
PRACTITIONER’S DIGEST

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LIMITS ON THE LEVEL OF DEMAND A COUNTRY CAN AFFORD

PAGE 5

Jack Treynor

Trade deficits from failing to invest in tradable good plant (e.g. commodities).

Increasing demand without the necessary investment produces inflation (stagflation?) for home goods and trade deficits for tradable goods. But the real wage is determined by the productivity of the marginal machine. When the new machines can’t keep up with demand, the marginal machine gets older and less productive.

Once it is clear that, in industrial countries, each machine provides a certain number of jobs, failure to invest in the machines can create either or both of two stubborn problems; full employment and inflation from failing to invest in home goods plant (urban services).

FUNDING TRANSLATIONAL MEDICINE VIA PUBLIC MARKETS: THE BUSINESS DEVELOPMENT COMPANY

PAGE 9

Sandra M. Forman, Andrew W. Lo, Monica Shilling and Grace K. Sweeney

The bench-to-bedside process of developing safe and effective drugs is becoming increasingly complex, expensive, and uncertain. This implies that the traditional financing vehicles of private and public equity are becoming less effective for funding biopharma in the future as the needs, expectations, and risk profiles of limited partners and shareholders diverge from the new realities of biomedical innovation. This funding challenge is especially acute in light of current breakthroughs in our understanding of the molecular basis of many diseases and how to treat and, in some cases, cure them.

In this article, we describe a specific legal structure, the business development company (BDC), that can be used to raise money in the public equity and debt markets to invest in biomedical innovation, especially early-stage translational medical projects. A BDC is a type of closed-end investment fund

that is subject to certain relaxed regulatory requirements, so long as it makes at least 70% of its investments in certain “eligible” portfolio companies. A BDC can also elect to be treated as a Regulated Investment Company (RIC), avoiding the double taxation of corporate income and net capital gains that it distributes to its shareholders as dividends on a timely basis. As a structure to make investments in multiple companies formed to commercialize biomedical innovation, a BDC would allow investors the opportunity to spread risk among a number of different drug trials, and thus increase the chances of participating in the long-term growth of a successful drug, along the lines of the “megafund” recent proposed by Fernandez *et al.* (2012).

BDCs are ideally suited for long-term investors in biomedical innovation, including: (i) investors with biomedical expertise who understand the risks of the FDA approval process, (ii) “banking entities,” now prohibited from investing in hedge funds and private equity funds by the Volcker Rule, but who are permitted to invest in BDCs, subject to certain restrictions, and (iii) retail investors, who traditionally have had to invest in large pharmaceutical companies to gain exposure to similar assets. We describe the history of BDCs, summarize the requirements for creating and managing them, and conclude with a discussion of the advantages and disadvantages of the BDC structure for funding biomedical innovation.

By structuring biomedical assets in a broadly diversified portfolio, investors can do well by doing good and leave a lasting legacy to future generations that goes well beyond pure financial gain.

IS U.S. INSIDER TRADING STILL RELEVANT? A QUANTITATIVE PORTFOLIO APPROACH

PAGE 33

Carr Bettis, John B. Guerard and Daniel McAuley

For 40 years academic literature has reported statistically significant excess returns to selected insiders trading in their firms' shares, and similar evidence for outsiders who selectively mimic insider trading decisions spans three decades. However, an evaluation of simple insider variables from this prior academic literature show that these signals no longer generate excess returns for outsiders. Furthermore, constructing tradable signals leveraging insider trading data is challenging due to the irregular frequency of trades.

This paper demonstrates that constructing insider related variables and combining them in a manner which allows for conditional effects can produce a robust factor that generates alpha and that is orthogonal to an array of standard quantitative signals. We combine this investible insider factor with a non-insider stock selection model that is itself statistically significant and report economically meaningful incremental returns. The combined model is robust to different portfolio optimization techniques. Specifically, the addition of the insider trading signal enhances portfolio returns approximately 151 basis points annually, on average, over the 1997–2011 period and increases Sharpe ratios by up to .17 and information ratios by up to .25.

**FUNDAMENTAL INDEXATION AND THE FAMA–FRENCH THREE
FACTOR MODEL: RISK ASSIMILATION OR STOCK MISPRICING?**
PAGE 57*Xiaofeng Shi, M. Dempsey and Laurence Irlicht*

The strategy of *Fundamental Indexation* as first advocated by Arnott *et al.* (2005) and promoted by *Research Affiliates*, is generally recognised as capable of outperforming a market capital-weighted index. The protagonists of the strategy assert that its success is due to the exploitation of *mispricing* in assets. In some opposition, academic responses have generally preferred to assert that the success of the strategy can be attributed to an implicit “tilt” in the strategy to investment in stocks of higher book-to-market ratio and stocks of smaller firm size, both of which are recognized in the *Fama and French three-factor model* as contributing to higher return outcomes (in accordance with Fama and French’s contention that such stocks are capturing a non-diversifiable higher risk exposure).

