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The Spring 2018 issue of *The Journal of Private Equity* confirms a pattern of continuing expansion in funding power and investor confidence in seeking new opportunities in venture capital and private equity markets (refer to Market Snapshot, p.82). This persisting trend is due to several factors. Research suggests that the growing wealth of the top 5% of the global population is supporting an expanding investment appetite for higher risks.<sup>1</sup> These investments are in some cases direct investments, but more often they are channeled through institutional investors such as investment banks, investment funds, wealth managers, pension funds, insurance companies, prime brokers, trusts, and family offices. Also, advanced countries' financial markets remain relatively liquid from central bank measures to end the great recession and restore economic growth and full employment. However, government inaction (infrastructure) and disruptive actions (threatening tariffs on imports) have reduced the attractiveness of public domestic markets and shifted attention to higher-risk private equity markets in other developed and emerging economies markets.

The enhanced search for higher "alpha" is emphasizing the increasing importance of private equity in the emerging countries—as illustrated by the expanding number of articles from emerging markets appearing in *The Journal of Private Equity*. The flat-lining of public stock markets in the United States and other developed countries so far in 2018 substantiates this shift. The growing supply of liquidity seeking opportunities will eventually exhaust the better investments, and then raise the vulnerability to financial problems with higher-risk investment ventures. New analytical techniques will be necessary to find higher investment returns and avoid these potential future risks.

As private equity managers and general partners come under increasing pressure to find more alpha opportunities faster, innovative new approaches to private equity and venture capital investments may be required. The decision-making process of locating attractive investment possibilities in developed countries, and especially in emerging markets, will expand data needs and also increase uncertainties that must be analyzed carefully to avoid performance problems. The requirement is to analyze big data rapidly, to continuously collect and add new information, and to re-analyze in order to monitor and control company performance in line with private equity objectives.

<sup>1</sup>"Global Financial Stability Report," International Monetary Fund, April 2018, Chapter 1.

This process may require new algorithms to facilitate more profound and more creative thinking in support of the decision-making process of private equity managers and general partners. Finding strong analysts to deal with these new risks and challenges, and with the growing amounts of data that require careful and thoughtful analysis, may not be sufficient. Also, there is a constant struggle to remove human bias from the thinking and decision-making process.<sup>2</sup> These issues have recently become the focus of combining better critical-thinking cognitive skills with the support of improved decision-making technology.

An interesting example of the increasing use of cognitive performance software to supplement human decision-making is [www.thinkoutcomes.net](http://www.thinkoutcomes.net). This Boston-based company works with executives that think for a living and are challenged to arrive at unbiased, data-driven informed decisions, bring stakeholders on the same page, as well as monitor and control uncertainties. These objectives are accomplished through the use of cognitive performance software called Socrates, which integrates computer science power with cognitive activities in the human mind. The software also provides cognitive collaboration with data-driven evidence, helps with communication to stakeholders, incorporates stakeholder constraints, provides performance advisory to deal with risks, and monitors uncertainties. It supplements and serves as checks and balances on human creative thinking and decision-making.

Advances in artificial intelligence are increasingly in the news for their ability to continuously learn from their own mistakes and improve decision-making. Cognitive technology has enabled Watson, IBM's artificial intelligence computer, to repeatedly outperform human decision-making in certain situations with conditions of uncertainty. In the field of medicine and healthcare, Watson has shown superior diagnostic capabilities. Information technology is advancing rapidly regarding computer memory capacity, and the efficiency of software algorithms has expanded even more quickly.<sup>3</sup> The expansion of information technology continues to

be unprecedented even compared to the advances of the Industrial Revolution.<sup>4</sup>

It is not impossible for private equity to benefit from the artificial intelligence illustrated by Watson. Watson became cloud-based in 2013, making it accessible over the Internet and for custom software applications. Smart, self-learning computers and advances in more sophisticated algorithms to better analyze big data likely will result in a larger role for them in the private equity investment decision-making process. Increasingly, algorithm approaches outperform human experts. Narrative Science produced software called Quill that is capable of creating and communicating high-quality reports of a range of industries from multiple databases almost immediately. WorkFusion's self-learning software is an intelligent software platform that manages the execution of projects using crowdsourcing and automation.<sup>5</sup> Further indications of the adoption of artificial intelligence and use of machine learning in the trading technology of the finance industry may be seen in the March 2018 issue of *Institutional Investor* magazine, on pages 63–69 in the article titled “Masters.”



In this issue of *The Journal of Private Equity* we would like to highlight the article “How Proper Information, Effective Risk Management, and Legacy Capital Can Solve The Funding Gap” and its author Joe Milam. Joe Milam is the founder of AngelSpan, Inc., an investor relations service for start-ups. AngelSpan leverages Joe's almost 30-year career in financial services to address the last great inefficiency in the entrepreneurial ecosystem. Having witnessed and participated in the birth of “modern” angel investing, in 2000 Joe founded AngelSpan's predecessor firm—Angel Legacy—to address the funding inefficiencies for early-stage companies. He is also overseeing the soon-to-be-launched Legacy (venture) Funds.

