



Maine Business School Faculty Research

2009-2010

Dr. Pankaj Agrawal, Assistant Professor of Finance:

Agrawal, P. & Clark, J. M. 2009. Determinants of ETF liquidity in the secondary market: A five factor ranking algorithm. *Institutional Investor Journal* (in press).

There are about 900 ETFs trading in the market, of which a large number appear to be duplicative in design and coverage. Some of them possibly serve as a tool for issuing firms to gain market share. We suspect that many of the newer funds have low liquidity, asynchronous trading and wider bid-ask spreads. In this paper, we develop a five-factor liquidity scoring algorithm that allows us to rank ETFs from the most liquid to the least liquid. Thereafter we present the top and bottom fifty ETFs from this ranked liquidity list. We also find that there is a very active bond ETF market as evidenced by the fact that about 20% of the most liquid ETFs are bond-based. The factors that we find most indicative of liquidity are – a lower bid-ask spread, a higher market capitalization, lower expense ratio and higher average trading volume. In contrast, the least liquid funds have larger bid-ask spreads, smaller market capitalizations, higher expense ratios and much lower investor interest as proxied by trailing 3-month daily trading volumes. While low liquidity ETFs may provide the investor with exposure to a very narrow market segment, the costs of trading, market price impact and ease of establishing or unwinding a sizable position must be carefully evaluated before initiating holdings in ETFs that exhibit low liquidity.

Agrawal, P. & Waggle, D. The dispersion of ETF Betas on Financial Websites, *Journal of Investing*. (in press)

In this paper we document significant dispersion in the beta estimates of ETFs, as available on some leading financial websites. To the best of our information, this is the first study that systematically studies the dispersion of betas as seen on major finance websites. Almost 40 million visitors access these websites per month. We found that leading sites such as Yahoo! Finance, MSN Money, Morningstar, and Google Finance display betas that significantly misrepresent (not intentionally) actual levels of systematic risk. These errors could impact the portfolio design of an investor leading to unintended outcomes. Additionally, we were able to identify the primary reason for the significant variance in beta estimates. The explanation is surprising and not rooted in the traditionally discussed differences that are attributed to interval-window length mismatch or varying frequency of security returns. An implication of the findings is that there is no substitute to verification and cross-validation of financial information, even if it is supposedly coming from well established sources or so called 'black-boxes'.

With Dr. Richard Borgman, Associate Professor of Finance

Agrrawal, P. & Borgman R. What is wrong with this picture? A problem with comparative return plots on finance websites and a bias against income generating assets. *Journal of Behavioral Finance*. (in press)

This paper brings to light and discusses a systemic issue in the calculation and display of relative return information as seen currently on some of the most prominent finance websites: income generating events such as dividends and interest are not included in relative return calculations and all comparative return graphics. The resulting ranking of the securities, based on such incomplete returns, is essentially meaningless from a total return perspective, yet they are being served to millions of investors every day. This could lead to the formation of a possible availability heuristic and an optical bias against fixed-income and other income generating assets. This problem has gone unnoticed for many years with no discussion of the topic either in the academic or practitioner press. The ready availability of such unclear or inaccurate information from sources generally perceived to be very credible can in this age of ‘do it yourself’ portfolio management have serious and damaging financial consequences to the unsuspecting investor. The paper also shows the effect of this return differential on the calculation of the asset correlation matrices and the subsequent effect on the resulting asset-weight vectors that are used to generate Markowitz style mean-variance portfolios. The visual discrepancies are then supported by the application of the exact Gibbons, Ross and Shanken [1989] W-test for portfolio efficiency. The authors’ proposed correction, based on elementary finance, fixes the problem.

Dr. Anne Canabal, Assistant Professor of Management:

Harzing, A. -W, et al. 2009. Rating versus ranking: What is the best way to reduce response and language bias in cross-national research? *International Business Review*. (in press)

We propose solutions to two recurring problems in cross-national research: response style differences and language bias. In order to do so, we conduct a methodological comparison of two different response formats—rating and ranking. For rating, we assess the effect of changing the commonly used 5-point Likert scales to 7-point Likert scales. For ranking, we evaluate the validity of presenting respondents with short scenarios for which they need to rank their top 3 solutions. Our results – based on two studies of 1965 undergraduate and 1714 MBA students in 16 different countries – confirm our hypotheses that both solutions reduce response and language bias, but show that ranking generally is a superior solution. These findings allow researchers to have greater confidence in the validity of crossnational differences if these response formats are used, instead of the more traditional 5-point Likert scales. In addition, our findings have several practical implications for multinational corporations, relating to issues such as selection interviews, performance appraisals, and cross-cultural training.

