.

**RECOMMENDATION**

To summarize, there has been significant improvement in PanAgora’s performance and they have generated positive value added in the past two years. The organization is stable

and client servicing is good compared to our other managers. They have taken steps to address a main concern (low level of investment personnel) with two recent hires and a third anticipated. The lead portfolio manager, Jane Zhao, seems capable and motivated. This is a manager that produces proprietary and cutting edge research that makes intuitive sense.

Because PanAgora's mandate accounts for just 2.5% of the Diversified Equity Fund, it is ranked "Review" by Russell and the Joint Pension Board is about to make changes to the composition of the Fund, I would recommend a review of our allocation to PanAgora. Should the developments remain positive and we increase our comfort level with them, it would make sense to increase our exposure, otherwise we should terminate them.

## BACKGROUND

### ORGANIZATION

- US\$22 billion in assets under management as of December 31, 2011.
- Western had \$11.6 million with PanAgora as of December 31, 2011.
- On March 25, 2008, the PanAgora Management Equity Plan was implemented. Senior investment professionals and management were offered participation in up to 20% ownership in the firm through restricted stock and options. PanAgora doesn't disclose the firm ownership allocation amongst senior management and investment staff.
- PanAgora employees own approximately 20% of the firm; the rest is owned by Nippon Life Insurance Company (14%) and Great-West Life (66%).
- 28 investment professionals in total, down from 34 two years ago.
- In 2011 the firm gained 35 new accounts and lost 12, for a net gain of 23; net asset gains were US\$4.0 billion.
- PanAgora only has two clients in the Dynamic U.S. Small Cap Core product, with total assets of US\$ 65 million, down from \$150 million last year. The strategy had about US\$1.2 billion in assets in 2007.
- They are not currently marketing the product and are focused instead on improving performance for existing investors.
- Their other Dynamic small or mid cap strategies have also lost significant asset in the past few years.
- PanAgora manages US\$11.2 billion in total in Dynamic Equity Strategies.

### U.S. SMALL CAP EQUITY MANDATE

#### *Performance Analysis*

	Periods Ended December 31, 2011							
	3-Month	6-Month	1-Year	2-Year	3-Year	4-Year	5-Year	Since Inception (October 16, 2006)
PanAgora U.S. Equity Small Cap	15.91%	-1.13%	1.30%	10.82%	9.34%	0.76%	-6.22%	-4.69%
Russell 2000	12.84%	-4.81%	-1.80%	8.65%	8.44%	1.36%	-2.49%	-1.28%
Value Added	3.07%	3.68%	3.10%	2.17%	0.90%	-0.60%	-3.73%	-3.41%

	Years Ended December 31, 2011				
	2011	2010	2009	2008	2007
PanAgora U.S. Equity Small Cap	1.30%	21.23%	6.44%	-21.14%	-29.64%
Russell 2000	-1.80%	20.24%	8.00%	-17.18%	-16.52%
Value Added	3.10%	0.99%	-1.56%	-3.96%	-13.12%

- The fund had 360 names as of December 31, 2011, which is in line with recent years.
- They feel that the exposure to the alpha factors is more important than having a concentrated portfolio; a greater number of stocks allows them to have a larger percentage of the portfolio exposed to the top ranking alphas.
- Portfolio turnover was 88% for the twelve-month period ending December 31, 2011, for an average holding period of 13 to 14 months.
- The fund's performance has turned around over the past two years, with value added of 310 bps in 2011.
- Since inception in October 2006, the value added is still negative at -3.41% per year.
- Their REIT model has added significant value in the Financial sector; in 2011 there was 1.17% of value added due to stock selection in Financials.
- Their mutual fund alpha factor has also done well again this year. The factor is based on holdings published by mutual funds in regulatory filings. The factor has exhibited very low correlation with their contextual alpha.
- Other sectors where stock selection has generated positive value added include Information Technology, Consumer Discretionary, Materials, Energy and Consumer Staples.
- There was negative stock selection in Telecom, Healthcare and Utilities.
- An underweight in Utilities has generated most of the negative value added coming from sector selection.
- Strong portfolio construction and their short-term model have added value to the process.
- In terms of implementation, Jane Zhao mentioned that the transfer ratio of the portfolio was 0.3. The transfer ratio measures the slippage between the model and the actual portfolio. According to her, a transfer ratio between 0.3 to 0.8 is acceptable.