Milam's article in this issue is a follow-on to his article in the previous Winter issue of the journal, entitled, “Early Stage Private Equity—*Real Alpha Is Available*

<sup>2</sup>Daniel Kahneman, *Thinking Fast and Slow*, Farrar, Straus and Giroux, 2011, Part 2.

<sup>3</sup>Martin Ford, *Rise of the Robots*, Basic Books, 2015, Chapter 3.

<sup>4</sup>Andrew MacAfee and Eric Brynjolfsson, *Machine Platform Crowd*, Norton, 2017, Part 1.

<sup>5</sup>Ibid. Chapter 4.

*When Done Right.*” In this issue, he explores why positive risk-adjusted returns, namely Alpha, have been limited to a select group of venture funds and investors. His earlier article recommends possible causes and proffers solutions. This issue’s article explores in greater detail the (potential) answers to the chronic “negative alpha” typical of the venture asset class. Milam also presents the most recent thinking on venture portfolio construction, and shared investment selection philosophies and practices from the public securities market. Success may come with a lowering of the cost of capital for entrepreneurs seeking funding and the equity risk premium applied by investors, moving the efficient frontier on the asset class up and to the left.

Giorgia Bulgarelli and Gianfranco Gianfrate examine “Sovereign Wealth Funds’ Investments and Corporate Bondholders.” They investigate the impact of Sovereign Wealth Funds’ (SWFs) investments on the target firm’s bondholders. Their sample comprises 166 deals carried out during the period 2000–2016. They find that when SWFs invest in target companies, a reduction of the perceived credit risk follows and the value of the debt for existing bondholders rises. The market reaction for traded bonds appears to be positively associated with the level of transparency of the fund and to the rating of targets’ bonds. Overall, these results support the view that SWFs have a “certification role” for bondholders and determine a consistent increase in the value of invested firms that accrues to both shareholders and bondholders.

In the article “New Method of Determining Cost of Equity in Private Equity Investments,” Manu Sharma develops an equation to calculate the cost of equity when valuing private equity investments. The cost is used as a discount rate when discount cash flow methodology is used to determine the value of ownership of a company. The equation considers three factors: market return, private equity index return, and illiquidity. A variable for the illiquidity variable reflects that private equity investments are illiquid in nature and therefore investments in such securities are not readily traded as securities trading in the market. By assigning weights to each of the factors, he assesses how each variable can be used to determine the cost of equity in a private equity investment.

Alex da Silva Alves and Jose Antonio Pimenta-Bueno in “Quantifying the Capital Requirements of Start-Ups in Early Growth Phase: *Exploratory Evidence from a Seed Capital Fund in Brazil*,” explore the challenge of quantifying the capital requirements of new entrepreneurial firms. Focusing on ventures in their early fast-growing phase, the research covers a topic that has not yet received much attention in the specialized entrepreneurial finance literature. All too often, entrepreneurs underestimate the capital requirements demanded by their planned growth paths, a practice that has obvious and severe consequences for both their firms’ and their own wellbeing as they fail to attain contractually agreed-upon goals. A framework of an empirically based tool is developed to assist both entrepreneurs and investors in their challenging joint task of quantifying the relationship between capital requirements and innovation performance.

Shifting to another part of the world, Sulaiman T. Al-Abduljader has written “On the MENA Private Equity Puzzle: *Insights and Recommendations*.” The author analyzes the Middle East and North African private equity markets, incorporating key aspects representing 4 main clusters: governance, regulatory/legal frameworks, management, and finance. He explores 352 institutions across 13 countries in the region and finds specific contributions concerning all 4 clusters. The results guide the design of a systematic post-acquisition approach to value creation beyond financial engineering that is perceived to be more applicable to emerging markets. Results reveal the need to depart from stand-alone, country-specific, government-owned SME exchanges into a regional, partially-privatized Alternative Investments Market.

Anwar Hasan Abdullah Othman, Hasanuddeen Abdul Aziz, and Salina Hj Kassim analyze “Is the Islamic Unit Trust Market Efficient? *Empirical Evidence from Malaysia*.” Using Malaysian data covering the period from April 2006 to December 2015, the study considers various types of Islamic unit trust funds and analyzes their relationship with selected macroeconomic variables. They find that Islamic equity, balance, fixed, and feeder funds violate the efficient market hypothesis (EMH), while the Islamic bond, mixed, and money market funds hold for the weak form of EMH. These

results provide empirical evidence to guide fund managers and unit-holders considering market efficiency in strategizing their trading proficiency in UTFs. The outcomes also enable authorities to take steps toward improving fund disclosure practices, so that prices immediately reflect relevant information.

A study by Tzu-Yi Yang, Chin-Mei Chou, Yu-Tai Yang, and Nguyen Phuc Nguyen investigates the “Correlation among the Stocks of 28 Major Industries in Taiwan and Prices of Dubai Crude and Brent Crude.” Crude oil imports significantly impact many industries in Taiwan’s economy and investment market. The authors show how stocks of most sectors are correlated with Dubai and Brent crude prices, and investigate the strength and directional impact of this relationship.

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