Dr. Harold Daniel, Associate Professor of Marketing and Director of the Center for Tourism Research and Outreach (CENTRO)

Daniel, H., Leahy, J., Daigle, J. & Shugrue, M. 2009. Local and visitor physical activity through media messages: A specialized benefits-based management application at Acadia National Park. *Journal of Park and Recreation Administration* 27(3): 59-77.

The National Parks System's (NPS) abundance of trails and other outdoor recreation opportunities makes the NPS ideally suited to enable visitors' attainment of healthy physical activity. Given the physiological and psychological benefits of leisure, their availability in outdoor settings and the efficiencies of market segmentation, media campaigns may be an effective means of influencing visitor physical activity behavior. However, research is first needed to identify visitor market segments based on importance of physical and mental benefits, to evaluate the relationships between visitor demographics and physical activity, and investigate the effects of media campaigns on benefits-based visitor market segments. We identified the perception of importance Acadia National Park visitors attached to a suite of mental and physical health benefits within the benefits-based management framework. Data were collected through an onsite questionnaire during July (pre-media) and August (post-media) of 2007. In addition to demographic information, the questionnaire included questions about use history, access transportation, recreation activities, group size, time on the trail, preferable trail attributes, social and personal constraints, and benefit importance. Relying on Driver's (1983) Recreation Experience Preference (REP) scale, the questionnaire included a total of 20 benefit items: five items measured the perceptions of importance visitors had of physical health benefits, four items measured mental health benefits, four items measured social experience benefits, four items measured escape benefits, two items measured nature experience benefits, and one item measured creative benefits. During the pre-media time period, a total of 158 people were contacted and 131 questionnaires were completed. During the post-media time period, 229 people were contacted and 213 questionnaires were collected. Visitors could be segmented into four primary benefits-based market segments: Fitness Isolates, Trail Moderates, Casual Social Groups, and Trail Enthusiasts. These 60 market segments exhibited several key differences. The effects of the media campaign also had varied impacts on the four visitor market segments. Understanding benefit importance among different visitor segments can assist park planners and managers in providing more desirable experience opportunities. In addition, an evaluation of visitor segments identified potential relationships with physical activity behavior. The results are helpful in identifying how knowledge, attitudes, and behavior can help guide future media campaigns. Park planners and managers can use the results to anticipate how different visitor market segments may respond to other media campaigns. The outcomes of the research can include better communication with visitors, and improved benefit opportunity provision.

Dr. Niclas L. Erhardt, Assistant Professor of Human Resource Management

Erhardt, N. L., Martin-Rios, C. and Way, S. A. From bureaucratic forms towards team-based knowledge work systems: implications for human resource management', *Int. Journal of Collaborative Enterprise* (in press)

Teamwork as knowledge integrating mechanisms is critical for firms pursuing a knowledge driven strategy (Grant, 1996b); yet, theoretical and empirical research regarding how to manage

knowledge processes in team settings remains limited in the strategic human resource management (SHRM) field. This paper builds on the knowledge work and SHRM literatures. We outline key knowledge processes including knowledge sharing, knowledge creation and team learning. A team-based HRM system is demarcated that aims to foster knowledge work. Four key HR practices are discussed including knowledge staffing, knowledge-based performance management, fostering of shared leadership and trust building. The paper identifies key challenges for HRM and addresses areas for future research.

Dr. Ivan Manev, Associate Dean of the College of Business and Associate Professor of Management

Elenkov, D. S., & **Manev, I. M.** (2009). Senior expatriate leadership's effects on innovation and the role of cultural intelligence. *Journal of World Business*, 44(4): 357-369.