In this paper, we provide evidence that the Fama and French argument is more convincing in reverse, namely that the observation of higher expected returns to portfolios of stocks of either high book-to-market ratio or small firm size in the *Fama and French three-factor model*, is the outcome of a “tilt” in the portfolios of such stocks to *under-pricing*. Thus, rather than confirming that *Fundamental Indexation* represents a repackaging of the book-to-market and firm size factors of the Fama and French three-factor model, the weight of our evidence supports the interpretation that these factors are themselves the outcome of stock mispricing as understood by the principle of *Fundamental Indexation*.

EFFICIENTLY COMBINING MULTIPLE SOURCES OF ALPHA**PAGE 71***Jose Menchero and Jyh-Huei Lee*

In this article, we examine the question of efficiently combining multiple sources of alpha. We begin with a comparison of the various methods used by practitioners for constructing portfolios that capture a single alpha signal. These methods are broadly categorized as either: (a) simple factor portfolios, (b) pure factor portfolios, or (c) minimum-volatility factor portfolios. We then derive an equation that shows the optimal alpha weights given the expected returns and covariance matrix of the alpha signals. We provide a discussion on how the required inputs can be estimated in practice, and conclude with an empirical example to illustrate these effects.

INVESTING IN THE ASSET GROWTH ANOMALY ACROSS THE GLOBE**PAGE 87***Xi Li and Rodney N. Sullivan*

We examine the implications for practitioners in attempting to capture the anomalous returns associated with the asset growth effect whereby a firm’s relative level of asset growth inversely influences its future excess returns— firms with relatively high asset growth underperform in future periods and vice versa. Our exploration yields numerous important findings for investment practitioners. We confirm that

the asset growth effect is present in international markets with predictive power coming from the straightforward two-year total asset growth measurement. It further persists across time, in different subsample periods, and is present among both large and small firms. We also show that the asset growth effect meaningfully impacts firm performance for up to three years post portfolio initiation.

We further provide insight into the risk associated with the asset growth effect; in particular whether the effect can be attributable to a market mispricing or to some pervasive systematic market risk(s). Our initial battery of tests suggests that in extracting abnormal returns, market mispricing dominates in describing the asset growth effect across countries and regions. On the other hand, we go on to find that country-level governance and market accessibility characteristics show that countries with easier access to capital and studier governance tend to have a stronger asset growth anomalous effect. This finding is not consistent with a market mispricing explanation because one would expect that more developed countries with more efficient capital markets and stronger governance would have *lower*, not *higher*, degree of asset growth mispricing. Adding to the evidence that at least part of the asset growth effect pertains to some pervasive global market risks, we show that a high degree of covariation exists between a country-specific asset growth trading strategy and that a global asset growth factor cannot be fully diversified away.

Taken together, the evidence in our paper suggests that a combination of some global risk factor and some market mispricing together describes the asset growth effect across countries and regions. Overall, our view is that these results tend to favor the mispricing explanation over that of systematic risk. For instance, perhaps overconfident investors overreact to recent past asset growth rates by extrapolating the past growth rate into future periods only to be disappointed when growth and stock returns revert to a more normal level. We invite research into alternative explanations.

We continue our effort by exploring the ability of traders to profitably trade on this apparent anomaly. We find that arbitrage costs reduce, though not eliminate, the opportunity for investors to extract excess returns. More specifically, using a host of proxies for arbitrage costs and arbitrage risks, we find that the effect is more prevalent among the universe of high idiosyncratic volatility stocks and among high transaction cost stocks. That is, the asset growth effect is more pronounced among small and illiquid stocks with greater idiosyncratic volatility.

To summarize, our results indicate that investors seeking to profit from the asset growth anomaly are extracting some combination of market mispricing and compensation for some market risk premium. However, in so doing, we also find that investors must bear greater uncertainty in outcomes than previously understood. This uncertainty comes in the form of higher idiosyncratic risk and higher transactions costs which raises costs, but does not eliminate, profitable arbitrage. Therefore, an opportunity exists globally to extract abnormal returns, but in attempting to do so, investors must take into account a pervasive global risk factor(s) associated with global asset growth and that market mispricing also explains some part of the global asset growth anomalous returns.