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Private equity (buyout and venture capital) is perhaps the most controversial asset class. Not a week goes by without academic or industry reports criticizing the PE industry, practices, and performance. The PE industry is not without faults, and some of the criticisms are warranted. Many of the PE industry's practices that are subjects of these criticisms are directly related to the investments' nature. For example, IRR is the common measure of performance in the industry. This measure is not easy to interpret and is not directly comparable to the performance of public benchmarks. However, developing alternative performance measures has not been easy, and very often, they create their own ambiguities. For example, while PME measures make it easier to compare PE investments' performance to publicly traded assets, they cannot be used in portfolio optimization algorithms. A common criticism of the PE industry is that the GPs may manipulate fund NAVs to embellish their intermediate performance. There is evidence of inflated NAVs, especially when a new fund is launched. However, this is not unique to the PE industry, and the same criticism can be levied against many other entities (public traded companies have been shown to manipulate their earnings). Agency problems and agency costs arise in many parts of the financial industry.

Many practices of venture capital (VC) and buyout funds do deserve to be criticized, and the industry can take steps to correct them. Lack of transparency about fees, dividend recapitalization, and too much reliance on subscription lines of credit are just a few of those practices that the industry should address. *The Journal of Alternative Investments* has published many articles addressing these concerns. We are happy to begin this JAI issue with four excellent articles focusing on the PE and VC industry.

Brown, Hu, and Zhang provide the first large-sample analysis of buyout and VC fund values in "The Evolution of Private Equity Fund Value," where each fund's performance is examined over its lifetime. The article examines interim fund investment multiples, internal rates of return, and direct alphas based on the current reported NAVs at each quarter of a fund's life. Using a sample of 1,400 mature buyout and VC funds, the authors find that the typical fund experiences a falloff in returns after seven to eight years. The remaining performance is highly variable for funds of all ages, however, and the dispersion in returns also tends to increase after funds are about eight years old. They report that several fund-specific and market-wide factors affect future performance. For example, high dry powder levels tend to harm young funds yet benefit older funds.

In "LBO and VC Investments in Recent Crises," Stark and Lauterbach investigate the impact of economic and financial crises on the investment behavior and cash flow allocations of LBO and VC funds. Using a large sample of LBO and VC deals to analyze the resilience of investments in various industries, the authors examine volatility, maximum drawdowns, and investment returns. The empirical results show that LBO and VC funds withdrew capital from the most volatile industry sectors during the market and financial crises. The article's findings extend crisis-related research

The Journal of Alternative Investments

by explaining how LBO and VC funds' dynamic investment behavior during crises can positively affect investment performance.

The contributions of the VC industry to economic growth through funding of innovative industries are well documented. Policymakers in emerging economies are aware of this link and have been promoting the VC industry in these countries. India is a prominent example, with one of the fastest-growing markets for VC investments. In "Which Cat to Bell? Investment Duration, Exit Type, and Returns in Venture Capital Investments," Ramesh and Annamalai study a large sample of VC investments and exits in India from 2000 to 2017. First, they provide an overview of the VC industry in India. Next, they analyze the relationships between investment duration, exit type, amount of funding, number of funding rounds, and returns. The article reports that in India, investment duration was 4.55 years, M&A was the most common exit route for VC investors, and the average IRR to investors was 13.25%. Further, although average returns are higher when the exits are through public markets, returns are more consistent through a buyback or M&A.

Donahue and Timmerman offer a timely perspective in "Private Equity Investment Opportunities in Africa: Evaluation of the Growth Opportunities and Risks in a Global Context." With its natural resources, rapidly growing population, and political and economic reforms taking place, African countries represent attractive VC opportunities. The authors point out that private investment in Africa represents access to a different growth and investment return source than is typically included in institutional portfolios. Investors often overlook this region because of a lack of familiarity with these differences and common concerns, including political risk, currency exposure, corporate governance, and ultimate generation of competitive returns with the required scale. The article argues that private investment in Africa can benefit from economic growth opportunities and underlying trends, including population growth, urbanization, and increasing regional trade, specific to the region. The authors conclude that an investment strategy appropriate to the region is essential to realize the potential of private investment opportunities in a risk-controlled manner.