We propose that senior expatriates' visionary–transformational leadership influences the rate of innovation adoption in the organizations or units they head, but cultural intelligence moderates this relationship. Our hypotheses were tested with data from 153 senior expatriate managers and 695 subordinates from companies in all 27 countries of the European Union. We found a direct influence of senior expatriates' visionary – transformational leadership on the rate of innovation adoption. Cultural intelligence moderates the effect of senior expatriates' leadership on organizational innovation, but not on product-market innovation. Implications for academic research and business practice are discussed.

Manolova, T. S., **Manev, I. M.**, & Gyoshev, B. S. (2010). In good company? The role of personal and inter-firm networks for new venture internationalization in a transition economy. *Journal of World Business*, forthcoming in 45(3).

Although personal and inter-firm networks are critical for the survival and growth of entrepreneurial ventures in transition economies, their role in new-venture internationalization has been understudied. Exploring the internationalization of entrepreneurial ventures (n = 623) in Bulgaria, we find that domestic personal networks have a positive effect on internationalization. Firm age negatively moderates the effect of inter-firm networks: the earlier the new venture engages in inter-firm collaboration, the higher the degree of its internationalization. Internationalization is positively associated with new venture size and varies by industry. Implications for managerial practice and public policy are discussed.

Dr. Terry Porter, Assistant Professor of Management

Córdoba, J., **Porter, T.** 2009. Education in sustainability through systems thinking. In J. Stoner, Wankel, C. (Ed.), *Management Education for Global Sustainability*: 139-158. Charlotte, NC: Information Age Publishing.

In the twenty-first century, the world has become a global entity which needs to be protected and looked after. In this global arena, profit and not-for-profit organizations need to attend to a variety of demands. Their governments encourage them to be socially responsible and sustainable at the same time. Their employees demand better working conditions, and their customers want products and services of quality. The interactions between organizations and their environments gain special attention when we look at how organizations can address these and other demands. Systems thinking is an evolving discipline that can help management educators and students explore relations between organizations and the natural environment (Midgley, 2000) and address issues of sustainability (Senge, Aleiner, Roberts, Ross, & Smith, 1994; Stead & Stead, 2004). Systems thinking can also help students bring seemingly disparate issues together and better understand the impacts of any action on a variety of domains (Reason, 2007).

This chapter draws on key contributions of systems thinkers and highlights some differences between three different notions and uses of systems, with particular attention to their pedagogical applications in business education. The three different approaches to systems thinking have differing cultural overtones that can influence the insights they offer. The implications of these overtones are discussed as the chapter examines the three systems schools in a holistic and systematic fashion: focusing on theory, research, and practice; and, most importantly, drawing implications for learning and teaching practice.

Dr. Gloria Vollmers, Associate Professor of Accounting

Vollmers, G. 2009. Accounting and control in the Persepolis fortification tablets. *Accounting Historians Journal*, 36(2).

The bookkeeping records collected and retained by accountants of the Persian Empire centered at Persepolis from 509-494 B.C. are examined in this paper. A powerful bureaucracy exercised control over foodstuffs to supply an immense number of royal and state personnel and workers with their ration needs. A sophisticated accounting system facilitated this control, making visible not only the quantities of food assets distributed but also the locations and individuals responsible for these distributions.

2008-2009

Dr. Pankaj Agrawal, Assistant Professor of Finance

Agrawal, P. 2009. An automation algorithm for harvesting capital market information from the Web. *Managerial Finance*, 35(5): 427-438.

The purpose of this paper is to develop an algorithm to harvest user specified information on finance portals and compile it into machine-readable datasets for quantitative analysis. It applies the Visual Basic macro language in Microsoft Excel to develop code that is not constrained by

the single-query function of Excel. The core of the algorithm is built around the splitting of the URL connector line and the placement of a continuously updating variable into which are looped as many tickers as there are in the input list. The output is then written to non-overlapping cells.

Numerical information placed on major finance websites can be harvested into structured machine-readable datasets by applying this algorithm. The algorithm extends user accessibility to websites that do not provide the facility of simultaneous downloading of information on multiple stock tickers. Furthermore, the procedure automates the downloading of multiple pieces of information (fields) and entire tables per ticker (record).