### ***Investment Personnel***

- There has been some personnel turnover since our last review, held in January 2011.
- Ronald Hua, the Chief Investment Officer left the firm in August 2011; he was replaced as CIO by George Mussali.
- Jane Zhao is still the portfolio manager leading the product and she's supported by Sanjoy Ghosh, Director, Equity.
- At our last meeting in January 2011, PanAgora mentioned that they were looking to add three professionals to support Jane and her team.
- PanAgora recently hired Clare Sun to join the Dynamic Equity Team. Another individual is expected to start in February 2012.
- Joel Feinberg is still in charge of portfolio construction.
- Overall, the team looks thin. Jane seems to be mostly alone in managing the portfolio, despite the chart that shows that there are eight individuals on the Dynamic Equity Management Team. Some of these team members include the CEO and leaders of other products, such as the Heads of the Stock Selector team and the Multi-Asset team who are most likely not directly involved. The addition of Clare Sun and another analyst are good news.

- Given the low assets in the Strategy (US\$65 million), it's probably not in the interest of the firm to hire too many people and the research agenda is impacted.

### *Investment Process*

- Process hasn't changed: bottom-up core
- PanAgora uses a quantitative model to apply contextual modeling, non-linear conditioning, an integrated modeling framework and fundamental analysis to valuation, quality and market sentiment (momentum) factors.
- Their core investment process hasn't changed since our last review. Although their goal is to regularly make enhancements to their model, they haven't made any factor adjustments since our last review. The research agenda they presented at the meeting was identical to the one they presented in January 2011 and Jane Zhou indicated that all the research items have been integrated.
- After following up after the meeting on the research agenda, they provided the following topics:
  - Factor research:
    - Short interests and securities lending: short positions and borrowing costs are market sentiment signals. For instance, if the short exposure increases, it is typically a negative market sentiment.
    - Investment value of contrarian funds holdings: contrarian mutual funds trade in a direction opposite to mutual fund herds. Their holdings contain important information about possible catalyst in value stocks.
    - Put-Call parity: the higher call to put spread is a positive signal for the stock.
    - Peer-based factor analysis: every company should be compared with its comparable firms, or peers. Choice of peers should be a function of the variables that can distinguish firms from economic or market perspectives.
  - Model research:
    - Improve existing contextual alpha modeling by specifically including impacts from different events.
- Their newly hired analyst, Clare Sun, will do more specific research but the topic has not been confirmed yet.
- Environmental, Social and Governance Factors:
  - Their model doesn't include any specific environmental, social, and governance factors.
  - They do flag companies that have exposure to clean energy; depending on the environment, they might integrate it to their model.
  - PanAgora is a signatory of the United Nations Principles for Responsible Investment.
  - In order to comply with their engagement, on an annual basis they need to produce a research report that shows that they've reviewed sustainability factors and their impact on investment performance.
- The portfolio uses stock index futures to equitize cash.

***Risk Controls***

- At the previous review meeting PanAgora mentioned that they were building a new risk model that would be used in the portfolio construction process.
- The main reason for the change was that competitors could arbitrage the BARRA model that they were previously using.
- Their new risk management model monitors and controls BARRA risk factor exposures and overall tracking error. The result of this new process is a portfolio that trades solely on changes in the alpha model and is not susceptible to short-term fluctuations of the BARRA risk model.
- Their portfolio construction process involves balancing portfolio risk and expected return.
- PanAgora has several processes in place to control risk
  - Internal and BARRA risk models.
  - Due diligence on new screens, risk budgeting, liquidity checks, database integrity, alpha changes, and market cap mismatches.
  - Limits on active weights on all accounts.
  - Sector and industry constraints.
  - They look for data anomalies as part of their portfolio construction process.
  - Compliance is required prior to every trade.

***Trading***

- We met with Joel Greenberg Feinberg, who is the Head of Portfolio Construction; there are two dedicated traders reporting to him; Joel has demonstrated a good understanding of their trading, portfolio construction and risk control processes.
- PanAgora uses the Bloomberg EMS platform for trading. The platform enhances the internal team's transparency of outstanding orders in the market by provide the real-time analytics which historically have been unavailable through the Order Management System.
- They don't execute trades in-house.
- They don't use dark pools directly, they use their brokers' capability in this area.
- They use LiquidNet, which is a buy side liquidity pool. They send their illiquid orders to them. About 30% of their U.S. trades went through LiquidNet liquidity pools in 2011.
- Accounts are optimized separately to avoid having the smaller accounts penalized when transactions in larger accounts take longer to execute.
- They regularly review their trading partners; they work only with traders that provide agency services in the U.S.
- They deal with a limited number of brokers to ensure that their order is large enough and that they're relevant.
- They deal with liquidity issues by imposing weight limits, by looking at a stock short-term liquidity (looking at the number of days required to sell a stock) and by looking at the long-term liquidity of a stock.
- They have a list of approved brokers and counterparty list, as determined by the investment teams; the list is based on the following factors:
  - Trading expertise

- Infrastructure (order-entry systems, execution management system, timely order execution reports, etc.)
- Ability to minimize trading costs
- Ability to provide research and execution services
- Ability to accommodate special transaction needs
- Ability to access electronic trading systems (dark pools)
- Counterparty risk relates to foreign currency contracts
  - Doesn't apply to Western as we don't use currency hedging.
  - They look at the credit rating of each counterparty (minimum of A1 or A-) and credit default swap rates.
  - They monitor the amount allocated to each counterparty.
- Overall, PanAgora has adequate trading capabilities.