The next two articles that appear in this JAI issue deal with cryptocurrency and tokens. In "The Bitcoin VIX and Its Variance Risk Premium," Alexander and Imeraj use a unique dataset of high-frequency traded prices for bitcoin call and put options to construct bitcoin's term structure implied volatility indices. They use the variance swap fair-value formula that the CBOE employs for the VIX, an index commonly referred to as the "investor fear gauge" for the US stock market. Using more than seven million option prices, they construct the bitcoin implied volatility indices. The authors then discuss the index's features and the associated bitcoin variance risk premia. They also examine the relationship between bitcoin's realized variance, the volatility index, and variance risk premium with their equivalents for US equities, oil, gold, the USD/EUR exchange rate, and the 10-year US T-note.

In the next article, "Initial Exchange Offerings: The Next Evolution in Cryptocurrencies," Anson examines a relatively new form of crowdfunding—initial exchange offerings (IEOs). The article argues that like the initial coin offering (ICO) model, a popular fundraising method until the end of 2018, the IEO represents the next stage in the evolution of fundraising methods. The author compares these two methods and reports that although scams, regulatory issues, manipulation, and random speculation have all been associated with ICOs, IEOs put the good name and reputation

The Journal of Alternative Investments

of a cryptocurrency exchange behind the token offering. IEOs, therefore, provide a level of fairness, integrity, and safety not always offered through the ICO market. The author demonstrates that the additional level of due diligence conducted in an IEO increases token fundraising success.

In "Optimal Currency Hedging: Horizon Matters," Arruda, Bergeron, and Kritzman tackle a longstanding question that arises whenever investors make allocations to assets not denominated in their home currencies. Investors have long attempted to determine the optimal fraction of their portfolios' currency exposure that should be hedged. The authors argue that many of the proposed solutions often lack clear rationales. Most informed investors agree that the solution should use mean–variance optimization to maximize expected utility or, when the mean returns are assumed to equal zero, minimize risk. However, this approach presents a serious challenge because it depends on how currencies covary with each other and with the underlying portfolio. The authors provide practical advice on how relationships among currencies should be estimated, focusing on the investor's time-horizon.

In "The Forestry Investment Total Return (FITR) Index," Fitzgerald examines forestry investment performance over several decades. This is an important contribution because there is a shortage of forestry investment performance data of the kind suitable to aid quantitative analysis of this asset class's risk–return characteristics. The emerging global trend toward more responsible and sustainable investment practices has created an increased demand for forestry investments. The author develops an FITR Index. Historical roundwood timber and lumber price data are combined with a forestry discount rate to synthetically create historical forestry investment returns for the past two centuries. A vital advantage of the index is that it does not rely on smoothed timber prices, making returns more representative of their reporting period. The FITR Index shows forestry investment outperforming equities over long durations, with a lower standard deviation of returns and a positive rather than negative skew of returns.

The final article of this issue of JAI deals with Fintech, focusing on the peer-to-peer (P2P) lending platforms in China. Shen, Khan, and Hammami provide an empirical study of the lenders' perception of Chinese P2P lending platforms in their article, "An Empirical Study of Lenders' Perception of Chinese Online Peer-to-Peer (P2P) Lending Platforms." Online P2P lending volume has rapidly increased in China because of high financing and investment demands. The article reports that high borrowing default and fraud rates have negatively affected Chinese online P2P lending, however, because of its unique financial and undeveloped credit systems. The situation has prompted the Chinese government to issue Internet finance behavior regulations to support online P2P lending. The authors investigate online P2P lenders' investment perceptions to understand investment intention related to online P2P lending. They analyze the data collected through a questionnaire from lenders and find that recent policy changes have had a positive and significant impact on lenders' online P2P lending intentions.

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