Dr. Scott Anchors, Lecturer of Management

Trask, K.M., Rice, R. W., **Anchors, S.** & Lilieholm, R. J. 2008. Management styles of lumber mill managers in the northern United States. *Forrest Products Journal*, 59(3): 29-34.

The management styles of chief executives largely determine how firms react to a myriad of challenges and opportunities that arise in the marketplace. The management style of a chief executive can influence a firm's ability to successfully compete in an increasingly globalized world. To better understand management styles and practices, a survey of chief executives at 32 sawmills operating in the northern United States was conducted. Five management styles were synthesized from the literature—autocratic, bureaucratic, authoritarian, democratic, and participative. The frequency with which these management styles were used by chief executives was based on their responses to a series of questions related to five key areas of management. Three-quarters of the managers surveyed used a combination of between two and four management styles and just 25 percent exhibited a single style. Management styles were found to be largely independent of demographic profiles and mill characteristics such as product type and mill capacity.

In August, the Association of Psychological Type International awarded the prestigious **Gordon Lawrence Educational Achievement Award** to **Dr. Scott Anchors**. He received it for outstanding contributions to promoting the constructive use of psychological type (Jung's theory of Psychological Type) through his publications, consulting, teaching, advising and research.

Dr. Anne Canabal, Assistant Professor of Management

Canabal, A., & White, G. O., III. 2008. Entry mode research: Past and future, *International Business Review*, 17(3): 267-284.

What has been done in the entry mode literature to date and where should future research in this field proceed? To answer this question, we review empirical studies in international entry mode research between the years 1980 and 2006. We identify key publication outlets and articles, leading researchers, major theoretical and methodological approaches, sample characteristics,

and primary variables of interest that exist in the entry mode literature. We also highlight gaps in the literature and provide guidance for future research efforts. While entry mode research has advanced significantly over the past few decades, numerous questions remain unexplained. For example, our review suggests that researchers should begin to concentrate on the other side of the equation, that is, what happens once entry mode choice has been made. This provides fertile ground for continued development in entry mode research.

Dr. Harold Daniel, Associate Professor of Marketing and Director of the Center for Tourism Research and Outreach (CENTRO)

Daniel, H., Teisl, M., Allen, T., Bragg, L., Bayer, R., & Billings, C. 2008. Valuing lobster for Maine coastal tourism: Methodological considerations. *Journal of Foodservice*, 19: 133-138.

A major issue for travel and tourism practitioners, researchers and governmental leaders are determining the value of the experiences deliverable via destination assets. We hypothesize that Maine's 'lobster culture' (lobster cuisine, lobster fishing, lobster fishing villages) is an important part of the coastal Maine tourist experience and that Maine's coastal tourism industry relies on the presence of an active lobster fishery for its economic success. This paper proposes a method for valuing the lobster fishery asset in Maine for its coastal tourism trade by valuing the experiences that are derivable from it, namely lobster cuisine and the lobster industry and village culture. This specific project is part of a larger program to measure the economic value of the lobster fishing industry to the economy of Maine. This paper considers and outlines a specific rationale and choice of methods for assessing the value of that industry for Maine's tourism economy.

Dr. Niclas Erhardt, Assistant Professor of Management

Martin-Rios, C. & **Erhardt, N.** 2008. Organizational knowledge transfer through human resource management: International diffusion of managerial performance management. *European Journal of International Management*, 2(2): 170 – 191

Little is known about the role and characteristics of managerial performance management systems in diverse international settings. An exploratory analysis of the purposes and practices of these systems on a cross-national basis is in demand. Results indicate significant differences between managerial performance management in 11 US and European multinationals. The degree to which the system was used as an instrument of intra-organisational cross-border knowledge flows had a significant impact on the selection of managerial performance management system.

Dr. Nory Jones, Director of Graduate Programs and Associate Professor of Management Information Systems

Jones, N., Meadow, C., & Sicilia, M. A. 2009. Measuring intellectual capital in higher education, *Journal of Information and Knowledge Management*, 8(2): 113-136.