### COMPLIANCE

- Met with Louis Iglesias, Chief Compliance Officer.
- We reviewed PanAgora's compliance program, their business continuity plan and some aspects of their code of ethics.
- PanAgora is in compliance with the investment manager mandate; they have been providing a compliance report since the second quarter of 2008.
- PanAgora or its employees are not facing major litigation.
- The Securities and Exchange Commission did a review in March 2008 and they found no deficiencies or weaknesses; PanAgora expect them to be back within two years.
- The Commodity Futures Trade Commission (CFTC) and the National Futures Association (NFA) regulate PanAgora as a Pool Operator and Trading Advisor.
- The NFA came in March 2011. They had two recommendations: one regarding the statements they send to clients and one regarding an indirect control person. PanAgora has complied with those recommendations.
- The Financial Industry Regulatory Authority (FINRA) regulates PanAgora as a sponsor of US-offered private funds. To date, FINRA has never visited PanAgora.
- PanAgora is registered by the Ontario Securities Commission (OSC). However, the OSC has never conducted a review.
- PanAgora is also registered with regulators in Australia, Ireland, Japan and South Korea.
- PanAgora or its employees have no conflict of interest. They have a policy on conflicts of interests. Also, they are required to disclose any potential conflict on their Form ADV.
- Deloitte Touche audits their financial statements.
- They use the Charles River system for trading and investment compliance.
- PanAgora uses soft dollars to purchase database; they follow the CFA Institute Soft Dollars Standards.
- They don't allow cross trading.
- Employees have to comply with PanAgora's Code of Ethics; the CFA Institute Code of Ethics is a subset of PanAgora's code of ethics. Employees must comply with the Code of Ethics on an annual basis.
- Very few employees trade individual stocks.

- Each quarter employees must report their trades. Each year they must provide their account statements.
- Proxy voting is done with the assistance of Institutional Shareholder Services (ISS). They can also vote Western's proxies based on the United Nations principles, if we elected.
- PanAgora has a SSAE-16 Report, which is a more stringent version of SAS 70. The difference is that management needs to take more responsibility for the control systems.
- We reviewed PanAgora business continuity plan:
  - They have an alternate site about 25 miles east of Boston, in a different power grid.
  - The last continuity test was conducted in June 2010.
  - The last disaster recovery tests were conducted in June 2011 and September 2011.
- Overall, PanAgora has adequate compliance processes. The firm has five compliance personnel, out of 80 staff in total.



**THE UNIVERSITY OF WESTERN ONTARIO RETIREMENT PLANS**  
**PanAgora Asset Management**  
**Meeting Agenda**

**Date:** January 12, 2012

**Meeting time:** 9:00 PM to 12:00 PM

**Location:** 470 Atlantic Avenue, 8<sup>th</sup> Floor, Boston, MA 02110

**Western Attendees:**

Martin Bélanger, Director, Investments

**ORGANIZATION:**

- Introduction – relationship review
- Discuss any meaningful change to your corporate structure since the last review
- Review changes in assets under management
- Discuss clients gained and lost
- Overview of new products
- Briefly discuss your business continuity plan

**INVESTMENT PERSONNEL:**

- Introduction to key personnel on our mandate
- Discuss personnel turnover for our mandate

**REVIEW OF WESTERN PORTFOLIO:**

- Performance overview
- Attribution analysis
- Detractors/contributors to performance
- Portfolio characteristics
- Overview of investment process and changes to investment philosophy, if any
- Discuss changes made to the portfolio
- Describe how you measure and control portfolio investment risk
- Report how you integrate environmental, social and governance factors in your investment process and the impact on your portfolio and investment strategy
- Discuss current portfolio positioning

**RESEARCH:**

- Review of models
- Portfolio construction
- Overview of research agenda

**TRADING:**

- Overview of trading systems and methodology
- Discuss execution analysis
- Discuss total trading costs
- Discuss broker/dealer selection

- Discuss stock exchange selection

**COMPLIANCE:**

- Confirm that all investments managed by PanAgora Asset Management on behalf of the Western Retirement Plans are in compliance with the terms and conditions of the Investment Manager Mandate, the Managed Account Agreement and in compliance with all applicable laws
- Describe any material litigation to which your firm, key personnel or the funds have been party over the past year
- Describe any material issue raised as a result of recent regulatory reviews
- Confirm that your key investment personnel complies with an appropriate code of ethics
- Confirm that any conflict of interest or potential conflict of interest involving PanAgora or key investment personnel has been disclosed

**OTHER:**

- Office tour