Universities establish strategic plans to achieve their goals. However, these plans may not be successful if the needed resources are not available. Arguably, the most valuable resources in any university are the expertise of its faculty and staff; its intellectual capital. Therefore, if a university effectively measures and manages these valuable resources, it can more effectively create and deploy strategies to achieve its goals. This paper explores methods to effectively measure the intellectual capital in a university. It examines methodologies in the for-profit sector, creates analogies in the academic world, and then seeks to develop classifications which are meaningful in an academic environment. A study is done which mines an institutional repository to analyse expertise and proxy measures of intellectual capital. The results are analysed according to a production possibilities frontier theory.

Dr. John Mahon, Dean of the College of Business, Public Policy and Health, John M. Murphy Chair of International Business Policy and Strategy and Professor of Management, received a unique and impressive award from the International Association for Business and Society (IABS) in June: **20th Anniversary Commemoration Award for the Best Paper** ever published in its journal, "Business and Society." A paper he wrote in 1997 remains the most cited paper in the history of this management journal, which focuses on social issues, ethics and their influence on organizations.

Dr. George Miaoulis, Professor of Marketing

Miaoulis, G., Gutman, J., & Snow, M. M. 2009. Closing the gap: The patient-physician disconnect. *Health Marketing Quarterly*, 26: 56-68.

This article will present the results of over 150 focus groups conducted to identify the underlying drivers of customer satisfaction in a variety of health care settings. These focus groups demonstrate that the vast majority of patients first seek to have their negative emotional state addressed and then to receive medical care. The hypothesis presented is that patients' satisfaction is based more on short-term consequences than long-term consequences (effects of treatment) because the short-term consequences involve reducing patients' negative emotions that they bring to the treatment situation. Supporting one of the key points from the literature, if initial satisfaction is low, patient compliance suffers, then treatment efficacy is reduced. Therefore, short-term satisfaction mediates long-term satisfaction.

Dr. Terry Porter, Assistant Professor of Management

Porter, T., & Córdoba, J. 2009. Three views of systems theories and their implications for sustainability education. *Journal of Management Education*, 33(3), 323-347.

Worldwide, there is an emerging interest in sustainability and sustainability education. A popular and promising approach is the use of systems thinking. However, the systems approach to sustainability has neither been clearly defined nor has its practical application followed any systematic rigor, resulting in confounded and underspecified recommendations. The purpose of this article is to extend the notion of systems thinking as it pertains to sustainability pedagogy. The authors draw from systems theory and other literatures to develop three broad approaches to systems thinking: functionalist, interpretive, and complex adaptive systems (CAS). Each perspective is examined regarding its conceptual underpinnings, implications for sustainability, and pedagogical goals, objectives, skills, and exemplar projects and activities. The authors' goal is to provide the reader with an immanently practical set of ideas and pedagogical tools that may be readily adopted by management educators in any discipline.

Dr. Natalie Steiger, Associate Professor of Production and Operations Management

Lada, E. K., **Steiger, N. M.**, and Wilson, J. R. 2008. SBatch: A spaced batch means procedure for steady-state simulation analysis. *Journal of Simulation*, 2 (3): 170-185.

We discuss SBatch, a simplified procedure for steady-state simulation analysis that is based on spaced batch means, incorporating many advantages of its predecessors ASAP3 and WASSP while avoiding many of their disadvantages. SBatch is a sequential procedure designed to produce a confidence-interval (CI) estimator for the steady-state mean response that satisfies user-specified precision and coverage-probability requirements. First SBatch determines a batch size and an interbatch spacer size such that beyond the initial spacer, the spaced batch means approximately form a stationary first-order autoregressive process whose lag-one correlation does not significantly exceed 0.8. Next SBatch delivers a correlation-adjusted CI based on the sample variance and lag-one correlation of the spaced batch means as well as the grand mean of all the individual observations beyond the initial spacer. In an experimental evaluation on a broad range of test problems, SBatch compared favourably with ASAP3 and WASSP.

Dr. David Steiger, Associate Professor of Management Information Systems

Steiger, D. M. 2008. Knowledge creation through user-guided data mining. *Journal of Information Systems Education*, 8(4): 383-394.

Dr. Robert Strong, Professor of Finance and University Foundation Professor of Investment Education, published the fifth edition of his textbook on investment strategy. This is one of his three textbooks that are currently in use in the US and China.

Strong, R. A. 2009. *Portfolio construction, management, and protection, 5th edition*. Mason,